HCLSoftware

HCL CDP v12.1.10 User Guide

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Chapter 1. Working with Platform

This section describes the Data Pipeline for streamlined data flow, leveraging Customer One View for unified profiles, and orchestrating campaigns to drive targeted engagement.

CDP Overview

This page talks about the importance of CDP and its benefits.

In today's digital-first world, businesses rely on precise, data-driven insights to make informed decisions and effectively target the right audience. The advent of advanced technologies has enabled organizations to connect with global audiences, optimize their communication strategies, and achieve remarkable results.

Understanding the Role of a Customer Data Platform (CDP)

Consider this scenario:

You're researching home loans and engage in several activities:

1. Searching for "Home loans" on Google.
2. Visiting various bank websites.
3. Exploring terms, conditions, and festive offers.
4. Comparing policies, interest rates, and tenures.
5. Interacting with banks online and offline.

Throughout this process, your interactions with a bank felt personalized and relevant. You saw tailored ads on social media, received targeted emails, and experienced a customized website experience—all automated yet seemingly designed for you.

This level of personalization is powered by a **Customer Data Platform (CDP)**. The CDP enables businesses to track user behavior across multiple touchpoints, analyze data, and craft highly relevant communications that resonate with individual needs.

What is a Customer Data Platform?

A **Customer Data Platform** is a centralized system that consolidates data from various sources to create a unified customer database. This database provides a comprehensive view of customer interactions across all touchpoints, enabling businesses to:

- Segment data for highly personalized marketing campaigns.
- Share insights with external platforms like Google Ads and Facebook.
- Deliver a seamless and tailored customer experience.

Core Functions of CDP

1. **Identity Resolution:** Consolidates data from multiple channels to create a unified customer profile, offering a single source of truth.
2. **Trait and Audience Building:** Captures and organizes data to define user traits and build targeted audiences based on behavior and preferences.
3. **Activation:** Distributes customer insights to various platforms to execute personalized marketing strategies and gain actionable insights.

Benefits of CDP

- **Centralized Data Integration:** Aggregates information from diverse touchpoints, including websites, apps, social media, and offline interactions.
- **Real-Time Data Structuring:** Creates dynamic profiles by incorporating first-party, second-party, and third-party data.
- **Enhanced Customer Understanding:** Delivers transparency and granularity by merging data into a cohesive customer profile.
- **People-Based Marketing:** Empowers marketers to implement tailored campaigns with deep insights into individual preferences.
- **Optimized Customer Experience:** Facilitates smart segmentation and personalization across devices and platforms.
- **Advanced Analytics:** Provides actionable insights into customer behavior and trends, improving decision-making.

Why Businesses Need a CDP

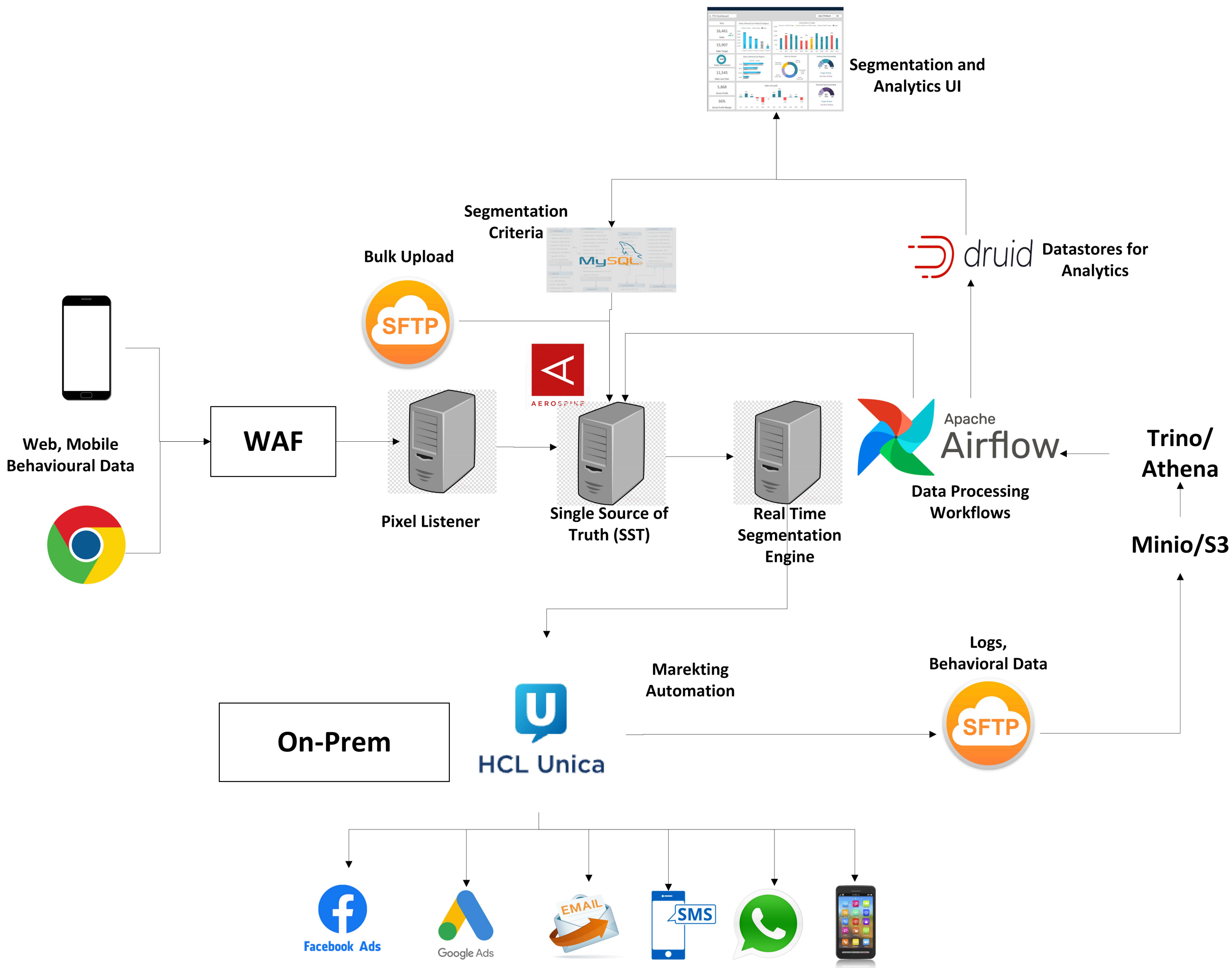
By leveraging the capabilities of a CDP, businesses can move beyond generic marketing tactics, optimizing their efforts to resonate with individual customers. This results in reduced marketing costs, improved engagement, and increased conversion rates. In essence, the CDP is a game-changer for businesses aiming to thrive in a competitive digital landscape.

With its ability to unify, analyze, and activate customer data, the CDP is the cornerstone of modern marketing and customer engagement strategies.

HCL CDP Architecture

HCL CDP is intended to gather, process, and analyze behavioral data from web and mobile platforms for marketing objectives. It incorporates various systems to collect user data, which is then processed for segmentation, enabling the delivery of targeted marketing campaigns through multiple channels. The subsequent sections outline the essential components and their interactions in a streamlined flow.

Figure 1. CDP Architecture Flow



Data Collection and Security

The process initiates with the gathering of behavioral data from web browsers and mobile applications. Each user interaction on a website or mobile app, including clicks and navigation, is recorded by a pixel tracking system. Before the data is stored or processed, it is filtered through a security mechanism referred to as a Web Application Firewall (WAF). This firewall ensures the safety of all incoming data, effectively mitigating potential security threats and unauthorized access to the system.

Data Storage and Real-Time Processing

Once the data has been securely gathered, it is transmitted to the system's core, referred to as the Single Source of Truth (SST). This central component guarantees that all information regarding a user, whether sourced from the web or a mobile application, is stored consistently, thereby offering a cohesive perspective on each user's behavior.

To interpret this data and take appropriate actions, a real-time segmentation engine analyzes user information according to established rules or behavioral patterns. This functionality enables the system to categorize users into various segments based on their interactions. For instance, users who regularly visit a specific product page may be classified into a "high interest" segment.

Data Processing and Orchestration

Data requires processing and transformation for a variety of applications, including analytics and reporting. This is where the orchestration platform, Apache Airflow, plays a crucial role. Airflow automates data processing, ensuring that tasks such as data aggregation, segmentation, and analysis are executed seamlessly and timely. Concurrently, the system utilizes MinIO, a high-performance object storage service, to retain logs and raw data for future use.

Additionally, advanced query engines like Trino and analytics platforms such as Druid are utilized to effectively store and query large volumes of data, facilitating the real-time extraction of insights regarding user behavior.

User Interface and Analytics

The system presents all collected and processed data to end users via an intuitive interface. This segmentation and analytics user interface enables marketers and business professionals to examine the data, formulate new segmentation rules, or modify existing ones according to their organizational requirements. Through this interface, users can effortlessly monitor user activity, comprehend behavioral patterns, and establish new criteria for user segmentation.

Marketing Automation and Campaign Execution

Once users have been categorized according to their behavior, the system initiates marketing campaigns aimed at effectively reaching these segments. The marketing automation tool, HCL Unica, interfaces directly with the segmented data, guaranteeing that tailored marketing messages are dispatched to the appropriate users at optimal times. Whether it involves delivering advertisements on platforms such as Facebook or Google, or communicating via SMS, WhatsApp, or email, the system ensures that the marketing approach remains both timely and pertinent.

Once the rules are set and data is processed, the system autonomously executes campaigns, allowing marketers to conserve time and concentrate on strategic planning and analysis.

Integration with External Systems

The system further incorporates external data sources and marketing channels. For example, data can be transferred in bulk through secure file transfer protocols (SFTP) for subsequent analysis. Additionally, it facilitates integrations with prominent advertising platforms such as Facebook Ads and Google Ads, thereby optimizing marketing initiatives across various channels. This capability allows for a comprehensive strategy that utilizes both web and app user data for cross-channel marketing campaigns.

Identity Resolution

This page explains about the Identity resolution and its key advantages.

In today’s digital world, people use multiple devices—smartphones, laptops, tablets—throughout their day. For instance, you might search for a new phone on your laptop during lunch and later continue browsing on your phone. Businesses face a challenge: how can they connect all these actions to know it's *you*?

This is where **identity resolution** comes in. It links a customer's interactions across devices and platforms into one profile, making personalized experiences possible.

What is identity resolution?

Identity resolution is how a Customer Data Platform (CDP) connects customer actions—like visiting a website, clicking an ad, or opening an email—into a single, unified profile. This helps businesses understand their customers better and deliver relevant messages, no matter where or how the customer interacts with them.

Why is identity resolution important?

It Tracks Anonymous, New, and Existing Users:

- **Anonymous Users:** Imagine visiting an online store for the first time and browsing shoes. The CDP assigns a unique ID to track your actions. If you return later on the same device, it recognizes you and continues building your profile.
- **New Users:** If the system doesn’t recognize you, it creates a new profile. As you engage more, the profile grows with details like your preferences and behaviors.
- **Existing Users:** If you share information like an email or phone number, the CDP checks if you already have a profile. If it finds one, it merges your actions, creating a complete view of you.

It Connects Data Across Devices:

For example, you search for "best headphones" on your phone and later open a related email on your laptop. Identity resolution links both actions, helping the brand understand your journey as one customer, not two separate users.

How It Works

- When you interact with a business, the CDP assigns you an ID.
- If you revisit, the system recognizes your ID and updates your profile.
- If you switch devices or share identifiable details (like logging in), the system merges your data into one profile.

Why It’s Useful

Identity resolution lets businesses create tailored experiences. They know what you like and where you’ve interacted, so they can send you relevant ads, emails, or notifications that feel personal. It ensures seamless interactions, no matter how many devices you use.

In short, identity resolution is the foundation for understanding and serving customers better in today’s multi-device world.

Data Sanity and Campaign Governance Guidelines

This page outlines best practices and guidelines to ensure data sanity during ingestion and proper campaign governance in HCL CDP. Following these guidelines helps avoid data redundancy, maintain data quality, and improve campaign performance.

Impact of Compromised Data Sanity

On CDP Profiles

- **Incorrect Merging of Profiles**: Duplicate user identifiers can lead to merging multiple profiles into one, causing data inaccuracies (e.g., wrong email IDs or phone numbers).
- **Blacklisting**: Merging errors may result in blacklisted profiles that cannot be stored in CDP and are only retained in event logs.

On Active Use Cases

- **Reduced Audience Size**: Mismerging reduces segment sizes, leading to fewer impressions for active use cases.
- **Personalization Errors**: Misplaced user data impacts personalized communication, such as macros for names or offers.
- **Misaligned Targeting**: Segments may include users who should not be targeted.

On Reporting

- **Skewed Metrics**: Reduced audience sizes affect campaign performance reports.
- **Poor Model Accuracy**: AI models like lead scoring are impacted due to low-quality data.

Client Guidelines to Ensure Data Sanity

Offline File Ingestion

1. **Formatting Standards**:
    - **Phone Numbers**: Use E.164 format (e.g., `+918xxxxxxxxx`).
    - **Email IDs**: Use lowercase letters only.
    - **File Format**: Must be `.tsv` (tab-separated values).
    - **Encoding**: Files must be UTF-8 encoded.
2. **File Structure**:
    - Maintain a consistent order of fields between file versions.
    - User identifier columns are case-sensitive and must remain consistent across files.
    - Ensure the first column is non-blank.
    - Enclose blank last columns in double quotes.
    - Escape double quotes within a value using a backslash (`\"`).
3. **Additional Notes**:

- Files must be uploaded via an SFTP server.
- Amounts should be numeric and separated into distinct properties for currency and value.

Examples:

- **Right Format**:

```
"price": 3500,
"currency": "INR"
```

- **Wrong Format**:

```
"price": "3500 INR"
```

Website/App Integration

Tracking Plan:

- HCL provides a tracking document with event details based on use cases.
- Clients must review and inform HCL of changes.

Data Standards:

- **Email IDs**: Use lowercase letters.
- **Phone Numbers**: Follow E.164 format.
- **Date of Birth**: Use `YYYY-MM-DD` format.

Implementation:

- Install the required SDKs (JavaScript, iOS, Android, Flutter, React Native).
- Ensure events flow into CDP as per the tracking plan.

Verification:

- HCL verifies event flow and flags discrepancies within two working days.

REST API Integration

Integration Guidelines:

- Use `application/json` for content-type headers.
- Authenticate using the provided API key.
- REST API supports only `Identify` and `Track` event types.
- Each request has a maximum payload size of 500 KB.

Error Handling:

- Exceeding limits returns a `400 Bad Request` response.
- Response content type is `application/json`.

Impact of Compromised Campaign Governance

On Customer Experience

1. **Incorrect Targeting**: Poor governance leads to wrong users being targeted with incorrect offers.
2. **Hyper-Personalization Failures**: Errors in segmentation criteria impact industries like BFSI, Telco, and Retail.

On-Use Case Performance

- **Segment Issues**: Ineffective segmentation reduces the audience size.
- **Delayed Issue Identification**: Problems become apparent only after analyzing poor campaign performance.

Client Guidelines for Campaign Governance

Maker Checker Process

- **Maker**: Client-side business user or HCL Delivery POC.
- **Checker**: HCL Delivery POC (mandatory).
- **Process**: Final activation of use cases must be approved and verified by the Delivery POC.

Use Case Sign-off Conditions

Maintain a detailed email thread with:

- Segment and Engagement IDs.
- Trigger conditions.
- Approval from the Delivery POC.

TATs for Review and Sign-off

- **Up to 5 Engagements**: 1 working day.
- **6 to 15 Engagements**: 2 working days.
- **More than 15**: Timelines discussed via email.

Additional Requests:

- Debugging segments or publishing new data points may require extended timelines.

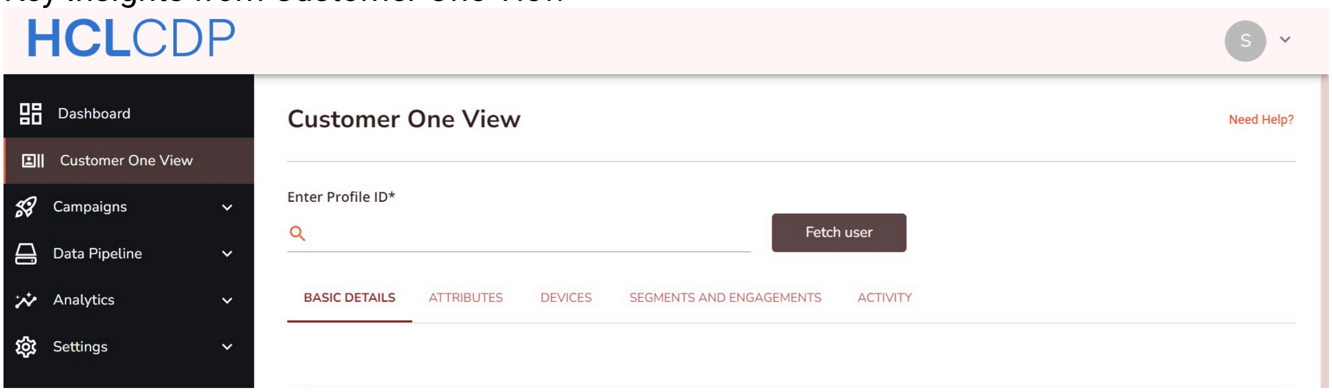
Customer One View

This page introduces **Customer One View**, a feature designed to provide a comprehensive analysis of customer traits, actions, and engagement history for enhanced understanding and efficiency.

Customer One View offers detailed insights into each customer, enabling you to:

- Analyze customer traits and actions.
- Review their past and current engagements in campaigns.
- Access their information, such as basic details, attributes, devices, segments, and activity logs.
- Gain a deeper understanding of customer behavior and interactions.

Key Insights from Customer One View



Basic Details

Displays the customer's personal and standard information, including:

- **Personal Information:** Name, email, and other contact details.
- **Standard Properties:** Acquisition details, last active status, and reachability metrics.

Attributes

Attributes refer to specific details about the customer, such as:

- **Behavioral Data:** Products viewed, purchases made, forms submitted.
- **Customer Information:** Customer ID, segment ID, and other identifiers.

Devices

Provides detailed information about the user's devices, including:

- **Device Details:** Manufacturer, model, and carrier.
- **Platform Information:** Web and mobile platforms, OS version, and other specifications.

Segments and Engagements

Tracks the user's participation in segments and campaigns:

- **Engagement History:** Lists past segments and engagements.
- **Searchable Data:** Quickly locate specific segments or campaigns based on names.

Activity

Offers a comprehensive view of user actions, including:

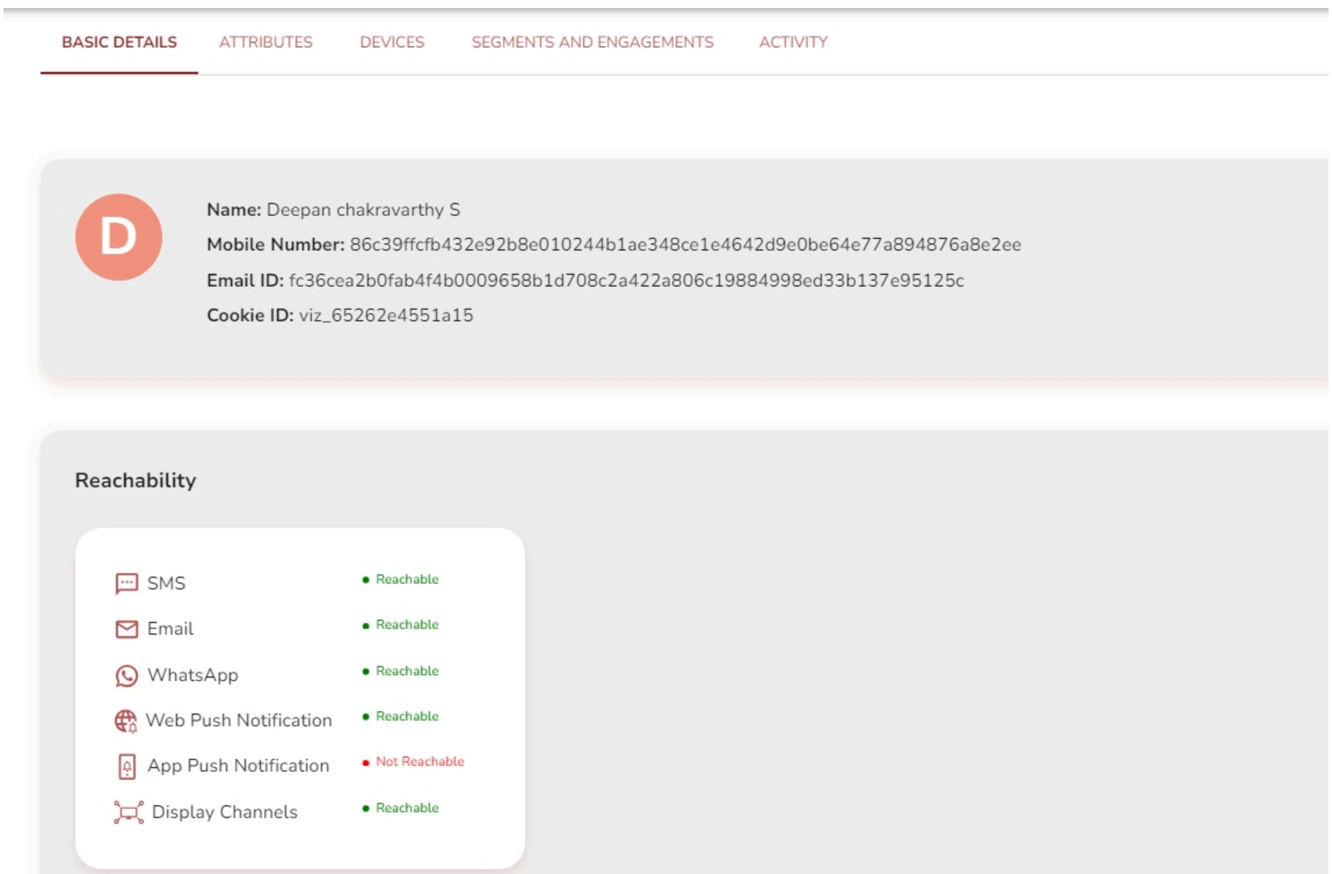
- **User Activities:** Page visits, subscriptions, form submissions, etc.
- **Data Insights:** Technical details, page parameters, and location data for in-depth analysis of user interactions.

Basic details, Attributes and Devices

This page explains the purpose and functionality of the **Basic Details**, **Attributes**, and **Devices** sections in the Customer One View feature. These sections categorize user details and their actions to provide comprehensive insights.

Basic Details

The **Basic Details** section provides key information about users and their **reachability status**. Data points included in this section can be configured as per business requirements.



Key Features

1. Displays user properties such as **name, address, email, and mobile number**.
2. Configurable data points are managed through the settings menu.
3. Indicates **reachability status** across different communication channels.

MAX AI Predictions

MAX AI predictions, enabling the use of in-house AI/ML models to train, predict, and recommend both the best communication channel and the optimal time to reach each customer. This section recommends the Preferred Channel Probability, Preferred Contact time, Preferred Contact Time Probability, and Preferred channel.

Configuring Properties of Basic Details

To configure properties of basic details, follow the steps below:

1. Navigate to **Settings** > **Customer One View** > **Product Labels**.
2. Click **Add Property** and specify the data points to display in the **Basic Details** section.
3. Assign **display names** (e.g., Name, Email, Address) to make the data points user-friendly.
4. Map the properties to attributes in HCL CDP.
5. Click **Update** to save changes.

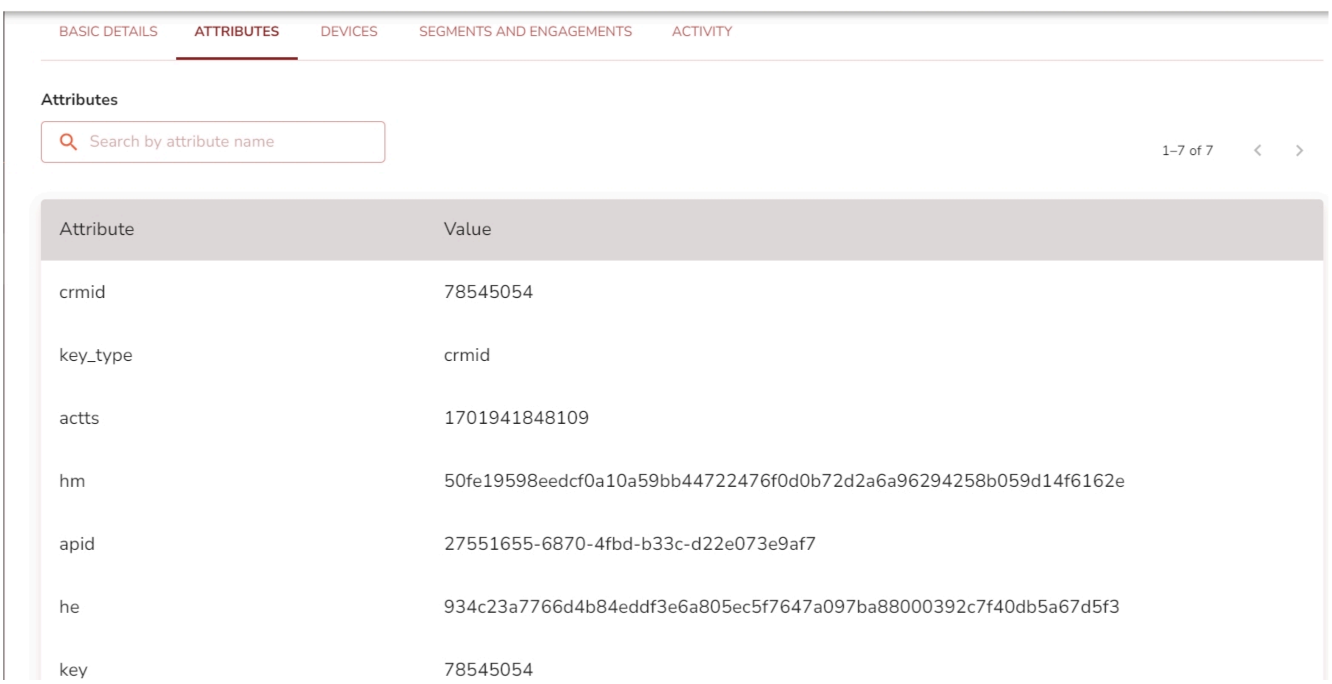
Note: You can add up to **10 properties** to display on the **Basic Details** page.

Attributes

The **Attributes** tab provides detailed data points about user information beyond the basic properties.

Key Features:

- Includes all user-related data captured in HCL CDP.
- Offers additional insights into user behavior, preferences, and interactions.



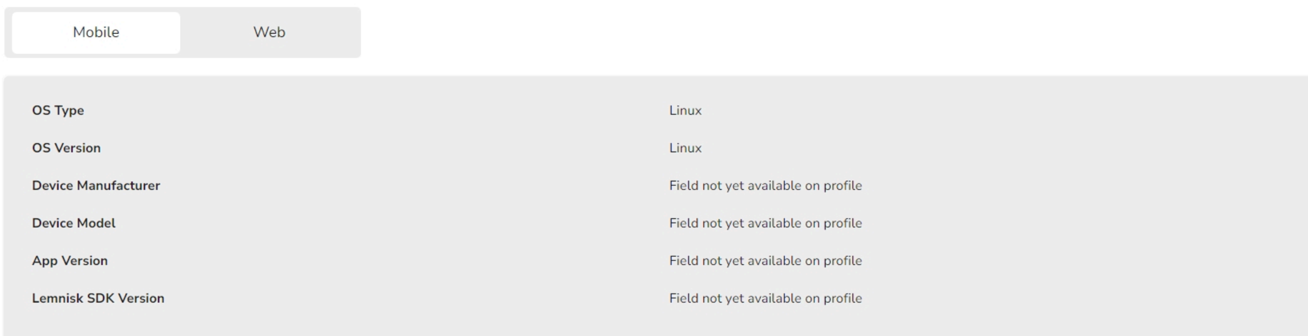
Devices

The **Devices** section provides detailed information about the user's devices, categorized by **Mobile** and **Web** platforms.

Mobile Platform:

Displays information such as:

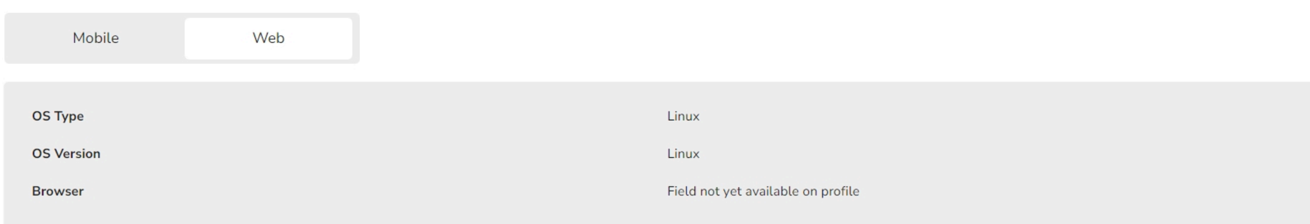
- **OS Type** and **OS Version**
- **Device Manufacturer** and **Device Model**
- **App Version** and **HCL CDP SDK Version**



Web Platform:

Displays information such as:

- **Operating System** and **OS Version**
- **Browser Type**



Segment and Engagement

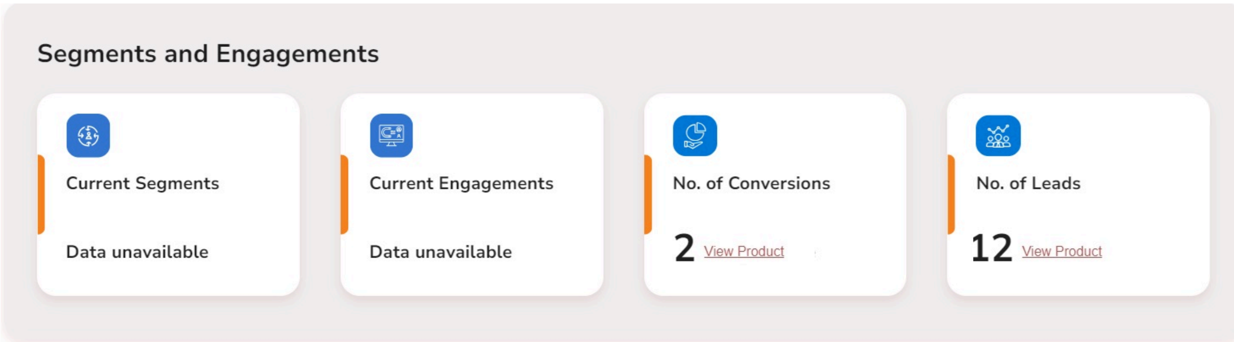
This page explains how to retrieve and analyze user details based on their **segments** and **engagements** using the Customer One View feature in HCL CDP.

The **Segments and Engagements** section provides a comprehensive view of a user's participation in various campaigns and segments, including information on leads, conversions, and past engagements.

Access Segments and Engagements Data

To access the segments and engagement data, follow the steps below:

1. On the left pane, navigate to **Customer One view**.
2. In the search bar, enter the user Name/ID.
3. Navigate to **Segments and Engagements**.



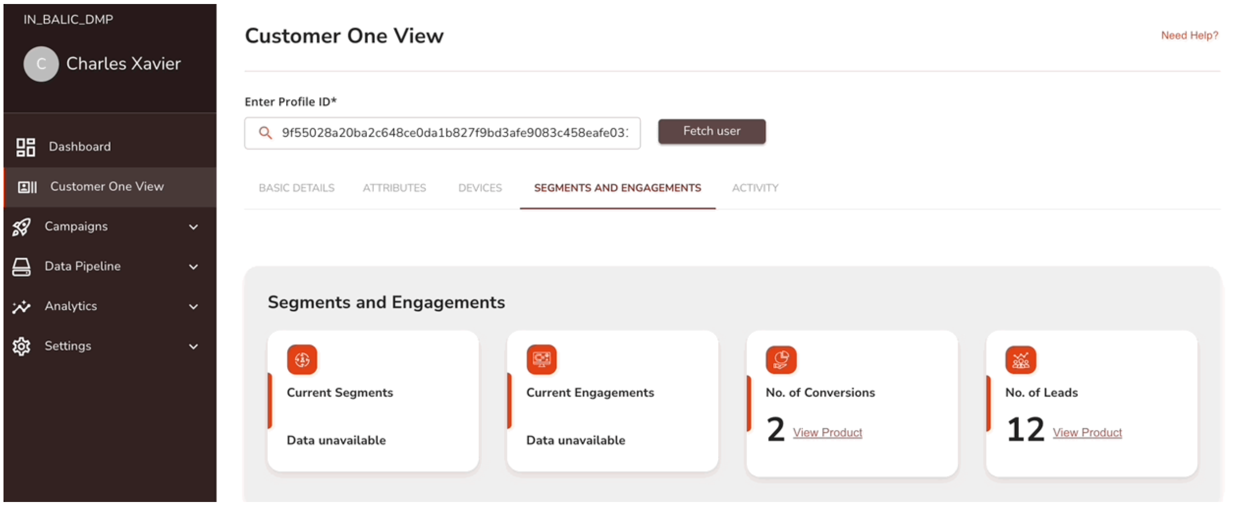
The tiles under **Segments and Engagements** show the overall information about the particular user, like the number of Segments and Engagements in which the user has involved user is involved along and the number of Leads and Conversions for any particular user. By clicking on **View Product** beside the number of leads and conversions, you can get details like product name and Conversion/lead counts for the corresponding products.

Key Features

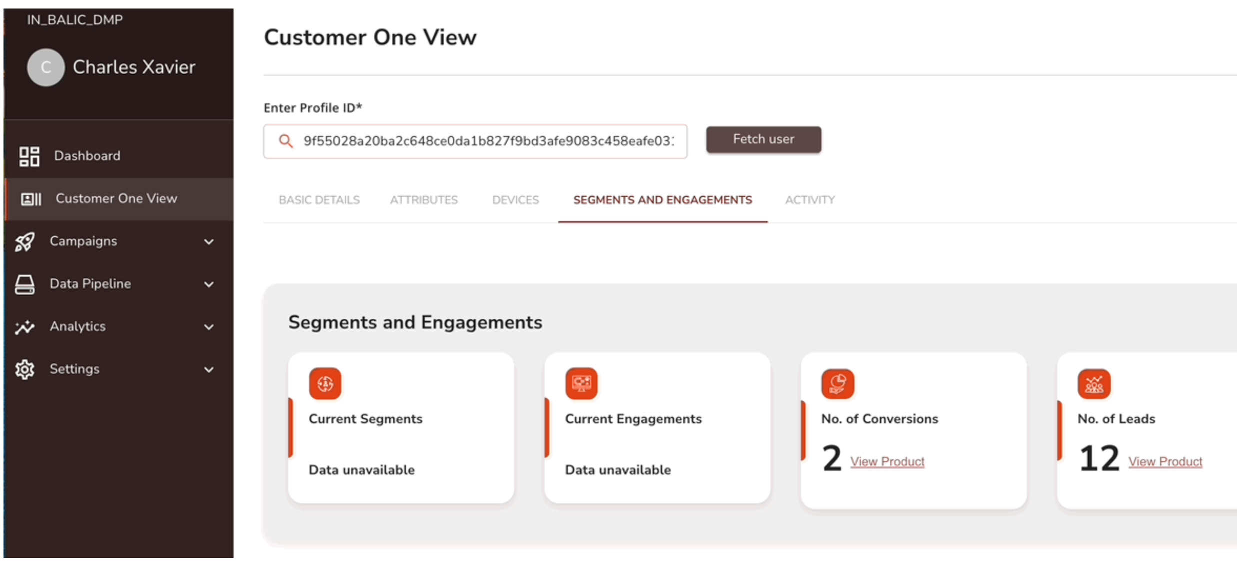
Overview Tiles

The tiles under the **Segments and Engagements** section provide the following details:

- **Number of Segments and Engagements:** Displays the total number of segments and engagements in which the user has participated.
- **Number of Leads:** Shows the total leads generated for the products associated with the user. Click **View Product** to see details such as product names and the number of leads per product.

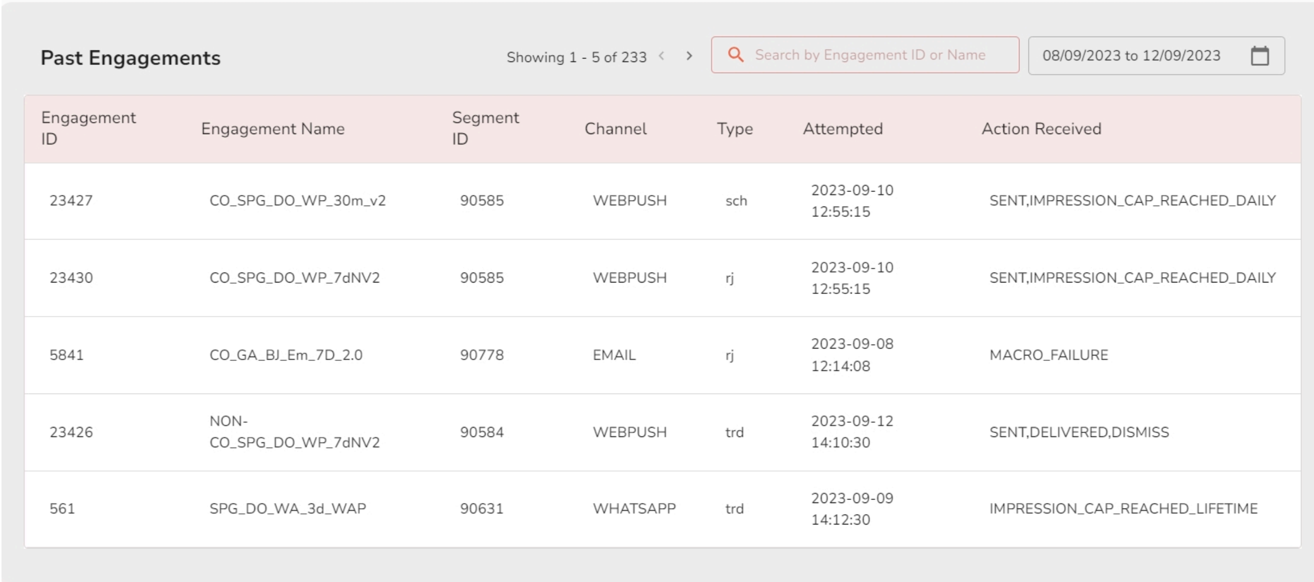


- **Number of Conversions:** Displays the total conversions associated with the user. Click **View Product** to see details such as product names and the number of conversions per product.



Past Engagements

The **Past Engagements** section provides detailed insights into the user's historical participation in campaigns or segments where they are no longer active.



Past Engagements

Showing 1 - 5 of 233

Search by Engagement ID or Name

08/09/2023 to 12/09/2023

Engagement ID	Engagement Name	Segment ID	Channel	Type	Attempted	Action Received
23427	CO_SPG_DO_WP_30m_v2	90585	WEBPUSH	sch	2023-09-10 12:55:15	SENT,IMPRESSION_CAP_REACHED_DAILY
23430	CO_SPG_DO_WP_7dNV2	90585	WEBPUSH	rj	2023-09-10 12:55:15	SENT,IMPRESSION_CAP_REACHED_DAILY
5841	CO_GA_BJ_Em_7D_2.0	90778	EMAIL	rj	2023-09-08 12:14:08	MACRO_FAILURE
23426	NON-CO_SPG_DO_WP_7dNV2	90584	WEBPUSH	trd	2023-09-12 14:10:30	SENT,DELIVERED,DISMISS
561	SPG_DO_WA_3d_WAP	90631	WHATSAPP	trd	2023-09-09 14:12:30	IMPRESSION_CAP_REACHED_LIFETIME

- **Search Functionality:** Enter the **engagement name** in the search bar. Use the **calendar tool** to specify a date range for filtering engagement history.
- **Engagement Details:** For each past engagement, you can view:
    - **Engagement ID and Name**
    - **Segment ID**
    - **Channel and Type**
    - **Number of Attempts and Actions Received**

Activity

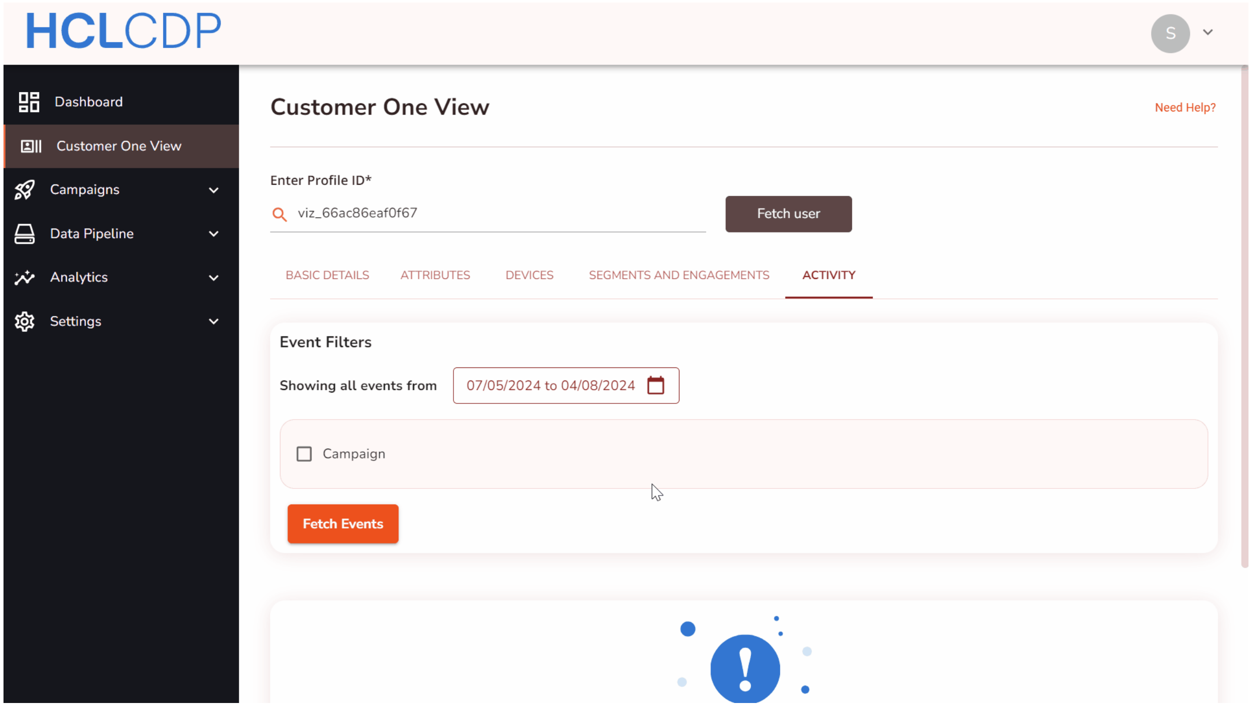
This page provides detailed instructions on using the **Activity** section in Customer One View to analyze user events, engagement actions, and channel-specific activity within predefined time frames.

The **Activity** section allows you to view details about user events received from various data sources, including actions across different channels. Events can be filtered by time frames like **Today, Yesterday, Last 7 days, Last 30 days, Last 60 days, and Last 90 days**, and further analyzed using detailed filters.

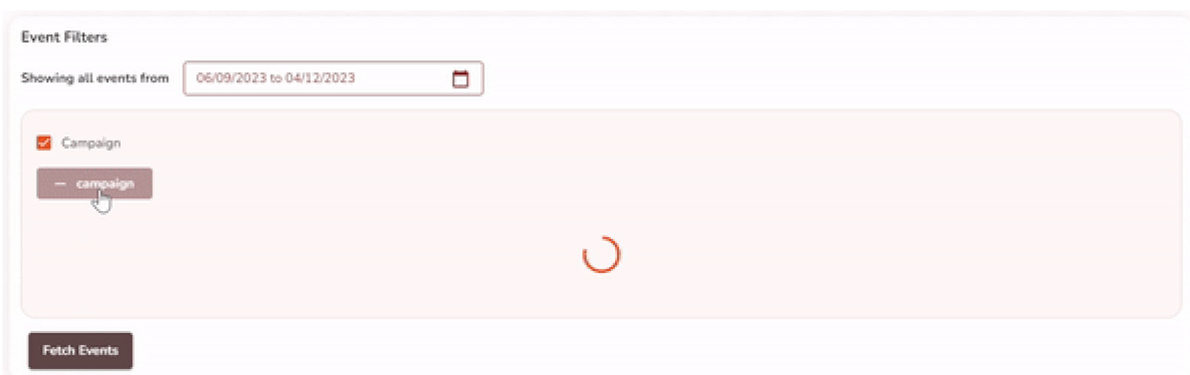
Access and Use Activity Section

To access activity section, follow the steps below:

1. Navigate to **Customer One View**, and enter credentials such as Hash Email, Policy Number, or Application Number, in the search bar.
2. Click **Fetch User**.
3. In the **Customer One View** page, click the **ACTIVITY** tab.
4. In the **Event Filters** section, set the time range to filter events based on the selected period.



5. Click the drop-down button beside each event to get details like technology, Event properties and page parameters about that particular event.
6. To get more insights about events, click the detailed view and filter the activities by event name, event properties, type of event, etc. You can only filter the events by segments and channels in the case of campaign events.
7. To apply Filters, select the **Campaigns** checkbox, and select **Channels**.
8. Choose the property and the operator from drop-down. Click **Apply**.
9. Select **Fetch Events**. The data will be displayed based on the filters like Browser, Engagement, Segments and Actions.



Event Types and Details

Track Events

Logs actions performed by users, such as button clicks or form submissions. To learn more about Track, refer here on page 183.

- **Event Name:** Displays Action name of the event such as `buttonClick`, `formSubmission`, etc.).
- **Technology:** Contains technology details like devices, browsers, meta fields, etc., to track from which device/browser the action was received.
- **Properties:** Displays the custom event properties, along with any user identifier.
- **Page Parameters:**
  - **Page Title:** Name of the page.
  - **URL:** Displays web page URL.
  - **UTM Params:** Displays the marketing campaign UTM parameters.

Screen

Identifies the screen viewed by the user in the app and tracks user flow. To learn more about Screen, refer here on page 190.

- **Technology:** Contains technology details like devices, browsers, meta fields, etc., to track from which device/browser the action was received.
- **Properties:** Displays the custom event properties and the user identifier.
- **Screen Parameters:**
  - Screen Name
  - Width
  - Height
  - Density

Page

Tracks web pages viewed by the user and identify drop-off points. To learn more about Page, refer here on page 189.

- **Event Name:** Displays name of the event such as `pageView`.
- **Technology:** Contains technology details like devices, browsers, meta fields, etc., to track from which device/browser the action was received.
- **Properties:** Displays the custom event properties and the user identifier.
- **Page Parameters:**
  - **Page Title:** Name of the page.
  - **URL:** Displays the web page URL.
  - **UTM Params:** Displays the marketing campaign UTM parameters.

Identify

Identifies and links the users with the existing profile using cookie ID e.g. login or subscription. To learn more about Identify, refer here on page 187.

- **Event Name:** Displays the name of the event such as `login`, `subcription`).
- **Technology:** Contains technology details like devices, browsers, meta fields, etc., to track from which device/browser the action was received.

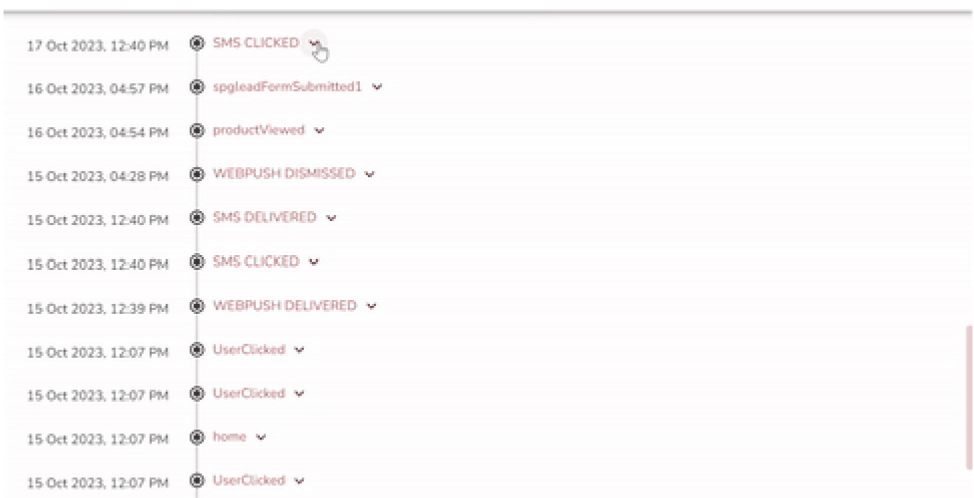
- **Properties:** Displays custom event properties and the user identifier.
- **Page Parameters:**
    - **Page Title:** Displays the name of the page.
    - **URL:** Displays the web page URL.
    - **UTM Params:** Displays the marketing campaign UTM parameters.

Campaign Events and Actions

The Activity section also provides insights into campaign-specific actions across multiple channels.

Channels	Actions Received
Web Push	Delivered, Clicked, Dismissed
App Push	Delivered, Clicked, Dismissed
Email	Delivered, Opened, Clicked, Unsubscribed, Spam Report
SMS	Delivered, Clicked
WhatsApp	Delivered, Read

Details Shown



Technology: Contains technology details like devices, browsers, meta fields, etc., to track from which device/browser the action was received.

Campaign Attributes:

- **Engagement ID and Name:** Displays the engagement ID of the user.
- **Segment ID and Name:** Displays the segment ID and name in which the user is present.
- **Journey ID:** Displays the details of the Journey ID like the Journey name, versions, etc. related to the user action.

- **Message ID:** Displays the ID of the configured message.

  Note: Applicable only for Email, SMS and WhatsApp.

Campaigns

Campaigns in HCL CDP are Engagements, designed to boost brand awareness, enabling you to reach and convert users into potential customers.

Campaign Channels

Overview of supported channels in HCL CDP and core elements used during campaign setup.

HCL CDP supported Channels

- **SMS:** Use the SMS channel to send promotional and transactional messages to customers via HCL CDP.
- **Email:** Deliver customized email campaigns through HCL CDP's email channel to engage your target audience.
- **App Push Notification:** Send in-app pop-up notifications to users on Android or iOS devices to promote campaigns. Requires user consent.
- **Web Push Notification:** Deliver pop-up notifications directly to users' devices via a web browser for campaign promotions. Requires user consent.
- **Facebook Export:** Export segmented audiences from HCL CDP to Facebook Ads for re-targeting purposes.
- **Google Ads Export:** Export segmented audiences from HCL CDP to Google Ads for re-targeting purposes.
- **External API:** Trigger any external API (internal or external) whenever a specified event occurs.
- **Journey API:** Call the Journey API each time a specified event is triggered within the customer journey.
- **WhatsApp:** Send promotional messages directly to users on WhatsApp as part of your campaign. Requires user consent.

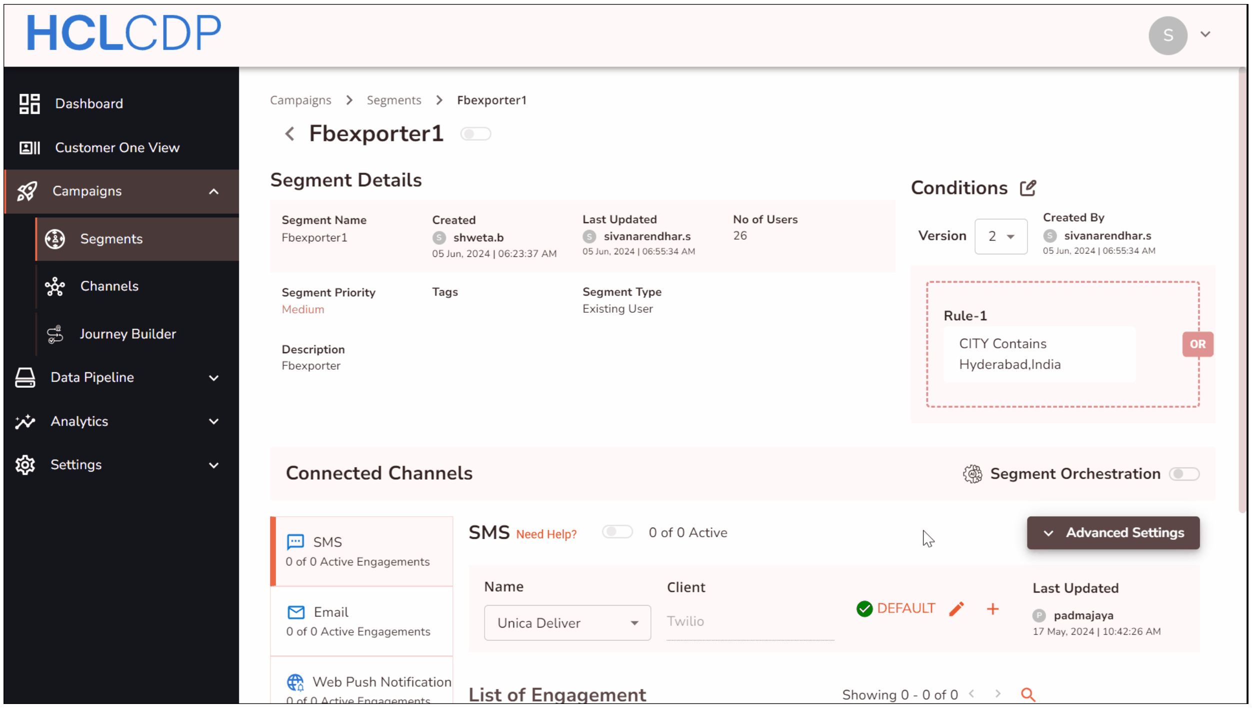
Core Elements

Frequency Caps

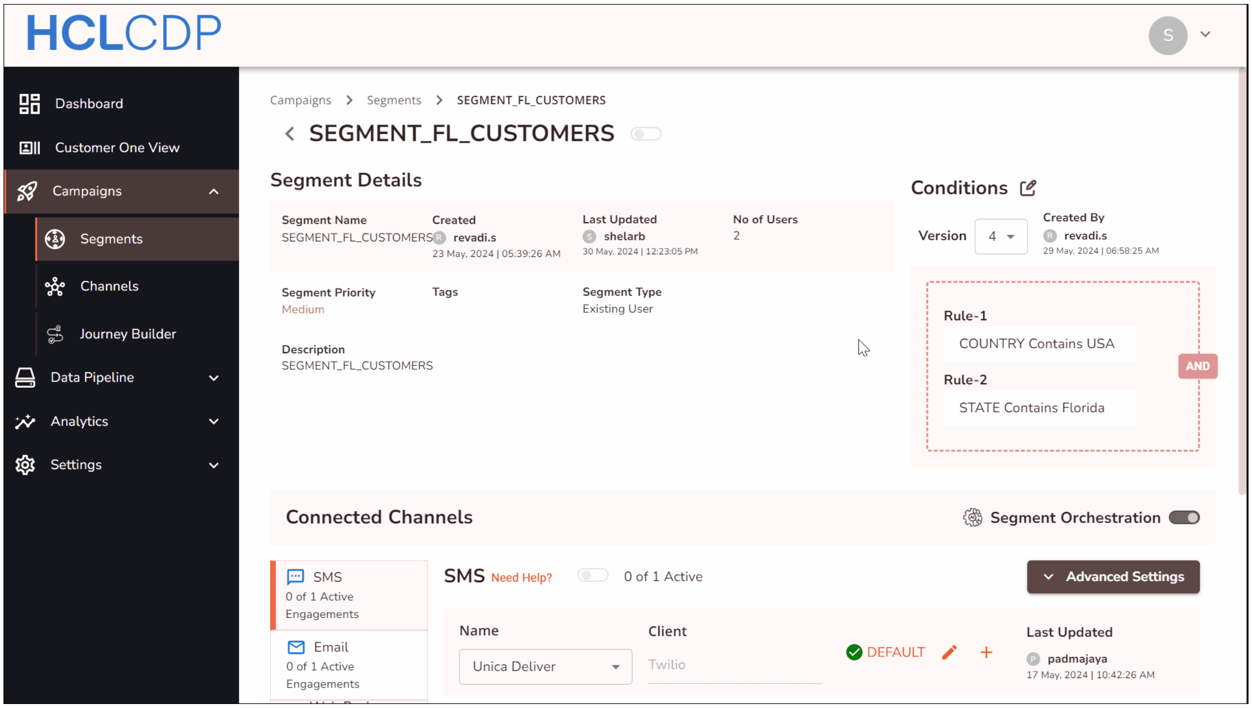
Frequency caps set a limit on the number of messages sent to users to prevent overwhelming them. When this limit is reached, further messages aren't sent, even if all other conditions are met.

Frequency cap at various stages:

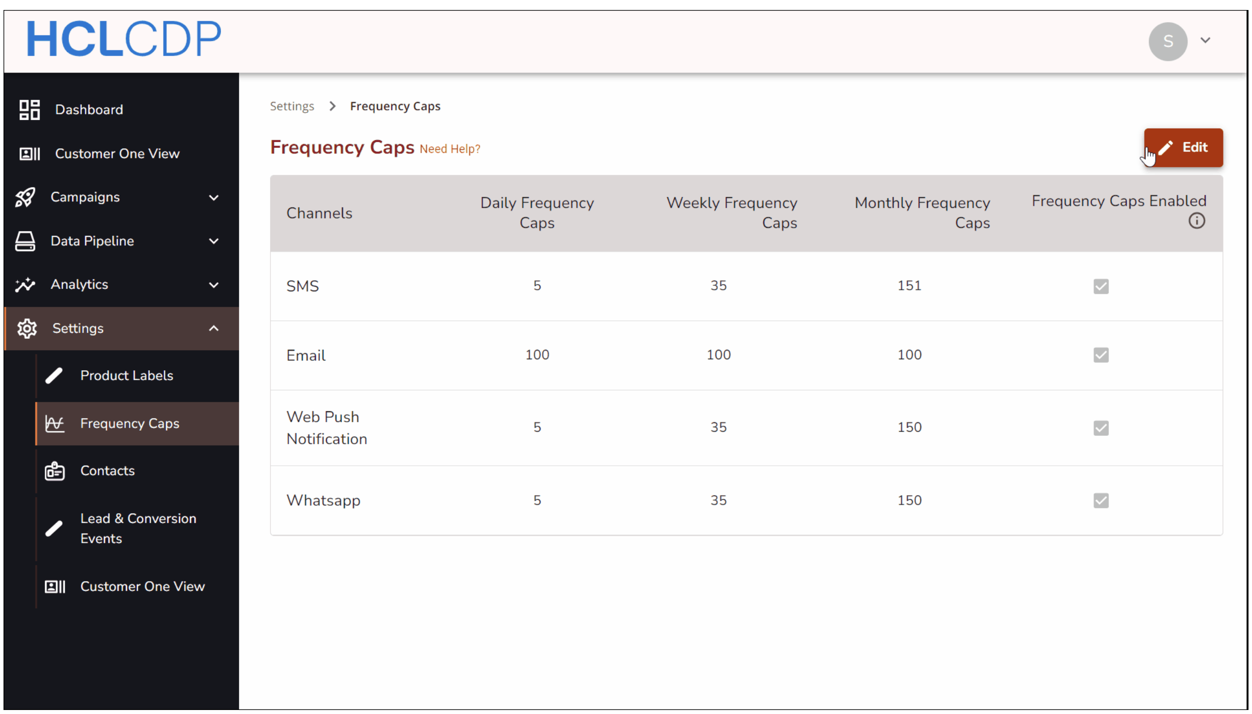
- **Segment Level:** For each segment-channel relationship, you can set a frequency cap. For example, if a user belongs to a segment with multiple SMS engagements and you set the daily frequency cap to 5, that user will receive a maximum of 5 messages per day across all engagements in that segment.



- **Engagement Level:** You can set frequency caps at an engagement level and prevent any engagement from being sent more than a certain threshold. Suppose there are 3 SMS engagements in the segment and you want to send an engagement daily only once. You can set the daily frequency cap of that particular engagement to 1 and you are good to go.



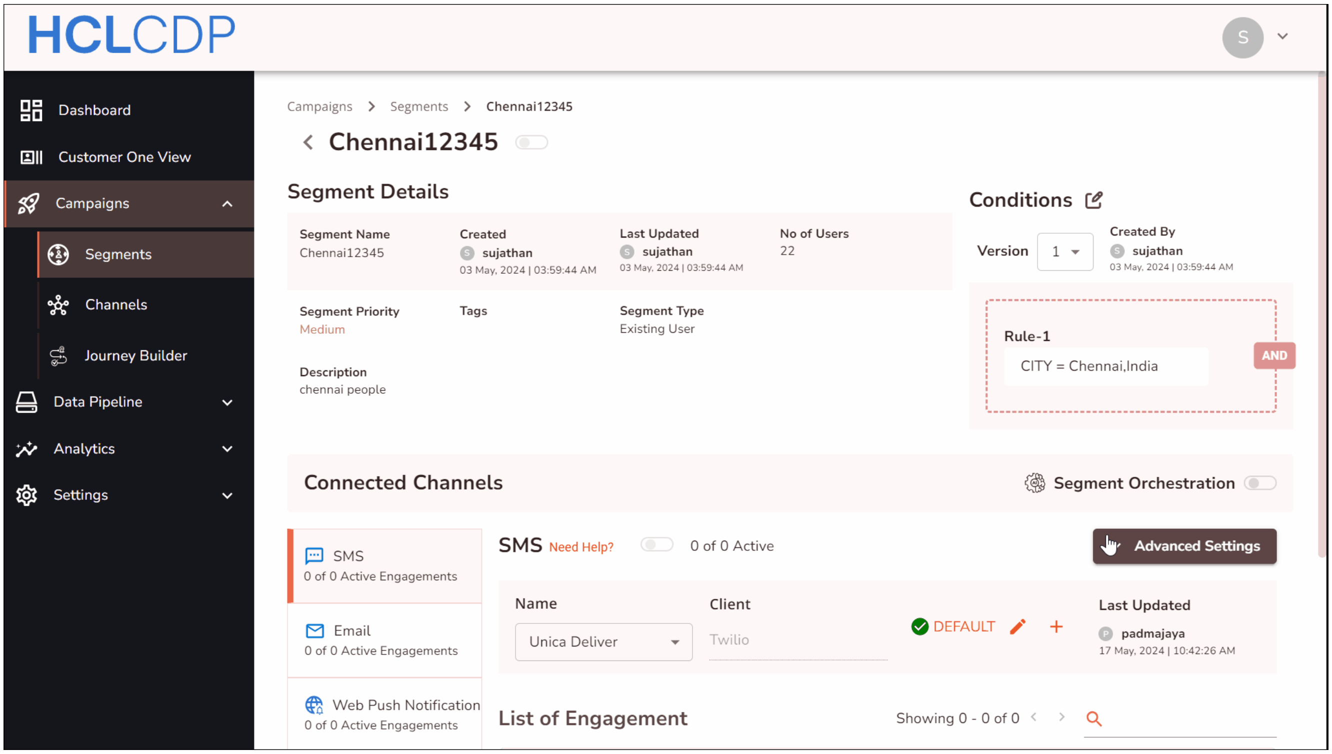
- **Global Level:** You can also set a global frequency cap for every channel.



For more information to know about Frequency cap settings, refer Frequency Caps on page 311.

Persistent

If a user leaves a segment and later rejoins it, the frequency cap will still apply if the persistent setting is enabled. Without this setting, the user will receive all scheduled engagements in the segment again from the beginning.



When a user enters a segment, the campaign starts communication right away. Suppose the user receives one message, then exits the segment for some reason. Later that same day, the user reenters the segment after meeting the criteria again.

In this case, send a single engagement to users in a segment for a specific channel. To obtain this, Set the segment-level frequency cap to 1 and enable the Persistent setting. With Persistent enabled, the user will not receive the message again upon rejoining, as the initial communication already counted toward the cap.

Important: All frequency caps are user-specific.

Engagement Scheduling

In HCL CDP, there are two engagement scheduling options available when setting up an engagement:

- **Schedule Later:** This option allows you to set a notification for a specific day and time and apply repeat conditions. You can configure it to repeat daily, weekly, or on alternate days/weeks, with additional end conditions:
    - **Never**: Sends the communication only once, with no repetition.
    - **After X Occurrences**: Repeats the communication until it has been sent the specified number of times.
    - **Select End Date**: Allows you to set an end date for the engagement, after which it will no longer be sent to users.
- **On Trigger:** This option triggers a communication immediately when a user enters a segment or after a specified time interval. The communication is sent each time the user meets the segment criteria, following the frequency cap setting to control the frequency.

Use Case 1: Triggering a One-Time Email Upon Form Submission

Scenario: A user visits your website and provides their email address through a lead form. You want to send an email to the user immediately after they submit the form, but this email should only be sent once.

Solution:

- Create an engagement with a **lifetime engagement level frequency cap of 1**.
- Set the **on trigger condition to Immediate**.

This setup ensures that when the user re-submits the form, the email will not be triggered again since they have already received it.

Use Case 2: Mass Marketing Campaign for a New Product Launch

Scenario: You are running a mass marketing campaign to promote a newly released product launching in the upcoming week. You want to create excitement among all existing users by sending communications.

Solution:

- Create a segment that targets all existing users.
- Set the engagement level **daily frequency cap to 1**.
- Schedule the SMS engagement to be sent **twice a week** and the email engagement **once a week**.
- Ensure that the engagement runs for **one month**.

This configuration allows you to manage the frequency of communications effectively, ensuring users receive the SMS and email engagements as intended without overwhelming them.

Note: If a user drops out of a segment before the communication is supposed to be triggered, s/he will not receive the communication.

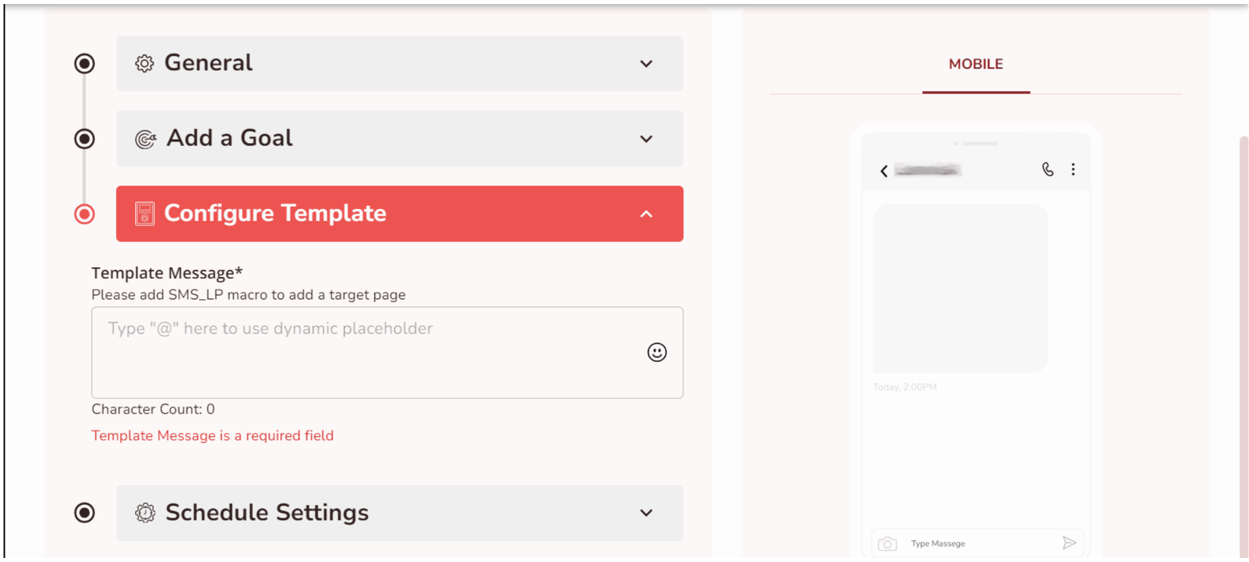
Personalizing Parameters

You want to send a reminder to multiple customers about their upcoming credit card bill. Each customer has a different outstanding amount and due date, so creating separate messages for each would be time-consuming.

Use **Macros** to personalize a single template, allowing you to create one message that automatically includes each customer's specific details, such as the outstanding balance and due date. This way, you can send the same communication to all customers with their unique information included, saving time and ensuring that each message is relevant to the recipient.

How to create a Macro?

1. In the variable text field, put @ symbol.
2. Choose the label variable from the list of available of macros.



Conversion Goal

In any campaign setup, a marketer always has a specific goal in mind—such as reaching new leads, increasing purchase orders, or encouraging other actions. To evaluate the success of a campaign, marketers can define a specific conversion action they want users to complete.

As users interact with the campaign and complete this desired conversion action, their activity is attributed back to the campaign. This attribution helps marketers assess the campaign's effectiveness by directly linking results to their marketing efforts.

HCL CDP's marketing automation platform enhances campaign effectiveness by tracking and attributing these actions and goal achievements. This capability enables marketers to make data-driven adjustments to optimize their campaigns for the best possible outcomes.

Suppose you launch a new credit card during New Year and promote it through SMS, email, and app push notifications.

As these campaigns run, each user interaction and conversion is attributed to the specific campaign that prompted it. For example, if most conversions occur through app push notifications, this channel will be identified as the most effective. In this case, the marketer can focus on app push notifications for future campaigns, recognizing it as the primary **engagement attribute** driving conversions.

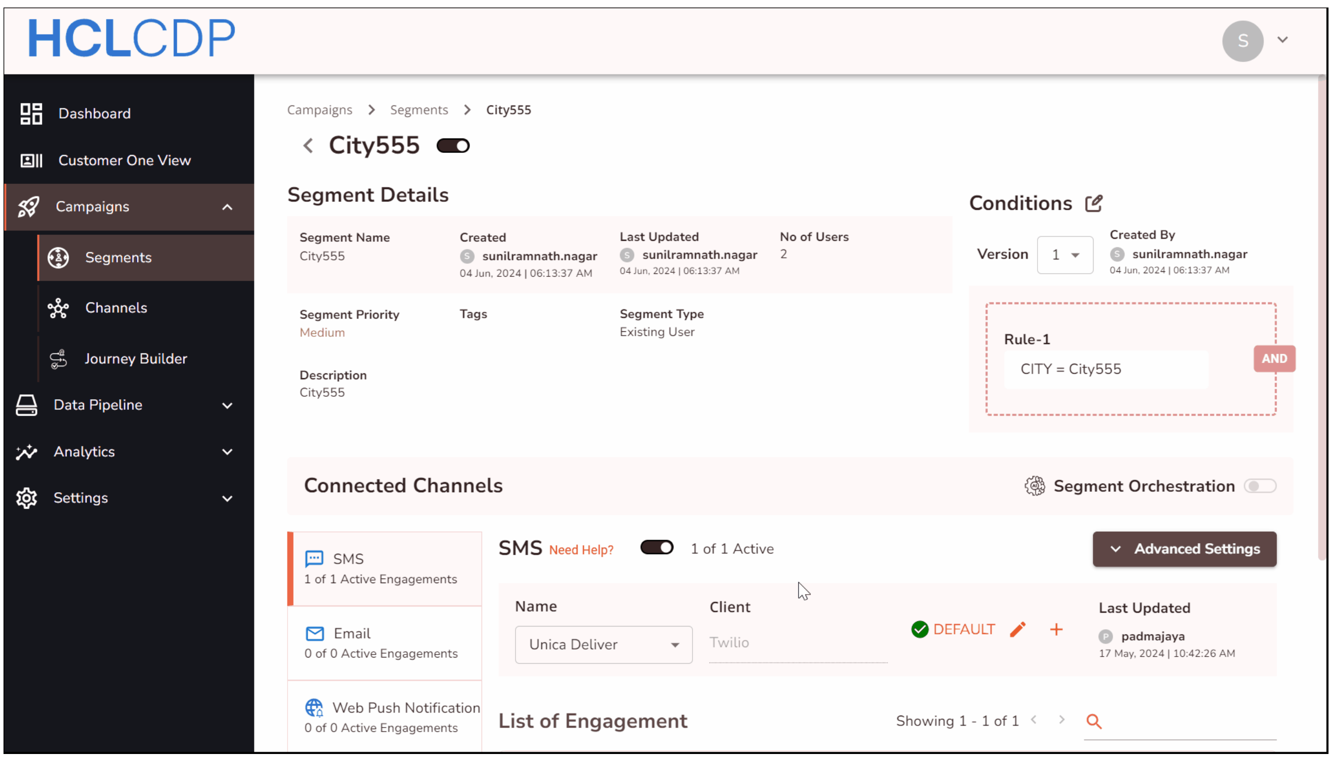
This approach allows marketers to identify the most impactful channels and refine their strategy based on real conversion data.

How is the conversion goal calculated?

In HCL CDP, a user's actions are tracked as **events**. When a user interacts with a campaign, a 30-day window begins, during which any actions they take are attributed to that specific engagement. Once the user completes the conversion goal, a specific event name is assigned to mark this conversion, helping measure the effectiveness of each engagement within the campaign.

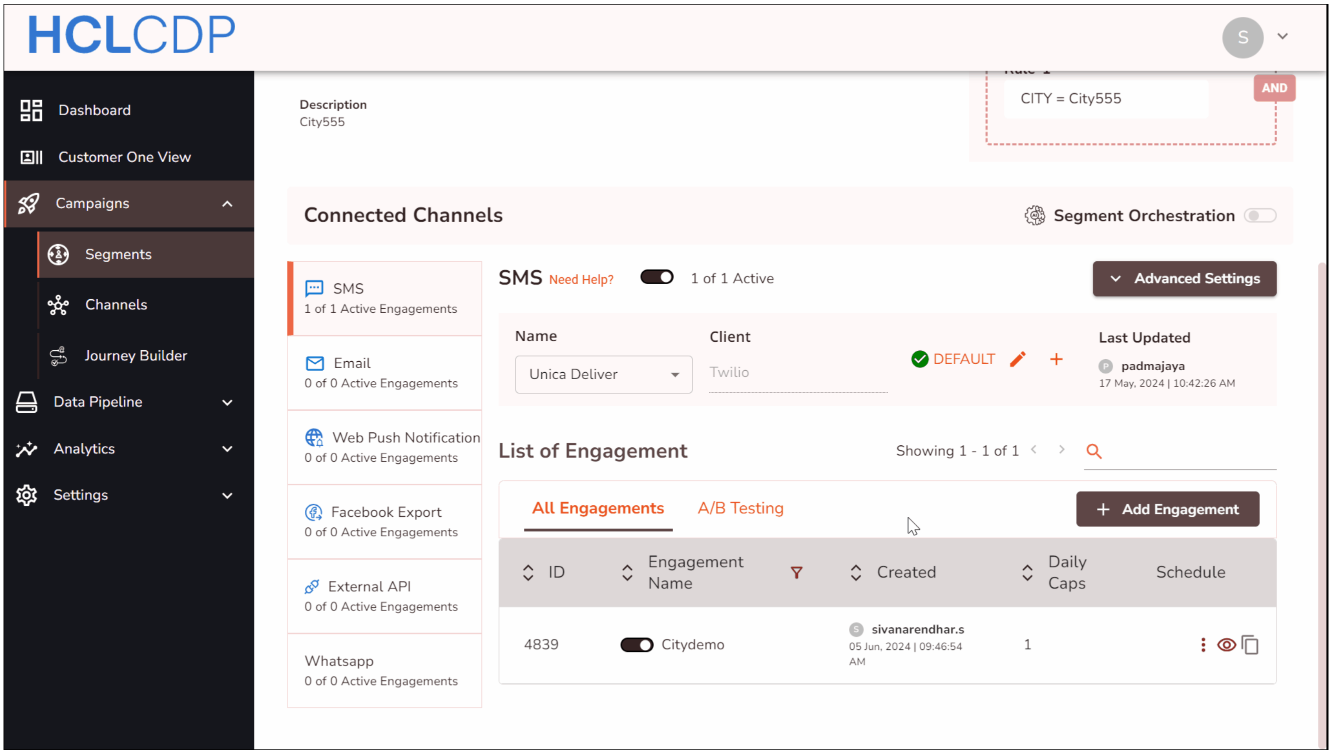
There are two types of conversion goals:

1. **Track**: Monitors user behavior on a website or app. For more information on track events, refer Track on page 183.
2. **Page**: Identifies the pages a user views on your website. For more information on page events, refer Page on page 189.



Product Label

You can assign a label to an engagement, making it easier to use for reporting purposes. For more information about adding a product Label, refer Product Label on page 311.



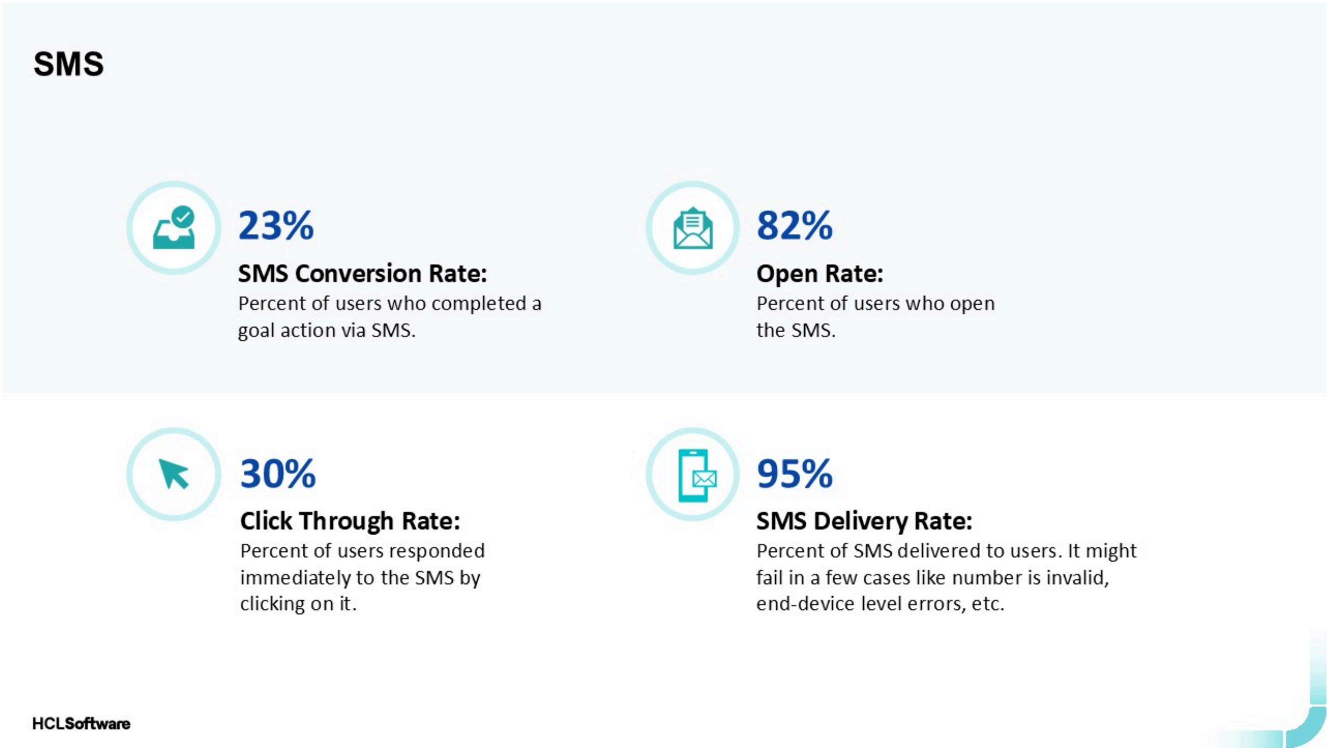
Start/End

The HCL CDP Marketing Automation platform lets you schedule start and end dates for any app push engagement, either automatically or manually, in the GMT time zone. You can also set up email alerts by entering your email address and updating the panel.

SMS

This page explains about the SMS channel in HCL CDP.

SMS channel is a powerful tool for reaching customers directly on their mobile devices. With high open rates and rapid response times, SMS campaigns are an effective way to engage users, deliver personalized messages, and drive conversions.



Running SMS campaigns with HCL CDP

Personalized SMS campaigns are highly effective in driving conversions, supported by proven statistics. To send an SMS campaign, assume you have already created a segment and identified your target users. For more information about creating a segment, refer to Creating and Managing Segments on page 174.

Requirements for Running SMS Campaigns with HCL CDP

1. **SMS Service Provider (SSP)**: HCL CDP relies on an SSP to send and track SMS messages. The SSP monitors actions like delivered and bounced messages. The reporting section summarizes all segment and engagement data collected by the SSP and shared with HCL CDP through webhooks.
2. **Distributed Ledger Technology (DLT) Template**: Use a DLT-verified platform to create your SMS template, which securely logs all user transactions. For businesses sending bulk SMS, DLT registration and approval of the SMS template are required. For more information on the DLT template, contact your SSP.

Configure up an SSP

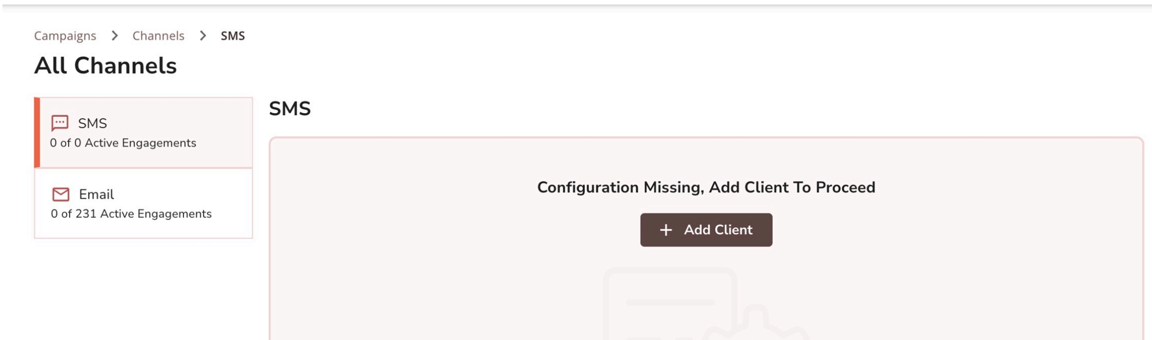
This page explains how to configure SMS as a marketing channel

HCL CDP allows you to create and manage SMS campaigns, while an SMS Service Provider (SSP) like *Twilio*, *Infobip*, or *Netcore* delivers the messages to your target audience.

Add a new SMS Service Provider

1. Click **+ Add Client**. A modal will appear on the screen. From the modal, choose an SSP from the drop-down list.

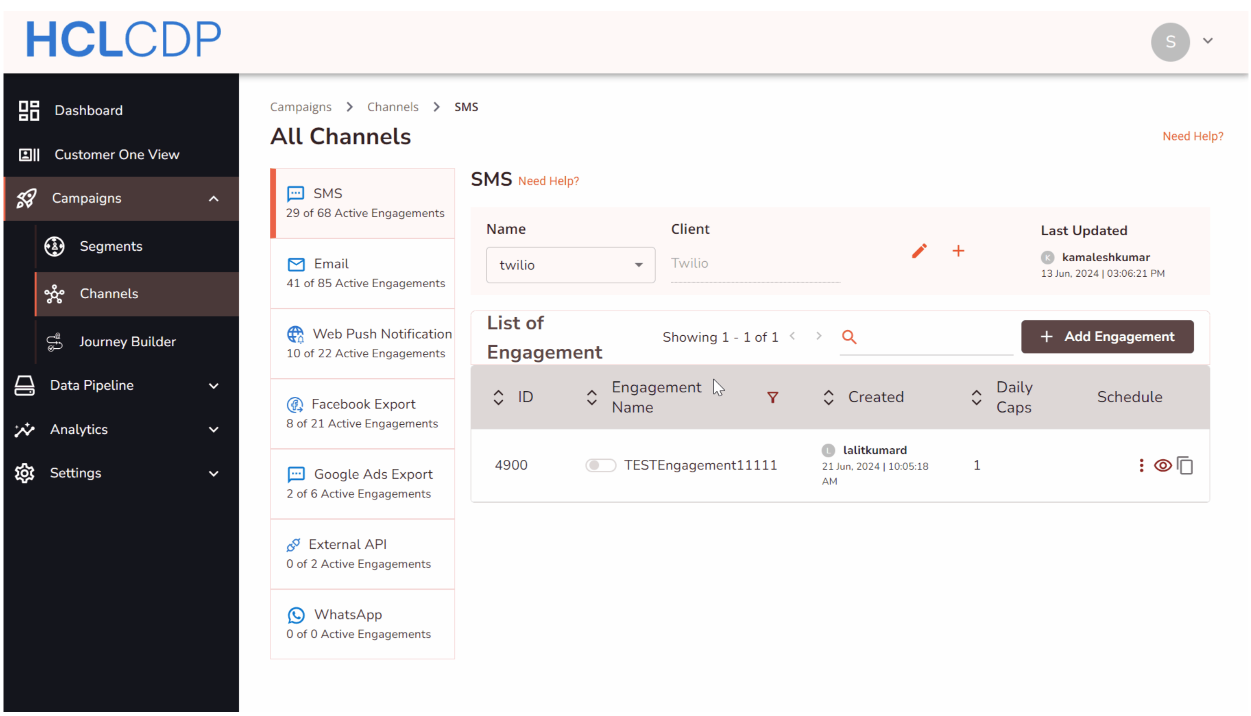
Note: Before creating SMS engagements, you must configure at least one SSP. If an SSP is not configured, a prompt will appear as shown below.



2. In the **Add Client** page, add a name to define the configuration.

Note: This is an internal configuration name and will not be sent while sending SMS campaigns.

3. Enter SSP specific settings in the **Connection Settings**, and click **Save Details**.



Verify the configuration

Once the configuration is saved, you can test the setting are working by clicking **Try It Out**.

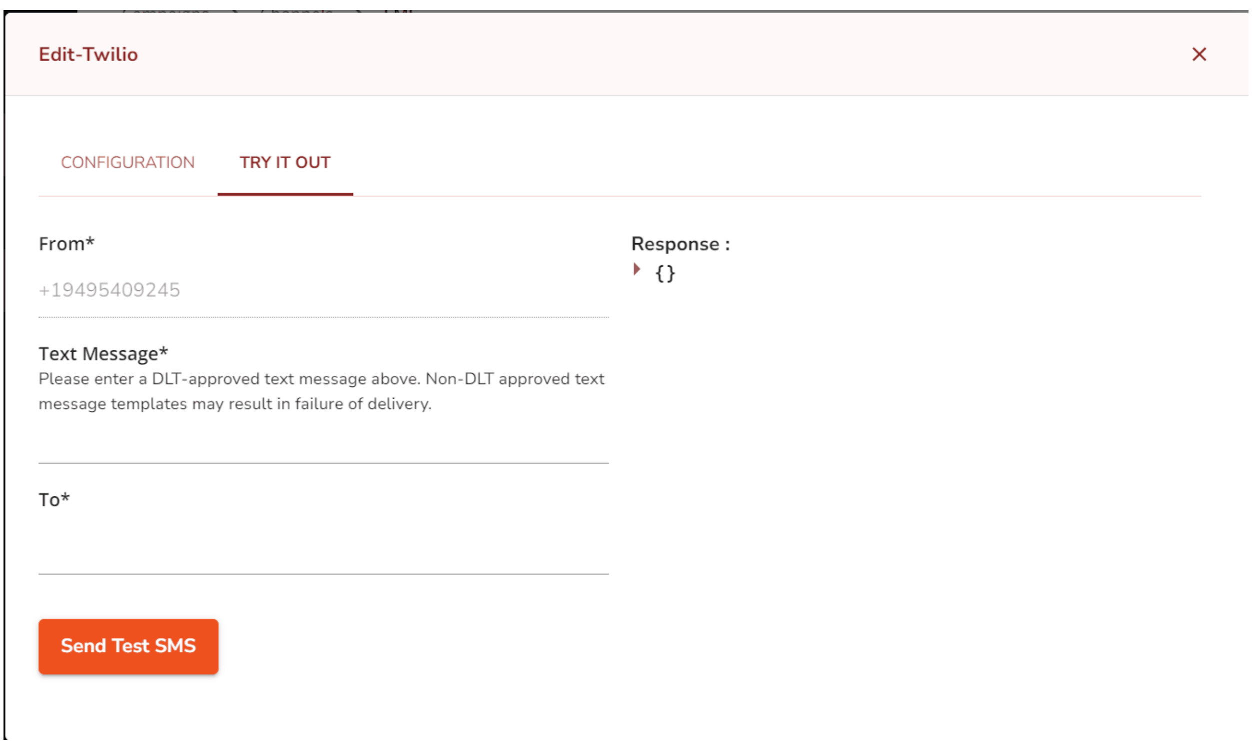
1. Click the **TRY IT OUT** tab, in the **Text Message**, add a DLT approved text message template.
2. In **To**, enter the mobile number you want to send the SMS to.
3. You can see the API response in the Response section.

Tip: HCL CDP lets you add multiple clients using the " + " icon and follow the steps mentioned above.

Configure multiple SSPs

HCL CDP allows you to configure multiple SSPs. For instance, if your organization uses one SSP for domestic SMS and another for international SMS, or if your team uses one SSP for marketing messages and another for customer service updates, you can set up both SSPs in HCL CDP to meet these needs.

1. Navigate to **Channels > SMS**, and click the **+** icon.
2. Select an SSP, and enter configuration details.
3. In the **TRY IT OUT** tab, verify if the new integration is working correctly.



Netcore

This page explains how to configure Netcore as SSP (SMS service provider).

Netcore's product suite comes with Netcore SMS that specializes in SMS marketing, allowing businesses to send SMS messages automatically through its APIs.

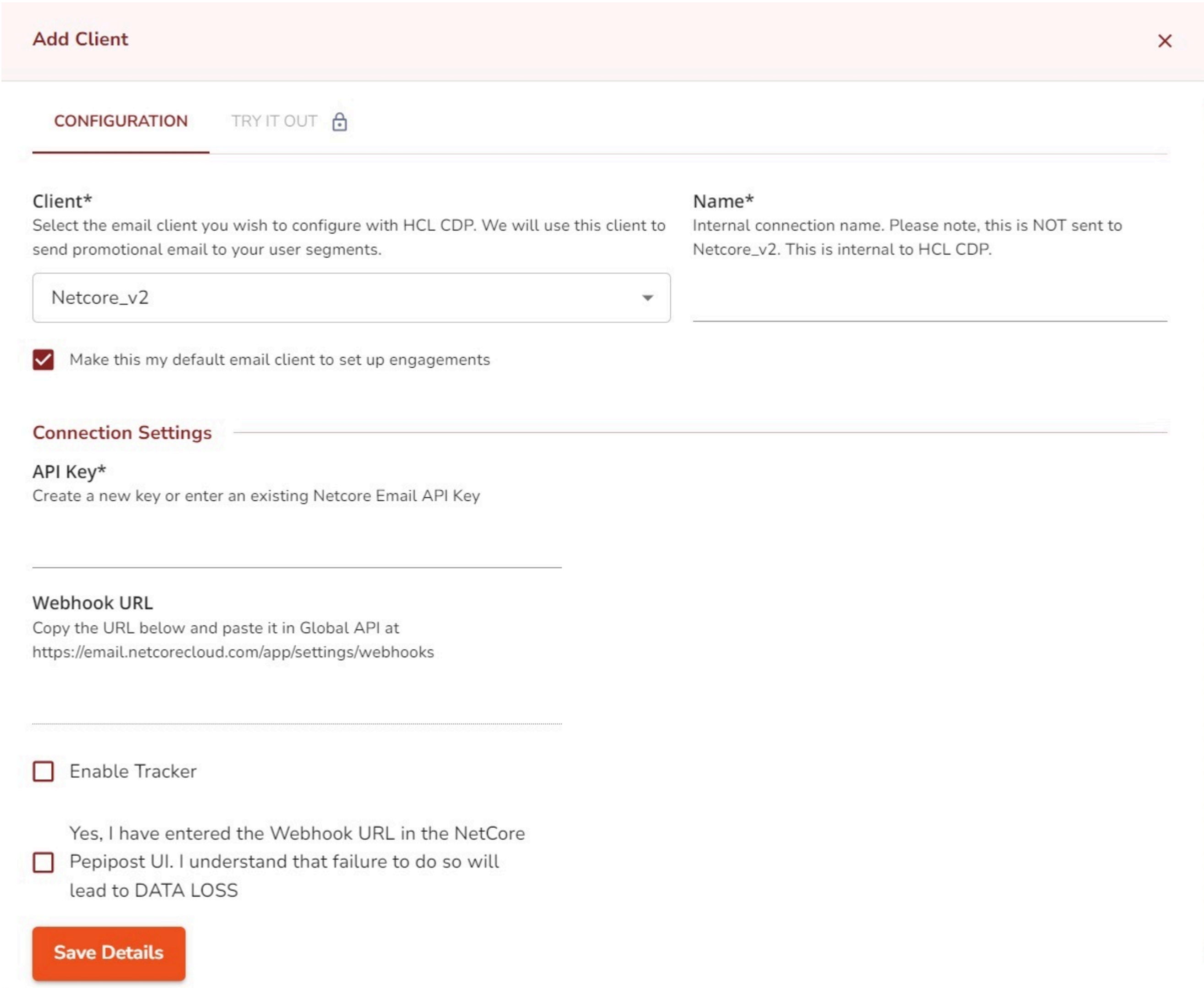
Configure Netcore with HCL CDP

To configure the Netcore, follow the steps below:

1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Netcore** from the list of SSPs.
2. Configure the following details:
    - **Name:** Enter connection name.

      Note: This is for internal use, which will not be shared to SMS API.

    - **Feed ID:** Enter the Feed ID provided by Netcore.
    - **Entity ID:** Enter the Entity ID provided by Netcore.
    - **Username:** Enter the username.
    - **Password:** Enter the password.
    - **Sender ID:** Enter the approved sender ID to send SMS.
3. Click **Save details**, and you're all set to go!



Twilio

This page explains how to configure Twilio as SSP (SMS service provider)

Twilio SMS is a cloud-based communication platform that allows businesses to send and receive SMS messages. With Twilio SMS, businesses can automate sending and receiving text messages through its APIs.

Configure Twilio with HCL CDP

To configure the Twilio, follow the steps below:

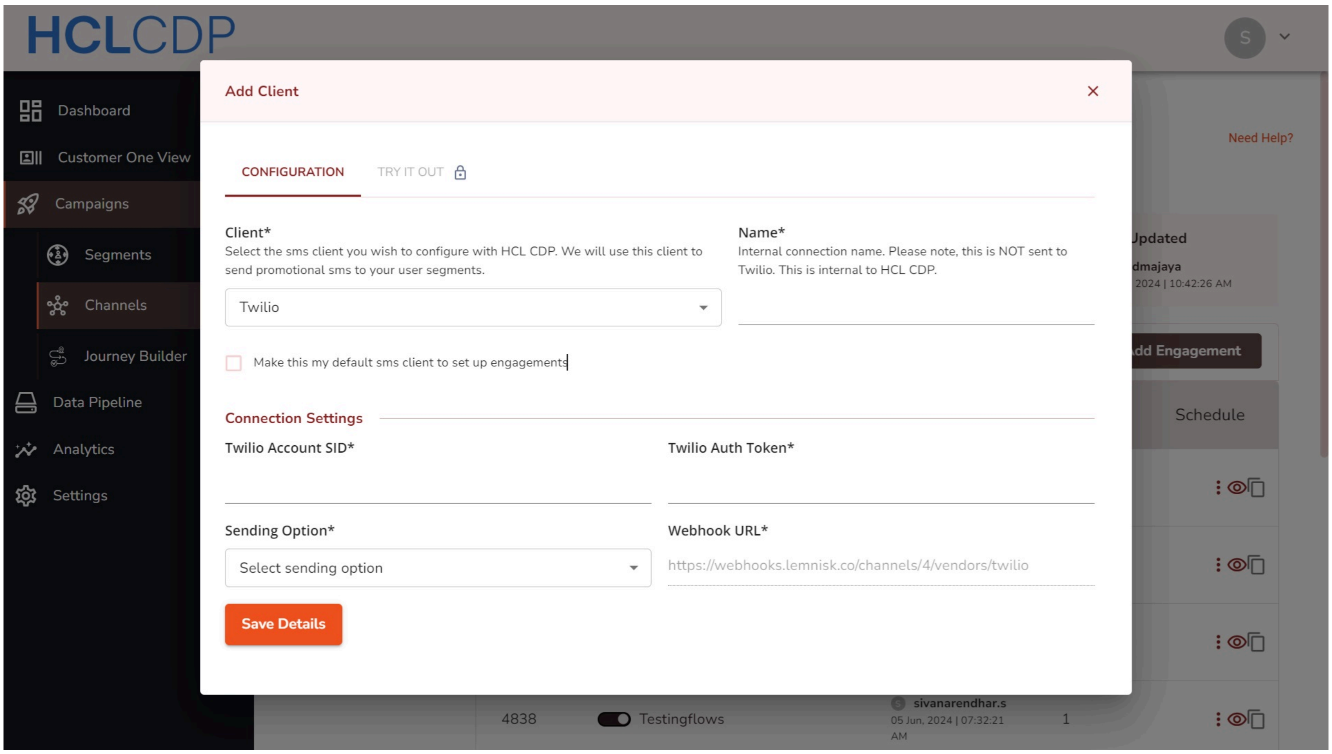
1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Twilio** from the list of SSPs.
2. Configure the following details:

- **Name:** Enter connection name.

  Note: This is for internal use, which will not be shared to SMS API.

- **Twilio Account SID**: Enter the Twilio Account SID from your *Twilio dashboard*.
- **Twilio Auth Token**: Enter the Twilio auth token from your *Twilio dashboard*.
- **Sending Option:** Choose a sending option - **Messaging Service SID** or **From**.

3. Click **Save Details**, and you're all set to go!



Adobe Campaign Classic

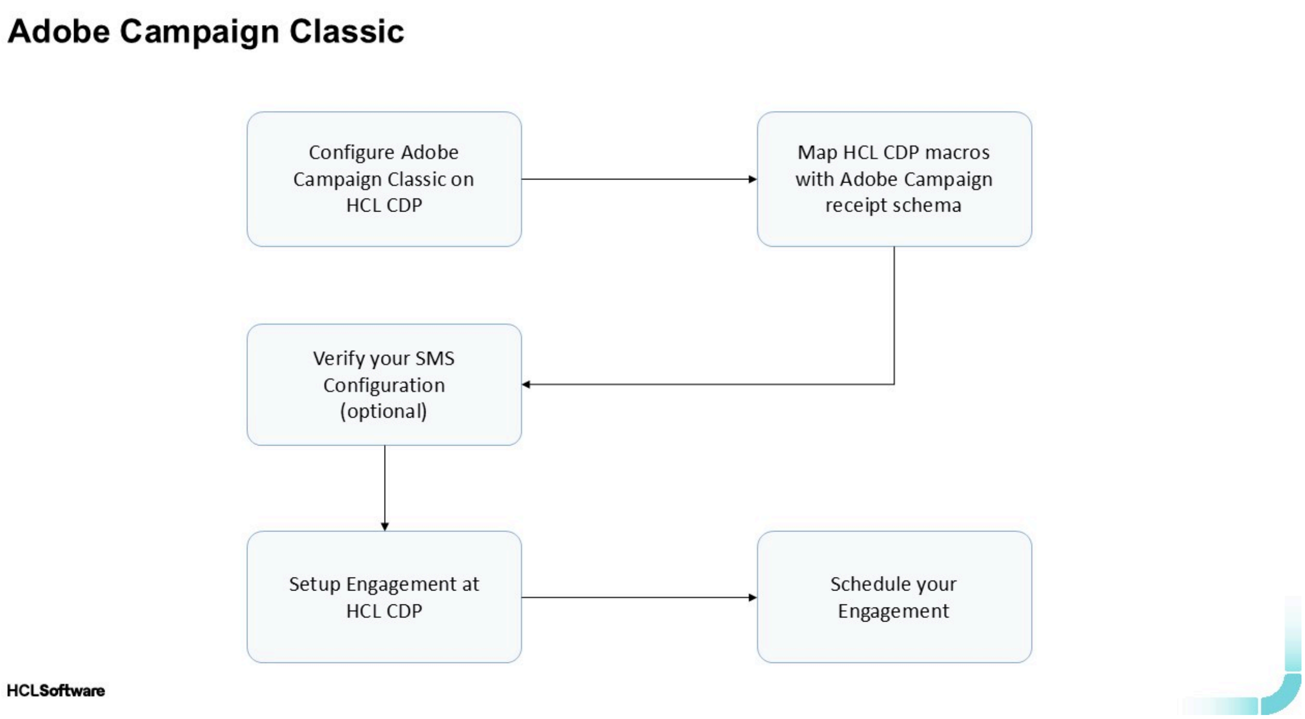
This page explains how to configure Adobe Campaign Classic as an SSP (SMS service provider).

Adobe Campaign Classic, part of the Adobe Experience Cloud, provides cross-channel campaign management to help businesses create seamless customer journeys across all touchpoints. It enhances customer engagement through personalized marketing communications. With Adobe Campaign Classic, you can design and manage targeted, customized campaigns across multiple channels.

Setting up a campaign with Adobe Campaign Classic through HCL CDP differs from setting up campaigns with other SMS service providers (SSPs) and includes the following steps.

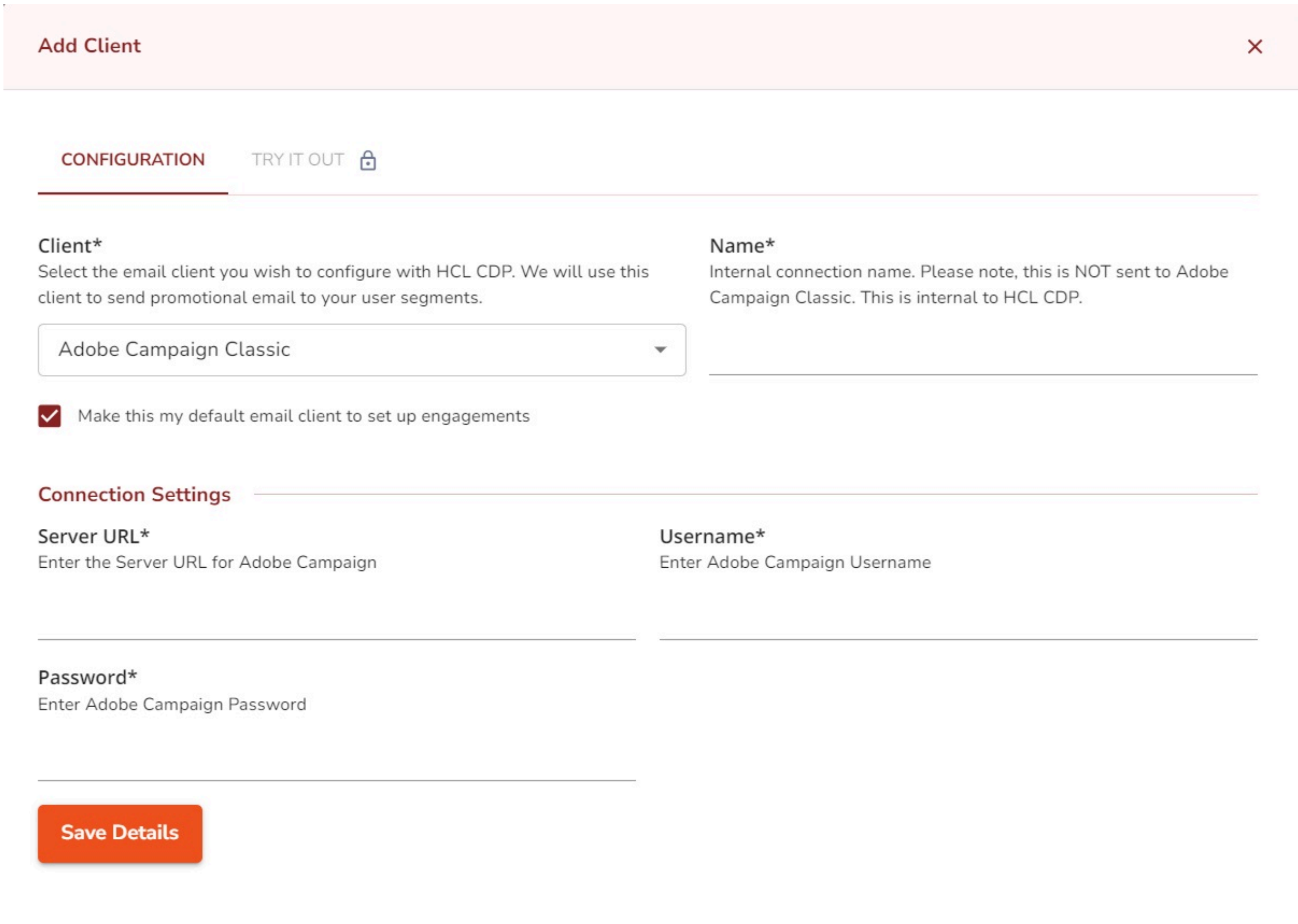
Workflow

This configuration of Adobe Campaign Classic with HCL CDP for SMS engagement is based on the assumption that Adobe Campaign Classic sends SMS through the SMS vendor Infobip. The setup steps may vary if Adobe Campaign Classic is configured to use a different SMS vendor.



Configure Adobe Campaign Classic with HCL CDP

1. Navigate to **Campaigns > Channels > SMS**, click the **+** icon.
2. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Adobe Campaign Classic** from the list of SSPs.
3. Configure the following details:
    - **Name:** Enter connection name.
    - **Server URL:** Enter the server URL of Adobe Campaign Classic.
    - **Username:** Enter the username of your Adobe Campaign Classic account.
    - **Password:** Enter the password of your Adobe Campaign Classic account
4. Click **Save details**.

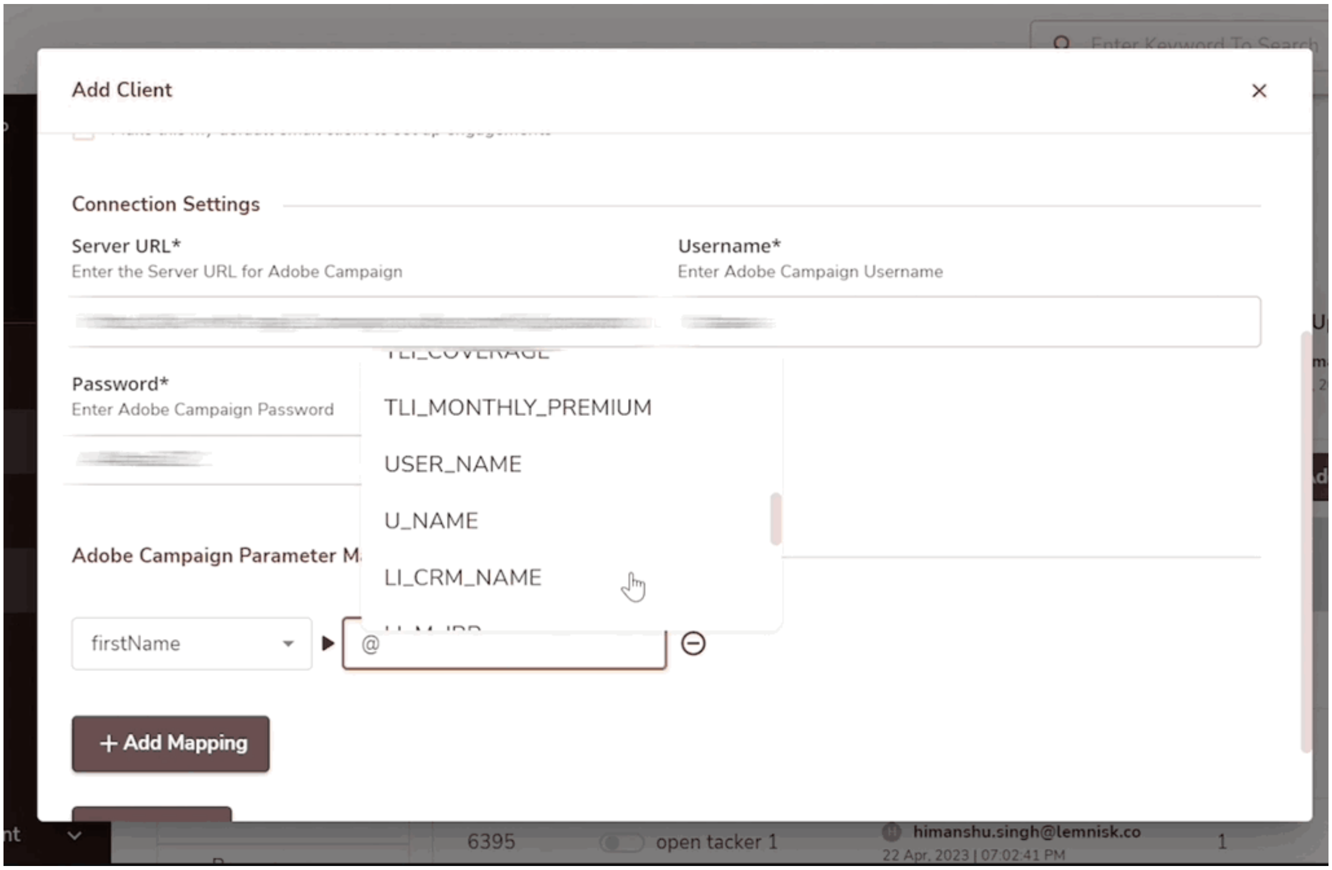


Map HCL CDP Macros with Adobe Campaign Recipient Schema

To send SMS engagement through the Adobe Campaign Classic via HCL CDP, the details of the user like First name, Last name, Age, etc. must be mapped with the recipient's parameters in Adobe Campaign Classic from HCL CDP. Only the parameters that are available in the HCL CDP will be updated in the Adobe Campaign Classic. If any of the parameters gets added/updated in HCL CDP, the same will be updated in the Adobe Campaign Classic while the other parameter remains unchanged.

Map the parameters with Adobe Campaign Classic by following the steps shown below:

- Under **Adobe Campaign Parameter Mapping**, click **"+Add Mapping"** .
- Match the Adobe recipient parameters with the macros in HCL CDP.



Note: Make sure that the recipient information between HCL CDP and Adobe Campaign Classic remains consistently synchronized.

Verify Your SMS Configuration (Optional)

After the configuration is done, you can use **Try It Out** to test the SMS configuration.

1. Click the **TRY IT OUT** tab. In the **To** field, enter the mobile number along with the country code to which you wish to send the SMS.
2. In the **Select a Template** field, add a DLT-approved text message template. The Template ID will be automatically fetched from the Adobe Campaign Classic.
3. Click **Send Text SMS**. The API response will be displayed in the **Response** section.

Set up your campaign with HCL CDP

Once you configure Adobe Campaign Classic with HCL CDP, you can set up your engagement with the following steps.

1. Navigate to **Campaign > Segment**.
2. Create a new segment or select an existing segment. To create a new segment, check Creating and Managing Segments on page 174.
3. Select the channel **SMS** and click **+ Add Engagement.**

1. **General**
    - **Engagement Name:** Give a unique name for your engagement.
    - **Label:** Add a Label to your engagement.
    - **Choose SMS Client:** Choose your SMS client as Adobe Campaign Classic.
2. **Add a Goal**

    Goal Type: Set your goal type from the dropdown with the use cases Page, Track, and None
3. **Configure Template**
    - **Select a template:** Select an SMS delivery created at Adobe Campaign. You can search for it via the delivery code or label. You can only use the SMS deliveries that are in **Target Ready** and **Being Edited** states. You cannot change any delivery configurations from HCL CDP. You can only preview the delivery details from HCL CDP by dragging the pointer to the preview section.
    - **Content Template ID:** Content template ID will be automatically fetched from Adobe Campaign Classic.
    - **Template Message:** Template message will be reflected based on the configuration from Adobe Campaign Classic.

Schedule your engagement delivery

Schedule the engagement based on your use case (later or trigger). Please note that trigger immediate use cases will not be supported with Adobe Campaign.

Note:

- No more than 50,000 API calls can be made from Adobe Campaign Classic in a single day. This limit may vary according to the plan you subscribe to.
- HCL CDP do not support defining workflow variable like **TargetData**.
- Do not define any target population while creating a delivery. The targets will be defined by HCL CDP.
- Trigger-immediate use cases are not supported. This is because Adobe Campaign Classic receives data from HCL CDP and triggers the communication. Other use cases, like triggering after a particular time or event, can be supported.

Gupshup

This page explains how to configure Gupshup as an SSP (SMS service provider).

Gupshup is a top conversational messaging platform recognized for its powerful communication capabilities for businesses. It offers a reliable SMS API that enables fast, latency-free sending and receiving of messages, with direct carrier connections in over 225 countries. The API is designed to handle high volumes smoothly, ensuring timely delivery of critical alerts, rich text, and media without delays.

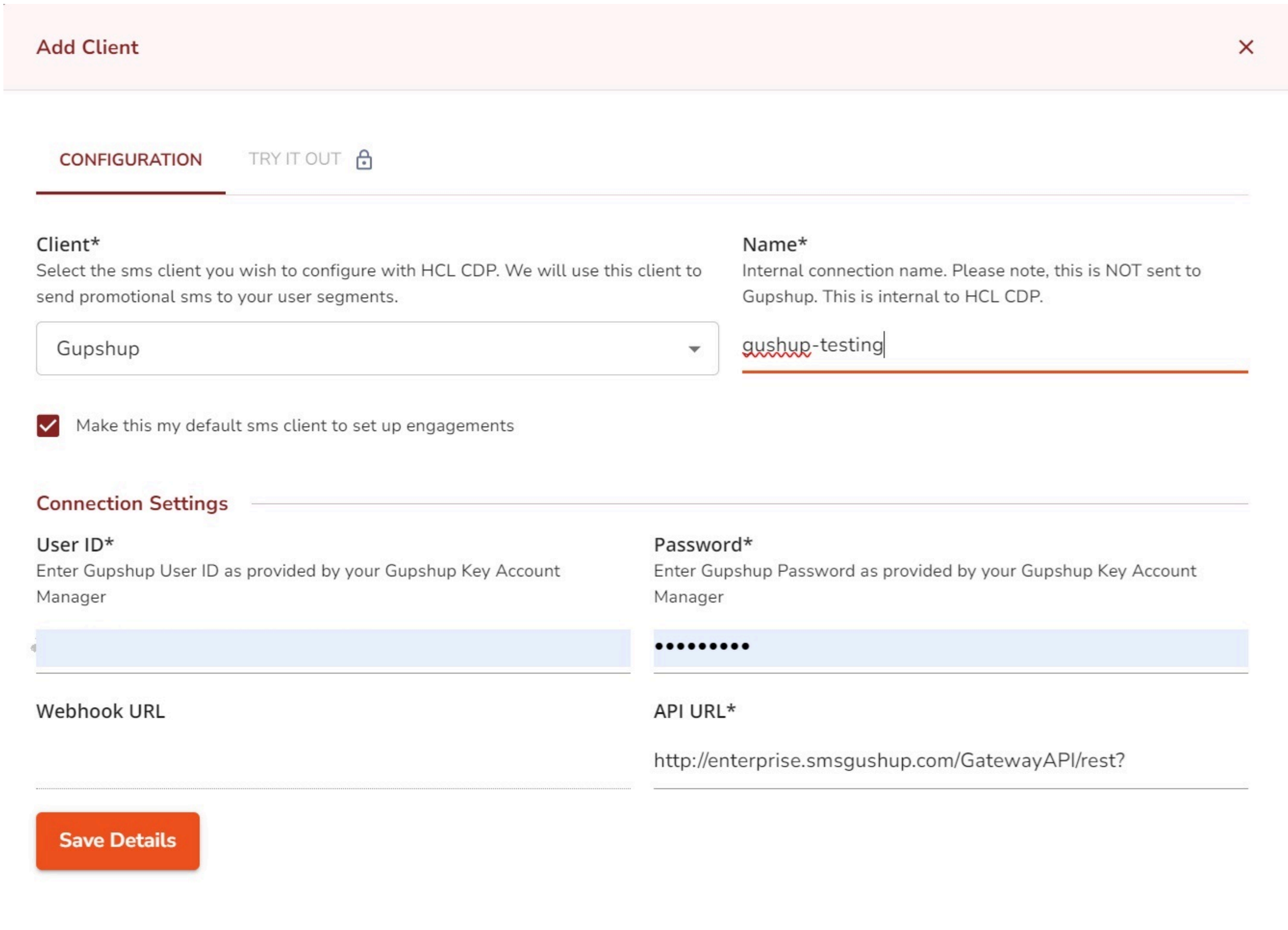
Configure Gupshup Messenger with HCL CDP

To configure Gupshup, follow the steps below:

1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Gupshup** from the list of SSPs.
2. Configure the following details:
    - **Name**: Enter connection name. This connection name is internal to HCL CDP which will not be sent to SMS API.
    - **User ID**: Enter the user ID which is provided by the Gupshup team.
    - **Password:** Enter the password provided by the Gupshup team. Contact Gupshup and get your User ID and Password.
    - **Webhook URL:** Copy the webhook URL and paste it into the Gupshup dashboard.

        Note: To receive delivery reports for your SMS campaigns, make sure to configure the Webhook URL. Without this, delivery reports will not be available.

    - **API URL:** Enter the API URL in this field.
3. Click **Save details**, and you're all set to go!



Unifonic

This page explains how to configure Unifonic as an SSP (SMS service provider).

Unifonic is a business communication platform that helps engage customers through personalized communications across multiple channels. HCL CDP includes Unifonic among its SMS service providers, providing users with greater flexibility and ease in delivering personalized SMS messages.

Configure Unifonic with HCL CDP

To configure Unifonic, follow the steps below:

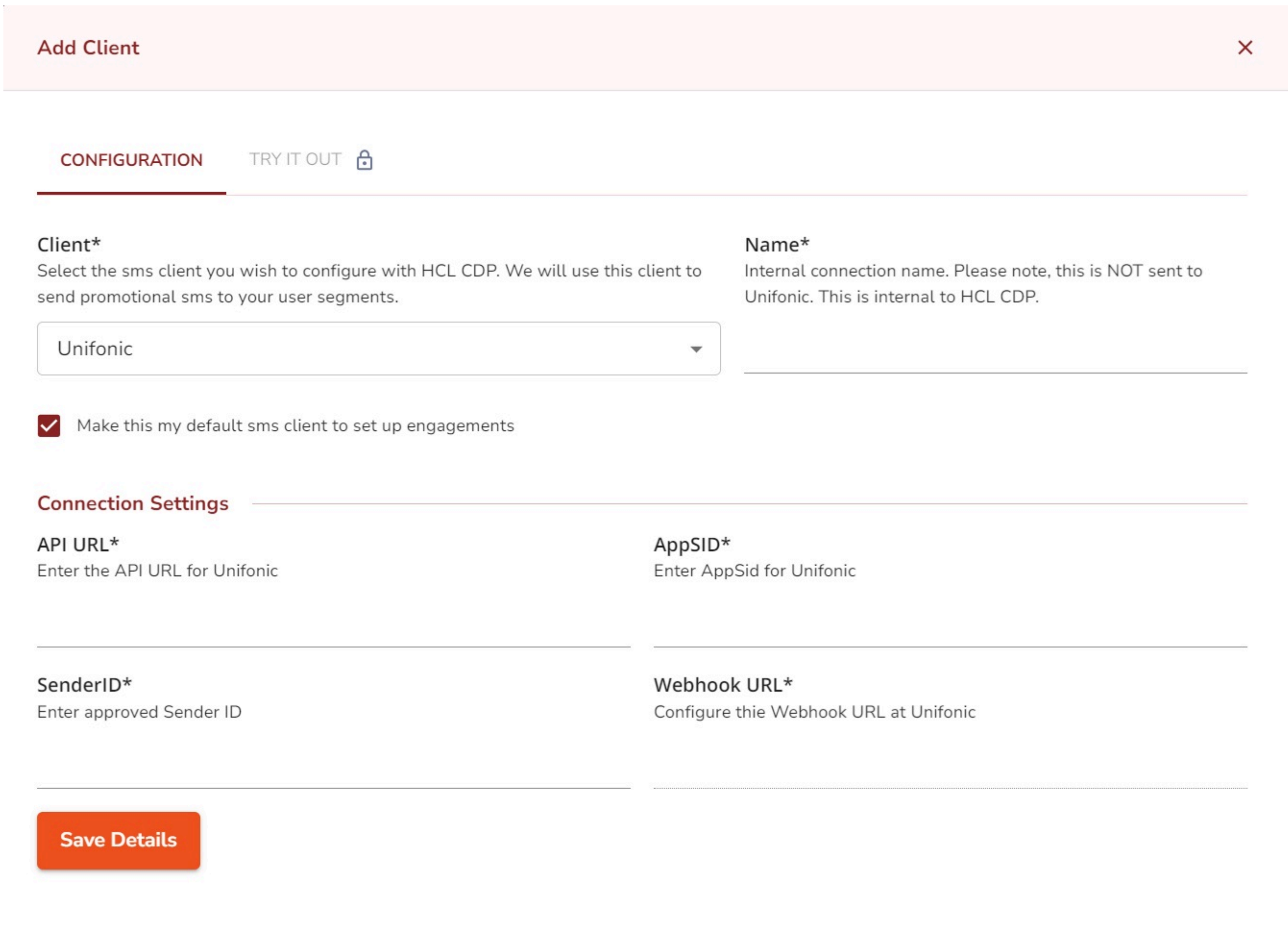
1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Unifonic** from the list of SSPs.
2. Configure the following details:
    - **Name**: Enter connection name.

      Note: This is for internal use, which will not be shared to SMS API.

    - **API URL:** Enter the API URL in this field.

- **AppSID:** Enter the Authentication string that uniquely identifies your application.
- **Sender ID**: Enter the sender ID provided by the Unifonic team.
- **Webhook URL:** Enter the webhook URL provided by the Unifonic team.

3. Click **Save details**, and you're all set to go!



Infobip

This page explains how to configure Infobip as an SSP (SMS service provider).

Infobip is an Application-to-Person communication platform designed for enterprises, widely used for marketing communications to engage customers through automated messaging and drive specific goals. It provides access to an extensive range of communication channels to meet diverse business needs.

Configure Infobip with HCL CDP

To configure the Infobip, follow the steps below:

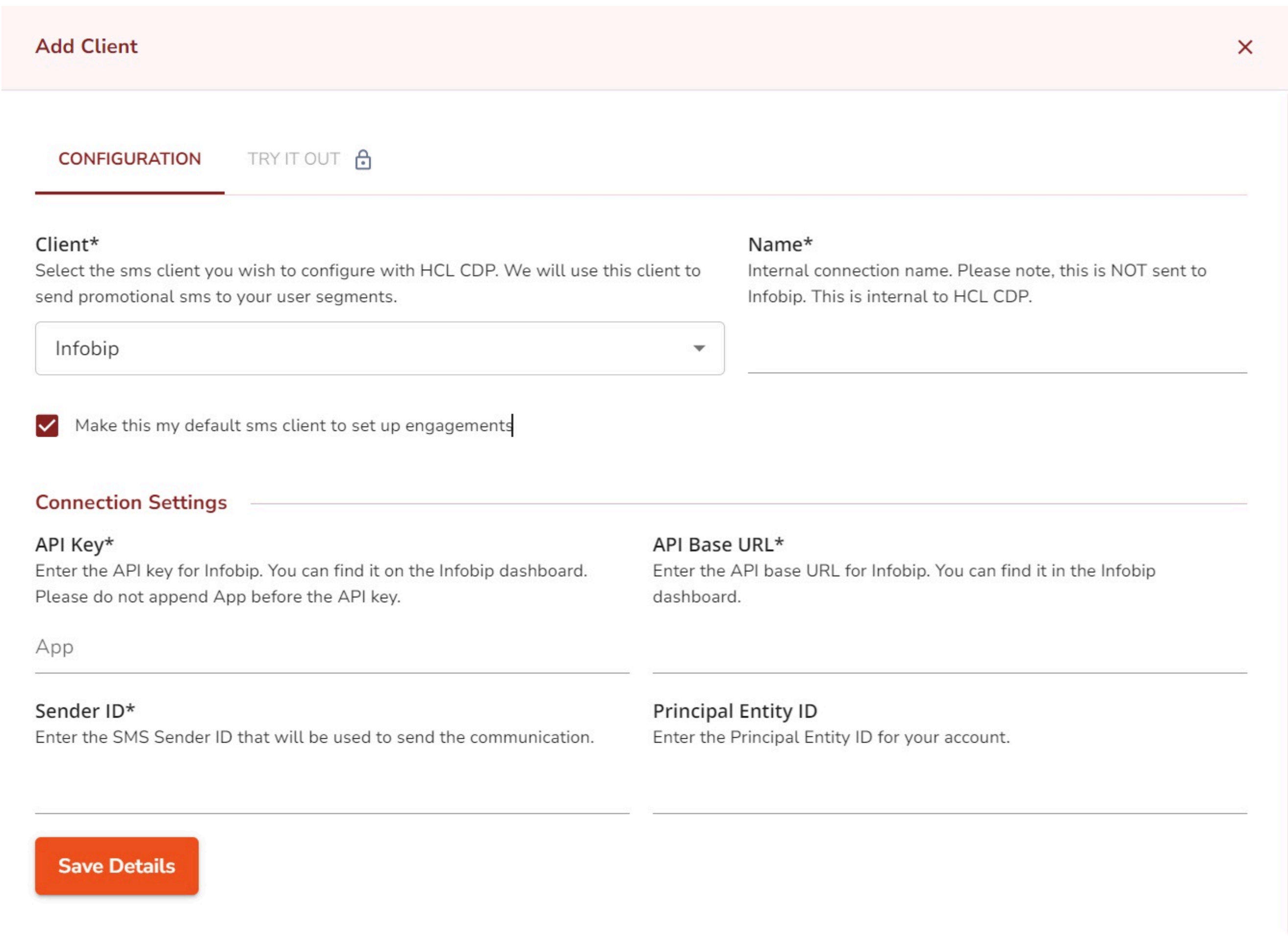
1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Infobip** from the list of SSPs.
2. Configure the following details:

- **Name:** Name your connection.

  Note: This is for internal use, which will not be shared to SMS API.

- **API Key:** Enter the API key provided by the Infobip team.
- **API Base URL:** Enter the base URL.
- **Sender ID:** Enter the SMS sender ID.
- **Principal Entity ID:** Enter the principal entity ID.

3. Click **Save details**, and you're all set to go!



Tubelight

This page explains how to configure Tubelight as an SSP (SMS service provider).

Tubelight is a conversational AI-based customer engagement platform that enables businesses to connect with customers on their preferred channels through its omni-channel engagement solutions.

Configure Tubelight as an SSP with HCL CDP

To configure Tubelight, follow the steps below:

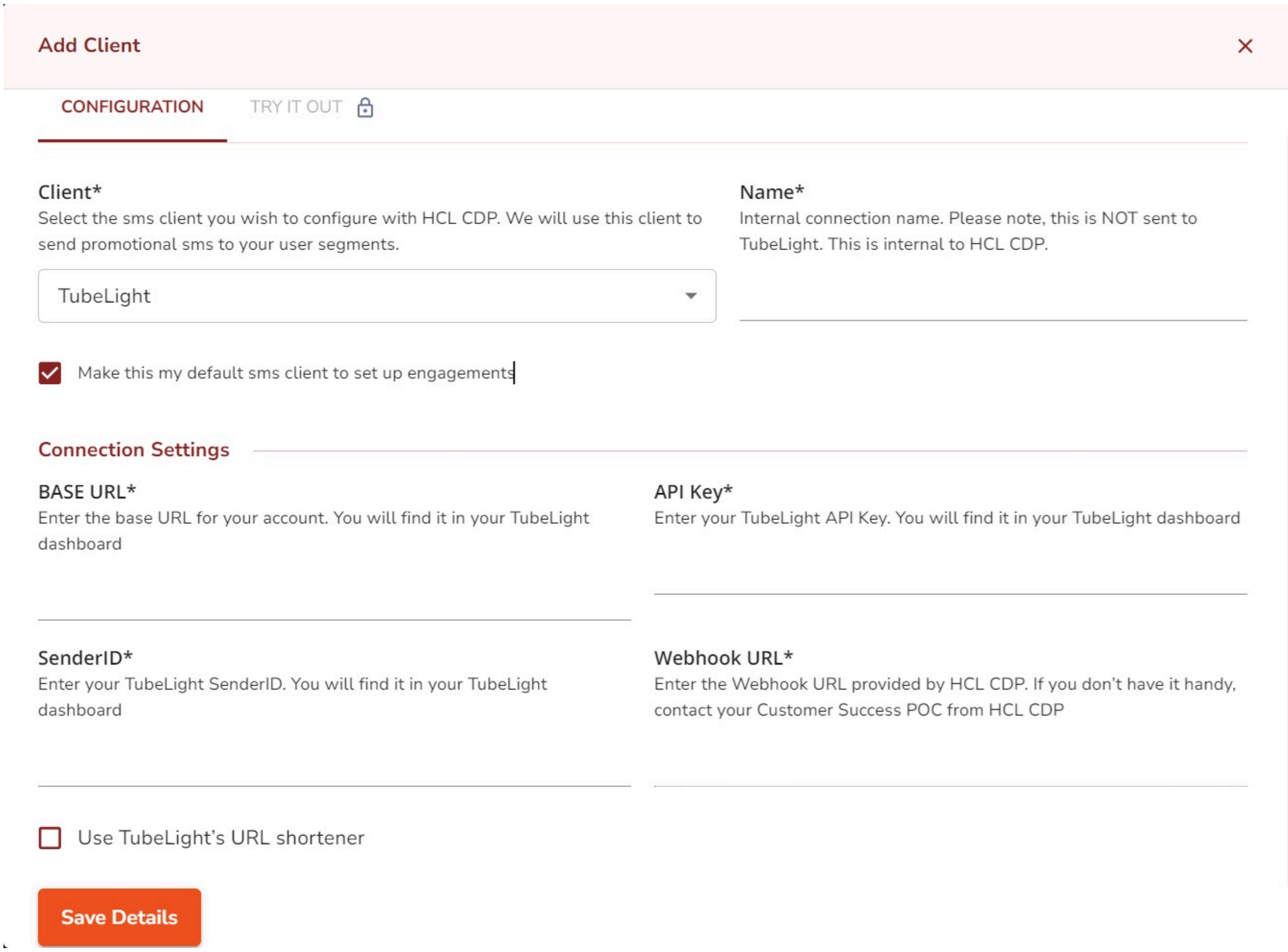
1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Tubelight** from the list of SSPs.
2. Configure the following details:
    - **Name:** Name your configuration.

      Note: This is for internal use, which will not be shared to SMS API.

    - **Base URL:** Enter the base URL provided by the Tubelight team.
    - **API Key:** Enter the API Key which will be available in your Tubelight account.
    - **Webhook URL:** Copy the webhook URL and paste it into the Tubelight dashboard.

      Note: To receive delivery reports for your SMS campaigns, make sure to configure the Webhook URL. Without this, delivery reports will not be available.

    - **Sender ID:** Enter the sender ID.
    - **Use TubeLight's URL shortener:** select this check box to use Tubelight's URL shortener in your SSP configuration. By default, the configuration will use HCL CDP's URL shortener.
3. Click **Save details**, and you're all set to go!



Add an SSP

This page explains how to add an SSP on the HCL CDP platform.

HCL CDP allows you to add an SMS vendor directly on the platform, reducing integration time and enabling faster campaign launches. This feature lets marketers configure external API based SMS vendors simply by entering authorization keys.

Pre-requisites

Make sure the following things are in place:

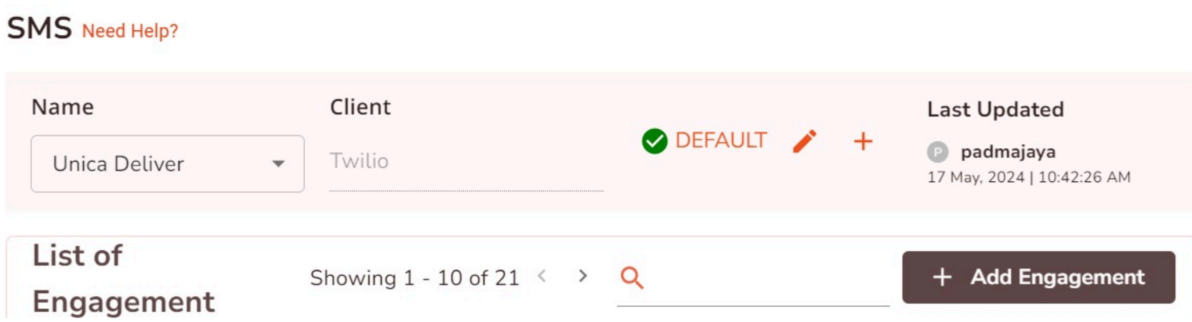
- The vendor's API that works with HTTP POST Method and JSON payload.
- The authentication mechanism and credentials should be a static key and not a refresh key.

Configuration procedures

- To set up an SMS vendor, map two configuration values: "To" and "Message Body." These two fields vary at the engagement level.
- Assign authorization keys, senderID (if present), sender number, and other essential global constants in the appropriate places in the API. Configure these usually in the URL parameters or header parameters.
- To configure a field at the engagement level, enter the variable name in curly braces {{variable_name}}. You may also provide an alias as the display name.
- A default value is optional but recommended when the value does not change frequently. This value displays for those parameters when creating engagements. You may also assign a Macro value to fields by type.

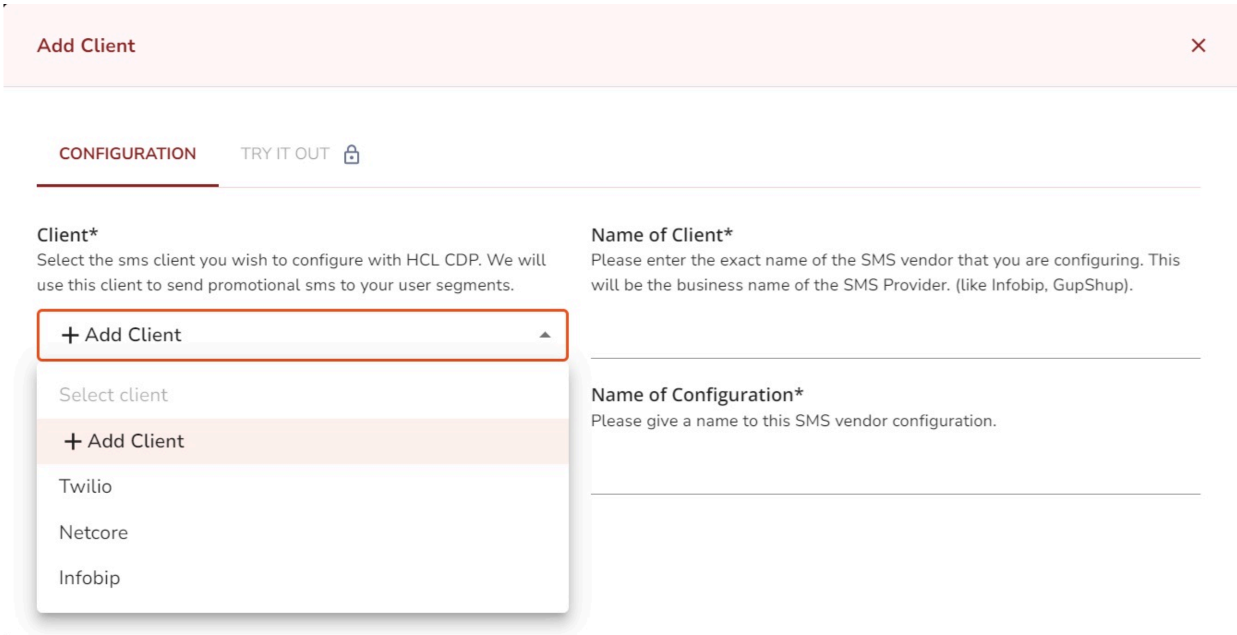
Setup new SMS client

1. Navigate to **Campaigns** > **Channels** > **SMS**.
2. Click the "**+**" icon in the top row of the window.



3. In the **Client*** drop-down list, select **+ Add client** from the list of clients.
4. In the **Name of Client** field, enter the name of the custom client.

5. In the **Name of Configuration** field, enter the name your configuration in the given input box.



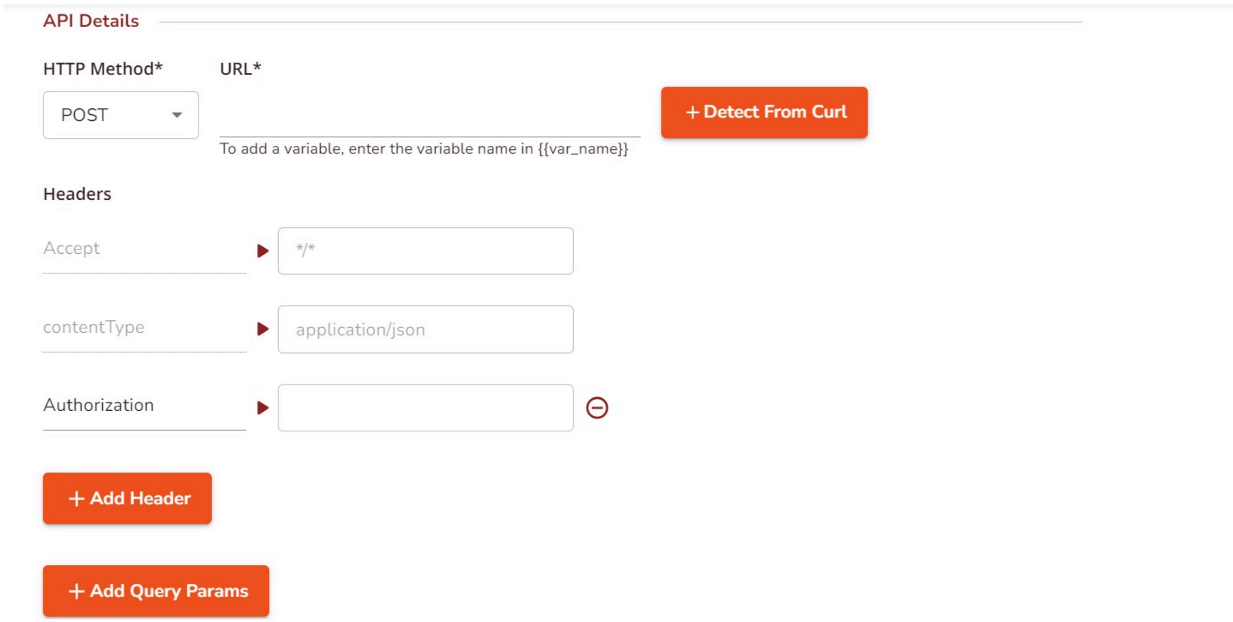
Configure SMS client using External API

To configure the custom SMS client, follow the steps below:

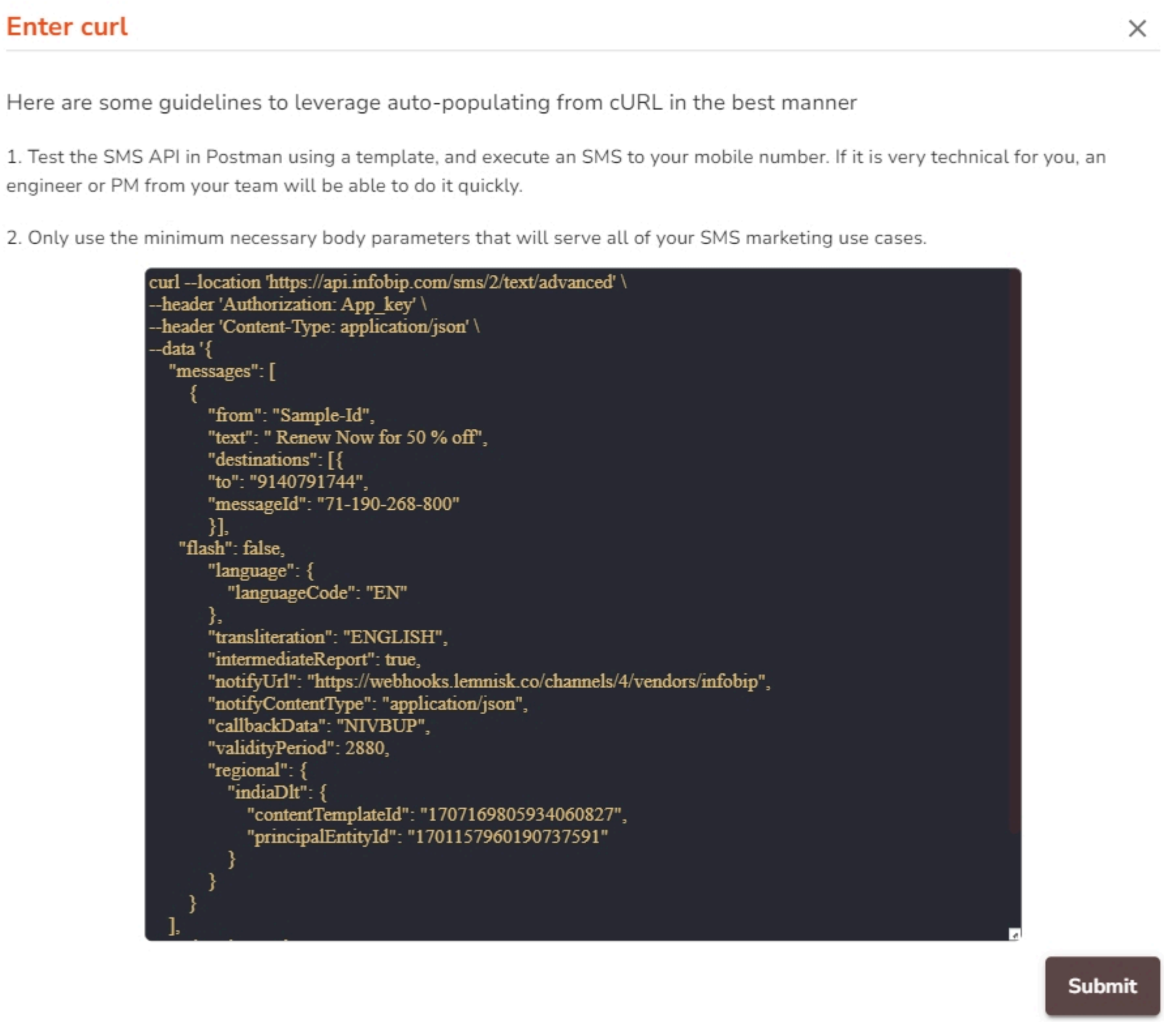
1. In the **BASIC DETAILS** section, in the **Name** textbox, enter name of the configuration, and in the **Description** field, enter the description for the new SMS client.
2. In the **API Details** section, set up the Vendor API in the same way as you set up an External API on page 131 with a global payload.

   HTTP Method: Select the HTTP method as POST

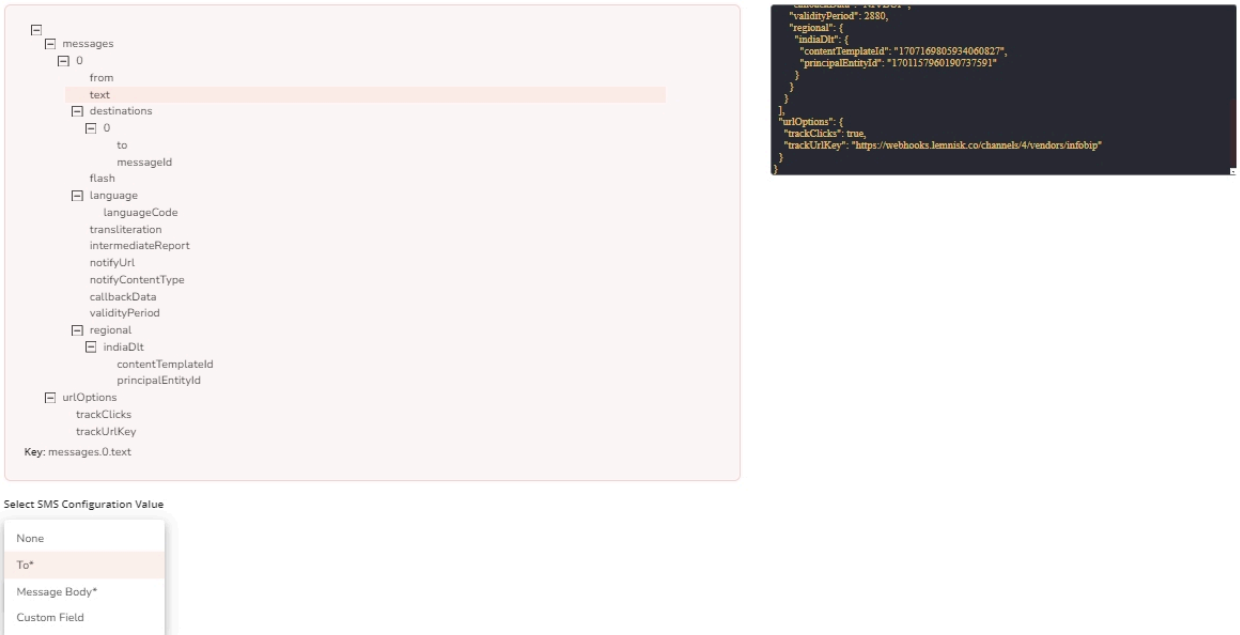
   API URL: Provide the API URL.



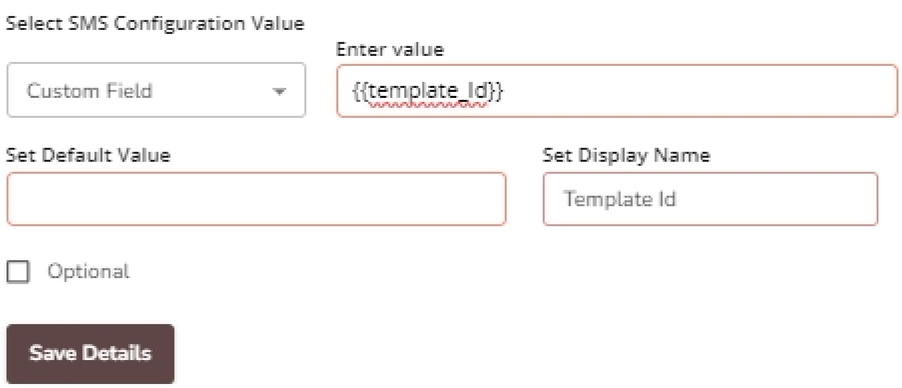
3. Click **+detect from URL**. As a result, the following window will be displayed as shown below.



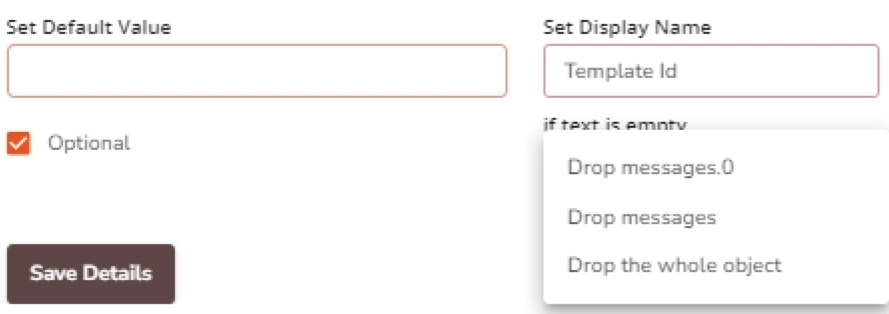
4. In the **Enter Curl** textbox, include the curl command to automatically fetch headers and payload from an API and populate them into relevant fields. This command assumes that you have an API endpoint to retrieve the data in JSON format and that the API requires an authorization token.
5. Now, select the SMS Configuration fields and map the mandatory values To* and Message Body* to the appropriate keys in the API Body.



6. In the **Custom Field**, add custom values by assigning variables in curly braces {{Example}} and mapping it to the Curl. For example, the vendor expects the Template ID to be passed in the API request. This shall be a mandatory field, configured with the 'Custom Field' mapping.

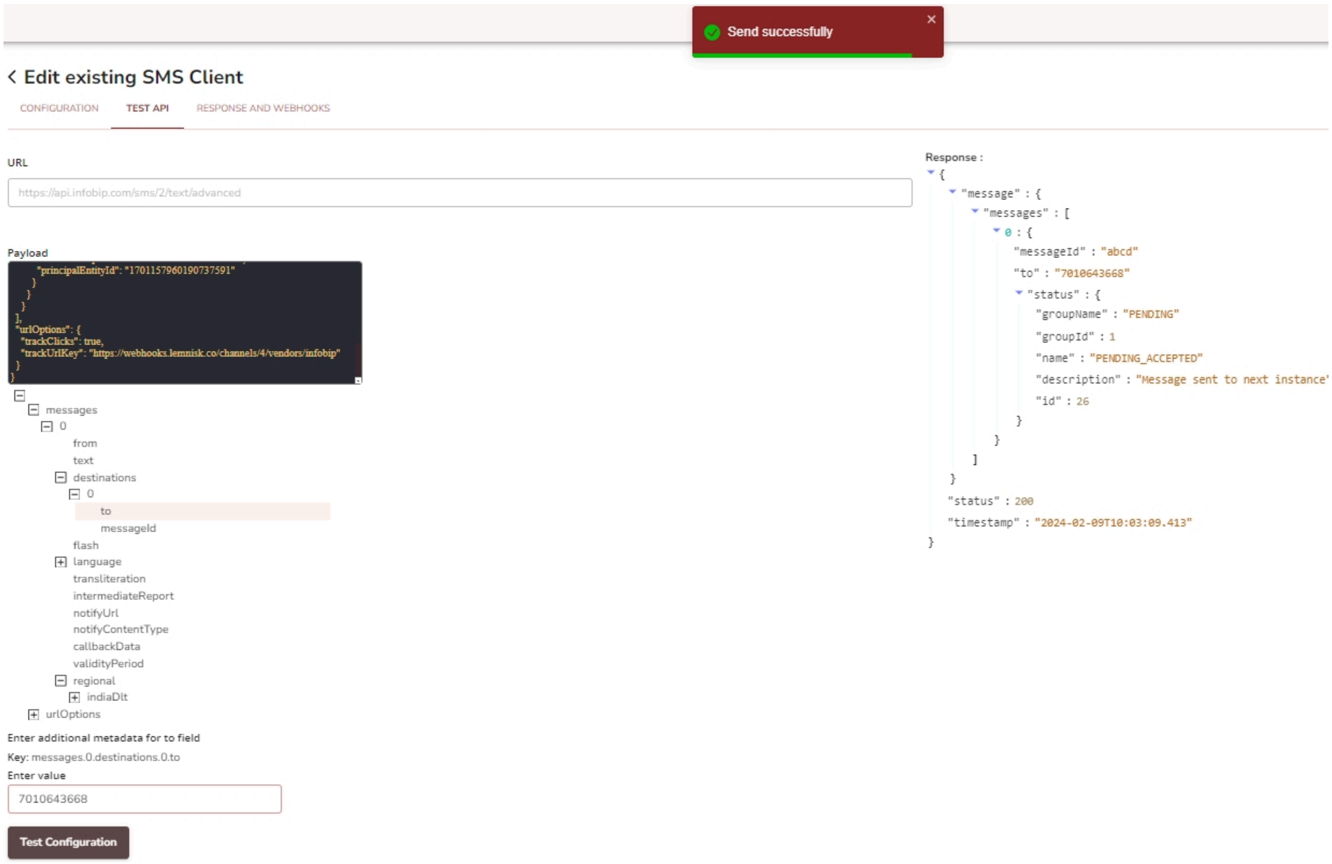


7. Select the **Optional field** checkbox to assign the variable to be optional and apply conditions from the following. Click here on page 131 to learn more about optional fields.



Test API

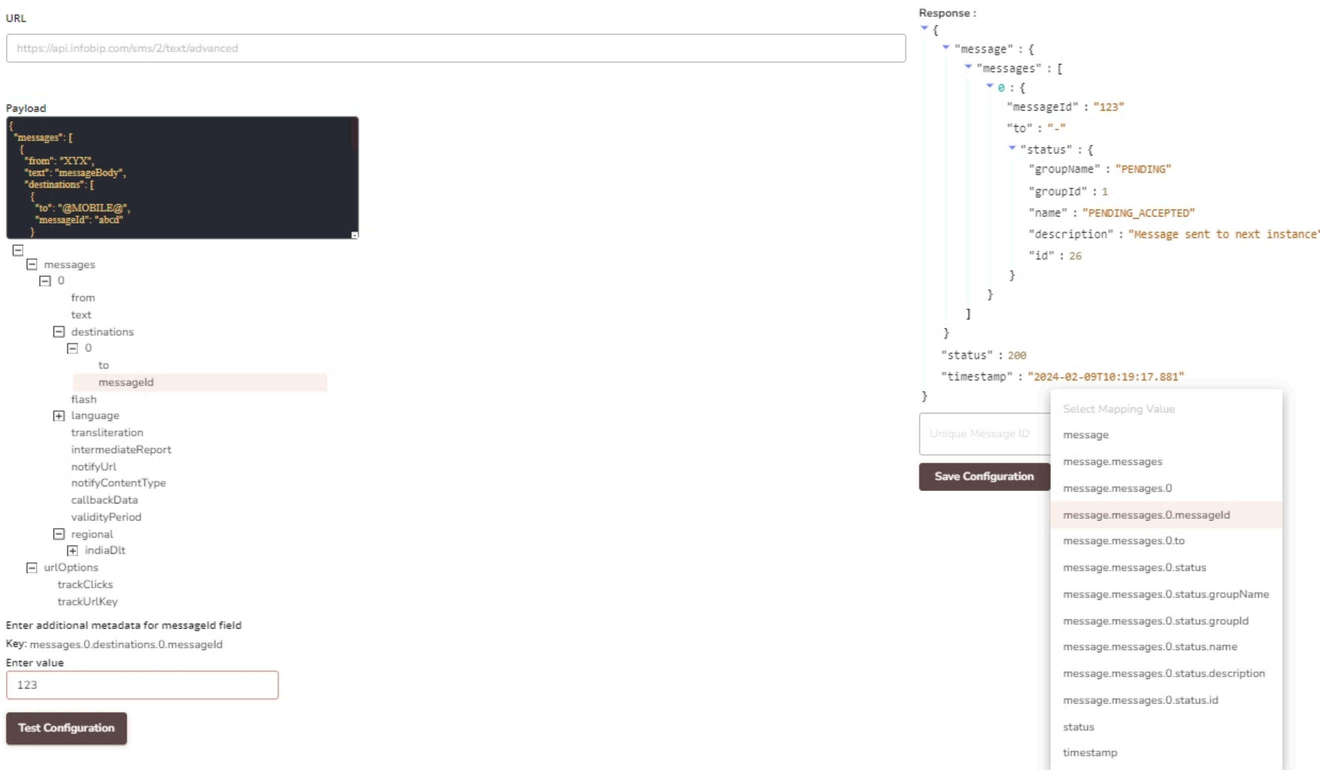
- Navigate to the **Test API** tab.
- Assign values to the payload and click **Test Configuration**.
- On successful configuration, you will receive the confirmation as shown below.



Response and Webhooks

The response and Webhooks screen is where you map the relevant path of the response body to the internal "MessageID" identifier. This mapping allows HCL CDP to identify each message trigger and track delivery reports.

1. Navigate to **Response and Webhooks**, and enter values to the payload.
2. Click **Test Configuration**. On successful validation, you will receive the confirmation.
3. Select the mapping key to map the Unique message ID.



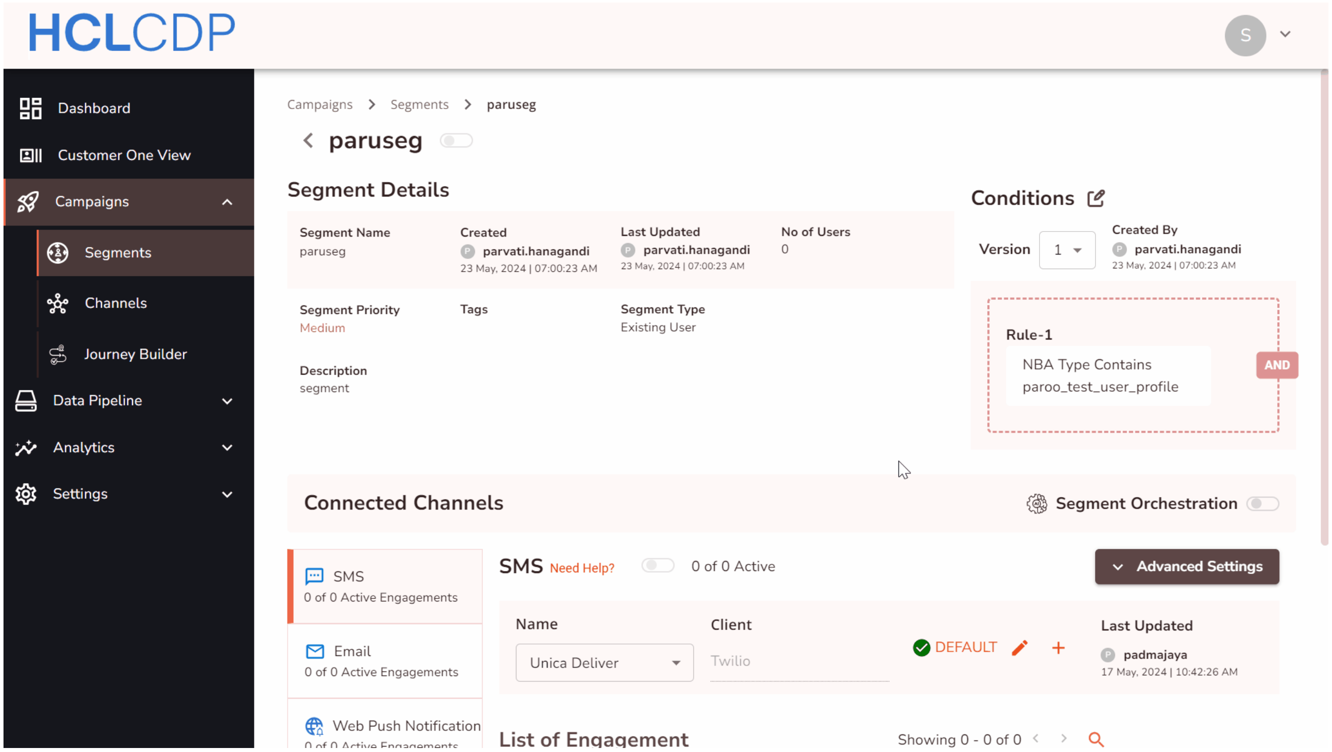
Create SMS Campaign

This page explains how to create an SMS campaign using HCL CDP Marketing Automation Platform.

Create an SMS Engagement from Segments

To create an SMS engagement from Segments, follow the steps below:

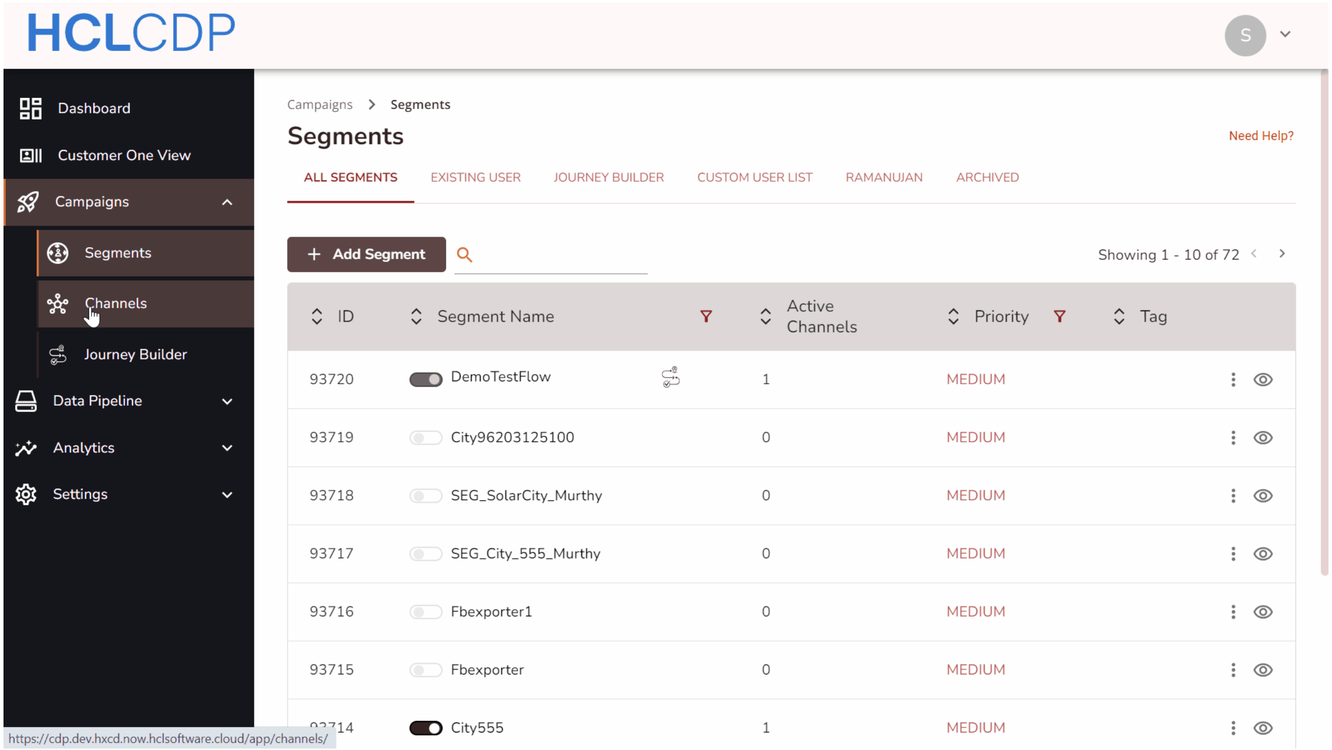
1. Navigate to **Campaigns** > **Segments**, and select a segment name.
2. On the left panel, click **SMS** from the list of channels.
3. Click **Add Engagement**.



Create an SMS Engagement from Channels

To create an SMS engagement from Channels, follow the steps below:

1. Navigate to **Campaigns** > **Channels**.
2. On the left panel, click **SMS** from the list of channels.
3. Click **Add Engagement**, and select a segment name from the list.
4. Click **Confirm And Proceed To the Next Step**.



Configure Engagement Details

Add General details of Engagement

- **Engagement Name (mandatory):** Enter a name for the Engagement. It should range from **6-25 characters**.
- **Label (mandatory):** Choose a product label from the list. For more information about labels, refer here on page 21.
- **Choose SMS Client (mandatory):** Select a SSP from the drop-down list. By default, the SSP selected will be displayed.

Add a Goal

Goal Type: Choose a goal type from the list. You can set it to none if the goal is not decided yet. For more information about the Conversion Goals, refer Campaign Channels on page 21.

Note: Each section turns red as you start entering data to create an Engagement. Once you fill in all the required information, the section will turn green. You can complete the sections in any order, but all sections must be green before you can click **Update Engagement**.

Configure a Template

- **Template Message (mandatory):** Create a template message to send communication to users, and personalize the template as needed. To add a target page, use the SMS_LP macro. For more information about personalizing parameters, refer Campaign Channels on page 21.
- **Template Preview:** Preview your SMS templates by moving your cursor to **Show Preview** to see how the SMS will look on different devices. The preview updates in real time, and you can view it in both Mobile and Tablet modes.
- **Content Template ID (Applies only for Infobip):** Enter the **Content Template ID** when configuring your SMS engagement through Infobip; this is required only for engagements set up with Infobip.

Schedule Settings

Schedule: Schedule an engagement to send at a later time or trigger it immediately once the engagement goal is achieved. For more information about Engagement Scheduling, refer Campaign Channels on page 21.

Save

Click **Save** to save the Engagement.

Note: After creating an Engagement, you cannot change its name or schedule settings.

FAQS

This page explains the frequently asked questions related to SMS Channel.

Q1. What happens if an SMS is sent to a user who is out of network coverage?

When an SMS is sent to a user who is out of network coverage or has their device turned off, the SSP integrated with HCL CDP will still receive the SMS campaigns created for engagement. The SSP will attempt delivery based on the queue duration set in the campaign:

- If the queue duration expires before the user becomes reachable, the SSP will drop the message.
- If queue was disabled when creating the campaign, the SSP will drop the message immediately after the first delivery attempt.
- If a user receives multiple messages while out of coverage or with their device off, all messages will be delivered back-to-back once the user is reachable.

Q2. Why messages are not delivered to some users?

Messages may fail to deliver for various reasons, such as incorrect phone numbers, unsupported geographical locations, out-of-network status, expired monthly quotas, and similar factors.

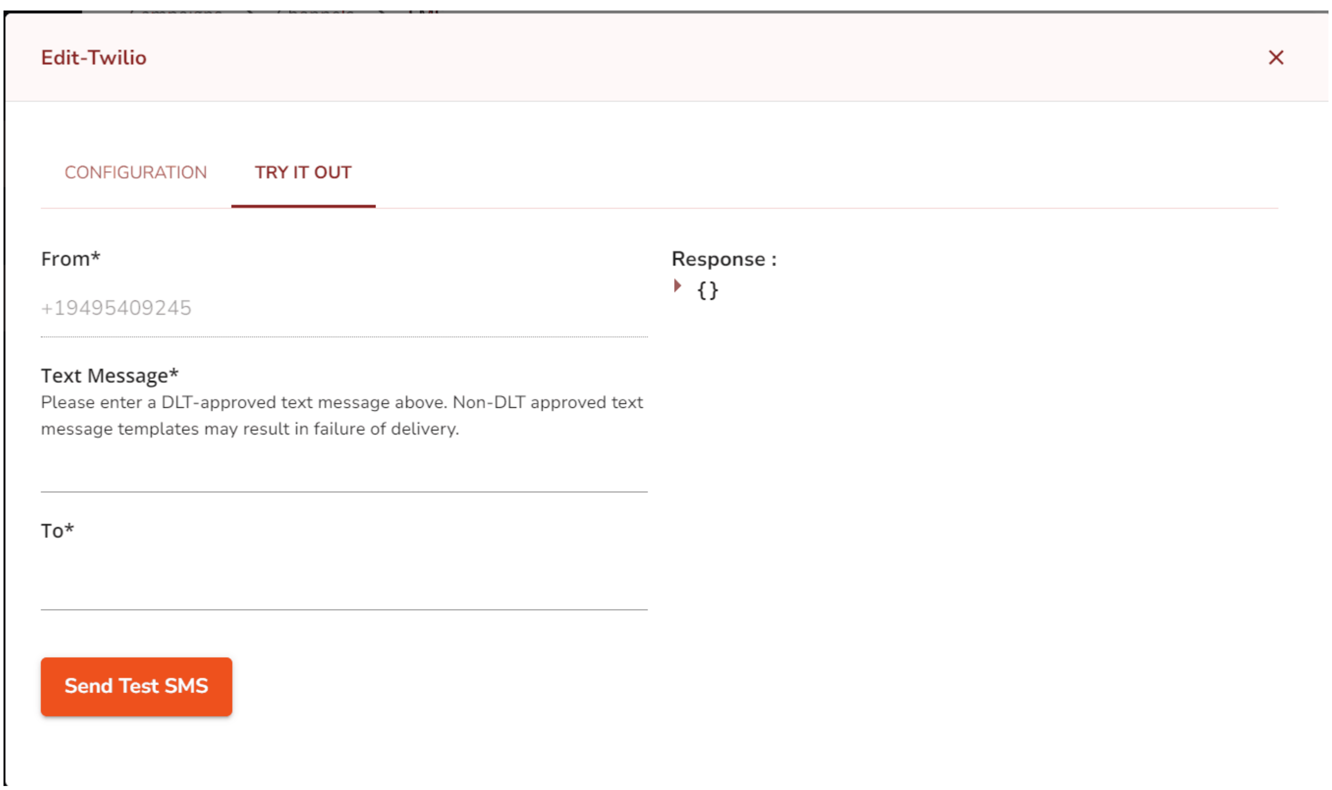
Q3. Why are messages queued for some users?

Messages are queued for certain users in the campaign's target audience to enable delayed delivery. This occurs during Do Not Disturb (DND) hours or due to frequency cap settings applied to those users.

Q4. How can I check if my new DLT template is working?

To verify if your new DLT template is functioning, send a test message using the template to a target number. Monitor the delivery status in your SMS platform's reporting section to confirm successful transmission. To test the message, click **Try It Out** option.

1. Click the **TRY IT OUT** tab.
2. In the **Text Message**, add a DLT-approved text message template.
3. In **To**, enter the mobile number you want to send the SMS to.
4. On Successful delivery, the API response will be displayed in the **Response** section.



Q5. Why was my SMS notification not delivered?

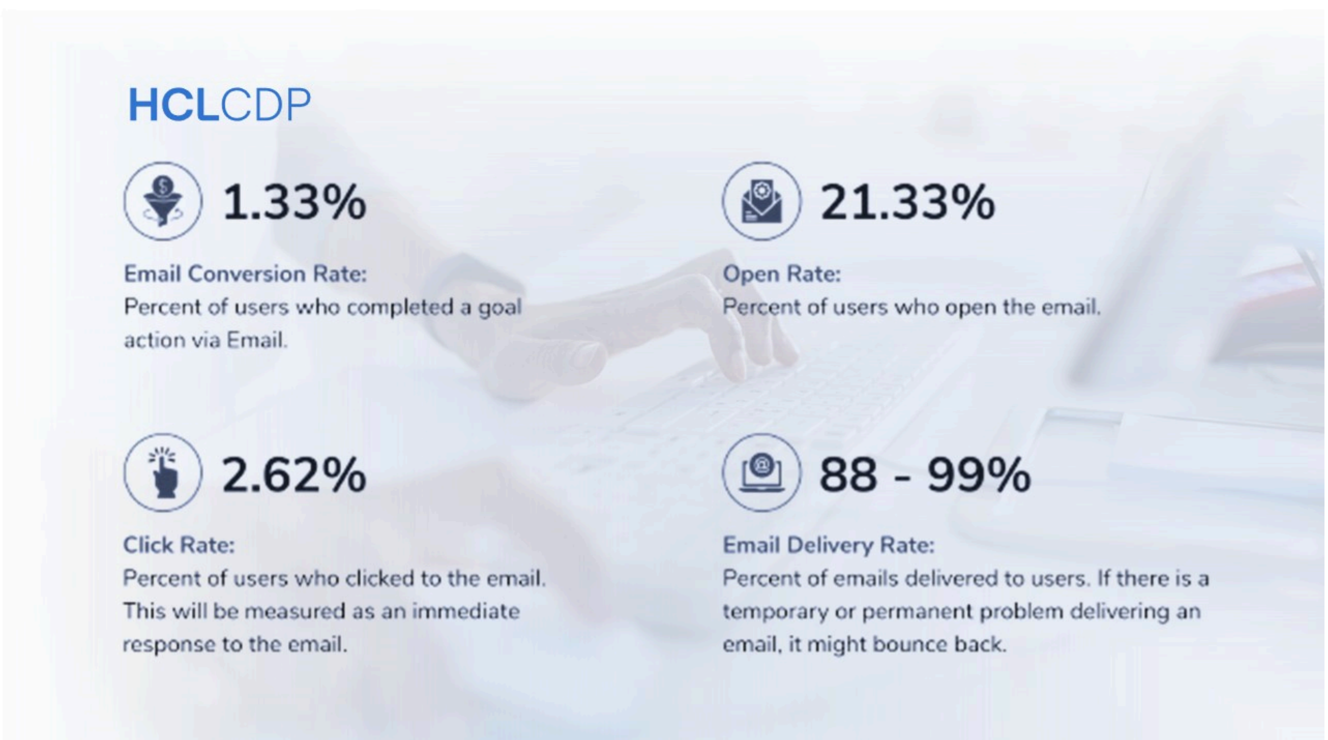
Several factors can cause SMS notifications to be undelivered:

- **Frequency Caps**: If the frequency cap limit is reached, the message will fail. Frequency caps are set daily, weekly, monthly, or lifetime, depending on engagement settings. Users with a remaining frequency cap value greater than 0 will receive the engagement. For more information about Frequency Caps, refer Core Elements on page 21.
- **Personalization Failure**: This occurs when the engagement cannot replace personalizing parameters with actual user profile data. For example, if a user's profile lacks a premium amount but the engagement template includes it as a macro, the engagement will fail for that user.
- **Hard Bounce**: If a hard bounce event occurs, it indicates that the user's number is invalid or the recipient has blocked the sender. In this case, mark the contact number as unreachable for future SMS communications.
- **Insufficient Credits**: If the client's ESP quota is exhausted or credits are insufficient, the message will not be delivered.
- **Invalid Sender ID**: If the sender's user ID is invalid, the SMS will fail.
- **Dropped**: Sometimes, the SMS is dropped by the vendor due to various internal reasons specific to the vendor.

Email

This page talks about the Email channel in HCL CDP and what are the prerequisites to run Email campaigns.

The Email channel in HCL CDP allows you to create and send rich, hyper-personalized emails to targeted audiences, enhancing customer engagement through tailored content. By leveraging audience segmentation, dynamic content, and personalization tools, you can craft highly relevant messages that resonate with individual users. Whether for promotional campaigns, transactional updates, or personalized communication, the CDP Email channel provides a versatile solution to connect with users effectively



Pre-requisites to run Email Campaigns with HCL CDP

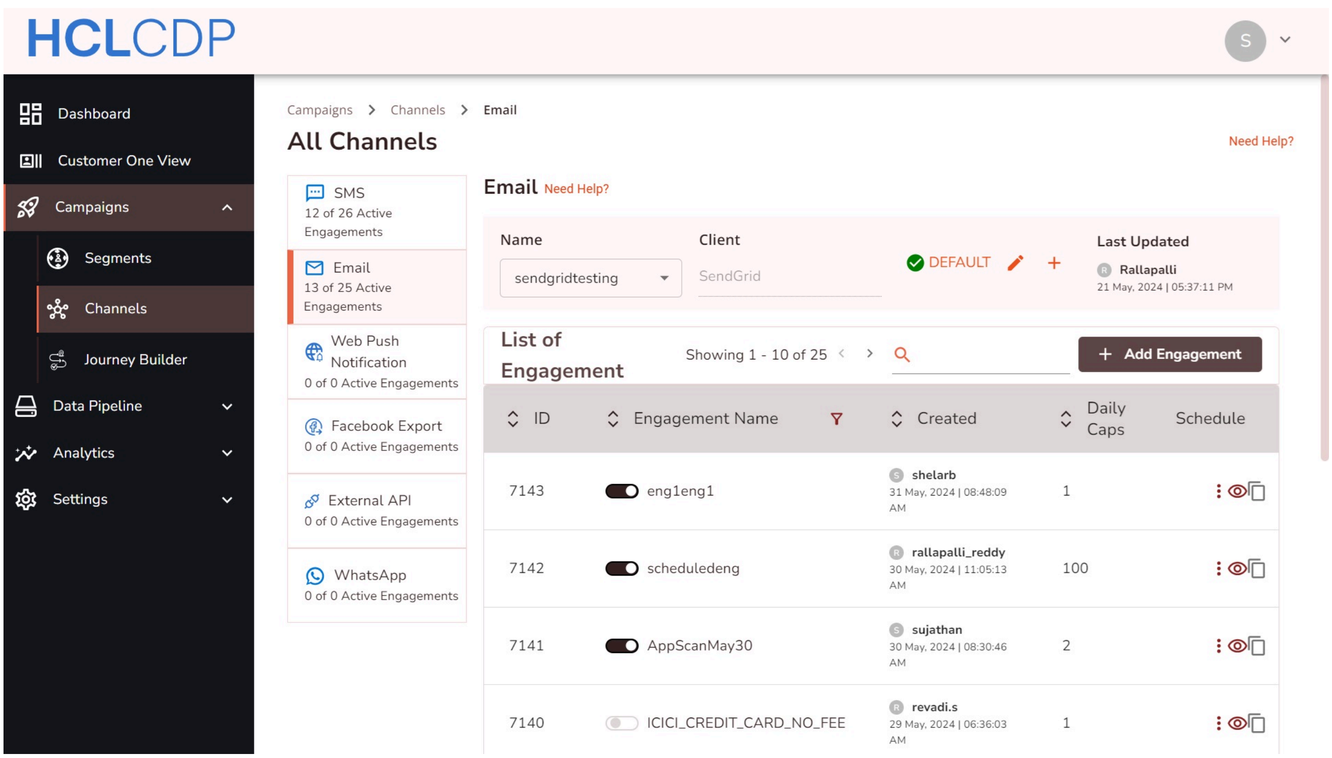
- An ESP (Email Service Provider) in HCL CDP is a marketing automation tool that enables marketers to send email campaigns to specific user segments and track user interactions like email deliveries, clicks, and bounces. The ESP gathers this engagement data and shares it with HCL CDP through webhooks, allowing you to view a summary of segment and engagement information in the reporting section.

  For email templates, while HCL CDP allows you to create basic templates, it's recommended to use HTML templates. You can copy these templates into HCL CDP's email editor and customize them as needed.

Configure an ESP

This page explains how to configure an ESP in HCL CDP.

To deliver your email campaigns created in HCL CDP to your target audience, you'll need an Email Service Provider (ESP) like Sendgrid or Netcore.



Add a new Email Service Provider

1. Click **+ Add Client**. As a result, a modal will appear on the screen.
2. From the modal, choose an ESP.
3. Add a name to define the configuration.

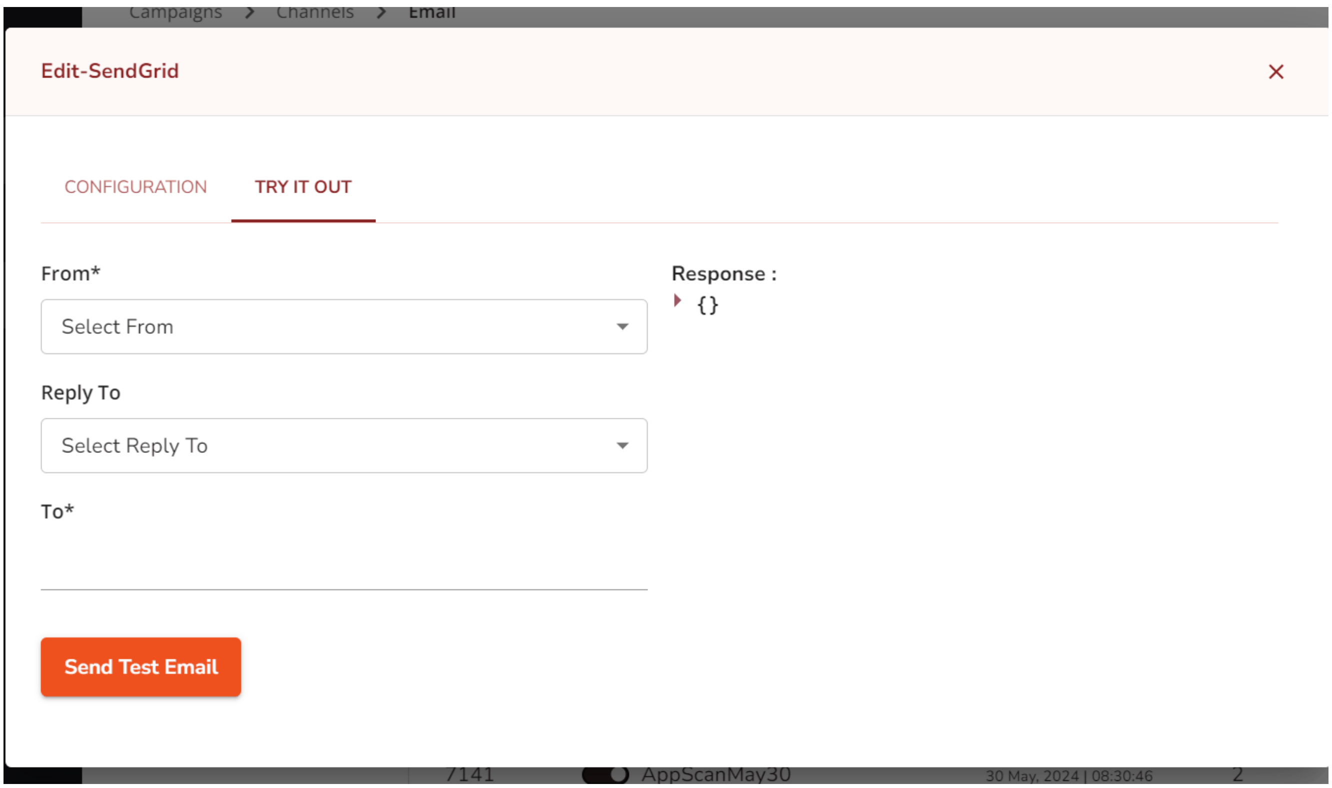
Note: This is an internal configuration name and will not be shared while sending email campaigns.

4. In the **Connection Settings**, enter ESP-specific settings, and click **Save**.

Verify the configuration

Use **Try It Out** to test the configuration. To try it out, follow the steps below:

1. Click the **TRY IT OUT** tab, and in the **FROM** drop-down box, choose a valid FROM email address that is verified as the sender domain by the ESP.
2. In the **REPLY TO** drop-down box, choose an email address. It is optional.
3. In the **TO** field, enter the email address where you want to receive the test email.
4. Click **Send Test Email** to see the response of the API on the right-hand side, and on successful, you will receive an email.



Configure multiple ESPs

HCL CDP enables you to configure multiple ESPs, allowing flexibility for various teams or use cases within your organization. For example, one team might use a specific ESP for customer notifications, while another team uses a different ESP for marketing newsletters.

To configure multiple ESPs, follow the steps below:

1. Navigate to **Channels > Email**, and click the ✚ icon.
2. Select an ESP, and enter configuration details
3. Verify if the new integration is working correctly.

Explore the topics below to configure any particular client

SendGrid on page 59

SendInBlue on page 60

SparkPost on page 61

Taximail on page 62

Infobip on page 72

Netcore on page 63

Adobe Campaign Classic on page 64

Mailchimp on page 67

Oracle Email Delivery on page 71

Vision6 on page 73

SendGrid

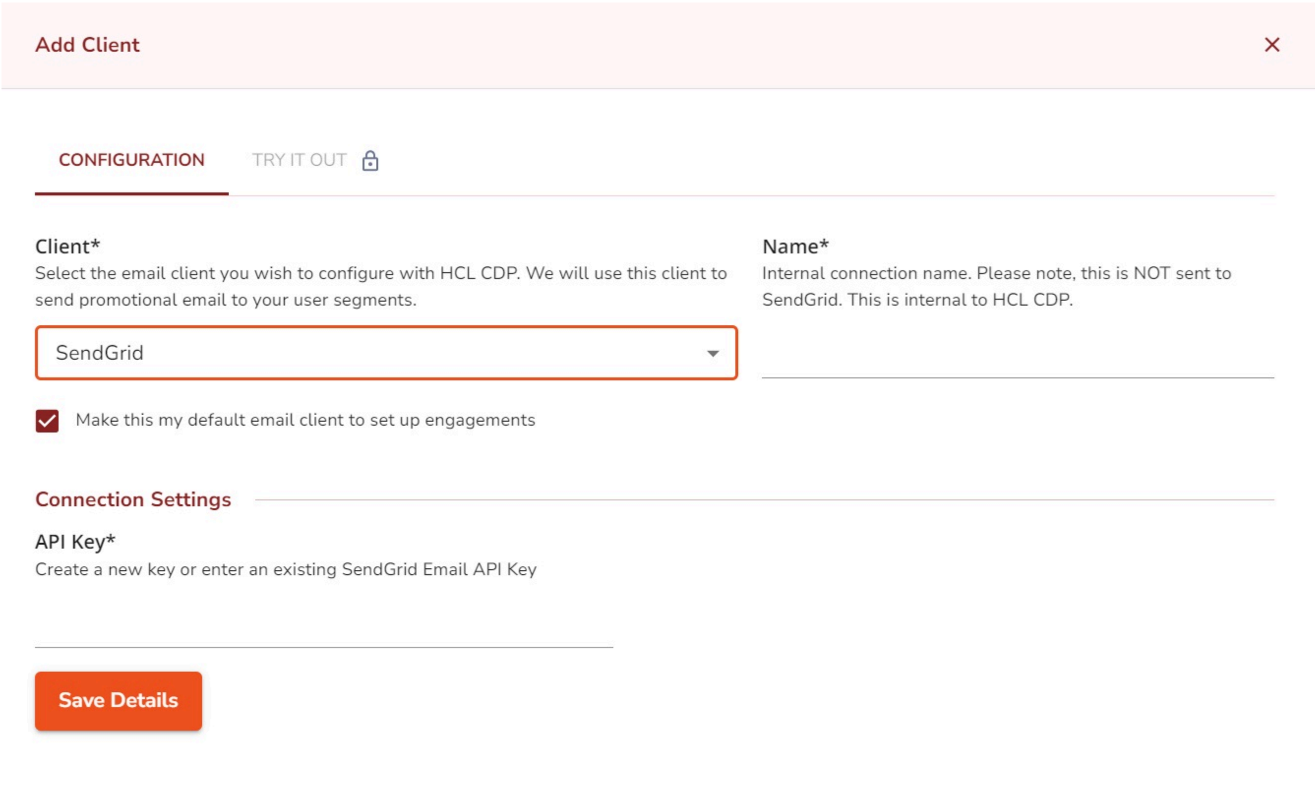
This page explains how to configure SendGrid as an ESP.

SendGrid is a cloud-based email delivery service that enables businesses to send various types of email communications, including marketing campaigns, transactional emails, and automated messages.

Configure SendGrid with HCL CDP

To configure the SendGrid, follow the steps below:

1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **SendGrid** from the list of ESPs.
2. Configure the following details:
    - **Name:** Enter connection name.
    - **API Key:** Navigate to your *Sendgrid dashboard* and copy your *API Key*, Paste it into the configuration modal.
3. Click **Save Details**. Click **Try It Out** to test the integration end-to-end.



SendInBlue

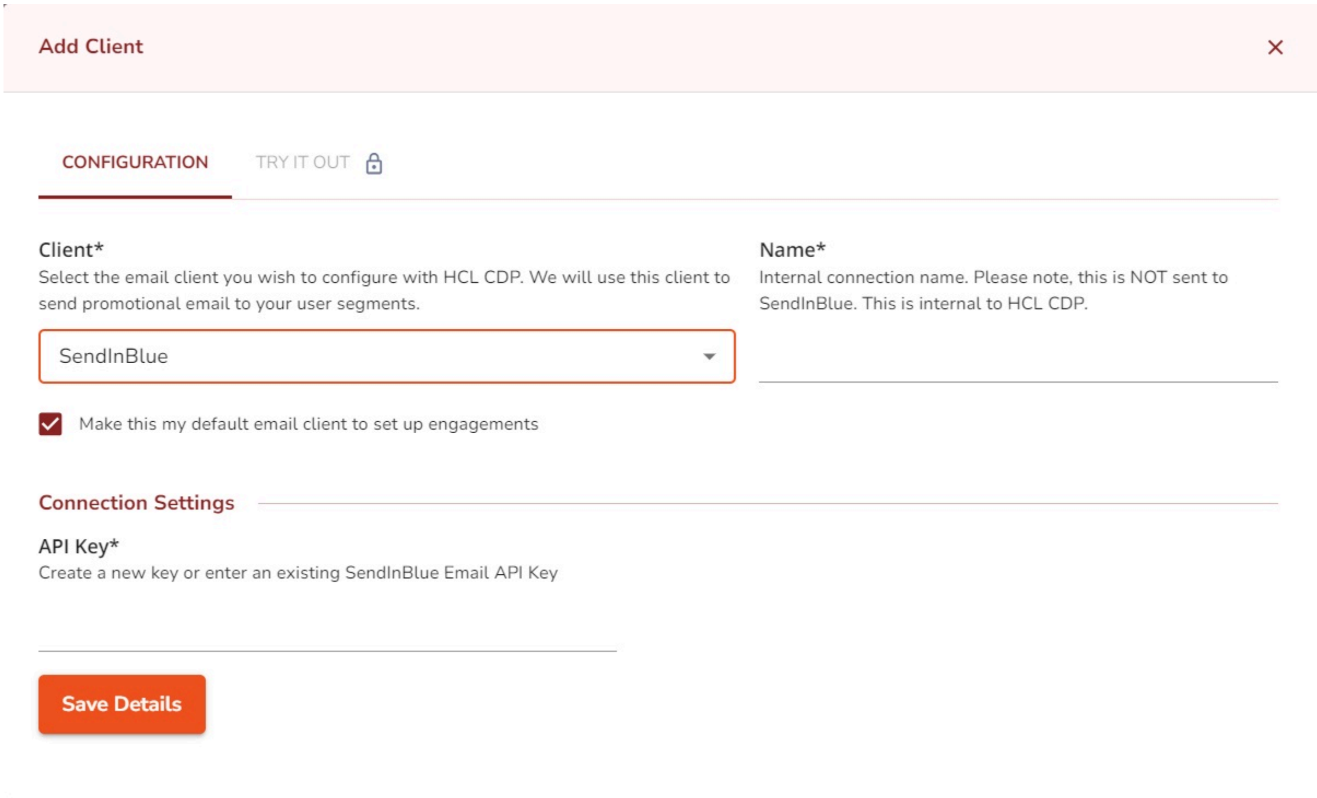
This page explains how to configure SendInBlue as an ESP.

SendInBlue is a cloud-based marketing communication platform that helps manage marketing automation, email campaigns, transactional emails, and SMS messages. It's designed as an all-in-one solution for digital marketing needs.\

Configure SendInBlue with HCL CDP

To configure the SendInBlue, follow the steps below:

1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **SendInBlue** from the list of ESPs.
2. Configure the following details:
   - **Name:** Enter connection name.
   - **API Key:** Navigate to your *SendInBlue Dashboard* to find and copy your *API Key* and paste it into the configuration modal.
3. Click **Save Details**. Click **Try It Out** to test the integration end-to-end.



SparkPost

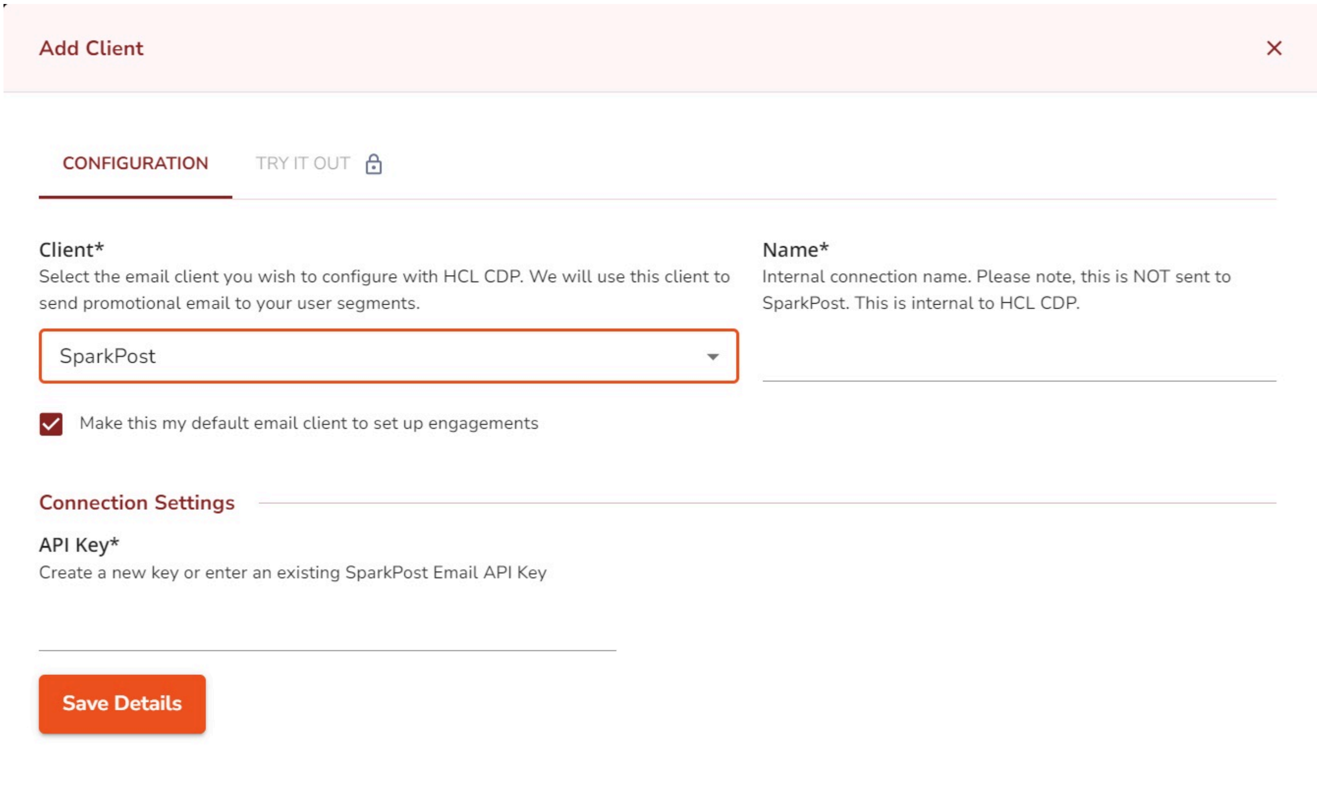
This page explains how to configure SparkPost as an ESP.

SparkPost is an email service provider (ESP) that helps businesses send and manage email communications. It provides high email deliverability, detailed analytics and reporting, and strong API capabilities for easy integration with other systems.

Configure SparkPost with HCL CDP

To configure the SparkPost, follow the steps below:

1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **SendInBlue** from the list of ESPs.
2. Configure the following details:
    - **Name:** Enter the connection name.
    - **API Key:** Navigate to your *SparkPost*dashboardto find and copy your *API Key*, and paste it into the configuration modal.
3. Click **Save Details**. Click **Try It Out** to test the integration end-to-end.



Taximail

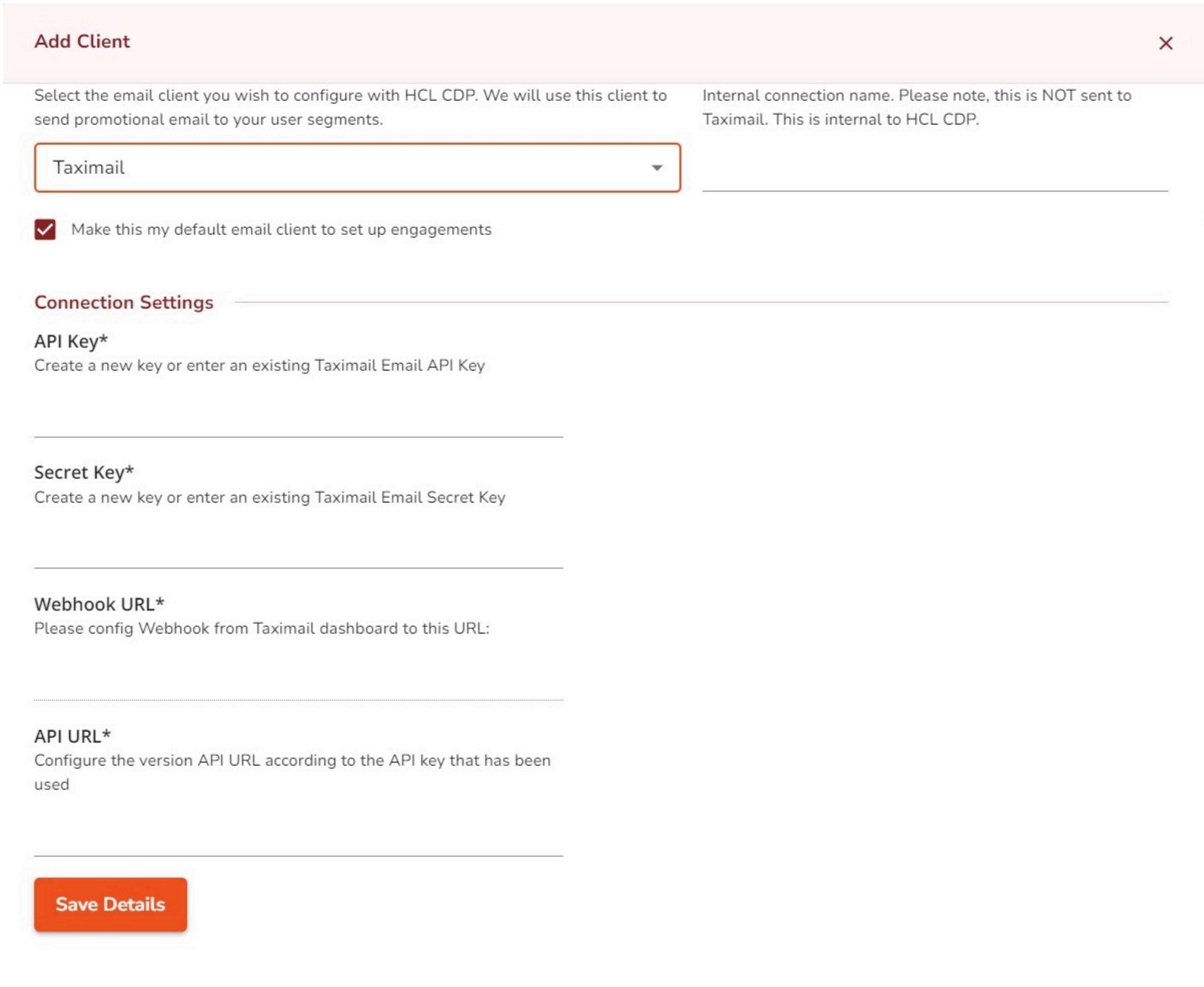
This page explains how to configure Taximail as ESP

Taximail is an email marketing software that lets businesses create, send, and track email campaigns. It offers various features and tools to help businesses automate, personalize, and improve their email marketing efforts.

Configure Taximail with HCL CDP

To configure the Taximail, follow the steps below:

1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Taximail** from the list of ESPs.
2. Configure the following details:
    - **Name:** Enter the connection name.
    - **API Key:** Navigate to your *Taximail*to find and copy your *API Key*, and paste it into the configuration modal.
    - **Secret Key:** Create a new key or enter an existing Taximail Email Secret Key.
    - **API URL:** Configure the version API URL according to the API key that has been used.
3. Click **Save Details**. Click **Try It Out** to test the integration end-to-end.



Netcore

This page explains how to configure Netcore as an ESP.

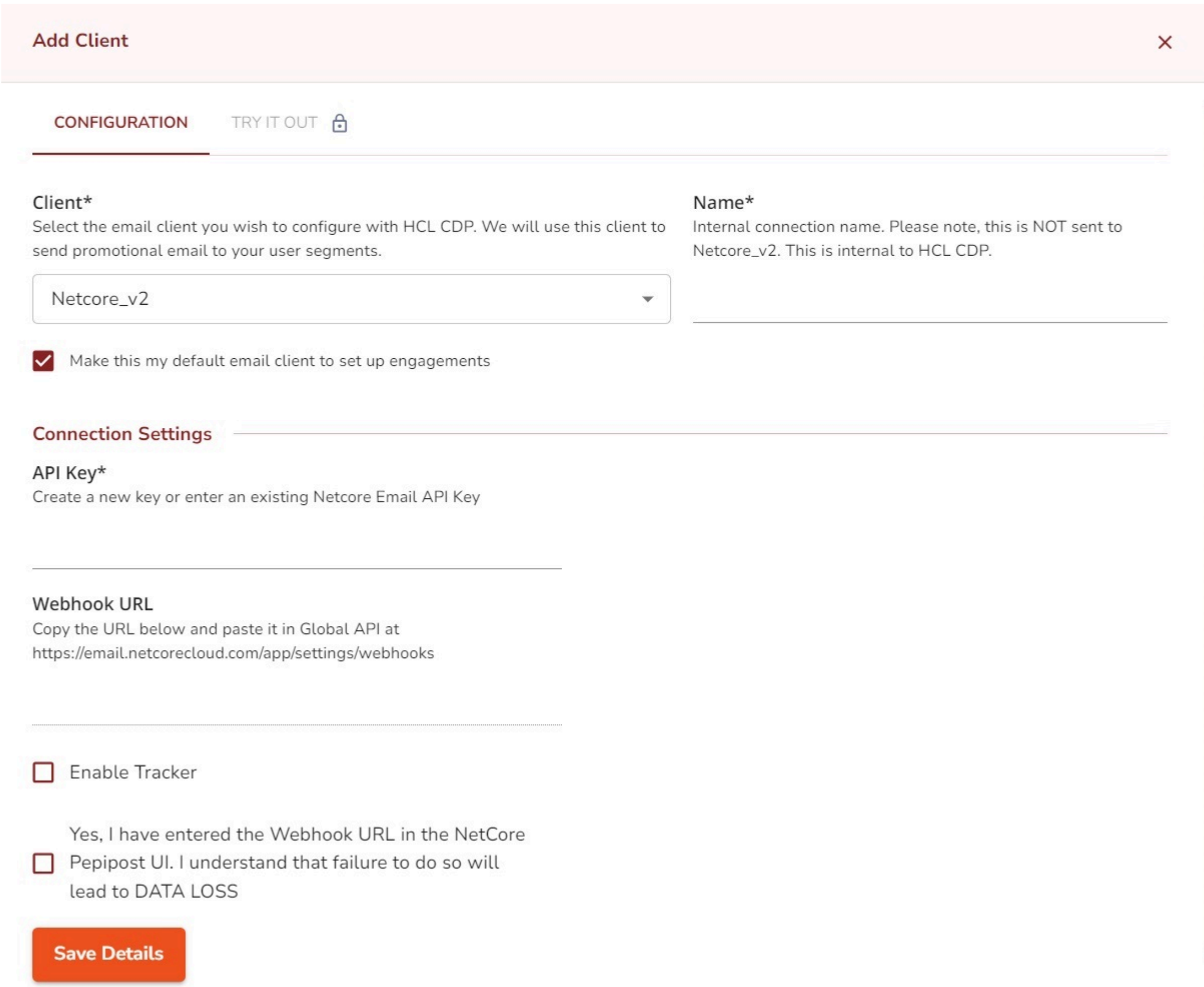
Netcore Email, a key offering in Netcore's product suite, specializes in email marketing and enables businesses to send emails via API integration. Currently, HCL CDP supports two versions of Netcore - v2 and v4.5

Configure Netcore with HCL CDP

From the list of ESPs, you can choose Netcore v2 or Netcore v4.5. Both the ESPs have the same configuration options. To configure the Netcore, follow the steps below:

1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Netcore v2 or v4.5** from the list of ESPs.
2. Configure the following details:

   - **Name:** Enter the connection name.
   - **API Key**: Create a new key or enter an existing Netcore Email API Key.
   - **Enable Tracker**: If you check this, we'll use our open-and-click tracker to track email opens and clicks.
3. Click **Save Details**. Click **Try It Out** to test the integration end-to-end.



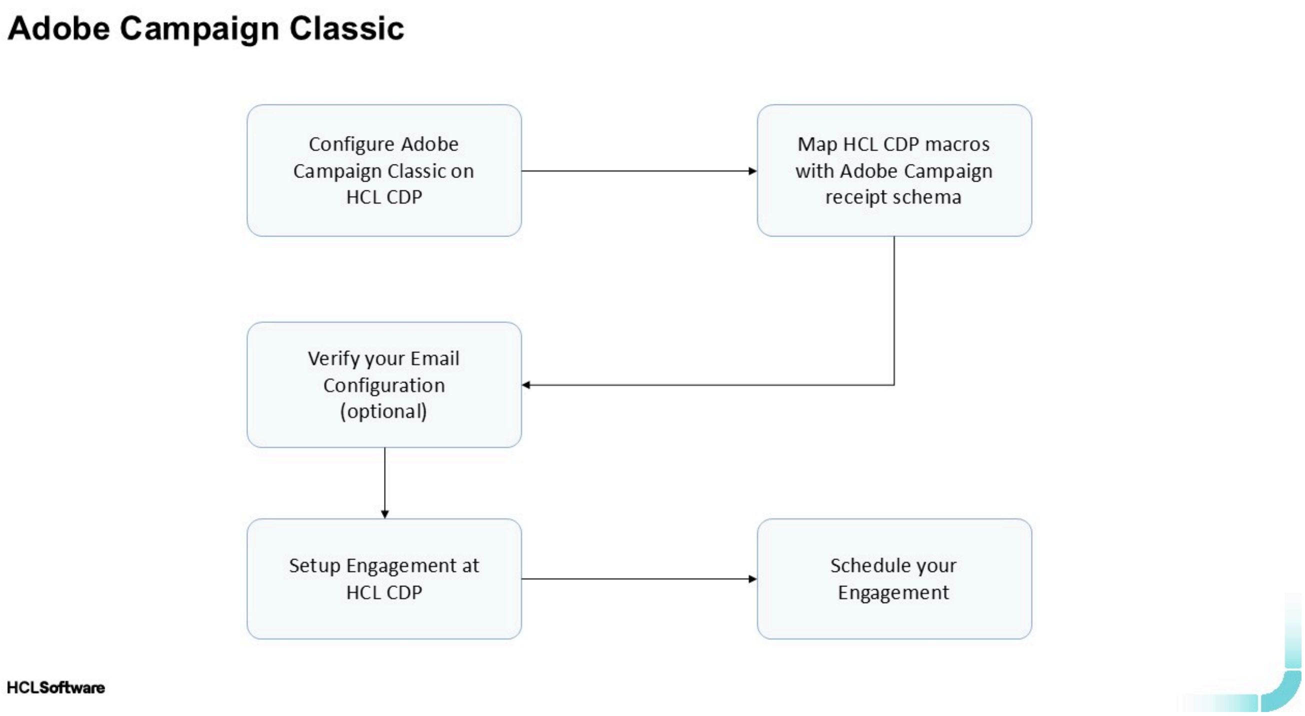
Adobe Campaign Classic

This page explains how to configure Adobe Campaign Classic as an ESP

Adobe Campaign Classic is a part of Adobe Experience Cloud Solution presented for cross-channel campaign management for businesses to create consistent customer journeys on all touch points and experience high customer engagement through personalized marketing communications. Using Adobe Campaign Classic, you can design and orchestrate targeted and customized campaigns in multiple channels like Email, Push Notifications, SMS, etc.

Setting up a campaign with Adobe Campaign Classic through HCL CDP is entirely different from setting up a campaign with other Email service providers (ESPs), which involves the following steps:

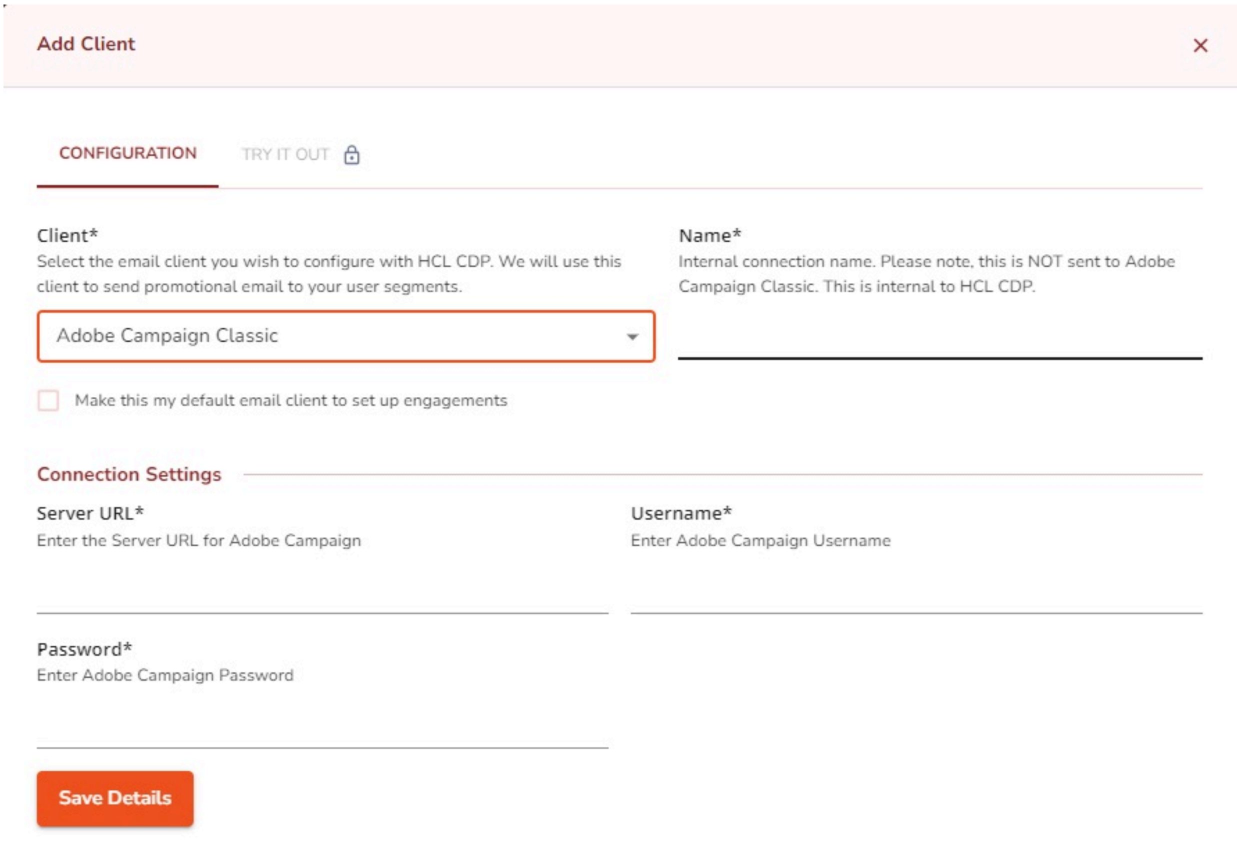
Workflow



Configure Adobe Campaign Classic with HCL CDP

To configure the Adobe Campaign Classic, follow the steps below:

1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Adobe Campaign Classic** from the list of ESPs.
2. Configure the following details:
    - **Name:** Enter the connection name.
    - **Server URL:** Enter the server URL for Adobe Campaign Classic.
    - **Username:** Enter the username of your Adobe Campaign Classic account.
    - **Password:** Enter the password of your Adobe Campaign Classic account



3. Click **Save Details** to save the updated details.

Map HCL CDP macros with Adobe Campaign Recipient Schema

To send email engagements through Adobe Campaign Classic using HCL CDP, user details like First Name, Last Name, Age, and other attributes need to be mapped to recipient parameters in Adobe Campaign Classic using HCL CDP personalization fields. If any mapped parameter is added or updated for a user in HCL CDP, it will automatically update in Adobe Campaign Classic, while other parameters remain unchanged.

To map the parameters with Adobe Campaign Classic, follow the steps below:

1. Under **Adobe Campaign Parameter Mapping**, click "**+Add Mapping**".
2. Match the Adobe recipient parameters with the macros in HCL CDP.

Note: The recipient information between HCL CDP and Adobe Campaign Classic must be in sync.

Verify configuration (Optional)

After saving the configuration, you can use the **TRY IT OUT** to test the configuration.

1. Click the **TRY IT OUT** tab, and choose **TO** to add the Phone Number to which you want to send the test communication.
2. On successful communication, the response of API will be displayed on the right-hand side.

Set up your campaign with HCL CDP

To set up engagement, follow the steps below:

1. Navigate to **Campaign > Segment**.
2. Create a new segment or select an existing segment. To create a new segment, refer here on page 174.
3. Select the channel **Email**, and click **+ Add Engagement.**
4. Update the **General** details:
    - **Engagement Name:** Give a unique name for your engagement.
    - **Label:** Add a Label to your engagement.
    - **Choose Email Client:** Choose your email client as Adobe Campaign Classic.
5. In the **Goal Type**, set your goal type from the drop-down list.
6. On the **Configure Template** section, in the **Select a template**, select an email delivery created in Adobe Campaign by searching for its delivery code or label. Only email deliveries in the "**Target Ready**" or "**Being Edited**" states are available for selection. Delivery configurations cannot be modified from HCL CDP; however, you can preview delivery details by hovering over the preview section in HCL CDP.
7. In the **Subject** field, enter the subject defined as per the configuration made in the Adobe Campaign Classic delivery, and in the **Body** field, enter the content defined as per the configuration made in the Adobe Campaign Classic delivery.
8. on the **Schedule Settings** section, schedule the engagement based on your use case.

> **Note:** Trigger immediate use cases will not be supported with Adobe Campaign.

Key Highlights]

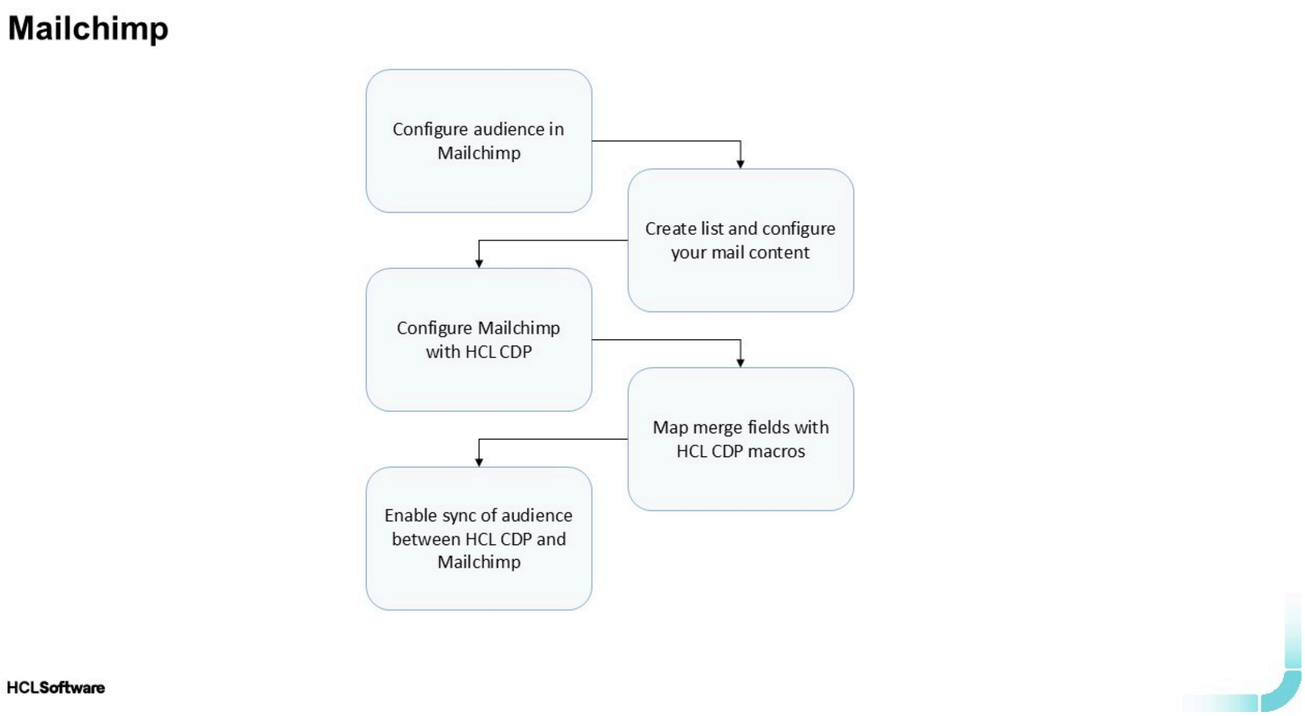
- A maximum of 50,000 API calls can be made from Adobe Campaign Classic per day, though this limit may vary based on your subscription plan.
- HCL CDP does not support defining workflow variables like TargetData, so any delivery containing TargetData cannot be used for engagements.
- Avoid setting any target population when creating a delivery, as HCL CDP will handle targeting.
- Immediate trigger use cases are not supported since Adobe Campaign Classic receives data from HCL CDP before triggering emails. However, triggers based on specific times or events are supported.

Mailchimp

This page explains how to configure Mailchimp as an ESP.

Mailchimp is an email service provider that enables businesses to create and send email campaigns, manage subscriber lists, and monitor campaign performance. With easy-to-use, customizable templates, segmentation options, and analytics tools. Mailchimp optimizes their email marketing and offers AI-driven recommendations to craft engaging, personalized content tailored to customers' needs.

Mailchimp Configuration Flow



Pre-requisites to configure Mailchimp

Make sure that the following things are in place, before configuring the Mailchimp:

- Create an account in Mailchimp. For more information about Mailchimp's plans, refer pricing plans.
- A list of audience contacts to import from HCL CDP to Mailchimp. For more information about creating audience, refer Create Audience.

Configure Mailchimp with HCL CDP

To configure the Mailchimp, follow the steps below:

1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Mailchimp** from the list of ESPs.
2. Configure the following details:
    - **Name:** Enter connection name.
    - **Region / Data Center:** Enter the Mailchimp data centre prefix (e.g., us13, us10).
    - **API Key:** Use an existing Mailchimp API key or create a new one. For more information about generating API key in Mailchimp, refer Generate your API key.

3. Click **Authenticate**. On successful authentication, **List Settings** will be enabled. The list settings displays the existing Mailchimp lists.
4. Select a list from the drop-down. The List ID and member count in the list will be displayed.

   Note: It is recommended to have a separate list for HCL CDP to ensure data consistency.

5. After selecting the list, the Merge Fields configured with the list will be displayed. Map the merge field to an HCL CDP personalization macro. This mapping will sync contacts with Mailchimp, replacing the macro value with the corresponding data from the user profile in HCL CDP during the audience sync. You can update this mapping at any time.

   Note: Merge fields in Mailchimp are personalization variables used to customize campaigns. Some merge fields may be mandatory, indicated by a red asterisk (*), and must have a value. This value can be either static or set as a macro.

6. By default, users will not sync to Mailchimp if a required merge field lacks a corresponding personalization macro value in HCL CDP. To change this, in the **Additional Settings** section, select the **Skip Merge Validation** option. This offers different use cases to add users to Mailchimp in the following scenarios:
   - **If Skip Merge Validation is enabled and the macro value is missing**, the user will still be added to the Mailchimp list with an empty merge field value.
   - **If Skip Merge Validation is disabled and the macro value is missing**, the user will not be added to the Mailchimp list.
   - **If a macro value is present**, regardless of Skip Merge Validation status, the user will be created or updated in Mailchimp.
7. **Email ID**: email ID field is used to update the user in the following scenarios:
   - **Segment sync failing:** If a sync fails for a certain segment
   - **List sync failing:** Whenever sync fails for the entire list
   - **Inactive segment sync is successful:** Once the inactive segment has been synced.
8. Click **Save Details** to save the configuration without starting the sync. You can start the sync later.
9. Alternatively, click **Save Details and Start Sync** to save the configuration and synchronize audience data with Mailchimp.

   Note: Once the sync has started, you cannot change the list settings. To switch lists, deactivate the current configuration and set up a new Mailchimp configuration.

Sync process

After the sync is activated, two sync processes will be performed in the background simultaneously:

1. **Contacts Sync in Mailchimp List:** All users in HCL CDP with a valid email address will sync to the selected Mailchimp list, a process that may take several hours depending on the user count. The sync completes once the Mailchimp list count matches HCL CDP.
2. **Segment/Tag Creation and User Tagging in Mailchimp:** All active segments in HCL CDP will sync to Mailchimp as "tags", with the tag name matching the segment name in HCL CDP. Users with valid email addresses in each segment will be tagged in Mailchimp accordingly.

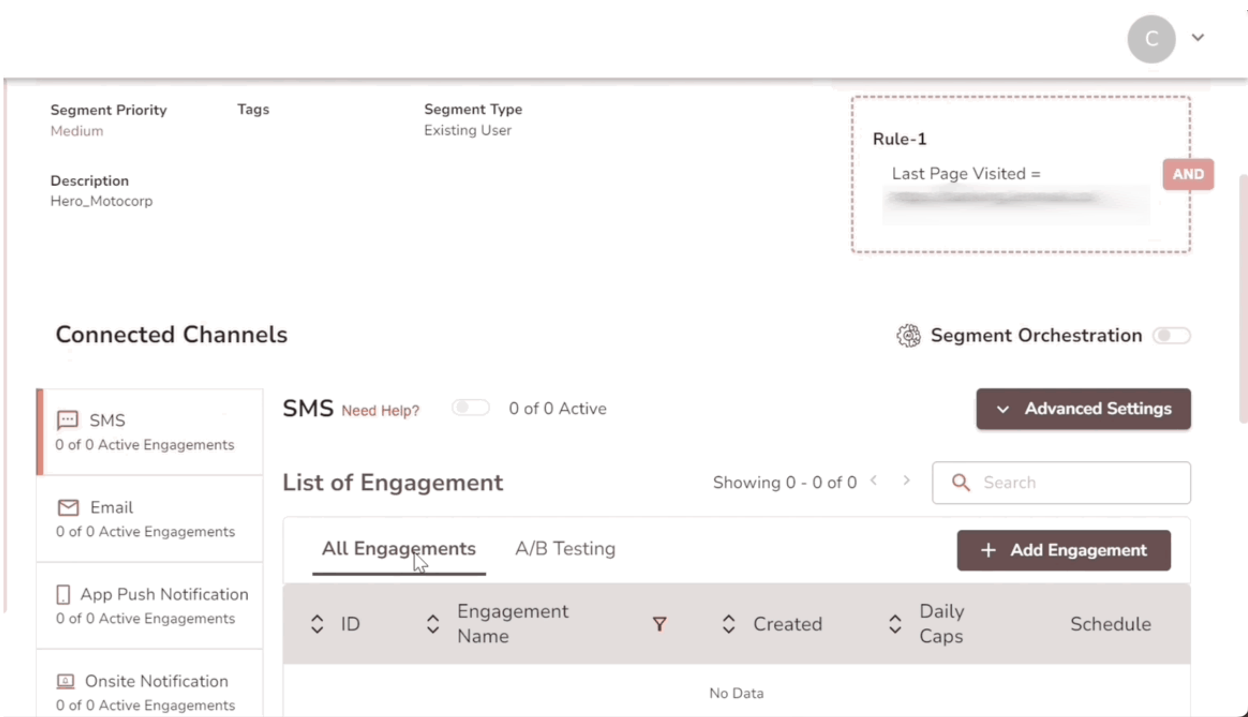
Once the initial sync completes, real-time sync activates. New users created in HCL CDP or added to a segment will automatically be added to the Mailchimp list and tagged with the segment name. Newly active segments will also sync automatically. Once the initial sync is completed, the real-time sync will be active.

Syncing an inactive segment

If you need to sync an inactive segment from HCL CDP to Mailchimp—for instance, when you want to run email campaigns only through Mailchimp without using other engagement channels. To sync an inactive segment, follow the below steps:

1. Navigate to **Campaign > Segments** .
2. Select a segment from the list, and click **Email** > **Activate** displayed beside the notification "Segment is not synced with Mailchimp".
3. Click **Confirm** on the prompt displayed to ensure activation.

Note: You can activate or deactivate the synchronization at the global level after the configuration. The sync will stop, but the old users in the list and tags will remain at Mailchimp.



Things to Remember

- Once the ESP is configured and synchronization begins, the segment will export to the selected Mailchimp list with the same segment name as in HCL CDP; this name can be changed in the Mailchimp dashboard.
- Deactivating a specific segment will stop new users from being added to the Mailchimp tag/segment but will not prevent users from being added to the main list.
- Deactivating the segment globally will stop the sync entirely, leaving all current users in Mailchimp.
- If a segment is deleted from Mailchimp, synchronization for that segment will fail. To resume syncing, set the segment to inactive and then reactivate it in HCL CDP. This will recreate the segment in Mailchimp, and the sync will continue as usual.

Oracle Email Delivery

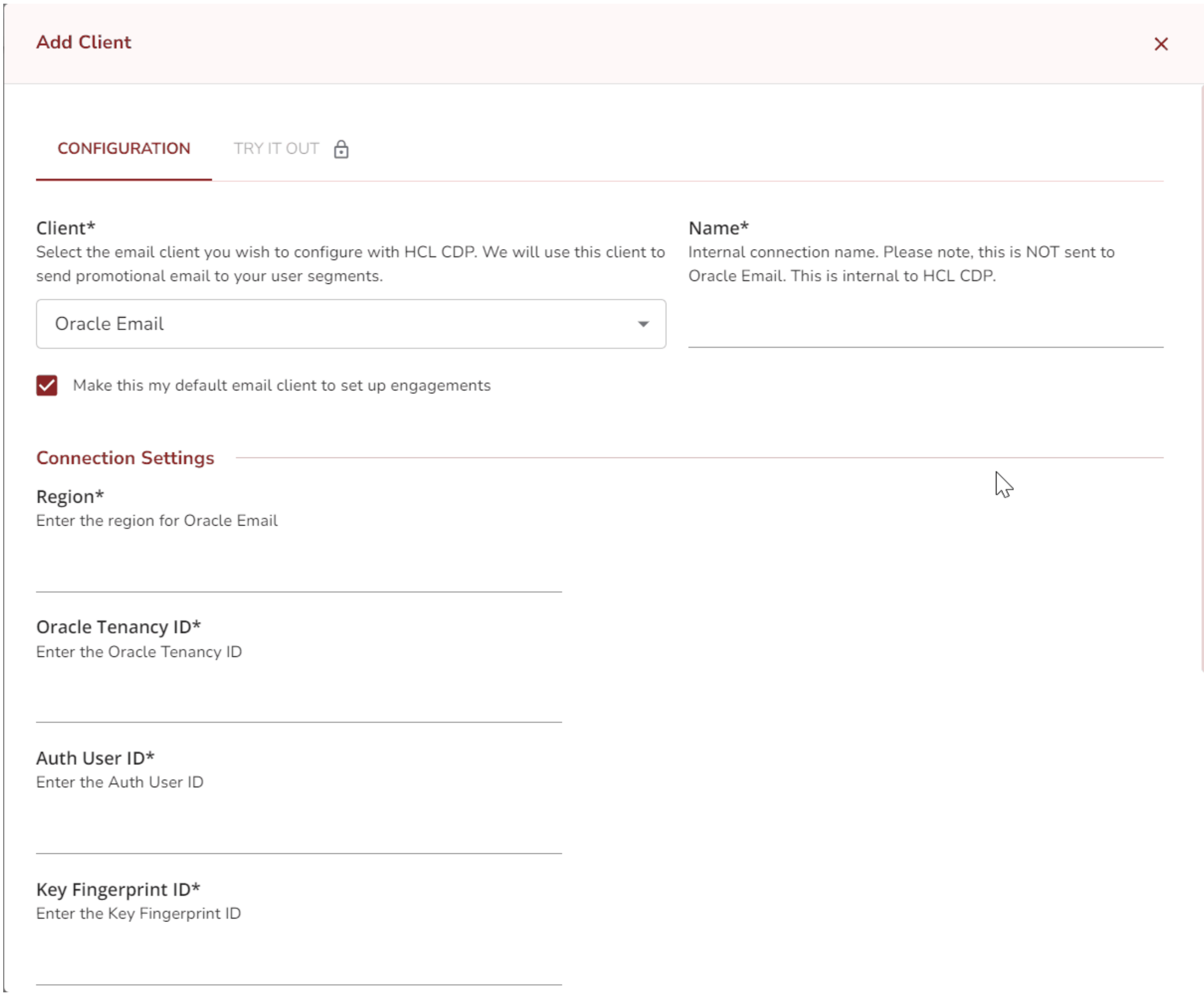
This page explains how to configure Oracle Cloud Infrastructure (OCI) Email Delivery as an Email Service Provider (ESP)

HCL CDP enables businesses to reach their target audience by integrating with Oracle Email Delivery, an email service designed for high inbox placement. This integration allows businesses to efficiently send bulk emails with high delivery success, meeting various business and marketing needs.

Configure Oracle Email Delivery with HCL CDP

To configure the SparkPost, follow the steps below:

1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **SendInBlue** from the list of ESPs.
2. Configure the following details:
    - **Name:** Enter the connection name.
    - **Region:** Enter the region for Oracle Email which is generally the region in which your account is configured in the Oracle server.
    - **Oracle Tenancy ID:** Enter the Oracle Tenancy ID from the Oracle dashboard.
    - **Auth User ID:** Enter the authentication User ID from the Oracle dashboard.
    - **Key fingerprint ID:** Enter the Key fingerprint ID from the Oracle dashboard.
    - **Private key:** Enter the private key from the Oracle email account dashboard.
3. Click **Save Details**. Click **Try It Out** to test the integration end-to-end.



Infobip

This page explains how to configure Infobip as an ESP.

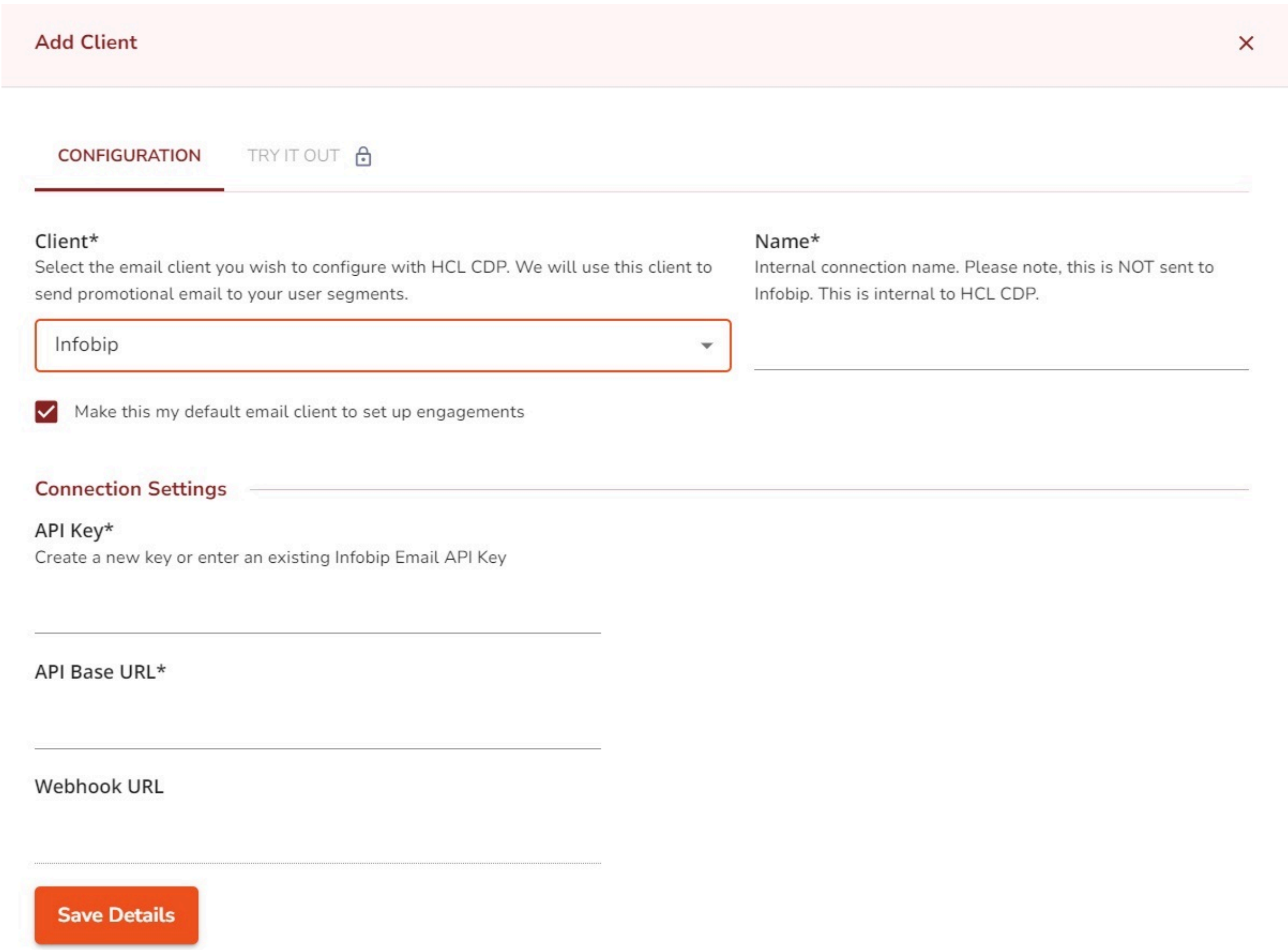
Infobip is a leading A2P (Application-to-Person) communication platform used by enterprises for marketing communications. It is designed to help businesses engage customers through automated messaging and guide them toward achieving specific goals. As a programmable communications platform, Infobip offers a range of tools for advanced customer engagement, support, security, and authentication, all accessible across multiple communication channels.

Configure Infobip with HCL CDP:

To configure the Infobip, follow the steps below:

1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Infobip** from the list of ESPs.
2. Configure the following details:

- **Name:** Enter the connection name.
- **API Key:** Enter the API key provided by the Infobip team
- **API Base URL:** Enter the base URL
- **Webhook URL:** Copy the webhook URL and paste it into the Infobip dashboard to get reports in HCL CDP.



Vision6

This page explains how to configure Vision6 as an ESP.

Vision6 is a trusted and advanced email service provider that has been serving banking and financial institutions for over a decade. It helps you connect with your preferred apps and web services, offering all the essential tools for effective email communication.

Configure Vision6 as an ESP

To configure the Vision6, follow the steps below:

1. In the **Add Client** page, on the **CONFIGURATION** tab, in the **Client** field, select **Vision6** from the list of ESPs.
2. Configure the following details:
    - **Name:** Enter the connection name.
    - **API Endpoint**:Enter the API Endpoint which will be provided by Vision6.
    - **API Key**: Enter the API Key which will be provided by Vision6.
    - Click **Proceed**. This will fetch the list of groups and lists of your account with Vision6.
    - Select the respective **List** and **Group** for your configuration.
3. Click **Save Details**. Click **Try It Out** to test the integration end-to-end.

Add Email Campaign

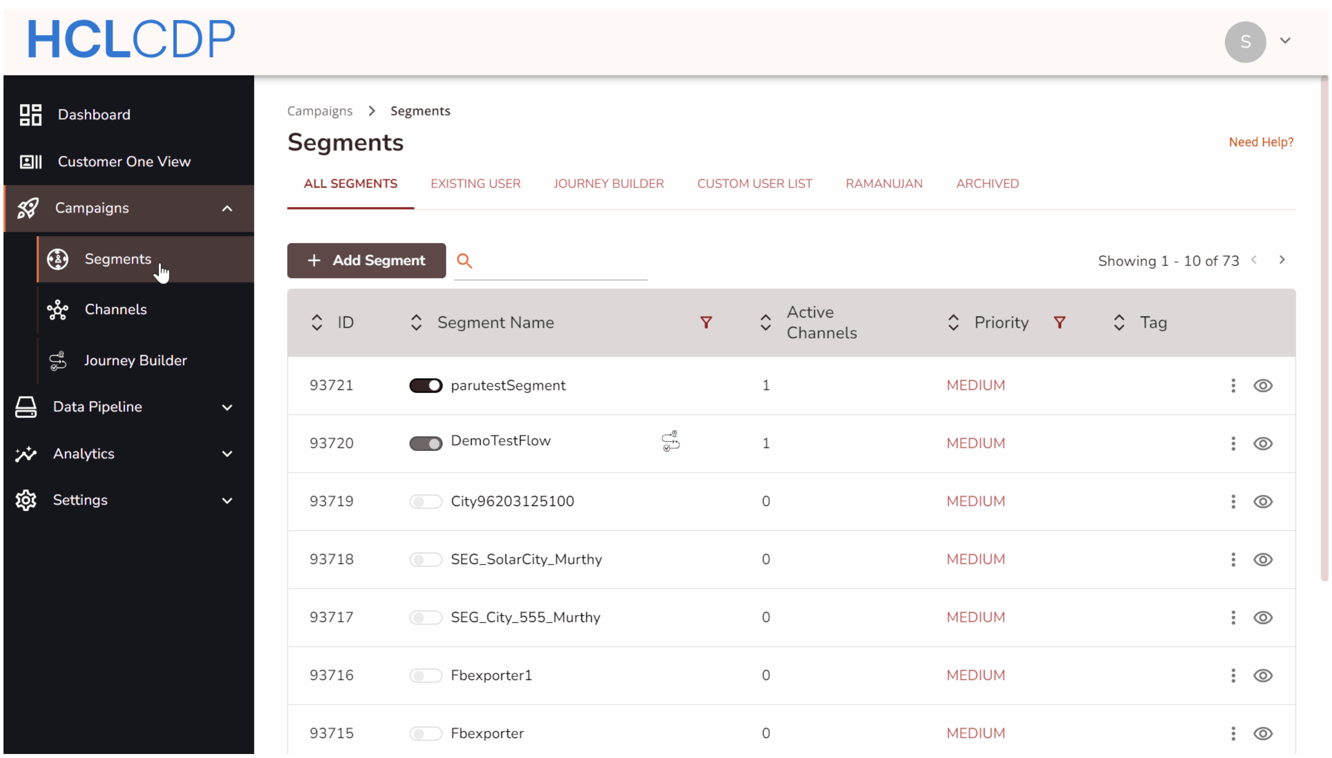
This page explains how to create an email campaign using HCL CDP Marketing Automation Platform.

Create an Email Campaign

Create an Email Engagement from Segments

To create an email engagement from segments, follow the steps below:

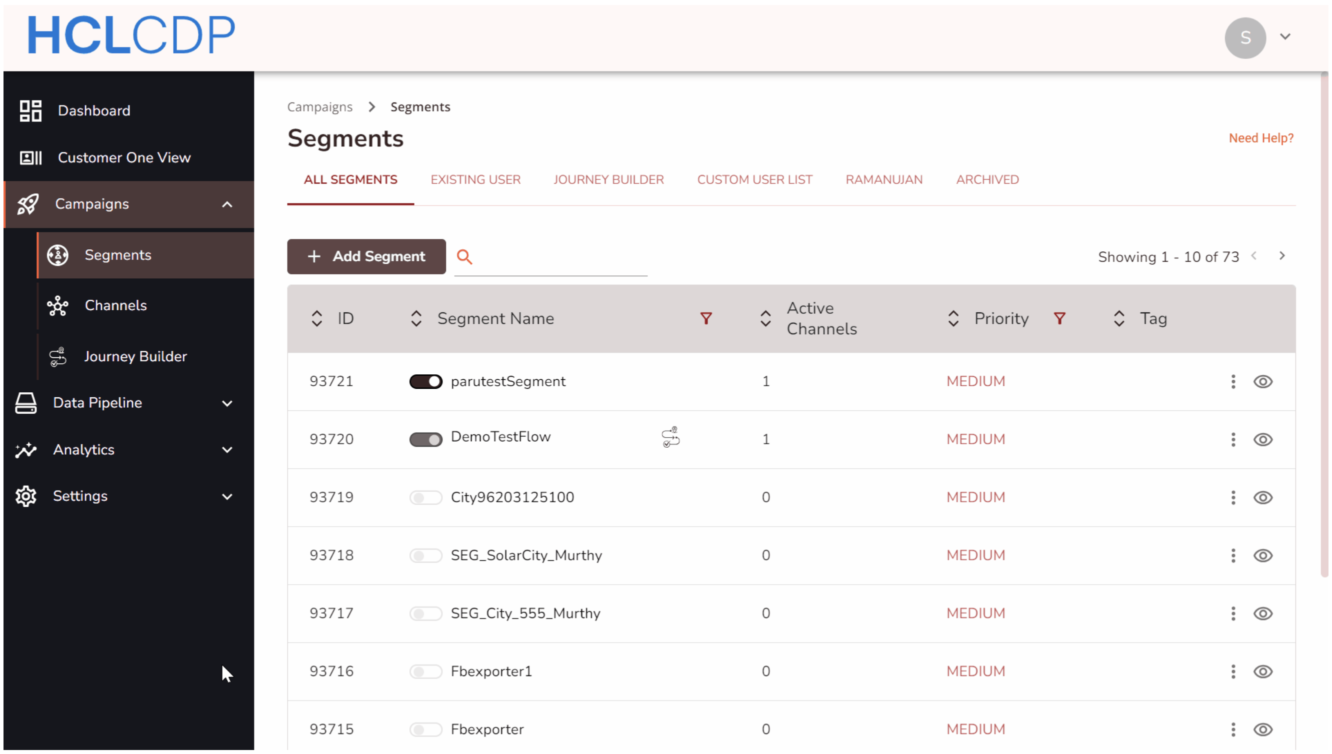
1. Navigate to **Campaigns > Segments**.
2. Select a Segment, and click **Email**.
3. Then, click **Add Engagement**.



Create an Email Engagement from Channels

To create an email engagement from channels, follow the steps below:

1. Navigate to **Campaigns > Channels**.
2. On the left pane, click **Email** channel, and then click **Add Engagement**.
3. Choose a segment from the list, and click **Confirm And Proceed To the Next Step**.



Configure Engagement Details

In the **Create Email Engagements** screen, update the following details:

Add General details of Engagement

1. **Engagement Name (mandatory):** Enter a name for the Engagement. It should range from **6-25 characters**.
2. **Label (mandatory):** Choose a product label from the list. For more information about product labels, refer here on page 21.
3. **Choose Email Client (mandatory):** Select an ESP from the drop-down list.

Add a Goal

Goal Type: Select a goal type from the drop-down list. For more information about **Conversion Goals**, refer Campaign Channels on page 21.

Note: Each section turns red as you start entering data to create an Engagement. Once you fill in all the required information, the section will turn green. You can complete the sections in any order, but all sections must be green before you can click **Update Engagement**.

Enter Email Settings

- **From (mandatory):** Enter the email address from which the communication will be established.

  Note: Make sure that the email address should be verified at the ESP end.

- **ReplyTo:** Choose the email address to reply to the user.

Tip: You can add From and Reply To email addresses in Settings on page 312

Configure Template

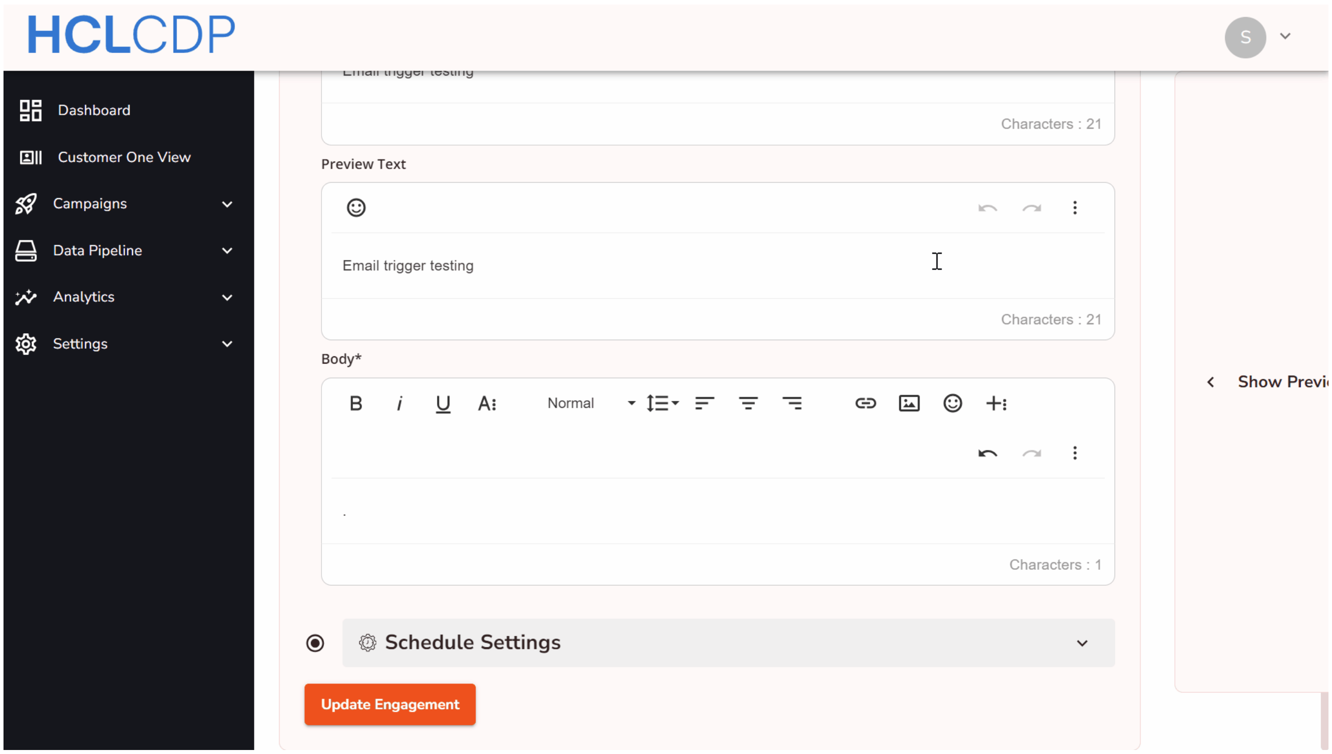
- **Subject (Mandatory)**:Enter a subject line that clearly explains the email's purpose. Emojis can be added to make it more engaging.
- **Preview Text**: Provide a brief preview of the email content. Emojis are supported here as well.
- **Body (Mandatory)**: Create a basic template with options to customize the content. You can add links, images, emojis, and special characters, as well as modify the font style and text alignment. The template supports image uploads in **JPEG, JPG, PNG, GIF, and WEBP** formats.

You can't create highly customized templates directly in this editor, but you can use tools like Mailchimp or Mailjet to design HTML templates. Copy the HTML code into the code view section and customize it further by adding macros for personalization. For more information about macros, refer here on page 21.

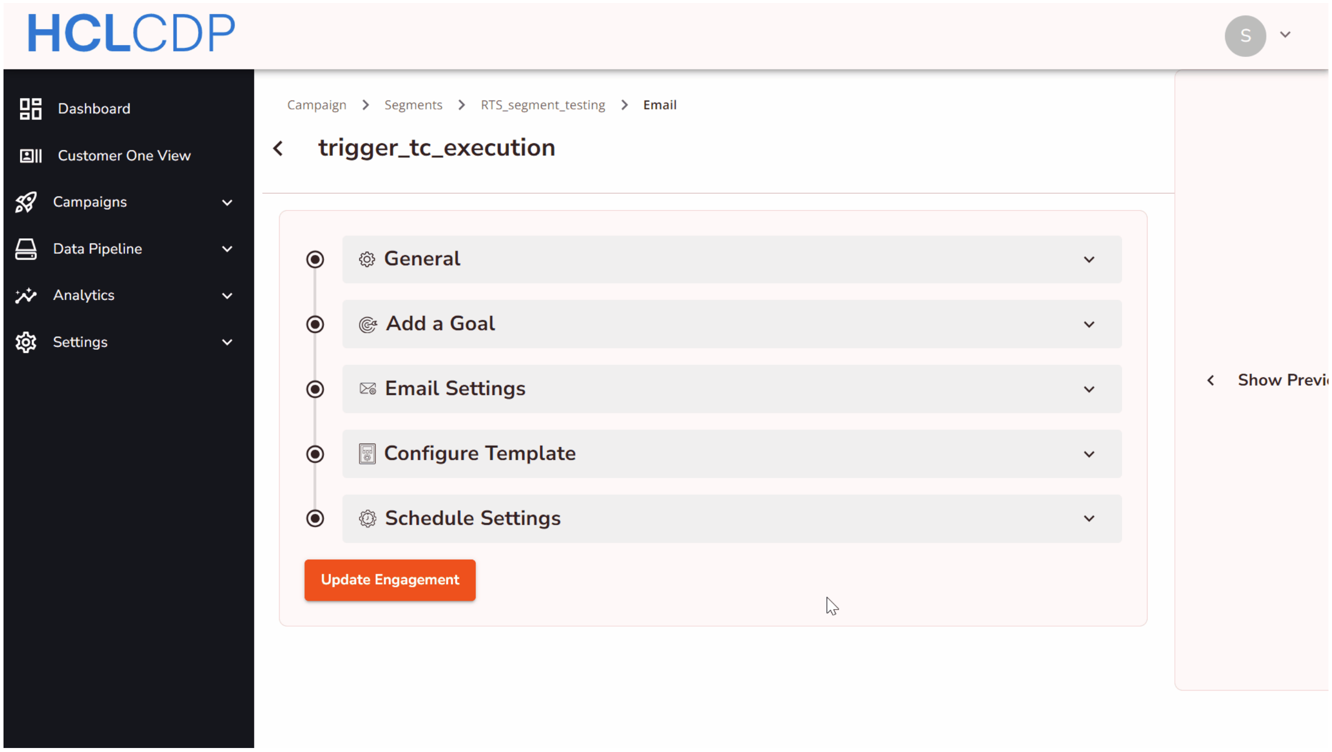
Template Preview

You can preview your email templates by hovering over **Show Preview** to see how the email will appear on different devices. The preview updates in real-time, and you can switch between Desktop, Mobile, and Tablet views.

Note: If you make changes in the template's code view, click the code view icon again to save the updates.



Tip: You can undo and redo changes to each sub-section. To view it in full screen, click the three dots of each sub-section, select the information or view the code.



Schedule Settings

Schedule: Schedule an engagement to send at a later time or trigger it immediately once the engagement goal is achieved. For more information about **Engagement Scheduling**, refer Campaign Channels on page 21

Update Engagement

Click **Update Engagement** to update the Engagement.

Note: After you have created an Engagement, you can neither change the name of the engagement nor change the schedule settings.

Send Test Email

You can send a test email to the testing contacts defined in HCL CDP. While the preview shows how the email looks during engagement creation or updates, the email may appear differently in clients like Gmail or Outlook. To verify, send a test email and adjust as needed. You can add a test email contact in **Settings**.

To send a test Email, follow the steps below:

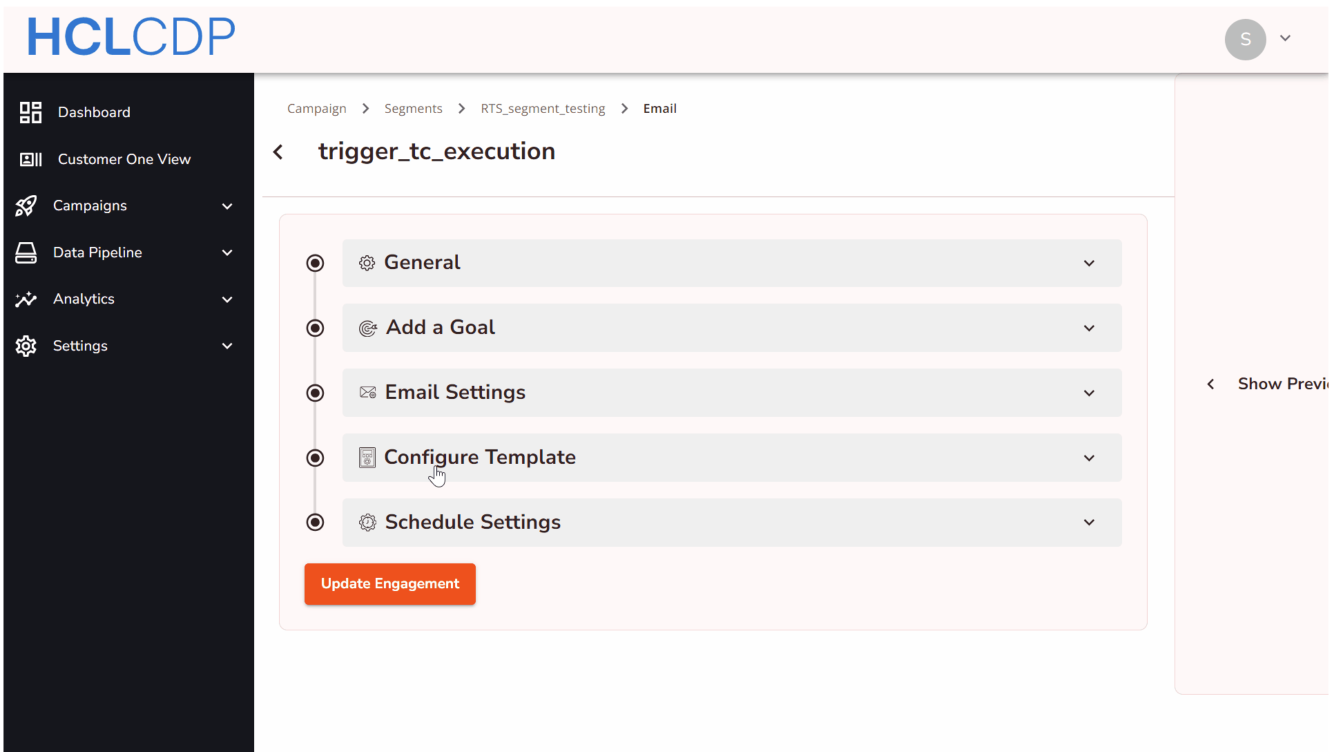
1. From the list of Engagements, click the three dots in the **Schedule** section.
2. Click **Send Test Email**, and select the test Email address.
3. Click the **Send Test Email** button to send the test email. On successful execution, the test email will be received in the configured email address.

Key Email Editor Features

This page talks about common tasks you can perform with our advanced HTML editor.

Custom HTML for Email Design

It's a common scenario to have an HTML email template created in platforms like Mailchimp or Mailjet, which you want to import into a marketing automation tool. The HCL CDP template editor enables this functionality.



To import the HTML template, follow the steps below:

1. Navigate to **Configure Template**, choose a section to import the Html code (Subject/ Preview Text/ Body).
2. Click the three dots of the section you chose, and click the container tag (< >) .
3. Now, copy and paste the HTML code.

4. Click the container tag again to see the template.

Warning: Always click the code view icon to save any changes made in the code view of the template.

Replace Images in Email Content

You can easily replace an image in your template with one of your own using the HCL CDP editor directly.

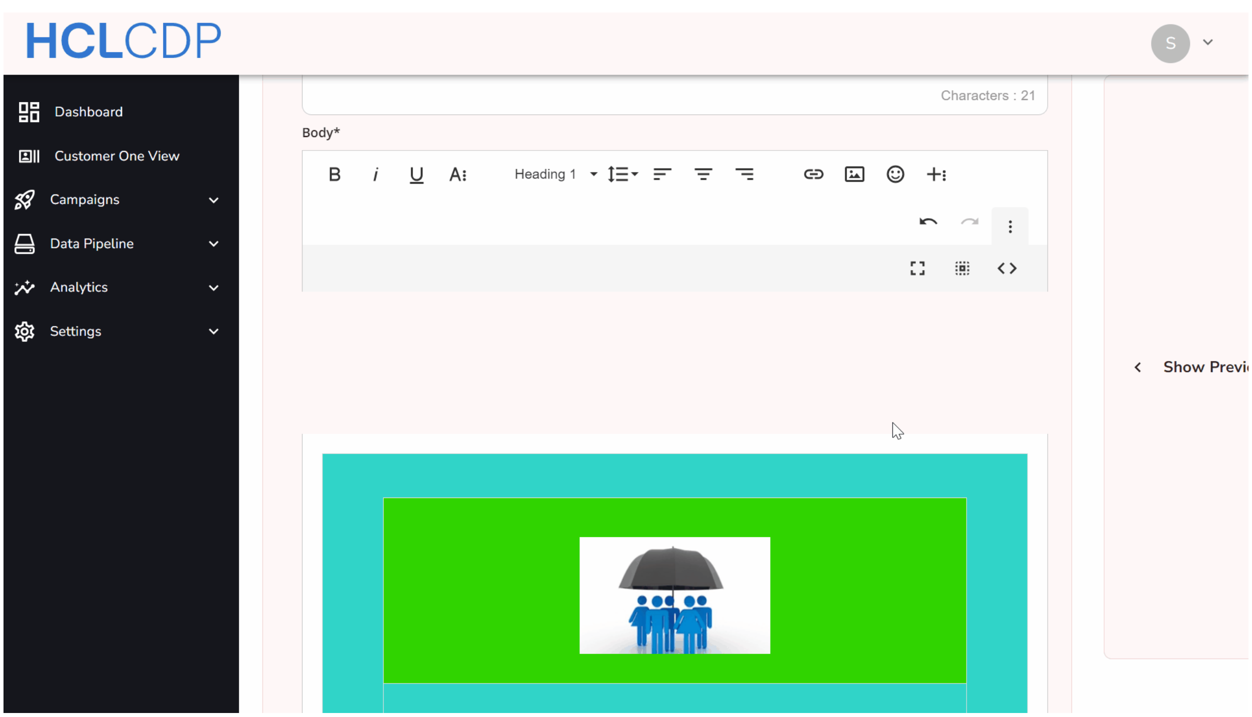
1. In the existing email template, click the inserted image.
2. Select the replace option.
3. Insert any external link or select an image from the HCL CDP Image Repository.
4. Click **Add or Upload Image** to replace the existing image.

Add or Remove Links in Email

If you want to add a link to text or an image that directs users to a specific webpage, or remove an existing link, HCL CDP makes it simple to implement these changes.

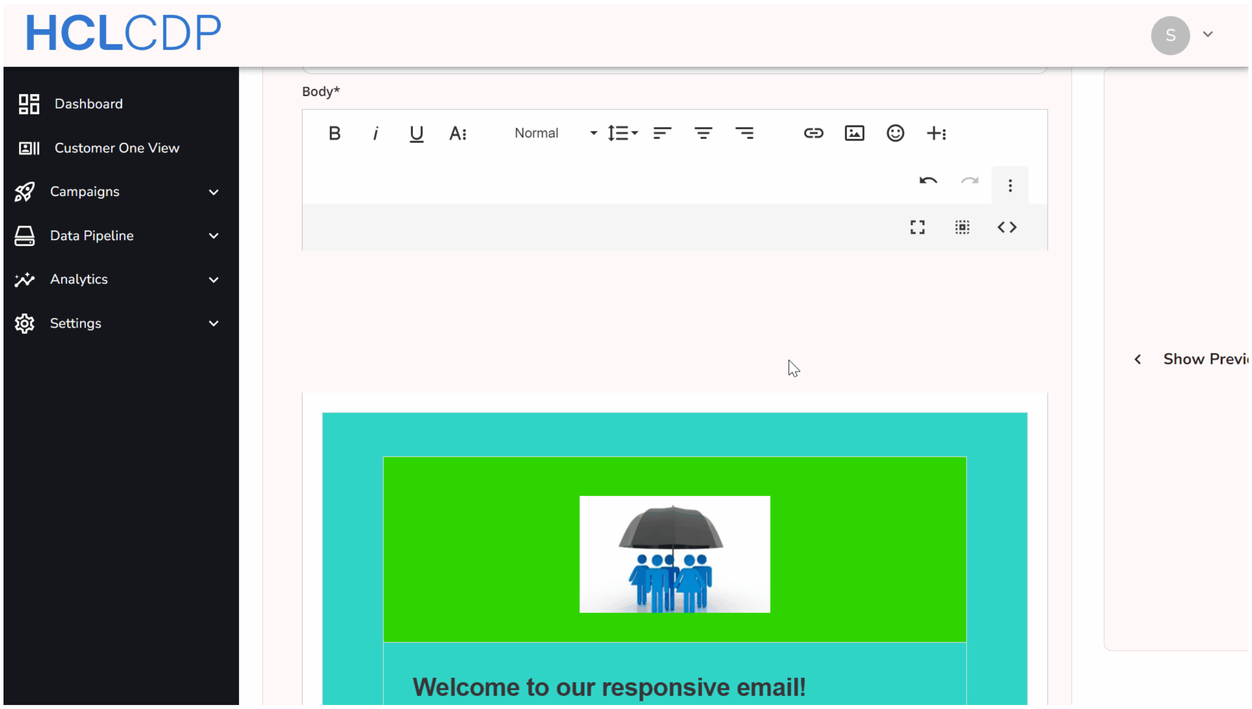
To add or remove a link in email, follow the steps below:

1. In the **Body** section, select the image/text, where you want to insert a link.
2. Click the **Insert Link** icon or press Ctrl + K.
3. Insert a URL and text to embed it.
4. Select the **Open in new tab** checkbox, if you want to open the link in a new tab.
5. Click **Insert** to add the link.



To delete the link, follow the steps below:

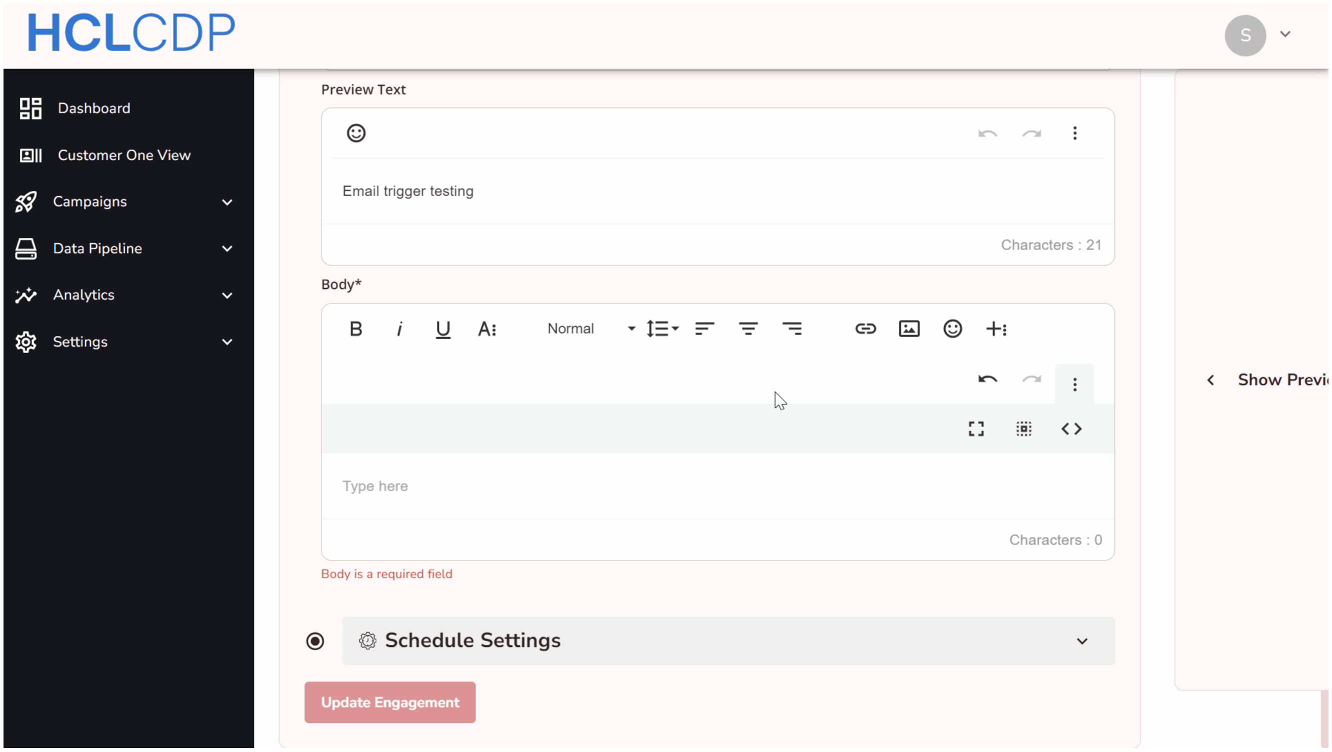
1. In the Body section, select the image/text.
2. Click the unlink option.



Tip: From the search option in the embed URL box, you can use the pre-defined link of Froala, Google or Facebook.

Incorporate Personalization Parameters in Emails

If you want to make your communication more engaging by including personalized details for each user, you can easily customize the parameters using the HCL CDP editor. For more information on personalizing parameters, refer here on page 21.



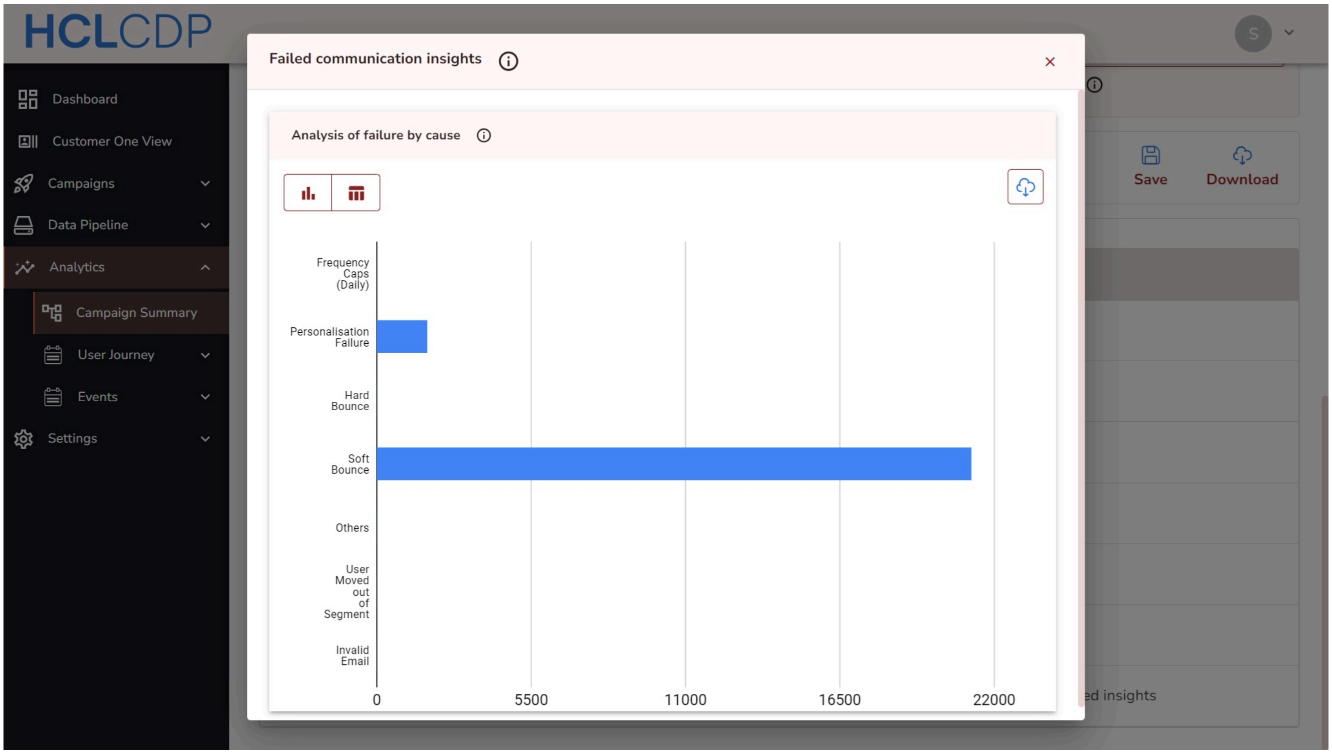
FAQs

This page explains the frequently asked questions related to Email channel.

Q1. What causes an email to soft bounce or hard bounce?

A soft bounce means the email address is valid, but delivery fails due to temporary issues, such as a full inbox or an inaccessible mail server.

A hard bounce occurs when there is a permanent issue, like a blocked or invalid email address, a non-existent recipient, server problems, an over-quota mailbox, or DNS configuration issues.



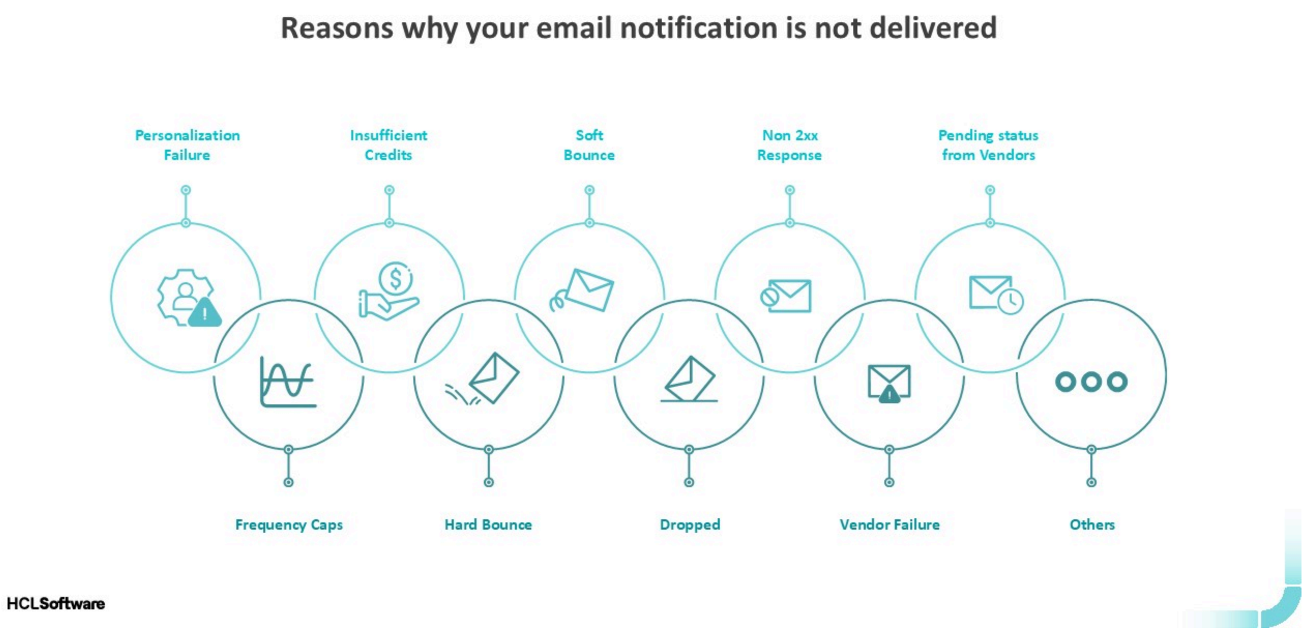
Q2. Why do emails end up in the spam folder?

Emails can be marked as spam by popular inbox providers like Gmail, Yahoo! Mail, Outlook, and Apple Mail due to various reasons, including sending bulk emails too frequently, incorrect DKIM and SPF settings, or failing to warm up the domain IP before sending emails.

Q3. Why might an email notification fail to be delivered?

There are several reasons your email notifications may not be delivered:

Why app push notification may not get delivered

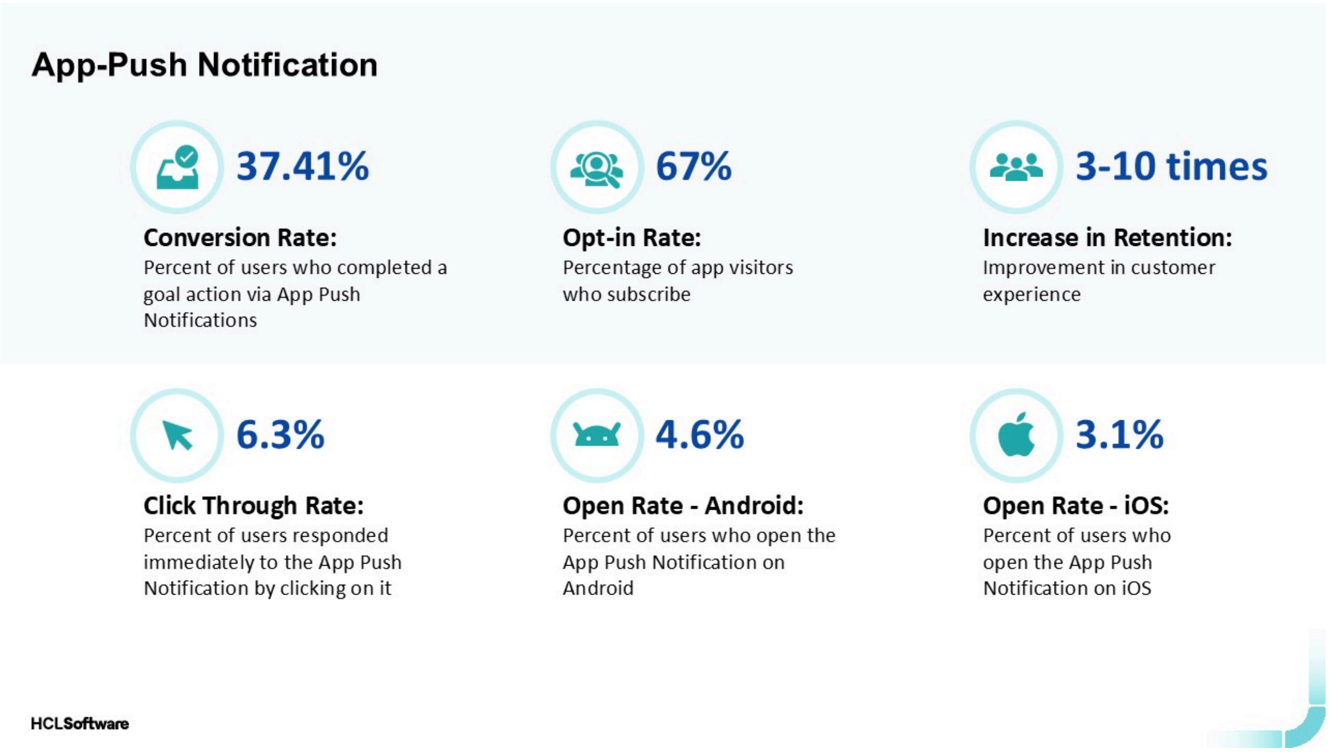


- **Frequency Caps:** If the frequency cap limit is reached, the email may not be sent. These caps are set based on daily, weekly, monthly, or lifetime parameters. Users exceeding the frequency cap won't receive the email. To learn more about frequency caps, click here.
- **Personalization Failure:** This happens when the system can't replace personalized parameters with the correct user data. For example, if a user in a segment doesn't have a registered "premium amount" and the email contains a macro for this value, the email won't be sent to that user.
- **Hard Bounce:** If the email results in a hard bounce, the email address is either invalid or the recipient has blocked the sender. This will mark the address as unreachable for future communications.
- **Dropped:** Emails may be dropped by the ESP if the user unsubscribes or is on a blacklist.
- **Soft Bounce:** Soft bounces are temporary delivery failures, often due to issues like a full inbox. These are tracked separately by ESPs in web-hooks.
- **Insufficient Credits:** If the ESP's credit limit is reached or there are not enough credits available, the email won't be delivered.
- **Vendor Failure:** This category covers all other reasons for email delivery failure that are reported by the vendor, beyond those previously mentioned. Backend systems will store raw logs of the responses received for further analysis if requested by the client. In the future, specific vendor failure reasons will be displayed in the UI. Logs will be retained for two years.
- **Non-2xx Response:** This failure occurs when the vendor logs an error not included in the standard failure categories. Any response that is not a 2xx status code will be captured here.
- **Pending Status from Vendor:** This failure applies when the communication was sent to the vendor, but the vendor did not send a corresponding web-hook response for the specific message ID.
- **Others:** This includes all other reasons for non-delivery, such as system failures, server crashes, or campaign issues.

App Push Notification

This page talks about App Push Notification channel in HCL CDP and what are the pre-requisites to run App Push Notification campaigns.

Personalized App Push campaigns are one of the most effective ways to drive conversions, and it is backed by proven statistics. Using the HCL CDP Marketing Automation platform, you can create App Push notifications for Android and iOS devices. Ensure you have an active segment to enable App Push Notification engagement. For more information about creating segment, refer here on page 174.



Pre-requisites to run App Push Notification Campaigns with HCL CDP

- **Identify the technology**: Apps can be developed using Native or Hybrid platforms. Hybrid apps, such as those built with Flutter or React Native, run across multiple platforms, whereas Native apps are designed for specific operating systems like Android or iOS. Determining the technology your platform uses is crucial.
- Follow documentation and download the appropriate SDKs. For more information about downloading the appropriate SDK, refer Data Sources.

Create App Push Notification - Android

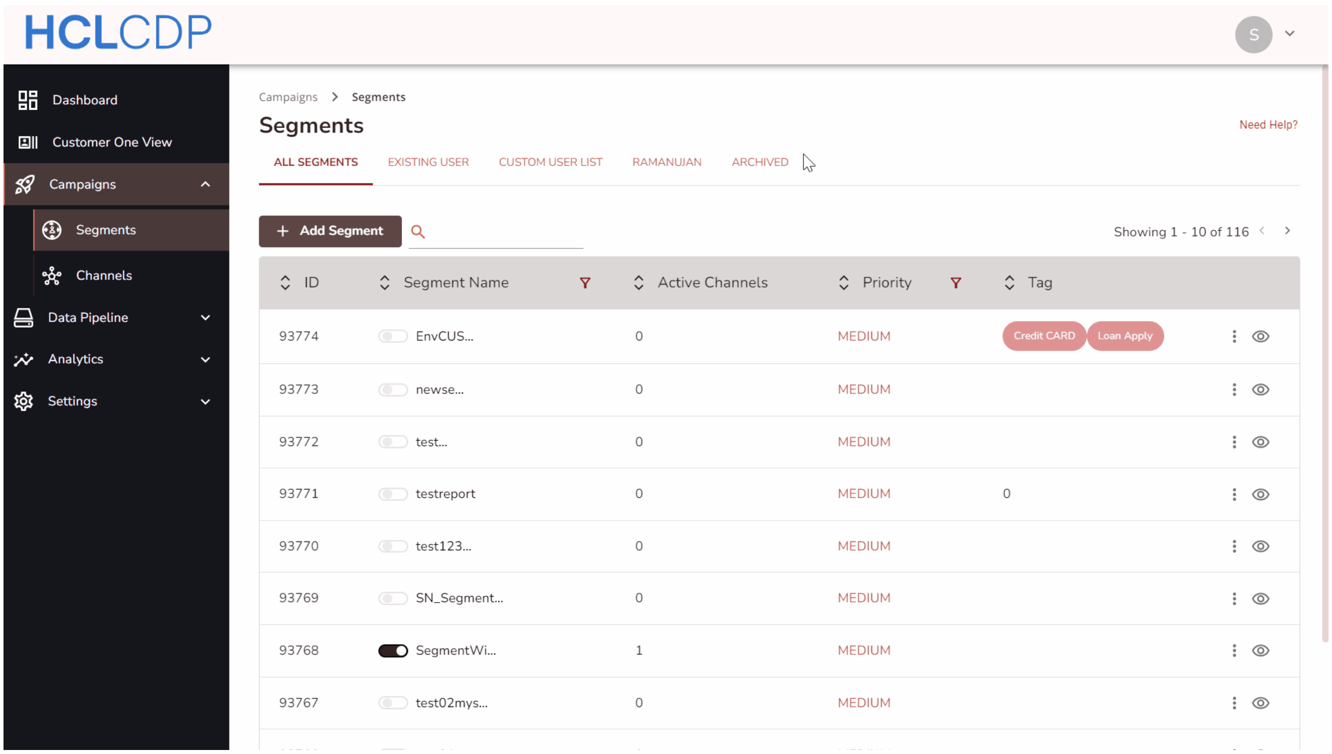
This page explains how to create an App Push Notification for Android using HCL CDP Marketing Automation Platform.

Create an App Push Notification

Create an App Push Notification Engagement from Segments

To create an App push notification engagements from segments, follow the steps below:

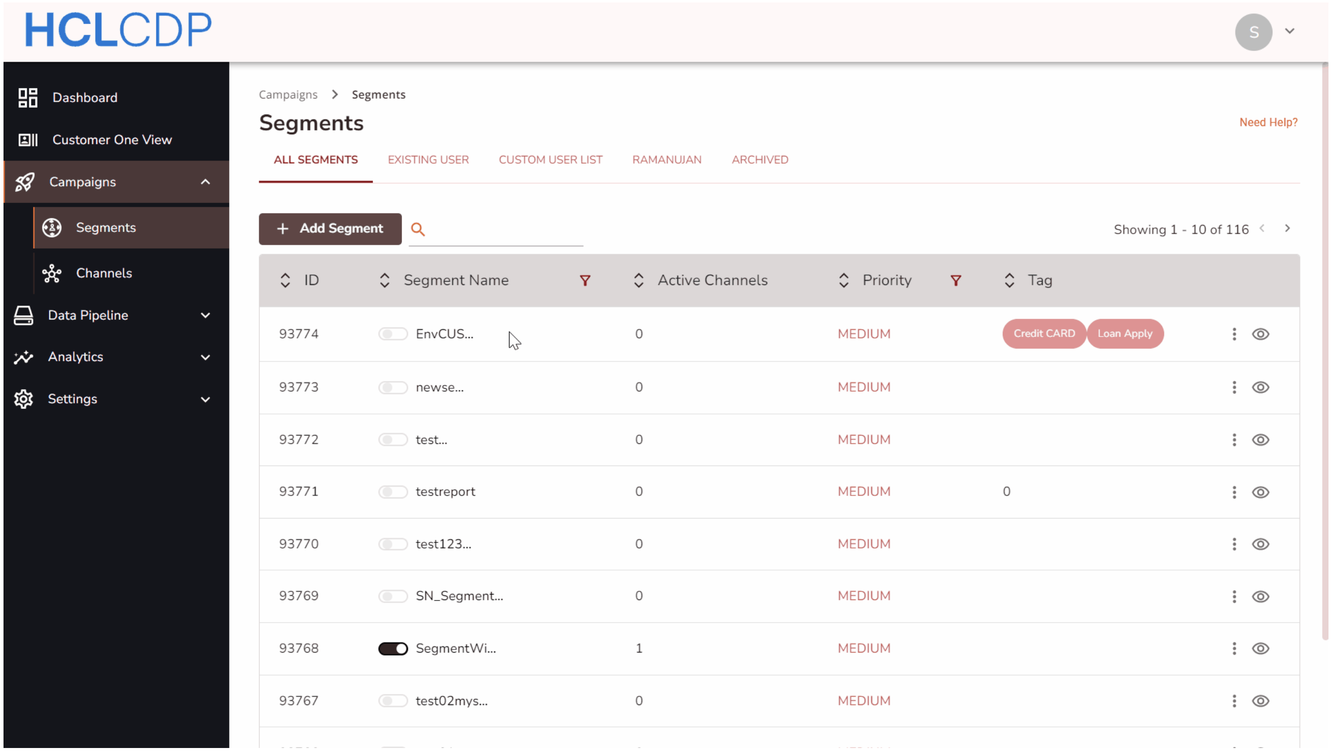
1. Navigate to **Campaigns > Segments**.
2. Select the Segment Name, and on the left panel, click the **App Push Notification** option.
3. Click **Add Engagement**.



Create an App Push Notification engagement from Channels

To create an App push notification engagements from channels, follow the steps below:

1. Navigate to **Campaigns > Channels**.
2. On the left panel, click the **App Push Notification** option.
3. Click **Add Engagement**, and select the Segment Name from the list.
4. Click **Confirm And Proceed To Next Step**.



Configure App Push Notification

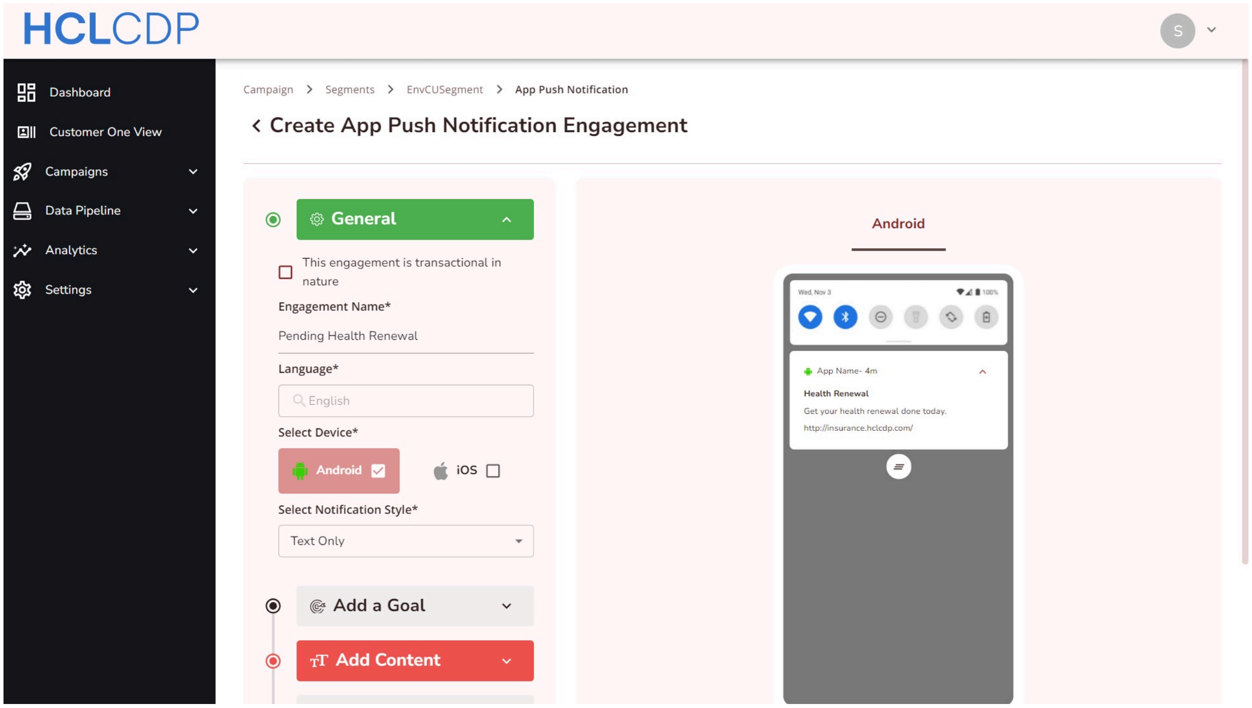
In the create app push notification page, configure the following details:

Add General details

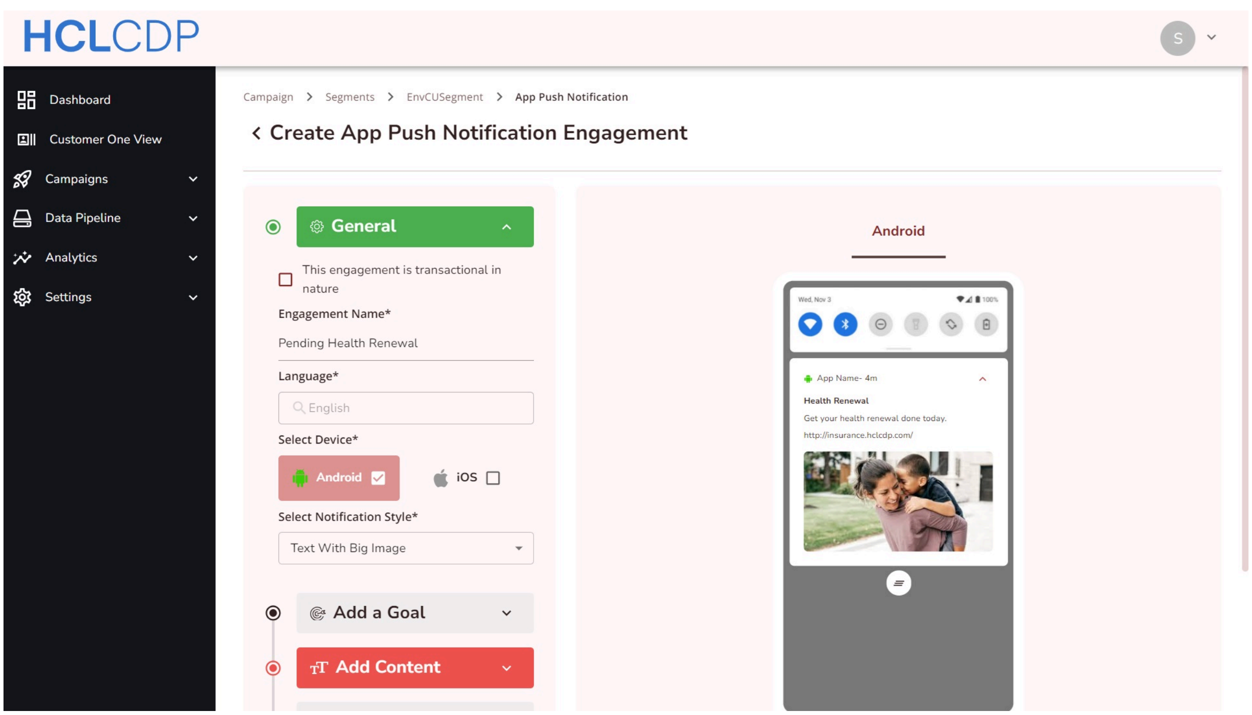
- **Engagement Name (mandatory):** Add a unique name to the Engagement. It must range between **6-25 characters**.
- **Language (mandatory):** Select a language in which you prefer to write the Engagement.
- **Select Device (mandatory):** Select **Android** from the device list. The preview on the right should show the preview of the Android device.
- **Select Notification Style (mandatory):** Choose a notification style of engagement based on device configuration.

For **Android**, we have three Notification Styles.

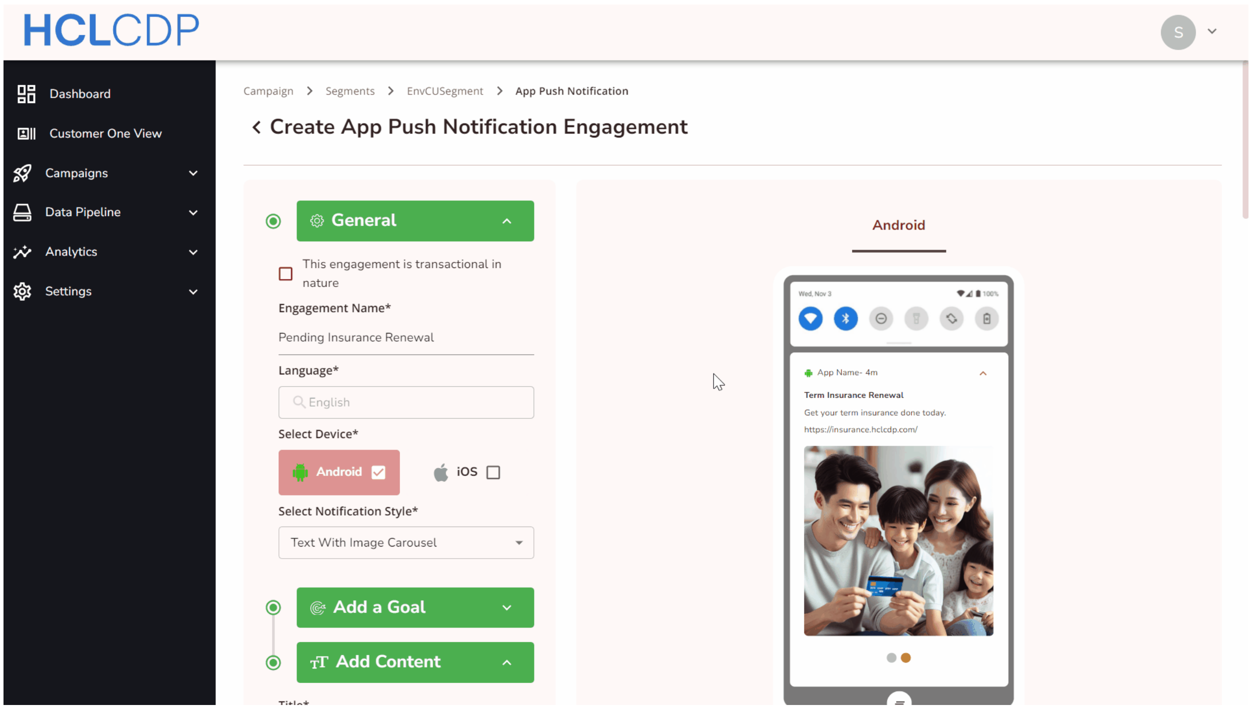
- **Text Only**: You can use this notification style, in case you want to add only text to your App Push engagement.



- **Text with Big Image** Use this notification style to add an image with the specified text. You can also add a caption to the engagement image.



- **Text with Image Carousel** Use this notification style to create carousel-style infographic engagements. Add captions to your image carousel, and see real-time updates in the preview. Click the preview to check if the redirect URL works.



Add a Goal

Goal Type: Select a goal type from the drop-down list. For more information about Conversion Goals, refer here on page 21.

Note: Each section turns red as you start entering data to create an Engagement. Once you fill in all the required information, the section will turn green. You can complete the sections in any order, but all sections must be green before you can click **Update Engagement**.

Add Content

- **Title (mandatory):** Enter the title of the Engagement message. It should range between 1-42 characters. The recommended max length is **36 characters**.
- **Message (mandatory):** Enter a brief message explaining the purpose of the Engagement. It should contain at least 6 characters. The recommended max length is **36 characters**.
- **Summary:** Enter a summary of the Engagement. The recommended max length is **36 characters**.
- **Target Page:** Enter the target URL to which the user will be redirected when the app push notification is clicked. You can add an URL or a deep link.
- **Select Label (mandatory):** Select a product label from the drop-down list. For more information about labels, refer here on page 21.

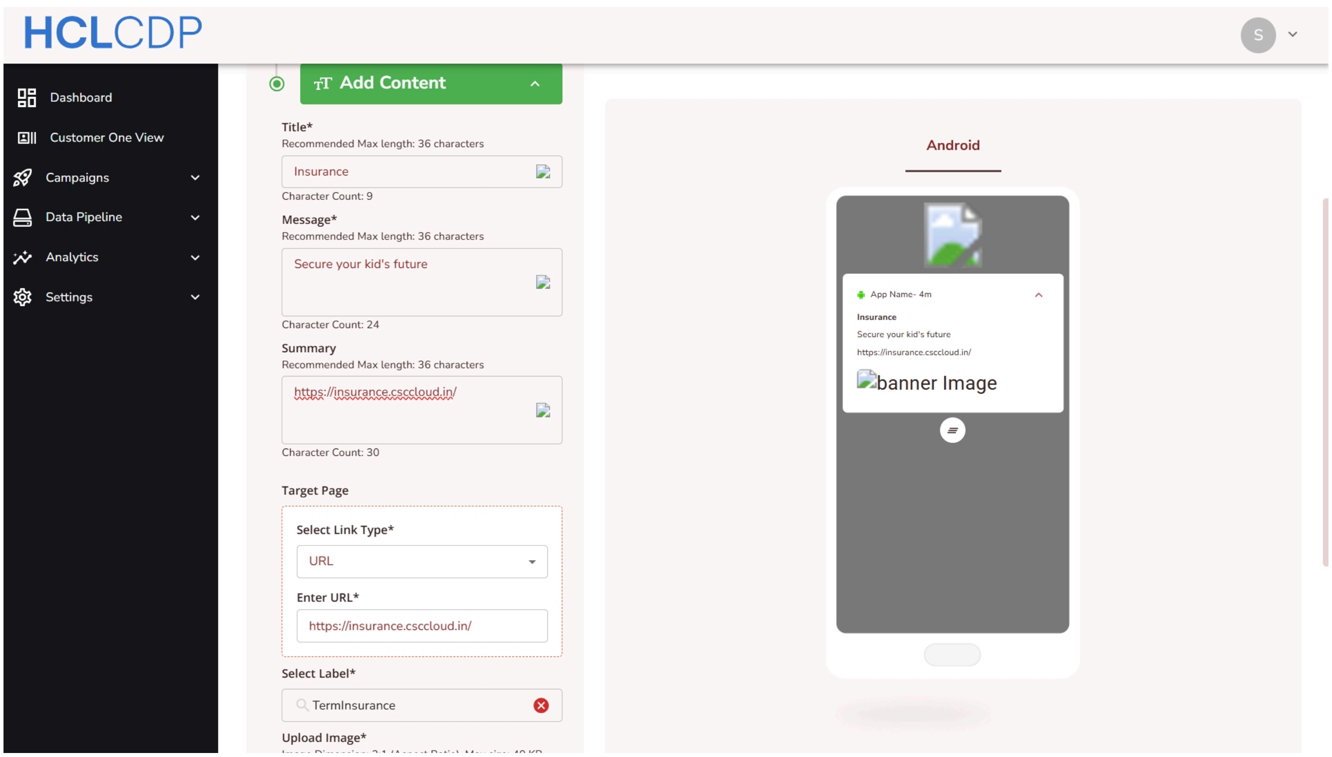
Attention: While there is no strict length constraint for messages when a recommended size is provided, exceeding the recommended length may cause the message to be trimmed during delivery or fail to deliver altogether. It is advised to keep the message within the recommended length.

In case, if your engagement type is **Big Image** or **Image Carousel**, follow the steps below:

For Big Image

Upload Image (mandatory): Upload an image with the following dimensions:

- **Aspect Ratio:** 2:1
- **Max Size:** 40 kb
- **Supported File Formats:** JPG, JPEG, PNG,WEBP.



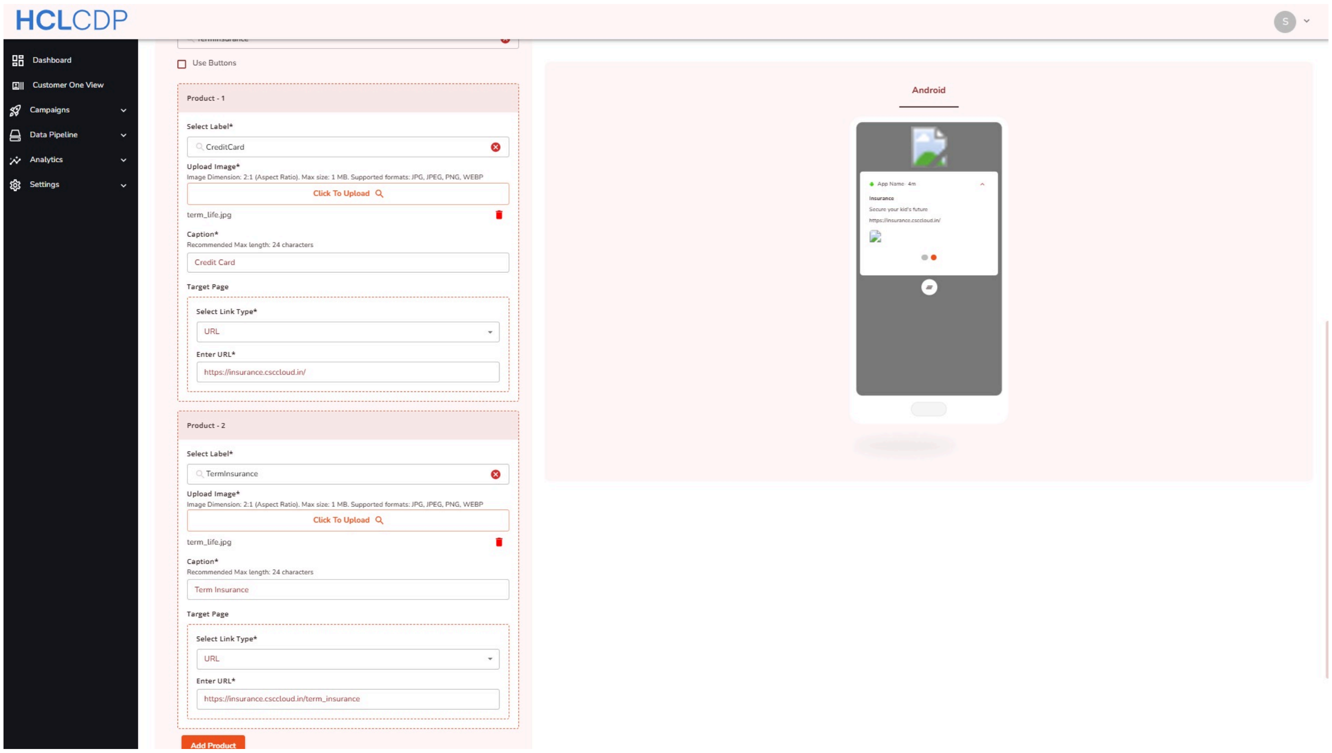
For Image Carousel

It is mandatory to have 2 products in the Carousel.

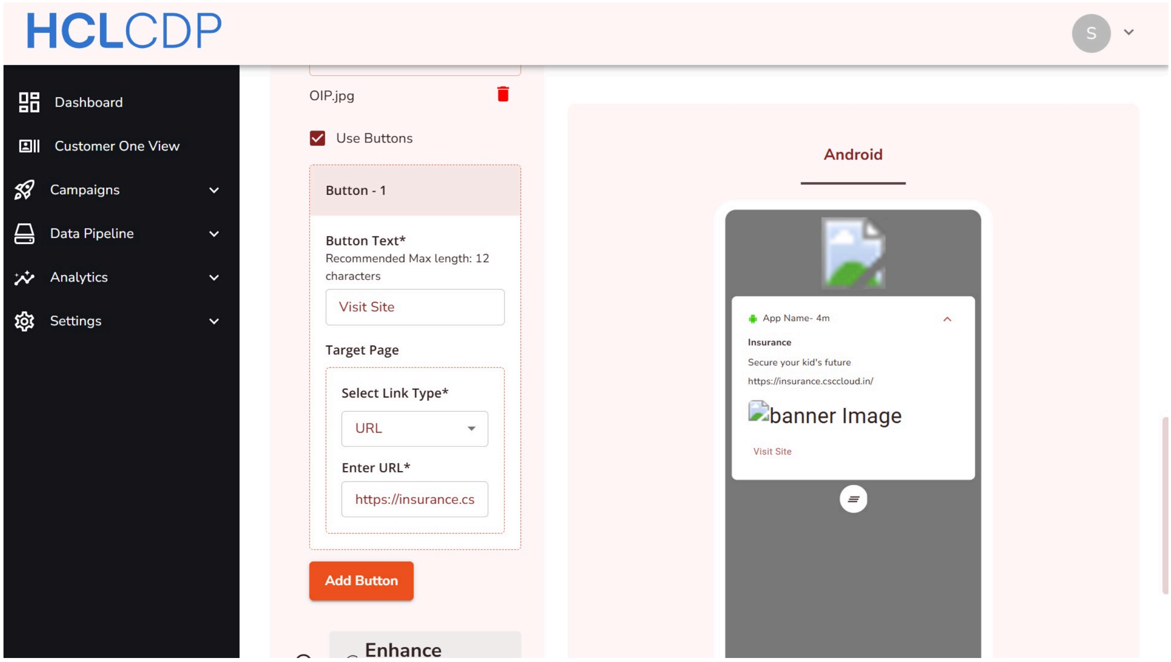
- **Select Label (mandatory):** Choose a product label from the drop-down list. For more information about Label, refer here on page 21.
- **Upload Image (mandatory):** Upload an image with the following dimensions: - **Aspect Ratio:** 2:1 - **Max Size:** 1 MB - **Supported File Formats:** JPG, JPEG, PNG,WEBP.
- **Caption (mandatory):** Enter a caption to the image. The recommended max length should not exceed **24 characters**.
- **Target Page:** Enter the target URL where the user will be redirected when they click the app push notification.

- **Select Link Type (mandatory):** Add a URL or a deep link. For more information about Link Type, refer here on page 21.
- **Enter URL (mandatory):** Enter the URL of the target page.

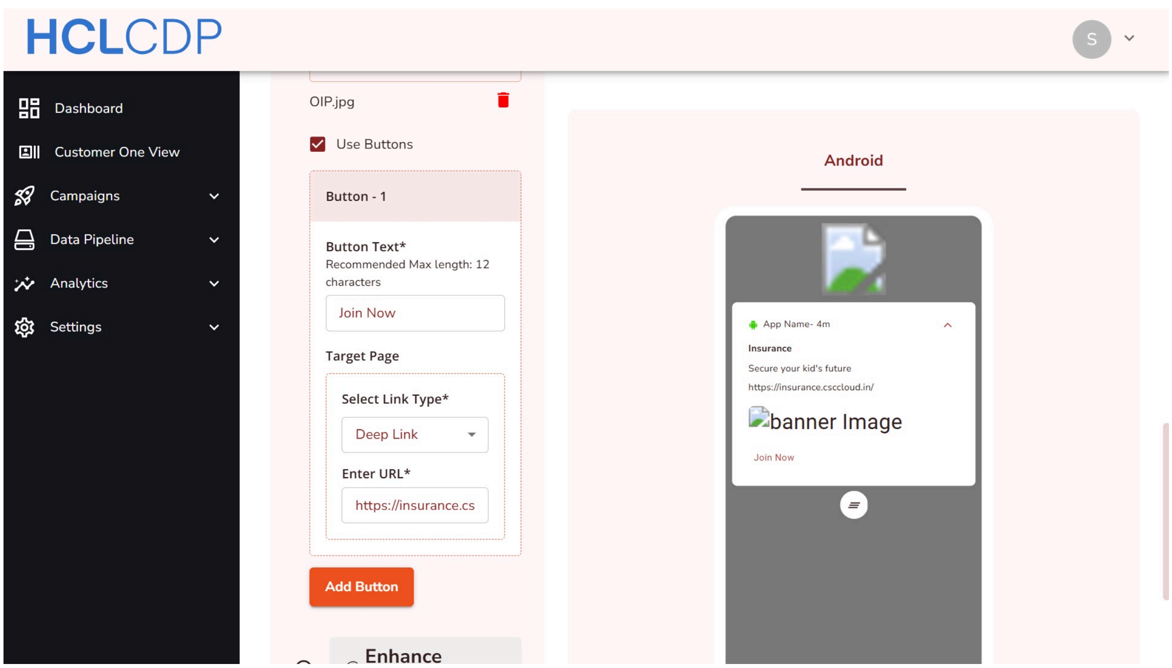
Click **Add Product** to add the image carousel.



- **Use Button:** Select this checkbox to include buttons in the app push notification. Adding this button is optional, and you can add up to 3 buttons.
- **Button Text (mandatory):** Enter a name for the button.
- **Target Page:**
  - **Select Link Type (mandatory):** Select a link type either URL or deep link to perform the required function.
  - **Enter URL (mandatory):** Enter the URL of the target page to redirect the user to a URL in the browser.



- **Deep Link - Enter URL (mandatory)**: Enter the URL for a specific activity within the application to redirect users to a particular screen on the application.



Acknowledgment

An acknowledgment will trigger a new app notification for the user, once s/he clicks the button. You need to include the following content as well.

Title (mandatory): Enter the title of the inline Engagement.

Message (mandatory): Enter a brief message explaining the purpose of the Engagement.

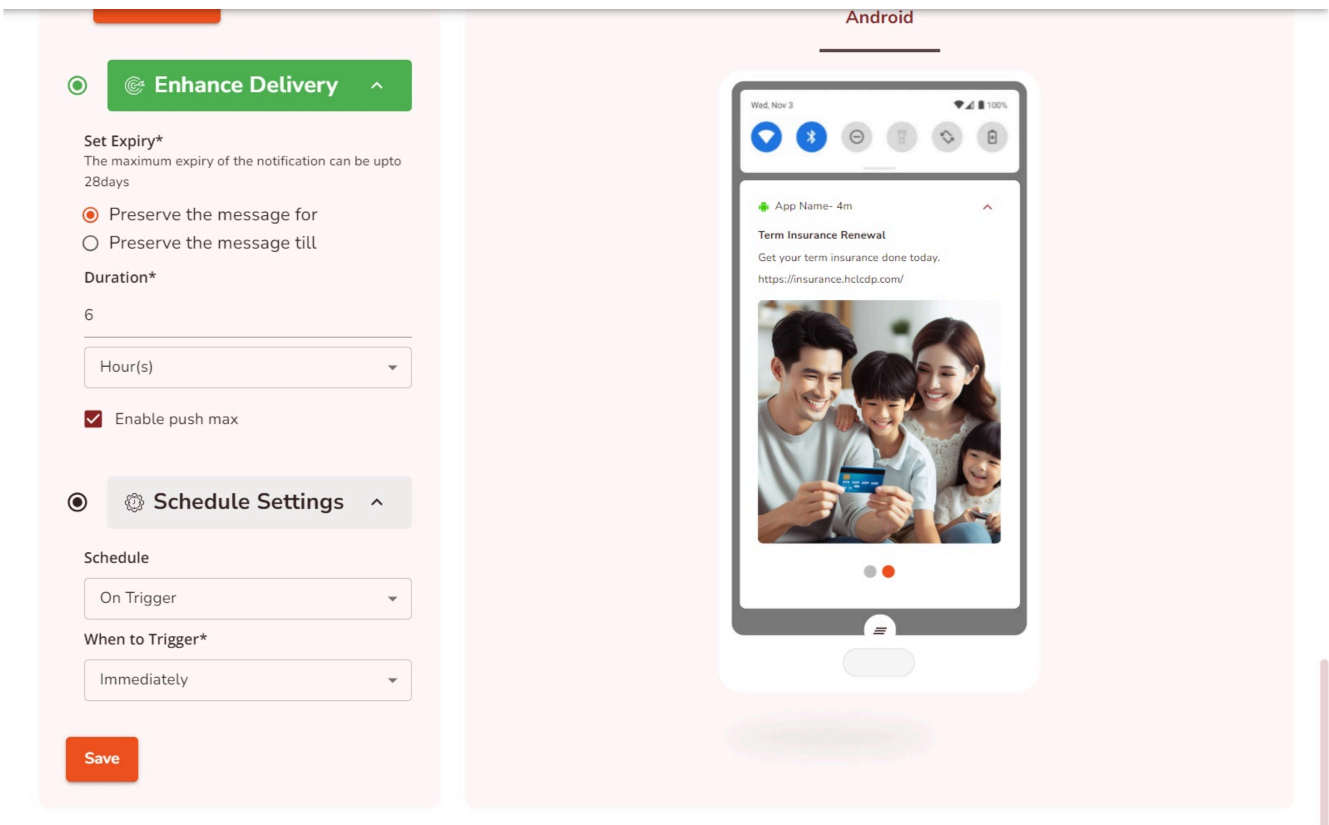
Summary: Enter a summary of the Engagement.

Dismiss User can dismiss the notification when the button is clicked.

Note: You can send personalized app push notifications about term life insurance by including unique details for each user. For example, the notification can redirect users to a specific URL on your website that includes their user ID. It can also display personalized information such as their premium amount, expiration date, and other relevant details. This approach enables hyper-personalized notifications tailored to each user.

Enhance Delivery

Enabling Enhanced Delivery helps you reach your customers within your desired time frame, ensures the notification expires upon reaching its expiry time, and increases the likelihood of message delivery even in poor network conditions.



- **Set Expiry:** Define an expiry time for your communication to ensure it does not reach users after its purpose has passed. For example, if you want to inform users about a launch event with exclusive offers, setting an expiry ensures users won't receive the message after the event ends due to network issues or other delays. You can set Maximum expiry of up to 28 days.

- **Preserve message for:** Specify the duration of your communication's validity in minutes, hours, or days. By default, you can set 6 hours, and the minimum can be 1 hour.
- **Preserve Message till:** Set your communication validity until a specific date and time using the calendar. You can set a minimum validity of 1 hour.
- **Enable Push Max:**

  Enhance communication delivery by optimizing it based on the user's network strength. In good network conditions, users receive the message with media. In poor network conditions, users receive text-only messages, increasing the chances of successful delivery.

Schedule Settings

Schedule an engagement to send at a later time or trigger it immediately once the engagement goal is achieved. For more information about **Engagement Scheduling**, refer Campaign Channels on page 21

Save

Click **Save** to save the Engagement.

Note: After you have created an Engagement, you can neither change the name of the engagement nor change the schedule settings.

Create App Push Notification iOS

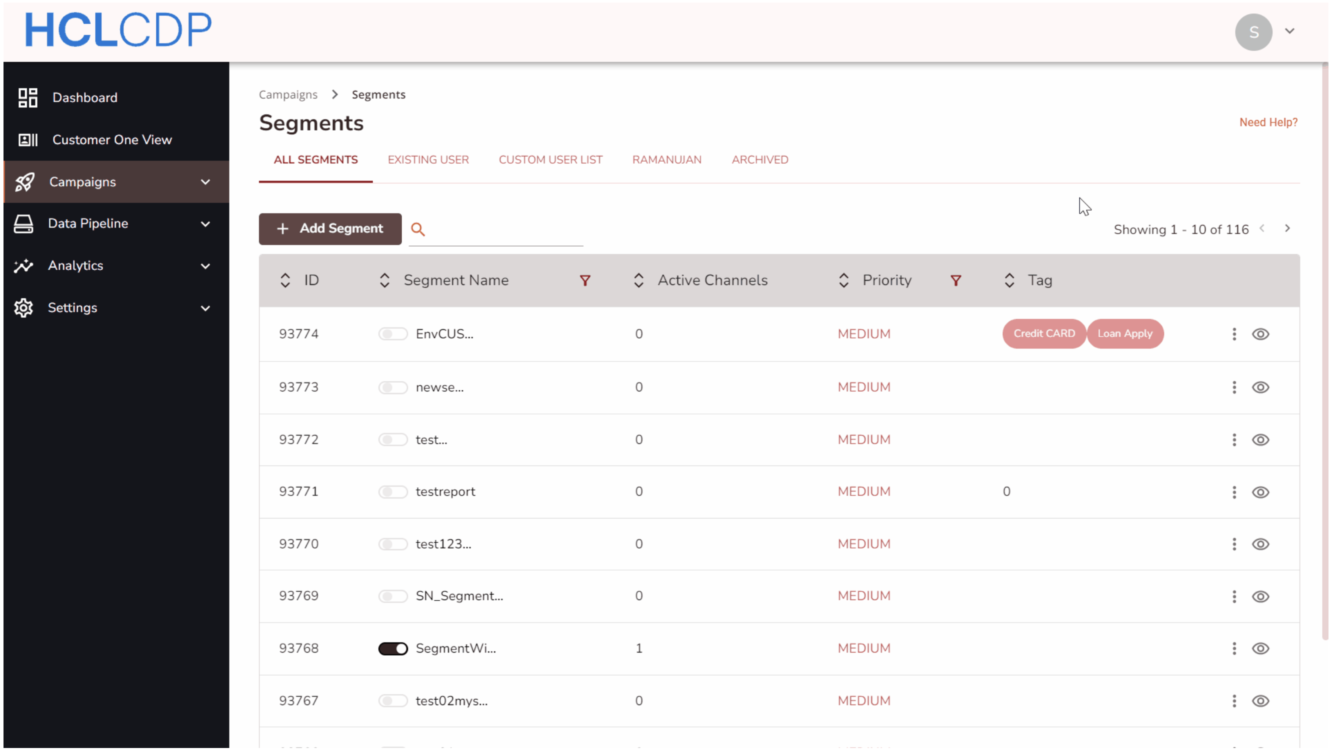
This page explains how to create an App Push Notification for iOS using HCL CDP Marketing Automation Platform.

Create an App Push Notification

Create an App Push Notification Engagement from Segments

To create an App push notification engagements from segments, follow the steps below:

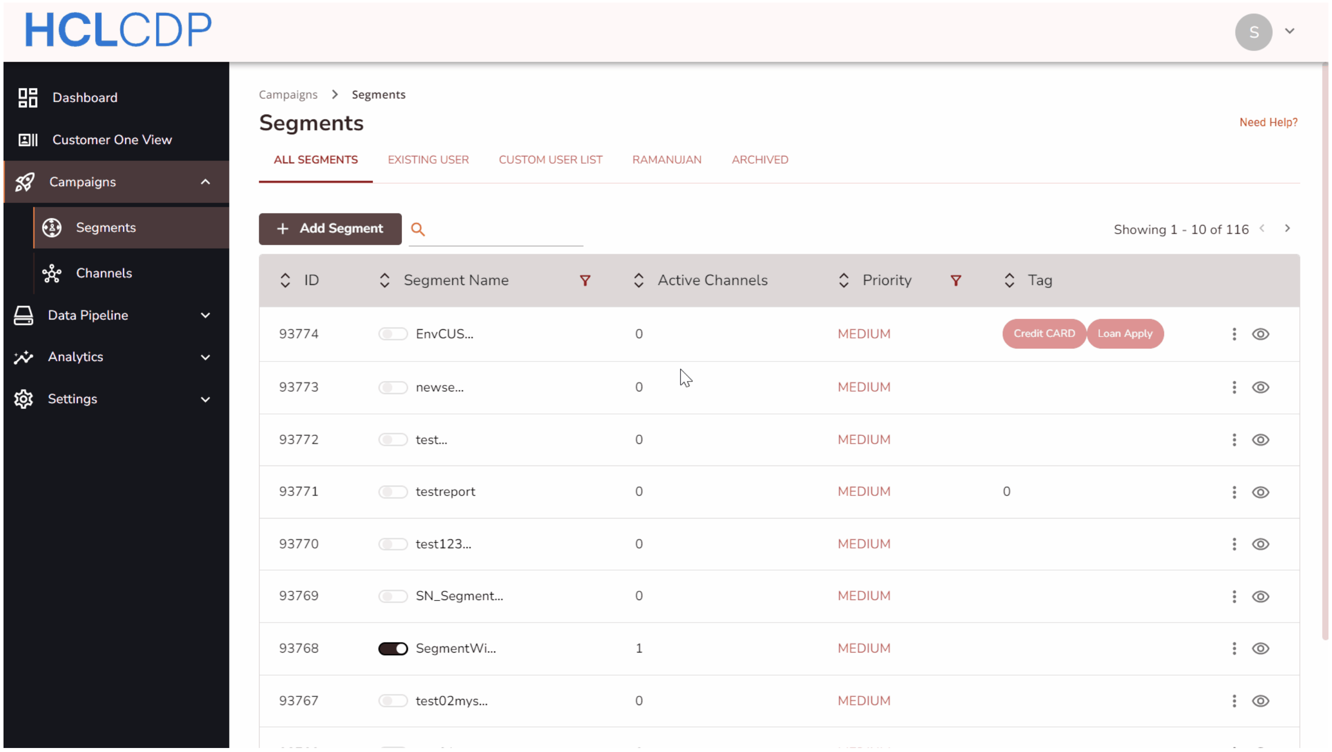
1. Navigate to **Campaigns > Segments**.
2. Select the Segment Name, and on the left panel, click the **App Push Notification** option.
3. Click **Add Engagement**.



Create an App Push Notification engagement from Channels

To create an App push notification engagements from channels, follow the steps below:

1. Navigate to **Campaigns > Channels**.
2. On the left panel, click the **App Push Notification** option.
3. Click **Add Engagement**, and select the Segment Name from the list.
4. Click **Confirm And Proceed To Next Step**.



Configure App Push Notification

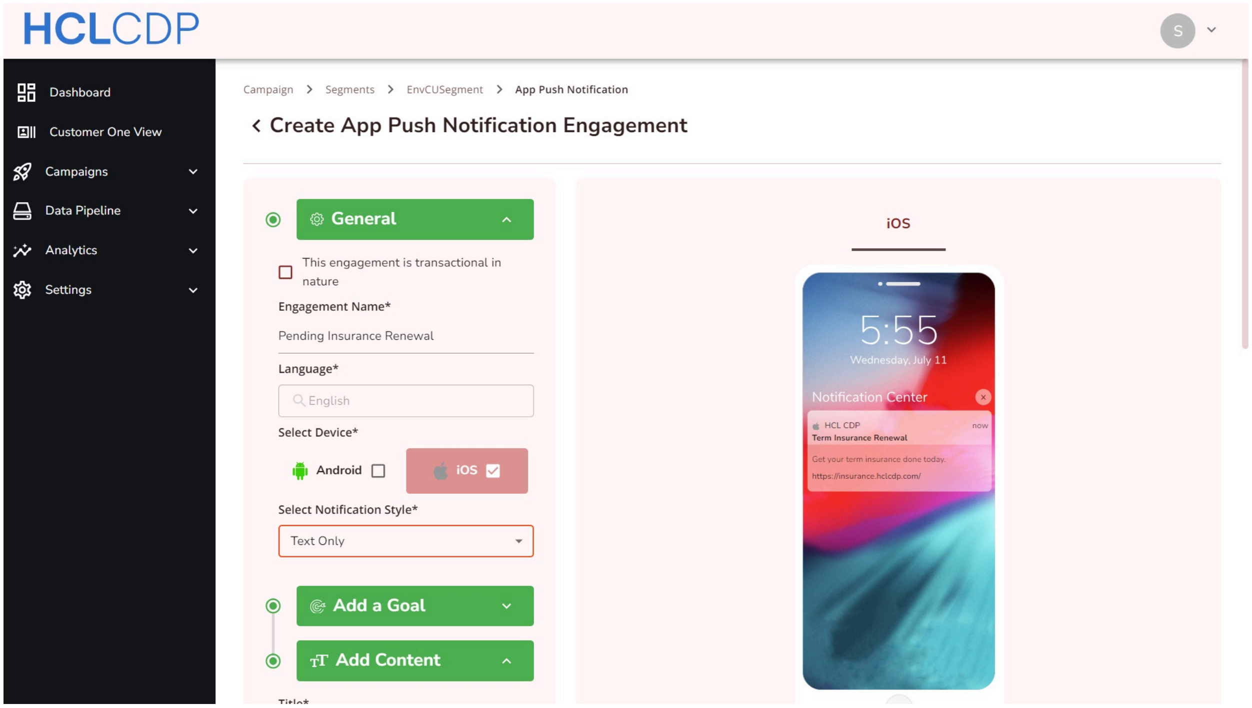
In the create app push notification page, configure the following details:

Add General Details

- **Engagement Name (mandatory):** Add a unique name to the Engagement. It must range between **6-25 characters**.
- **Language (mandatory):** Select a language in which you prefer to write the Engagement.
- **Select Device (mandatory):** Select **iOS** from the device list. The preview on the right should show the preview of the iOS device.
- **Select Notification Style (mandatory):** Choose a notification style of engagement based on device configuration.

For **iOS**, we have two Notification Styles.

- **Text Only**: Use this notification style, in case you want to add only text to your App Push engagement.



- **Text with Rich Media**: You can include images, audio, or video in your notifications. Make your engagement more engaging and easy to understand by adding media to your text.

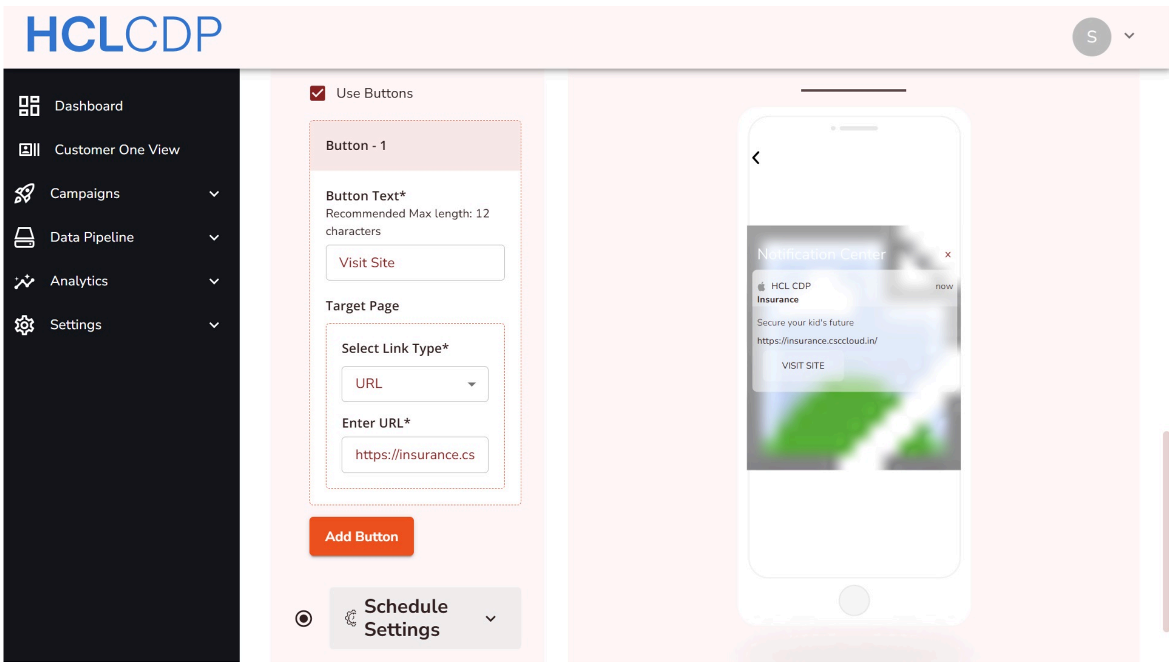
Tip: Each section turns red as you start entering data to create an Engagement. Once you fill in all the required information, the section will turn green. You can complete the sections in any order, but all sections must be green before you can click **Update Engagement**.

Add Content

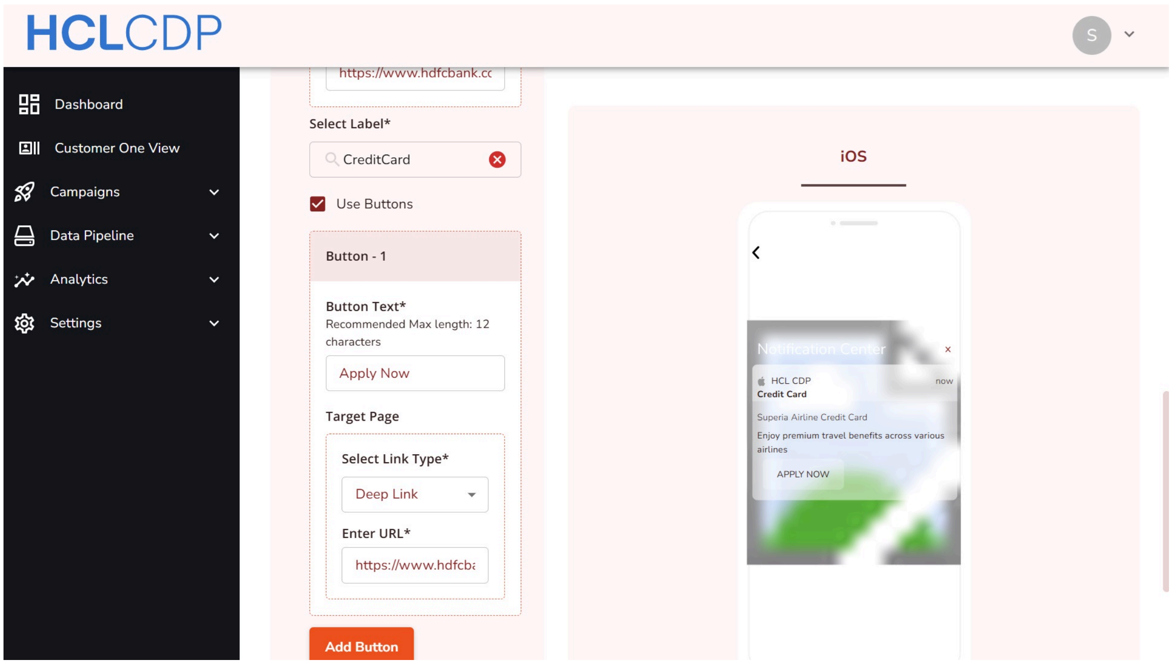
- **Title (mandatory):** Enter the title of the Engagement message. It should range between 1-42 characters. The recommended max length is **36 characters**.
- **Message (mandatory):** Enter a brief message explaining the purpose of the Engagement. It should contain at least 6 characters. The recommended max length is **36 characters**.
- **Summary:** Enter a summary of the Engagement. The recommended max length is **36 characters**.
- **Target Page:** Enter the target URL to which the user will be redirected when the app push notification is clicked. You can add an URL or a deep link.
- **Select Label (mandatory):** Select a product label from the drop-down list. For more information about labels, refer here on page 21.

Attention: While there is no strict length constraint for messages when a recommended size is provided, exceeding the recommended length may cause the message to be trimmed during delivery or fail to deliver altogether. It is advised to keep the message within the recommended length.

- **Use Button:** Select this checkbox to include buttons in the app push notification. Adding this button is optional, and you can add up to 3 buttons.
- **Button Text (mandatory):** Enter a name for the button.
- **Target Page:**
  - **Select Link Type (mandatory):** Select a link type either URL or deep link to perform the required function.
  - **Enter URL (mandatory):** Enter the URL of the target page to redirect the user to a URL in the browser.



- **Deep Link - Enter URL (mandatory)**: Enter the URL for a specific activity within the application to redirect users to a particular screen on the application.



Acknowledgment

An acknowledgment will trigger a new app notification for the user, once s/he clicks the button. You need to include the following content as well.

Title (mandatory): Enter the title of the inline Engagement.

Message (mandatory): Enter a brief message explaining the purpose of the Engagement.

Summary: Enter a summary of the Engagement.

Dismiss Users can dismiss the notification when the button is clicked.

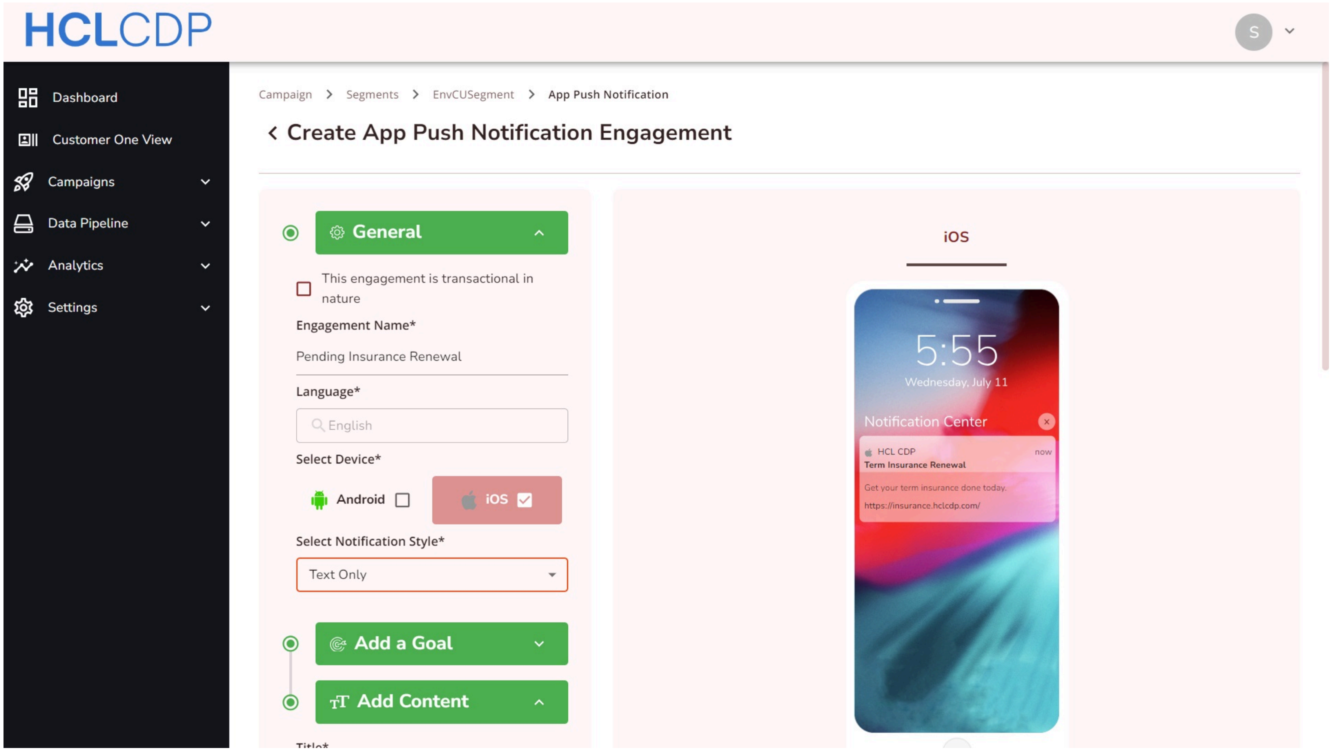
Media Type

Based on the selected media type update the following details accordingly:

If **Image**is selected,

Upload Image (mandatory): Upload an image of the following dimensions:

- **Aspect Ratio:** 2:1
- **Max Size:** 10 MB
- **Supported File Formats:** JPG, JPEG, PNG, GIF, WEBP



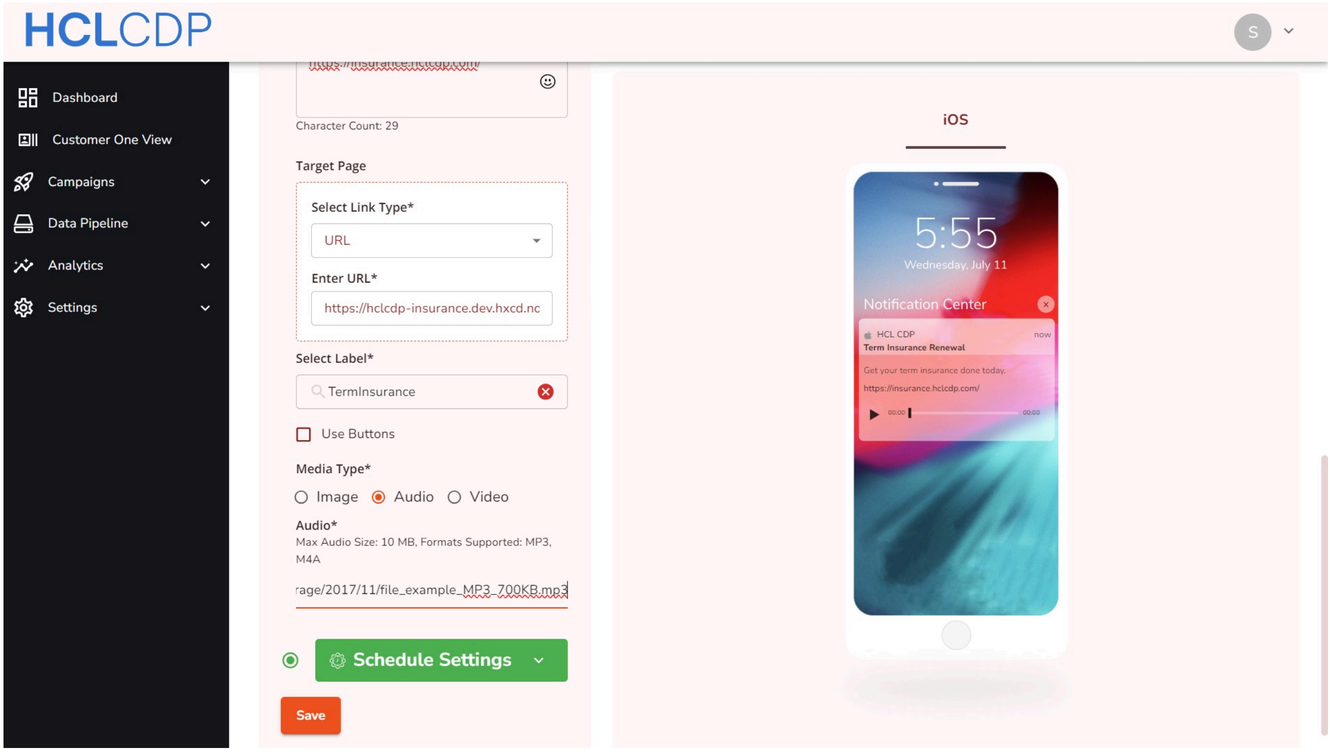
If **Audio** is selected,

Audio (mandatory): Enter the URL of an audio file of the following dimensions:

- Enter the URL of the audio file hosted on your server or any other public server accessible by HCL CDP.

  Note:
  - Uploading audio or video files is not supported.
  - The audio file should not be a YouTube or Vimeo link.
  - The file size must not exceed 10 MB.

- **Supported File Formats:** MP3, M4A



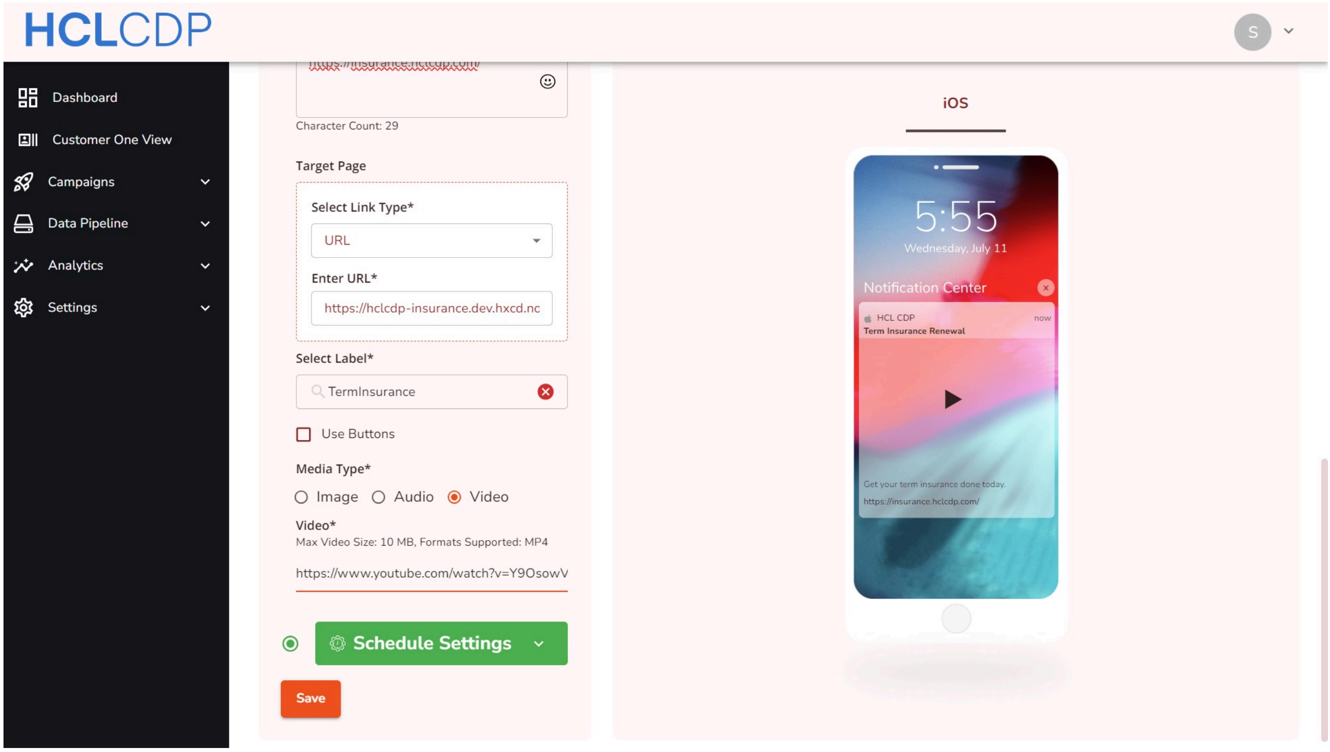
Video

Video (mandatory): Enter the URL of the video of the following dimensions:

- Enter the URL of the video file hosted on your server or another public server accessible by HCL CDP.

  Note:
  - Uploading audio or video files is not supported.
  - The video file should not be a YouTube or Vimeo link.
  - The file size must not exceed 10 MB.

- **Supported File Format:** MP4



Tip: You can send personalized notifications about term life insurance by redirecting users to a unique URL on your website that includes their user ID. These notifications can display personalized details like the user's premium amount, expiration date, and more. This allows you to deliver hyper-personalized app push notifications tailored specifically to each user.

Schedule Settings

Schedule an engagement to send at a later time or trigger it immediately once the engagement goal is achieved. For more information about **Engagement Scheduling**, refer Campaign Channels on page 21

Save

Click **Save** to save the Engagement.

Note: After you have created an Engagement, you can neither change the name of the engagement nor change the schedule settings.

FAQs

This page explains the frequently asked questions related to App Push Notification.

Q1. Why do push notifications experience a drop?

A drop in push tokens happens due to:

1. **Token not passed to the HCL CDP SDK:** Incorrect implementation prevents the token from being sent to the SDK.
2. **Push notification access not granted:** Users select "Don't allow" when prompted for push notification permissions.
3. **Network connectivity issues:** Poor or no internet connection on the device disrupts token updates.

Solutions:

- Ensure correct implementation of push notification in your app. Confirm that your app registers successfully for push notifications and generates a device token, which must be sent to the SDK.
- Send a test campaign to the target device to verify functionality.
- If the test campaign succeeds but no notification appears, check the app's notification settings on the device.

Q2. Why are push notifications not deliverable?

Push notifications fail to deliver for the following reasons:

1. **Notifications blocked at the OS level:** Users disable app notifications, or battery-saving features stop apps from running in the background.
2. **Device-specific issues:** Some devices block notifications when the app isn’t active. Manufacturers are gradually resolving this.
3. **Network issues:** Notifications fail when users have no internet connection or FCM (Firebase Cloud Messaging) can’t maintain a stable connection.
4. **TTL expiration:** Notifications expire if the device doesn’t connect to FCM within the set Time-to-Live (TTL) period.
5. **Token inactivity gap:** If a user uninstalls the app, there’s a delay before FCM marks the token inactive, leading to undeliverable notifications.

Q3. Why are some push notifications queued?

Notifications queue up due to:

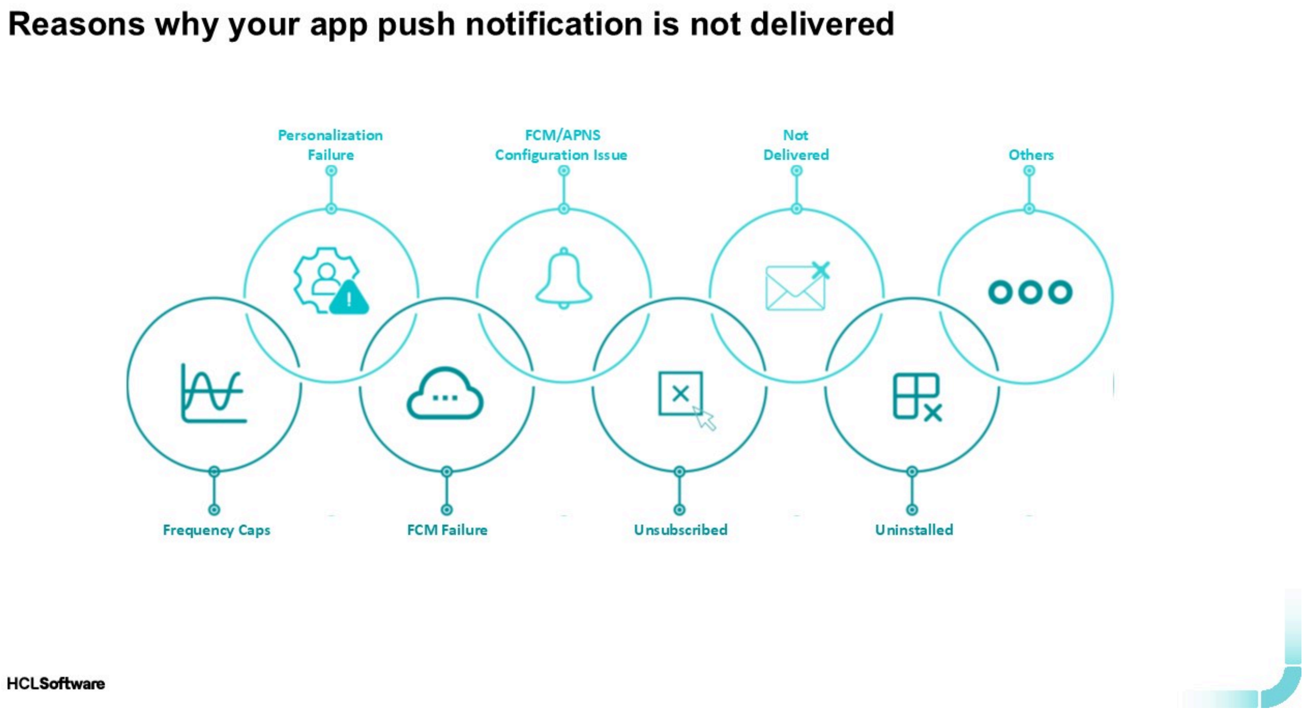
- **Do Not Disturb (DND) mode:** Devices delay delivery until DND mode is turned off.
- **Frequency caps:** Notifications aren’t sent if users exceed the configured daily, weekly, or monthly limit.

Q4. What is a Silent Push Notification?

Silent push notifications update apps in the background without alerting the user. These are used to fetch updates or perform specific tasks.

In HCL CDP, silent push notifications are employed to track app uninstalls. Devices that fail to receive these notifications are marked as uninstalled.

Q5. Why might push notifications fail to deliver?



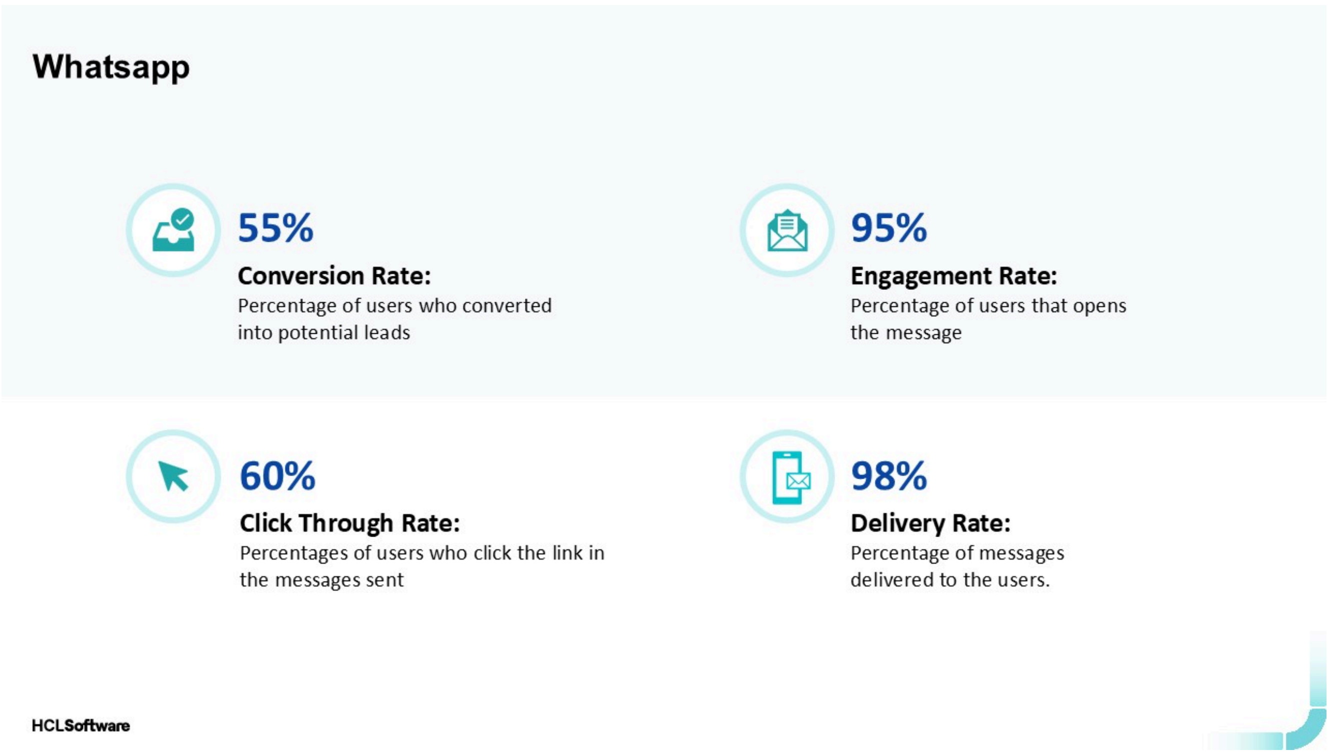
- **Frequency Caps:** Notifications don't deliver if the user exceeds the frequency limit set for daily, weekly, or monthly messages. For more information about Frequency Caps, refer here on page 21.
- **Personalization Failure:** Notifications fail when user profiles lack the required parameters for personalized content. Suppose a user belongs to a segment without a registered premium amount. If you create an engagement for that segment using a premium amount macro with an expiration date, the user does not receive the engagement because their profile lacks the required parameter.
- **FCM Failure:** Delivery fails due to Firebase Cloud Messaging (FCM) errors.
- **FCM/APNS Configuration Issues:** Mis-configured app settings, missing APNS certificates, or incorrect FCM setup can block notification delivery.
- **Unsubscribed Users:** Users who opt out of notifications won't receive them.
- **Network Issues:** Poor internet connectivity on the user's device prevents delivery.
- **DND Mode:** Notifications are delayed or missed when devices are in Do Not Disturb mode.
- **OEM Restrictions:** Some device manufacturers, especially Chinese OEMs, implement battery-saving features that restrict background notifications.
- **App Uninstalled:** Notifications can't be delivered to users who uninstall the app.
- **Other Issues:** System failures, server crashes, or campaign errors may also disrupt delivery.

WhatsApp

This page talks about Whatsapp channel in HCL CDP and what are the pre-requisites to run Whatsapp campaigns.

WhatsApp has emerged as a prominent communication platform for businesses, surpassing traditional methods such as SMS and Email in facilitating marketing and customer interaction. Its intuitive interface and worldwide reach have contributed to its swift adoption, establishing it as a favored channel for organizations to engage with their clientele. With delivery rates soaring to 120% and remarkable open rates, WhatsApp is recognized as a formidable instrument for user engagement.

A variety of vendors now present solutions that enhance WhatsApp marketing, allowing businesses to customize messages and effectively target their desired audience. HCL CDP offers a comprehensive and effective WhatsApp service, aimed at refining your communication strategy and enhancing customer engagement.



Benefits of Using WhatsApp for Business

- **Wide Reach**: With over 2 billion monthly active users, WhatsApp provides access to a vast and diverse audience, making it an excellent platform to reach potential customers.
- **Personalized Communication**: WhatsApp enables businesses to connect with customers on a personal and direct level, fostering intimate and informal interactions.
- **High Open Rates**: Messages sent through WhatsApp boast an impressive open rate of over 95%, increasing the likelihood of effectively delivering your message to the target audience.
- **Cost-Effective**: WhatsApp campaigns are budget-friendly, eliminating the need for costly marketing materials or expensive advertising efforts.
- **Easy Integration**: WhatsApp seamlessly integrates into existing marketing strategies and complements other channels, allowing for a comprehensive and unified marketing approach.

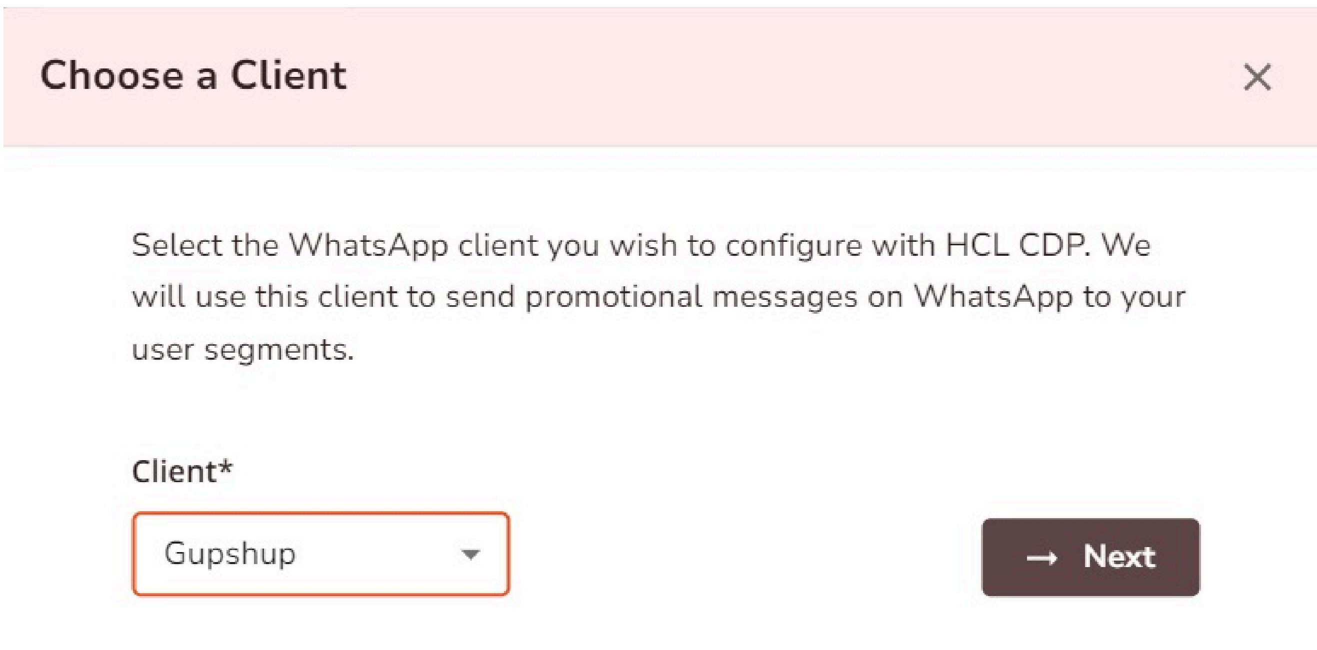
Pre-requisites to run WhatsApp Campaigns with HCL CDP

- **Registered WhatsApp business account:** Ensure you have a registered WhatsApp Business account.
- **Integration with an existing WhatsApp Service Provider (WSP):** Integrate your WhatsApp account with one of our supported service providers: *Yellow Messenger, Gupshup, and Infobip.*
- **Approved whitelisted templates:** Use approved message templates to initiate conversations with customers. Unlike regular messages, these templates allow you to reach customers who have not yet started a conversation with you. For more information about WhatsApp template, refer here.

Configure a WSP

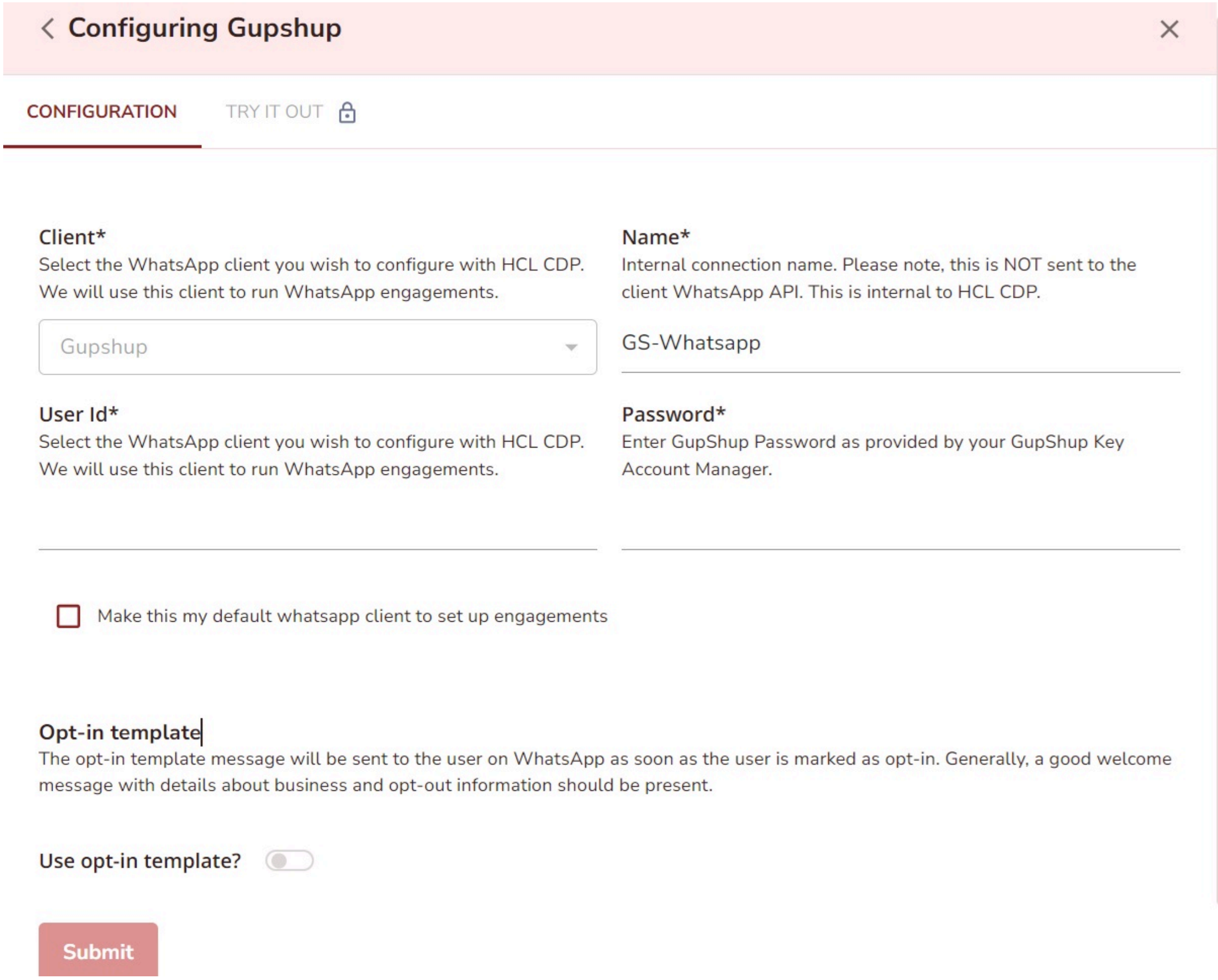
This page explains how to configure a WhatsApp as a marketing channel.

HCL CDP allows you to create WhatsApp campaigns, but the delivery of messages to your target audience is handled by a *WhatsApp Service Provider* (WSP) such as *Yellow Messenger*, *Gupshup*, or *Infobip*. To start creating WhatsApp engagements, you must first configure at least one WSP.



Add a new WhatsApp Service Provider

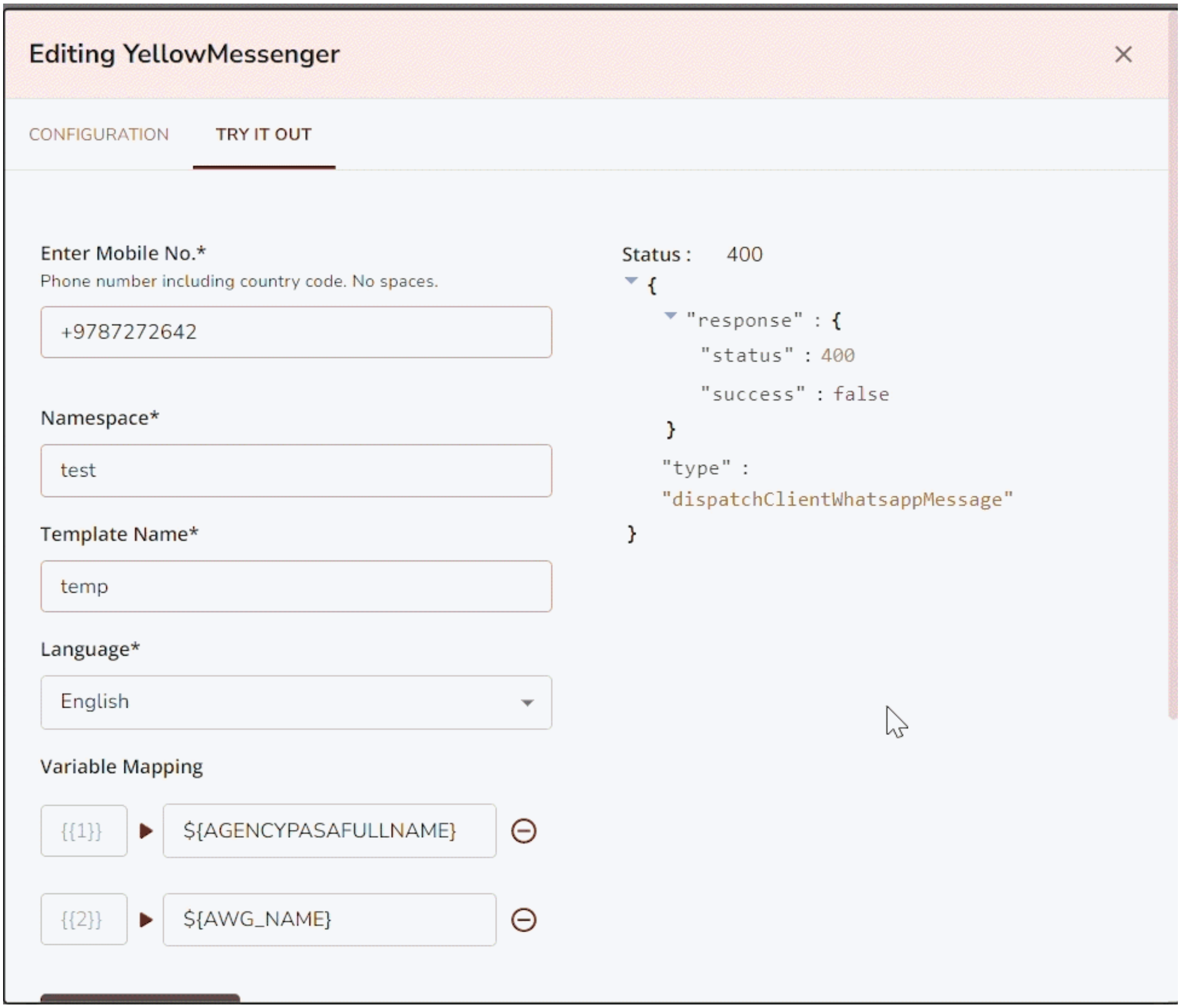
1. Click **+ Add New WhatsApp Client**.
2. From the modal, choose a WSP from the list shown in the above image, and enter a name to define the configuration.
3. In the **Connection Settings**, enter WSP-specific settings, and click **Save**.



Verify the configuration

Use **Try It Out** to test the configuration. To try it out, follow the steps below:

1. Click the **TRY IT OUT** tab.
2. Enter the mobile number along with the country code to which the communication has to be sent.
3. Choose the template for your communication that has to be sent in WhatsApp.
4. Configure variables as per the template.
5. Include media if necessary. Use media radio buttons, add the media either as a URL or as a file.
6. Click **Upload** to take the necessary actions like adding the URL or uploading the file. The supported media file formats are, images, docs, and video.
7. Enter the filename, and click **Submit**.



Yellow Messenger

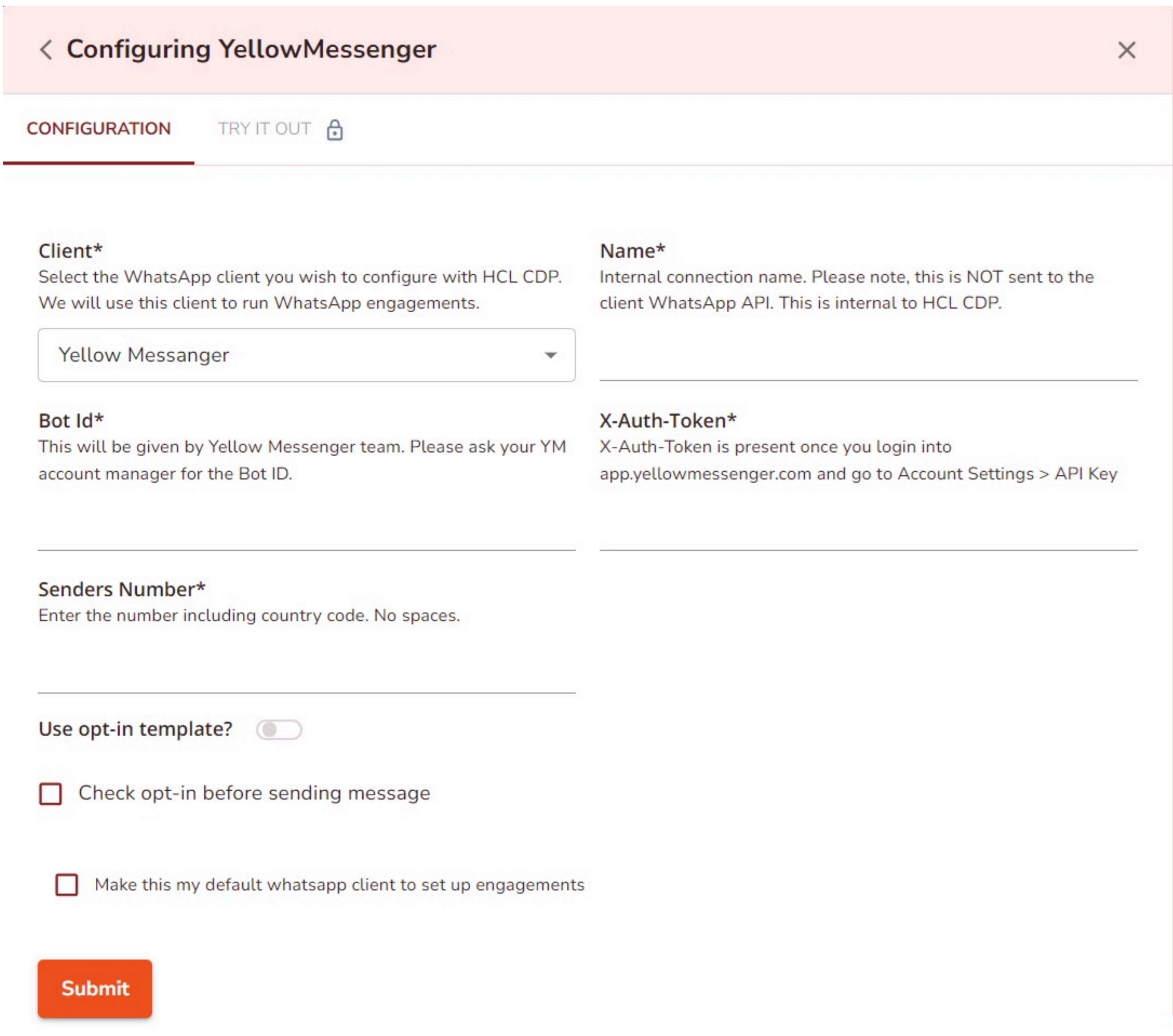
This page explains how to configure a Yellow messenger as WSP.

Yellow Messenger is a conversational AI platform designed to help businesses automate customer interactions and improve customer experiences. By leveraging chatbots and AI technologies, the platform assists customers with inquiries, offers product recommendations, and manages routine customer service tasks efficiently.

Configure Yellow Messenger with HCL CDP

To configure, the Yellow Messenger follow the steps below:

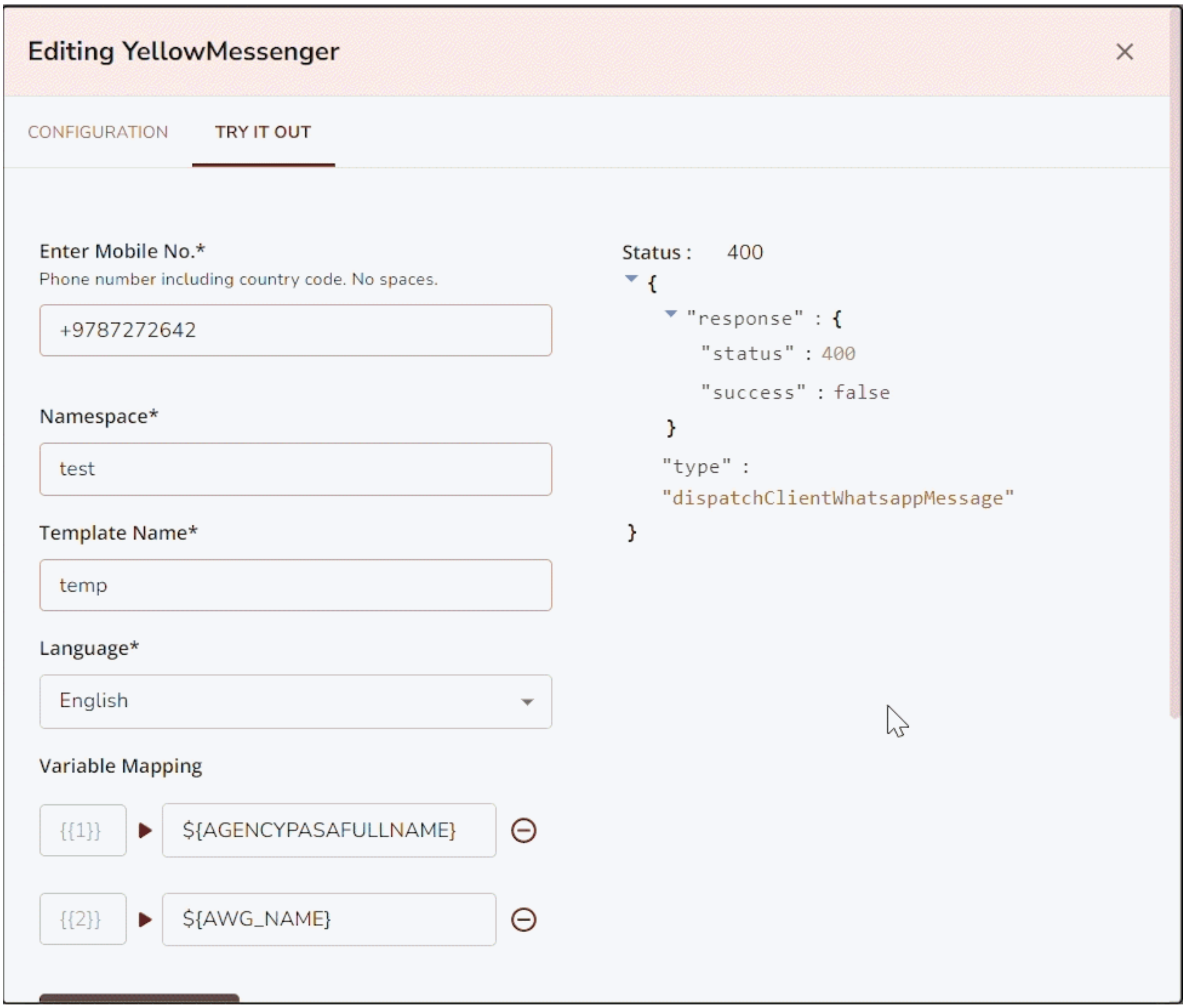
- Click the **Edit** icon. Update the following inputs to the below-mentioned fields to configure your Yellow Messenger for your WhatsApp communication.
    - **Client**: Select *Yellow Messenger* from the list of WSPs.
    - **Name**: Enter connection name.
    - **Bot Id**: This will be given by the Yellow Messenger team. Please ask your YM account manager for the Bot ID.
    - **X-Auth-Token**: X-Auth-Token is present once you login into app.yellowmessenger.com and go to Account Settings > API Key.
    - **Senders Number**: Type the sender's number which will be used to send WhatsApp messages.
- Click **Submit**.



Try It Out

Use **Try It Out** to test the configuration. To try it out, follow the steps below:

1. Enter the mobile number along with the country code to which the communication has to be sent.
2. Choose the template for your communication that has to be sent in WhatsApp.
3. Configure the variables as per the template
4. Include media(If required). Use the radio buttons to choose how to add media—either as a URL or a file. After selecting, enter the URL or upload the file and click the **Upload** button. The Supported Media Formats are Images, documents, and videos, and file size should not exceed 5 MB Maximum.
5. Enter the filename and click **Submit**.



Infobip

This page explains how to configure a Infobhip as WSP.

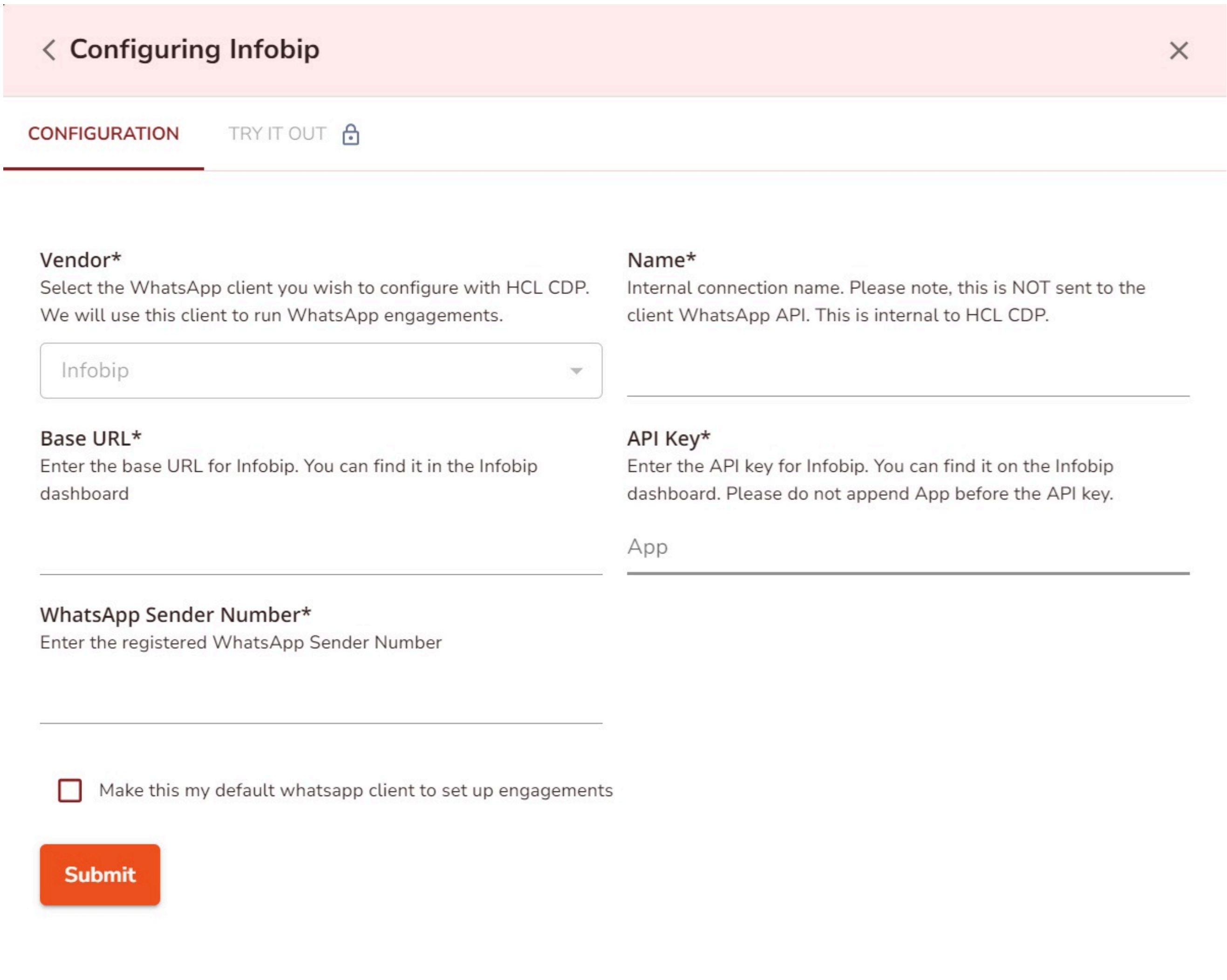
Infobip is a globally recognized Application-to-Person (A2P) communication platform designed for enterprises. It excels in marketing communications, enabling businesses to engage customers with automated messaging and drive desired outcomes.

As a programmable communications platform, Infobip offers advanced tools for customer engagement, support, security, and authentication. It supports a wide range of communication channels, making it ideal for creating impactful WhatsApp campaigns. Infobip also provides customizable templates to help you design tailored and effective engagements.

Configure Infobip with HCL CDP

To configure, the infobhip, follow the steps below:

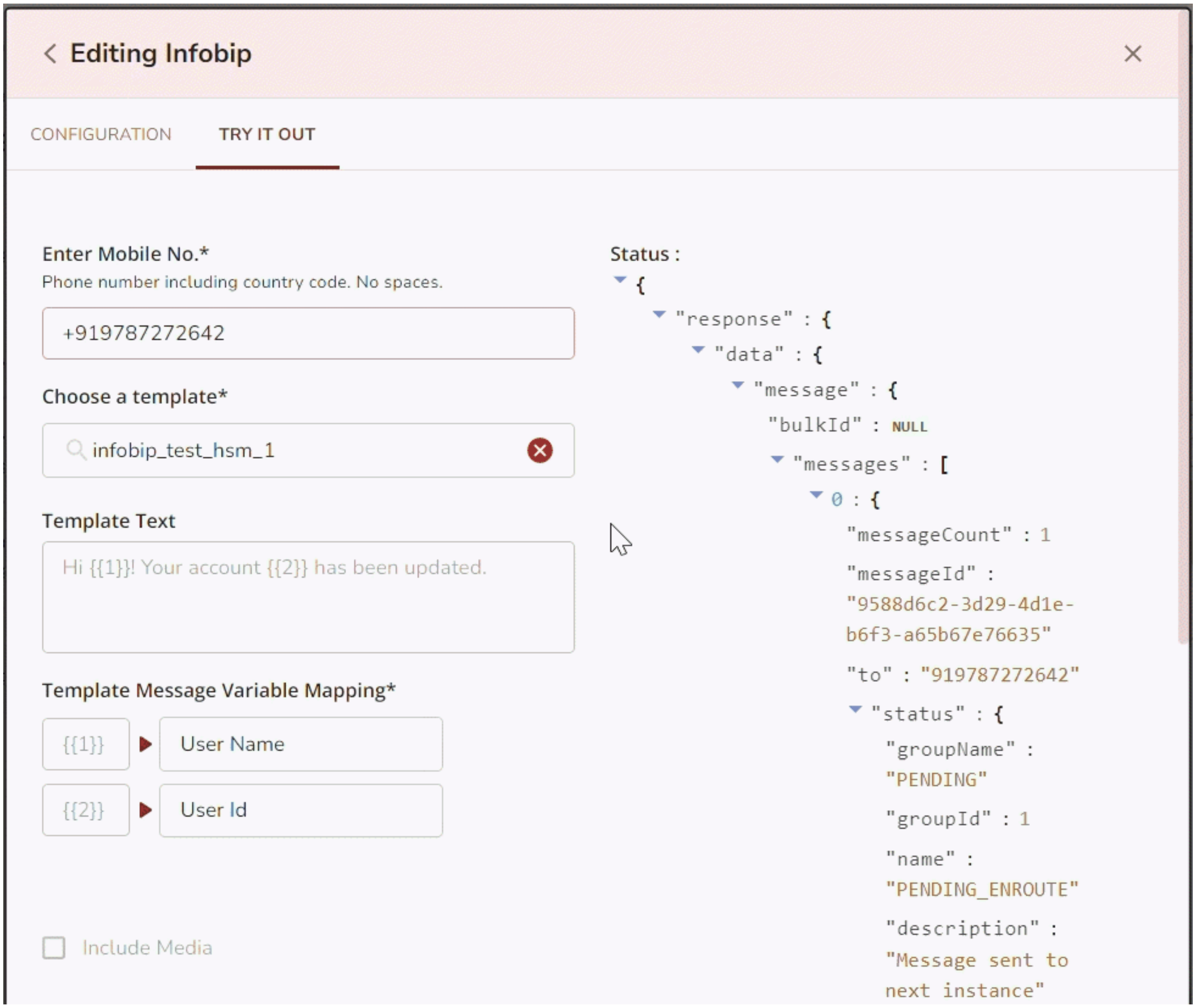
- Click the **Edit** icon. Update the following inputs to the below-mentioned fields to configure your Infobip for WhatsApp communication.
    - **Vendor:***Gupshup Messenger* will be visible as you configured which is read-only.
    - **Name:** Enter connection name. This connection name is internal to HCL CDP which will not be sent to WhatsApp API.
    - **Base URL:** Enter the URL provided by Infobip.
    - **API Key:** Enter the API Key provided by Infobip.
    - **Whatsapp sender's Number:** Enter the number registered with Infobip to send WhatsApp communication.
- Click **Submit.**



Try it Out

Use **Try It Out** to test the configuration. To try it out, follow the steps below:

1. Enter the mobile number along with the country code to which the communication has to be sent.
2. Choose the template for your communication that has to be sent in WhatsApp. The template you choose will display the field to configure as per the requirement.
3. Configure the variables to the communication using Template message variable mapping. These are macros that will fetch the data from HCL CDP to personalize your communication.
4. Include media(If required). Use the radio buttons to choose how to add media—either as a URL or a file. After selecting, enter the URL or upload the file and click the **Upload** button. The Supported Media Formats are Images, documents, and videos, and file size should not exceed 5 MB Maximum.
5. Click **Send**, once all the fields are updated.



Gupshup

This page explains how to configure a Gushup as WSP.

Gupshup is a leading conversational messaging platform renowned for powering over 6 billion messages monthly. In today's business landscape, interactive and meaningful conversations are key to enhancing customer experience, surpassing what standard bots can deliver.

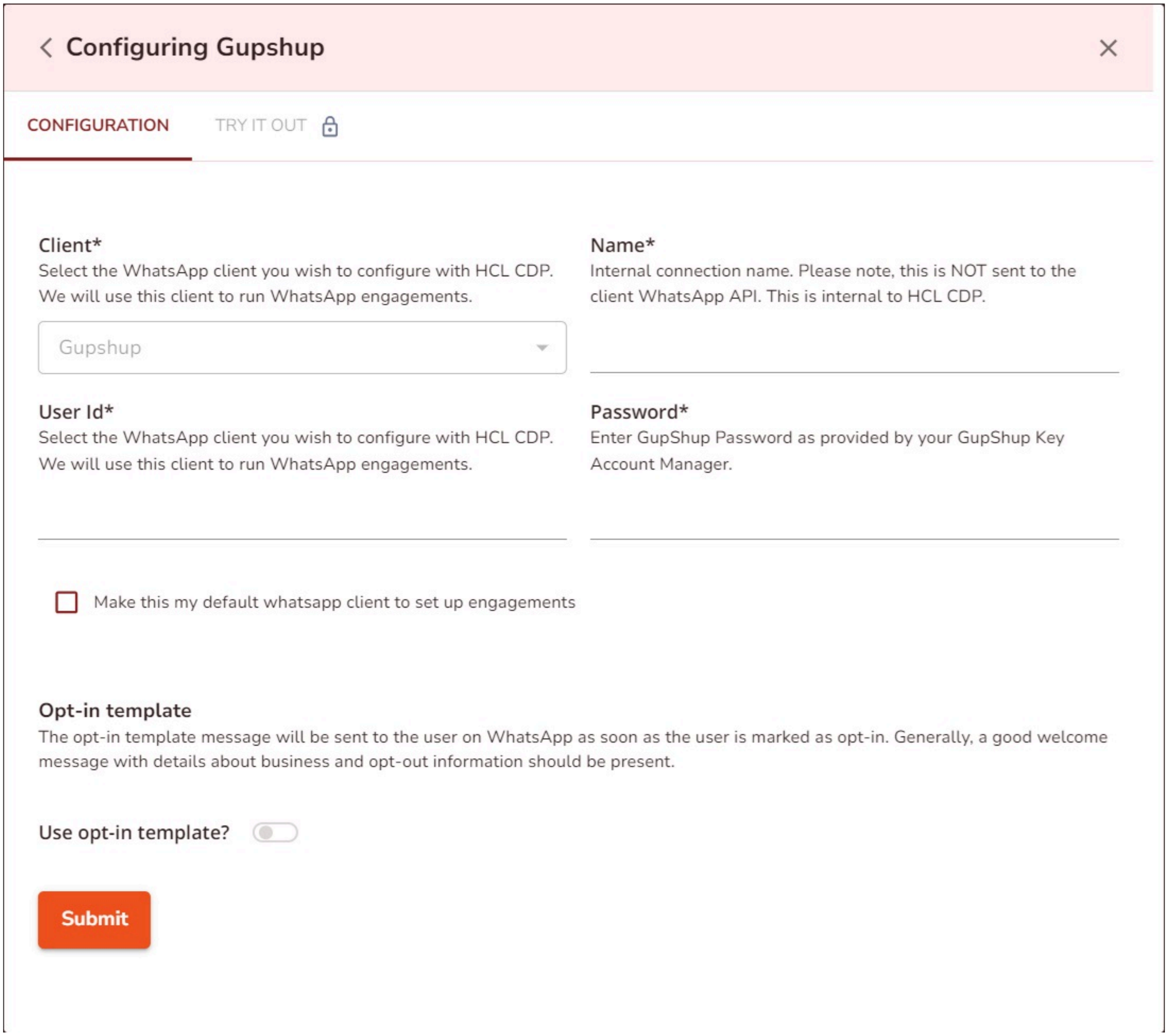
As businesses increasingly rely on popular social platforms like WhatsApp for marketing and customer support, Gupshup has become an essential tool for driving user engagement and empowering communication through WhatsApp.

Configure Gupshup Messenger with HCL CDP

Tip: Gupshup's integration in HCL CDP is with its *Enterprise WhatsApp APIs* and not *Cloud WhatsApp APIs.*To know more about the differences between the two, contact your Gupshup POC.

To configure, the Gushup, follow the steps below:

- Click the **Edit** icon. Update the following inputs to the below-mentioned fields to configure your Gupshup Messenger for WhatsApp communication.
- **Client**: *Gupshup Messenger* will be visible as you configured which is read-only.
- **Name**: Enter connection name. This connection name is internal to HCL CDP which will not be sent to WhatsApp API.
- **User ID**: Enter the user ID provided by the Gupshup team.
- **Password:** Enter the password provided by the Gupshup team. Contact Gupshup and get your User ID and Password in case you haven't received them yet.
- Click **Submit**.

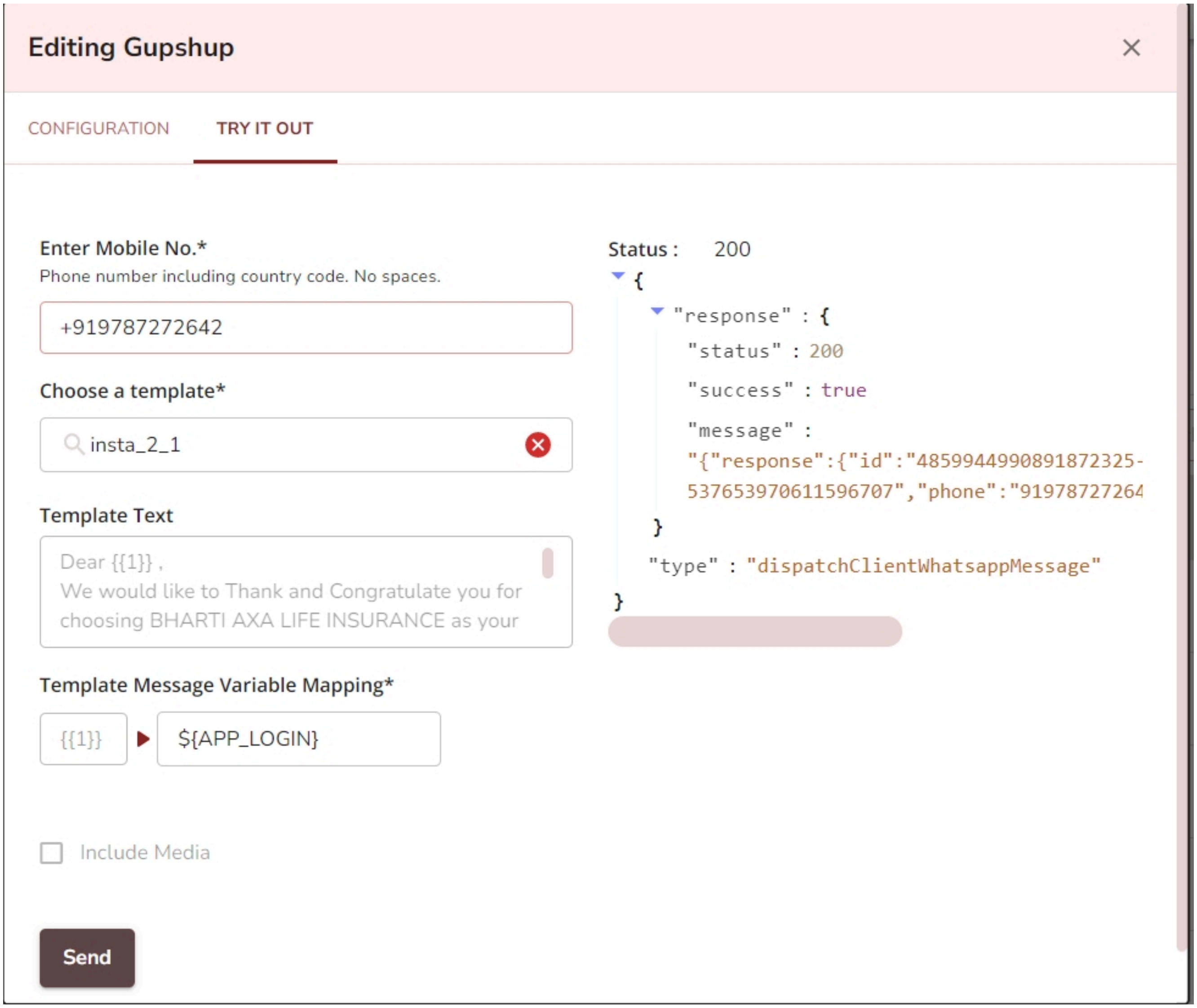


Try It Out

Use **Try It Out** to test the configuration. To try it out, follow the steps below:

1. Enter the mobile number along with the country code to which the communication has to be sent.
2. Choose the template for your communication that has to be sent in WhatsApp. The upcoming field will be displayed as per the requirement of the template configured in Gupshup
3. Configure the variables to the communication using Template message variable mapping. These are macros that will fetch the data from HCL CDP to personalize your communication.

4. Include media(If required). Use the radio buttons to choose how to add media—either as a URL or a file. After selecting, enter the URL or upload the file and click the **Upload** button. The Supported Media Formats are Images, documents, and videos, and file size should not exceed 5 MB Maximum.
5. Enter the filename (for doc media type only) and click **Send.**



Bik

This page explains how to configure a Bik as WSP.

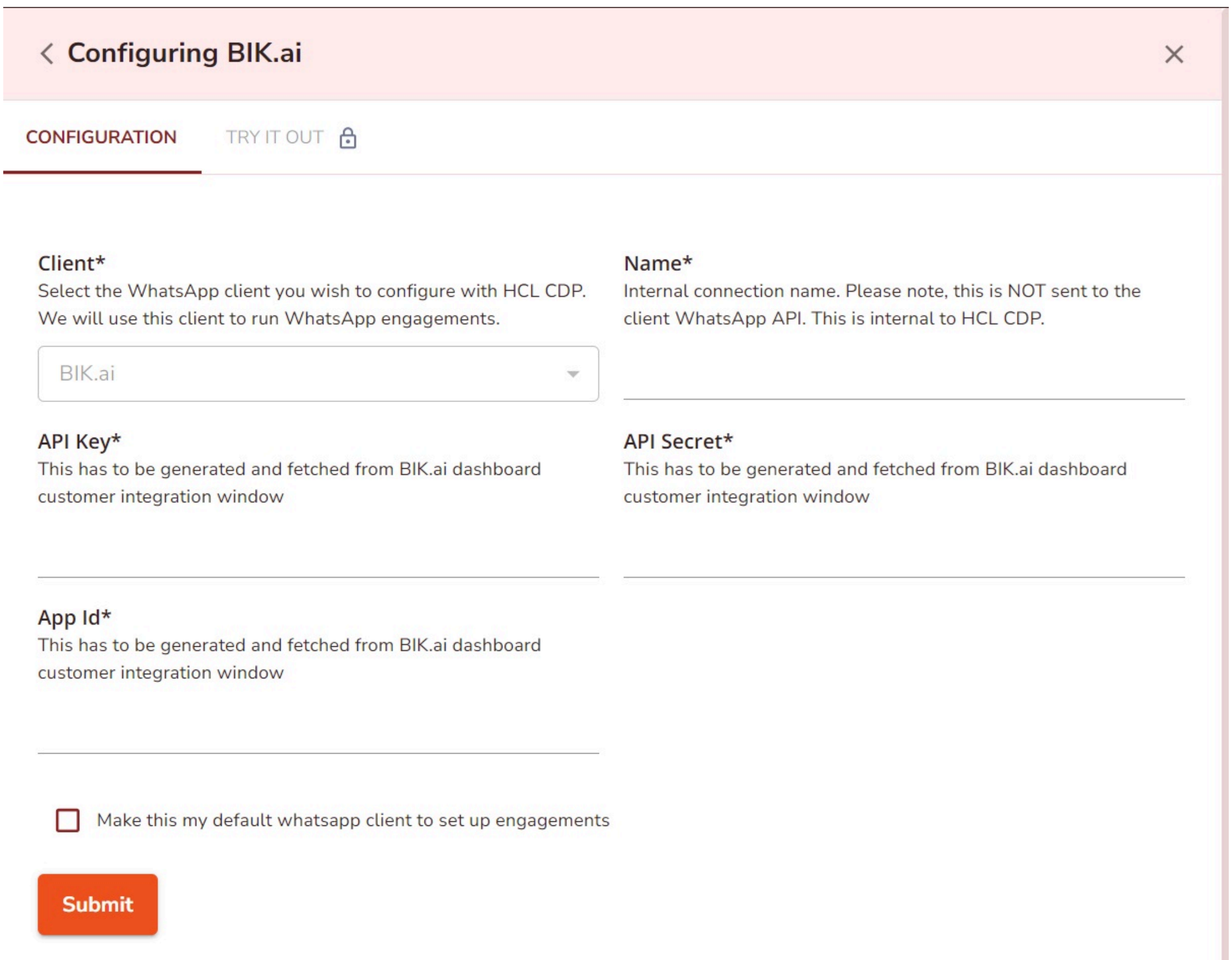
BIK.ai is an all-in-one marketing engagement platform that automates customer interactions across multiple channels to enhance engagement and drive conversions. It supports two-way communication on platforms like Instagram, WhatsApp, Messenger, Gmail, and Web Push—all accessible with a single click.

By integrating BIK.ai with HCL CDP, you can leverage segments to retarget audiences and broadcast campaigns via WhatsApp, streamlining your marketing efforts.

Configure BIK.ai with HCL CDP

To configure, the BIK.ai, follow the steps below:

- Click the **Edit** icon. Update the following inputs to the below-mentioned fields to configure your BIK.ai for WhatsApp communication
    - **Client**: Choose BIK.ai from the list of WSPs.
    - **Name**: Enter connection name.
    - **API Key**: Add the API key in the given field which will be generated and fetched from the BIK.ai dashboard customer integration window.
    - **API Secret:** Add the API Secret which will be generated and fetched from the BIK.ai dashboard customer integration window.
    - **App Id**: Add the App Id which will be generated and fetched from the BIK.ai dashboard customer integration window.
- Click **Submit**.



Try It Out

Use **Try It Out** to test the configuration. To try it out, follow the steps below:

1. Enter the mobile number and the country code to which the communication must be sent.
2. Enter the template ID which can be fetched from the BIK.ai.
3. Configure the variables as per the template
4. Add CTA for the button if the template facilitates. The CTA can be configured with URL, Contact, and Quick reply attributes. For a Quick reply, you must add the chat flow ID provided by BIK.ai. Chat flow ID is a messaging flow that will be created in BIK.ai to facilitate two-way interaction.
5. If the template facilitates, include media. Use radio button, and add the media either as a URL or as a file.
6. Add the URL or upload a file, and click **Upload**. The supported media file formats are images, docs, and video.
7. Click **Submit**. you can view the status beside the given fields.

Vonage

This page explains how to configure a Vonage as WSP.

Vonage is a highly regarded CPaaS (Communication Platform as a Service) provider, known for empowering businesses to communicate seamlessly with customers across multiple channels. By enabling Vonage's WhatsApp services, your business can enhance customer engagement. HCL CDP simplifies the process by providing hassle-free integration of Vonage’s services for your WhatsApp communication needs.

Key Features of Vonage:

- **Communication APIs**: Robust APIs to build effective communication solutions.
- **Unified Communication Channels**: Streamlined communication across platforms.
- **Contact Centers**: Advanced tools for efficient customer support.
- **Conversational Commerce**: Enhanced customer interactions to drive sales.

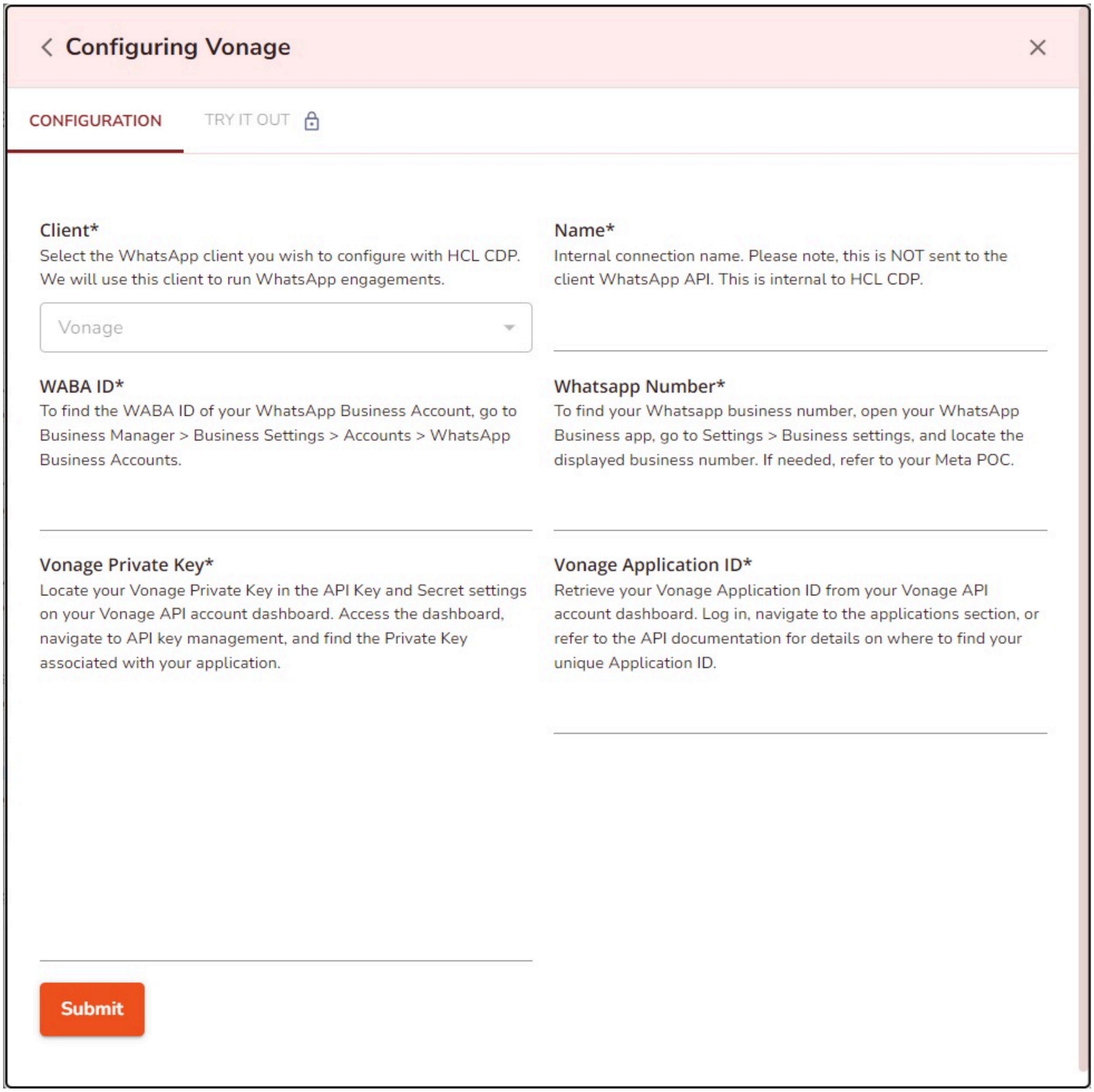
Configure Vonage as WSP

To configure, the BIK.ai, follow the steps below:

- Click the **"+"** icon in the control panel. Update the following inputs to the below-mentioned fields to configure your Vonage for WhatsApp communication
    - **Client:** Select the Whatsapp client as Vonage.
    - **Name:** Enter a name for configuration.
    - **WABA ID:** Enter your Whatsapp Business ID (WABA ID). To find the WABA ID in your WhatsApp business account, Go to **Business Manager > Business Settings > Accounts > WhatsApp Business Accounts**.
    - **Whatsapp Number:** Enter your WhatsApp Business number. To find your WhatsApp Business number, open your WhatsApp Business app, Go to **Settings > Business settings** and locate the displayed business number. If needed, refer to your Meta POC.

- **Vonage Application ID:** Retrieve your Vonage Application ID from your Vonage API account dashboard. Log in, Navigate to the application section, or refer to the API documentation for details on where to find your unique Application ID.
- **Vonage Private Key:** Locate your Vonage Private Key in the API Key and Secret settings on your Vonage API account dashboard. Access the dashboard, navigate to API Key management, and find the Private Key association with your Application.

• Click **Submit** to save Vonage setup.



Add WhatsApp Campaign

Steps to create a WhatsApp campaign using HCL CDP Marketing Automation Platform.

Create a WhatsApp engagement from Segments

To create a whatsappp engagement from segements, follow the steps below:

1. Navigate to **Campaigns > Segments**.
2. Select the Segment Name, and on the left panel, click **WhatsApp**.
3. Click **Add Engagement**.

Create a WhatsApp engagement from Channels

To create a whatsapp engagement from channels, follow the steps below:

1. Navigate to **Campaigns > Channels**.
2. On the left panel, click **Whatsapp**.
3. Click **Add Engagement**, and select the Segment Name from the list.
4. Click **Confirm And Proceed To Next Step**.

Configure WhatsApp Campaign Details

To configure the WhatsApp campaign details, follow the steps below:

Add General details of Engagement

- **Engagement Name (mandatory):** Enter a name for the Engagement. It should range from **6-25 characters**.
- **Label (mandatory):** Choose a product label from the list. For more information about product labels, refer here on page 21.

Add a Goal

Goal Type: Select a goal type from the drop-down list. For more information about **Conversion Goals**, refer Campaign Channels on page 21.

Note: Each section turns red as you start entering data to create an Engagement. Once you fill in all the required information, the section will turn green. You can complete the sections in any order, but all sections must be green before you can click **Update Engagement**.

Add content

Adding content varies according to the template configured with each WhatsApp service provider.

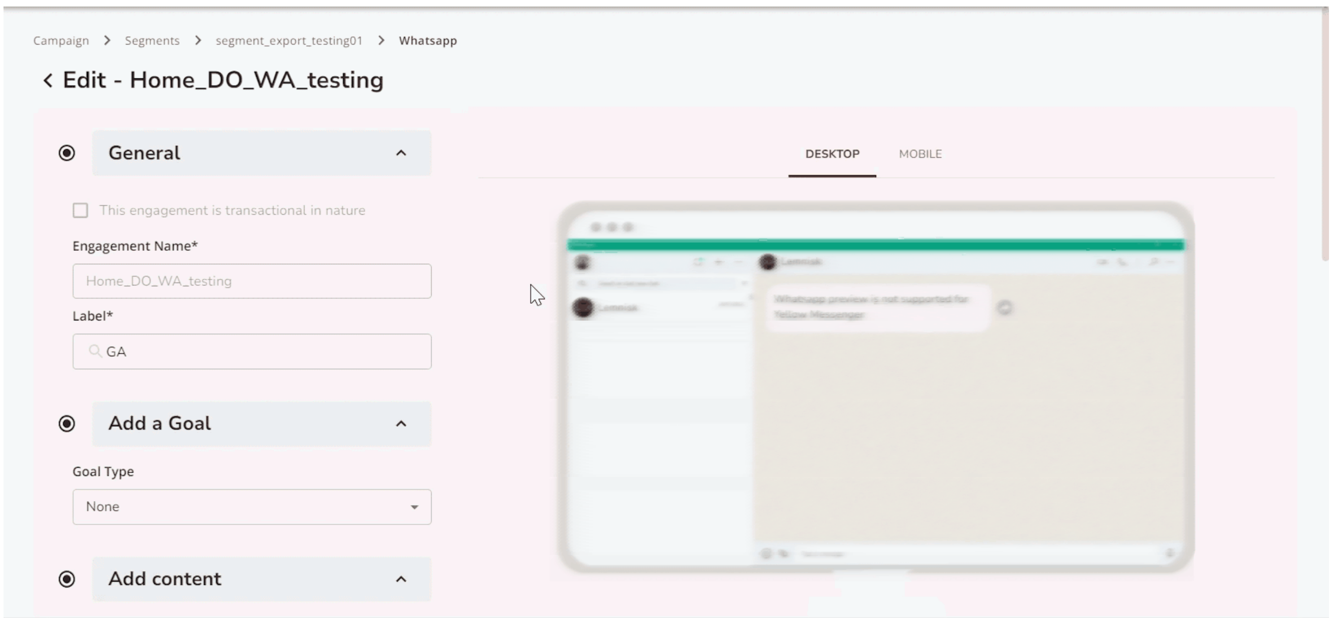
Yellow Messenger

In the Yellow Messenger, you can configure the template manually as the vendor does not provide any API to fetch the template details.

- **Namespace:** Add a Namespace.
- **Template Name:** Choose your template. The upcoming field will be displayed as per the requirement of the template configured in Gupshup
- **Language:** Choose the language in which the template has been configured
- **Variable Mapping:** Customize variable mappings to align with the template configured in Yellow Messenger. These mappings retrieve data from HCL CDPto personalize your communication.

  Important:
    - Ensure the variable mappings added here match those in the Yellow Messenger template.
    - Mismatched variables will prevent the campaign from proceeding.
    - Use the Try it our on page 108 feature to test if your variables match the template.

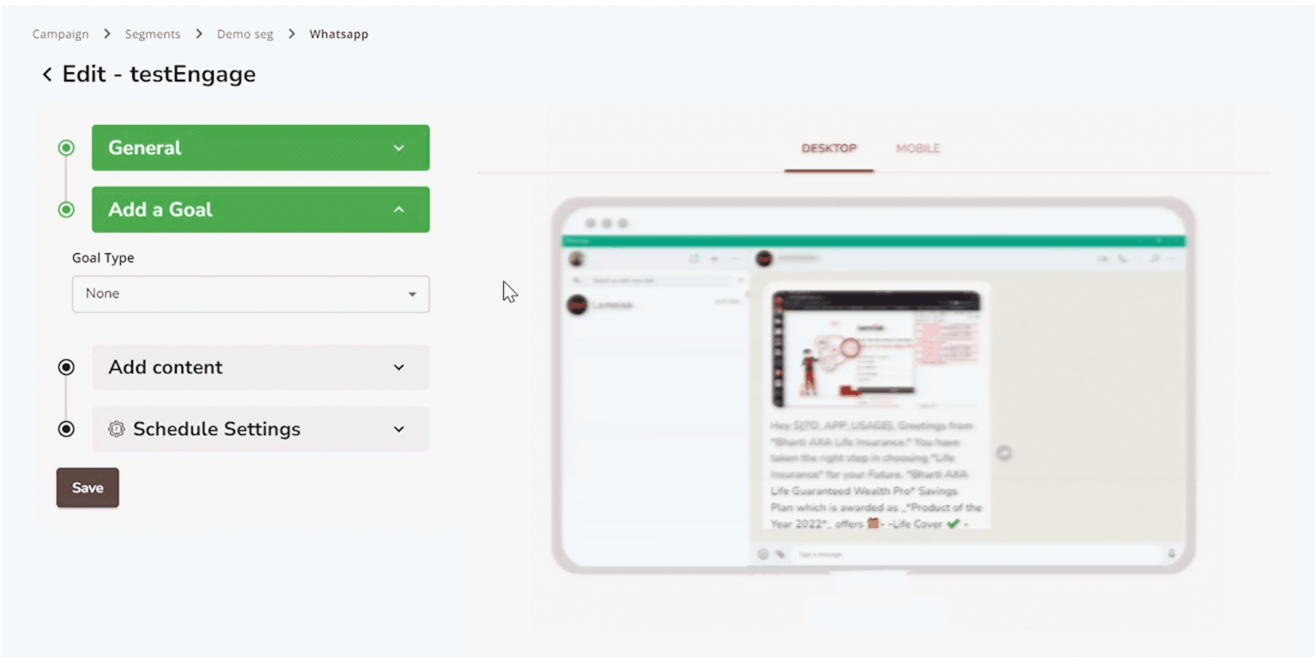
- **Add a Button to your template:** Configure the template with a button to redirect the users to the target page by selecting the check box and adding the target URL.
- **Include media:** Upload the media either as a URL or as a file using the radio buttons. The supported media file formats are images, docs, and video.
- **Add File Name:** Add the file name, and click **Submit.**



Gupshup

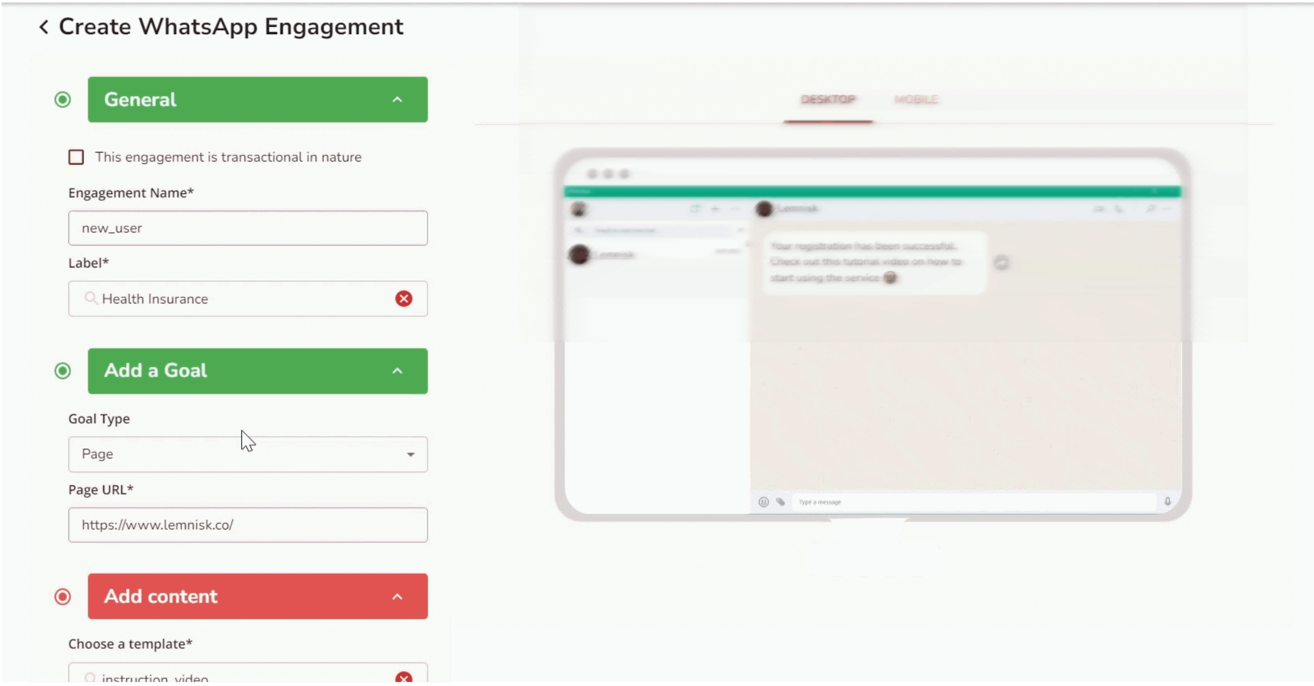
- **Choose Template:** Select a template configured for your WhatsApp communication. The variable mapping fields will update automatically to reflect the macros based on your template configuration.
- **Template Text:** The message text is displayed here as per your selected template. This field is read-only.
- **Template Message Variable Mapping:** Map variables to the message according to your template. These variables will fetch dynamic data from HCL CDP based on the inputs provided.

- **Template Button Variable Mapping:** Map variables to the buttons in your template using the template button variable mapping fields.
- **Template Preview:** Preview your WhatsApp template to see how it will appear on different devices. The preview updates in real time and can be viewed in Mobile or Desktop mode.
- **Include Media:** Select either **URL** or **File** using the radio buttons to add media. Then, click the **Upload** button to upload a file or add a URL.
    - Supported media file formats: Images, documents, and videos.
    - Maximum file size: 5 MB.
- **Enter the Document Name:** For document-type media, enter the file name and click **Submit**.



Infobip

- **Choose Template:** Select a template configured for your WhatsApp communication. The variable mapping fields will update according to the template configuration to fetch macros.
- **Template Text:** Displays the message as configured in your template. This field is read-only.
- **Template Message variable mapping**: Map variables to the message as per the template. These variables pull data from HCL CDP based on the provided inputs.
- **Template Preview:** Preview how your WhatsApp templates will appear on different devices. The preview updates in real-time and is available in Mobile and Desktop modes.
- **Include media(If required in the template):** Add media to the template by selecting either **URL** or **File** using the radio buttons. Click the **Upload** button to upload a file or add a URL.
    - **Supported media file formats:** Images, documents, and videos.



Bik.ai

- **Template Id:** Enter the Template ID provided by BIK.ai. You cannot manually create engagement content; it must be created as part of the template on the BIK.ai dashboard. Use the same Template ID as created on the dashboard, along with all the supported parameters, such as URL and media.
- **Template Name:** Assign a name to the template. It is recommended to use the same name as on the BIK.ai dashboard for better understanding and mapping.
- **Language:** Select the language for your communication.
- **Variable Mapping:** Map variables according to the template to configure the engagement communication. You can also use macros for dynamic content.
- **Include CTA:** Add a CTA button if supported by the template. There are three CTA types:
    - **URL:** Enter the URL directly in the UI. You can include macros in the URL.
    - **Contact:** The contact information is predefined in the template on the BIK.ai dashboard.
    - **Quick Reply:** Add the chat flow ID provided by BIK.ai, which defines a messaging flow for two-way communication.
- **Include media (If the template facilitates):**

  Add media as either a URL or a file. Use the radio buttons to select the method, and click **Upload** to complete the action.

    - **Supported media file formats:** Images, documents, and videos.

Schedule Settings

Schedule: Schedule an engagement to send at a later time or trigger it immediately once the engagement goal is achieved. For more information about **Engagement Scheduling**, refer Campaign Channels on page 21

Save

Click **Save** to save the Engagement configuration. You can verify the configuration using the **Try it out** option.

Note: After you have created an Engagement, you can neither change the name of the engagement nor change the schedule settings.

FAQs

This page explains the frequently asked questions related to WhatsApp.

How can I get the WhatsApp Business API?

To get the WhatsApp Business API, your Facebook Business Manager ID must be verified.

Requirements to apply for the API are:

- A mobile number that is not already registered on any WhatsApp application.
- A verified Facebook Business Manager ID.
- An official business website.

Q2. Can I use the same phone number for WhatsApp Business API and the WhatsApp app?

No, you can’t use the same number for both. The WhatsApp Business API and the WhatsApp app require separate mobile numbers. A number registered with the API cannot be used for the app, and vice versa.

Q3: Why can’t I see click insights in my WhatsApp campaign reports?

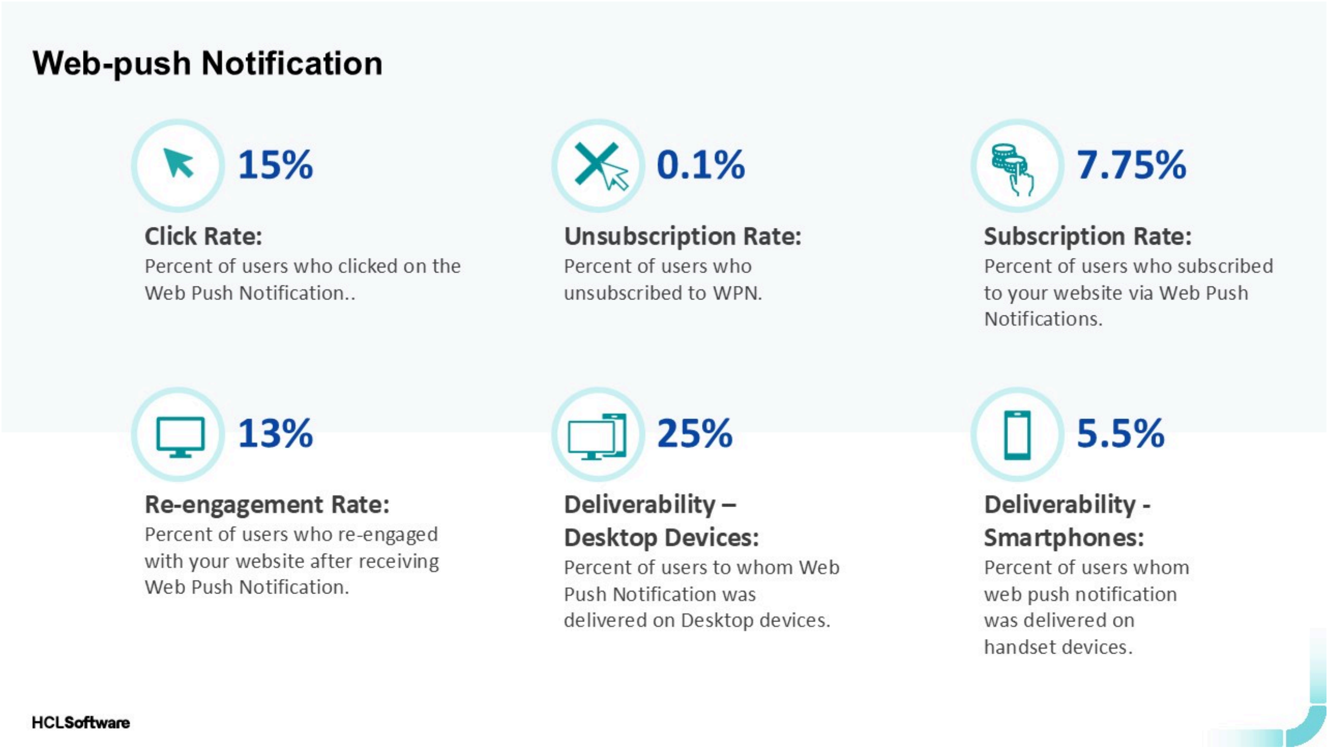
WhatsApp doesn’t track or support click insights, so this data won’t appear in your campaign reports.

Web Push Notification

This page talks about Web Push Notification channel in HCL CDP and what are the pre-requisites to run Web Push Notification campaigns.

Personalized Web Push campaigns are one of the most effective ways to drive conversions and it is backed by proven statistics.

The HCL CDP Marketing Automation platform enables you to create Web Push notifications for both web and mobile platforms. To activate Web Push notification engagements, you need an active segment. For more information about creating a segment, refer here on page 174.



Pre-requisites to run Web Push Notification Campaigns with HCL CDP

We have pre-requisities for different browser as follows:

Chrome, Firefox and Opera

- **VAPID Key:** The user generates a public and private VAPID key from an FCM project. If an FCM project is unavailable, we can generate the keys on their behalf. Please contact your HCL CDP Customer Success Manager for assistance.
- **Insert `HCLSDKWorker.js` in your Web Server:** Place `HCLSDKWorker.js` on your web server. HCL CDP provides the `HCLSDKWorker.js` file, which you need to upload to your website's server. The client must also ensure it is placed on their server.

Use Case: Suppose your website is *sample.com*. It is recommended to create a folder named HCL CDP and place the `HCLSDKWorker.js` file in this folder. The file path will then appear as `/hclcdp/HCLSDKWorker.js`. Share this path with HCL CDP. If you decide to change the file's location in the future, please ensure you send us the updated path.

Safari

- **Upload Icons:** You must obtain the icons in the `icons.iconset` format from the campaign owner and upload them to the following S3 location: **s3://lem-trigger-channels/sfpush/<campaignId>/**.
- **Things to consider:** The icons' dimensions may vary from the list given below:
    - 16 * 16 png
    - 32 * 32 png
    - 64 * 64 png

    - 128 * 128 png
    - 256 * 256 png
- HCL CDP can generate the certificate for the customer to automate the renewal process.
- Safari does not support adding images to Web Push Notifications (WPN).
- Icons can only be uploaded during the onboarding process and cannot be replaced afterward.

Note: Private browsing or Incognito mode does not support Web Push Notifications. Some browsers may not prompt for notification permissions when browsing in Incognito mode. Ensure you are not in Incognito mode when testing web push campaigns.

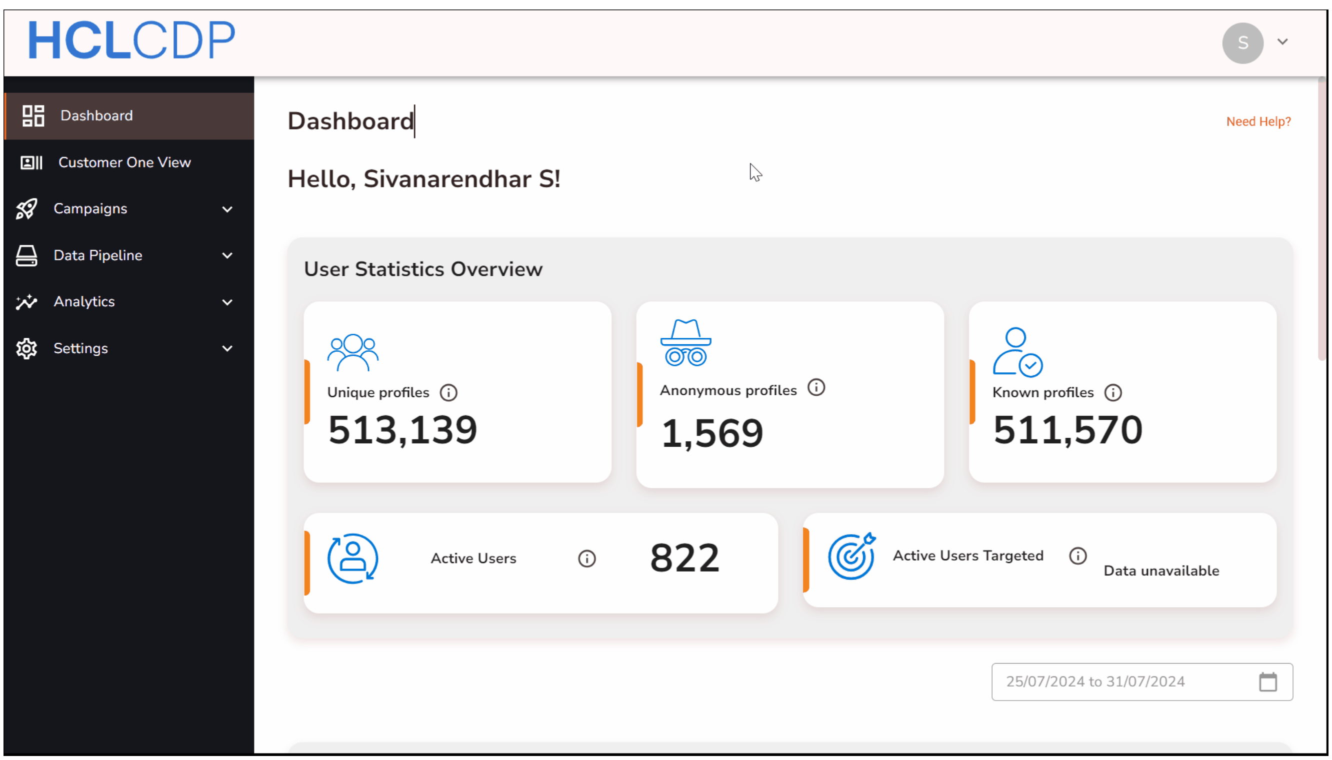
Add a Web Push Notification

This page explains how to create a Web Push Notification for Android using HCL CDP Marketing Automation Platform.

Create a Web Push Notification Engagement from Segments

To create a web push notification engagement from segments, follow the steps below:

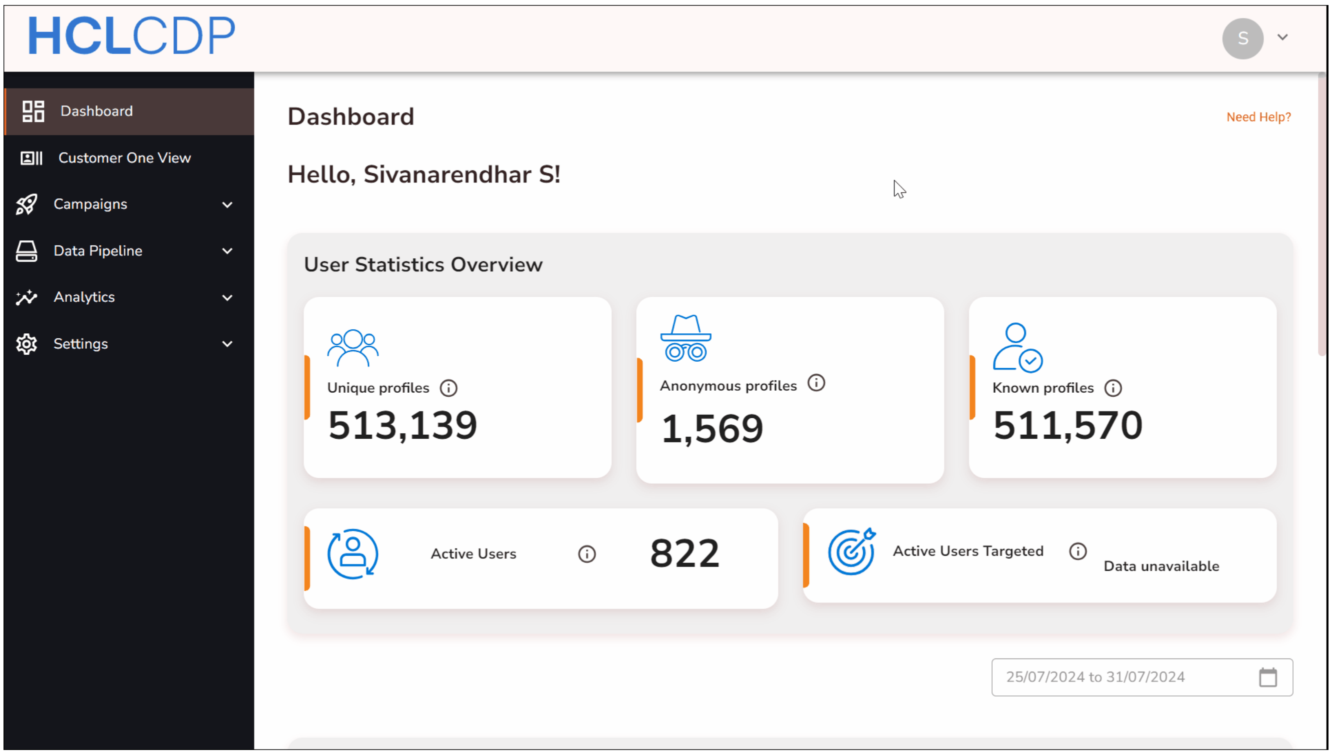
1. Navigate to **Campaigns > Segments**.
2. Select the Segment Name, and on the left panel, click **Web Push Notification**.
3. Click **Add Engagement**.



Create a Web Push Notification Engagement from Channels

To create a web push notification engagement from channels, follow the steps below:

1. Navigate to **Campaigns > Channels**.
2. On the left panel, click Web Push Notification.
3. Click **Add Engagement**, and select Segment Name from the list.
4. Click **Confirm And Proceed To the Next Step**.



Configure Engagement Details

In the **Create Email Engagements** screen, update the following details:

Add General Details

- **Engagement Name (mandatory):** Enter a name for the Engagement. It should range from **6-25 characters**.
- **Select Label (mandatory):** Choose a product label from the list. For more information about product labels, refer here on page 21.
- **Language (mandatory):** Select a language in which you prefer to code the Engagement.

Add a Goal

Goal Type: Select a goal type from the drop-down list. For more information about **Conversion Goals**, refer Campaign Channels on page 21.

Add Content

- **Notification Title (mandatory):** Enter the notification title message of the engagement. The recommended max length is **32 characters**.
- **Notification Message (mandatory):** Enter a brief message explaining the purpose of the engagement. It should be at least 6 characters and upto 42 characters.
- **Icon (mandatory):** Upload an icon to represent the logo of your website or profile that will be displayed in your web push notification. The icon image supports **JPG or PNG file formats**, with **(192*192) pixel dimension** and a maximum **1 MB size**.
- **Notification Image:** Upload an image that indicates the purpose of the web push engagement. The notification image only supports **JPG or PNG file formats**, with an Aspect Ratio of : (recommended resolutions are x, x80).
- **Fallback:** You can use the fallback feature provided by HCL CDP. For more information about Fallback, click here on page 126.

> **Note:** When a recommended size is specified, there is no strict length constraint for the message. However, exceeding the recommended length may result in the message being trimmed during delivery, leading to data loss, or in some cases, the message may not be delivered at all. HCL CDP strongly recommends adhering to the recommended length.

Buttons Icon

Use an icon for the button in your web push engagement by either importing it via a URL or uploading it from the HCL CDP Image Media Repository. Ensure the icon image is in **JPG, PNG, or WEBP** format, with dimensions of **32x32** pixels and a maximum file size of 1 MB.

- **Text:** Enter the text you want to mention beside the icon on the button.
- **On Click Action:** Select an action to be performed when the button is clicked.
- **Fallback:** You can use the fallback feature provided by HCL CDP. For more about Fallback, click here on page 126.

Redirect URL (mandatory)

Provide the URL of the webpage to which the web push notification will get directed.

Schedule Settings

Schedule: Schedule an engagement to send at a later time or trigger it immediately once the engagement goal is achieved. For more information about **Engagement Scheduling**, refer Campaign Channels on page 21

Save

Click **Save** to save the Engagement.

Fallback

This feature in the HCL CDP Marketing Automation platform is designed for Web Push Notification engagements. If a user does not receive the engagement, a fallback message is sent to ensure every segment member receives the engagement. To learn more about **Personalization Failure**, click here.

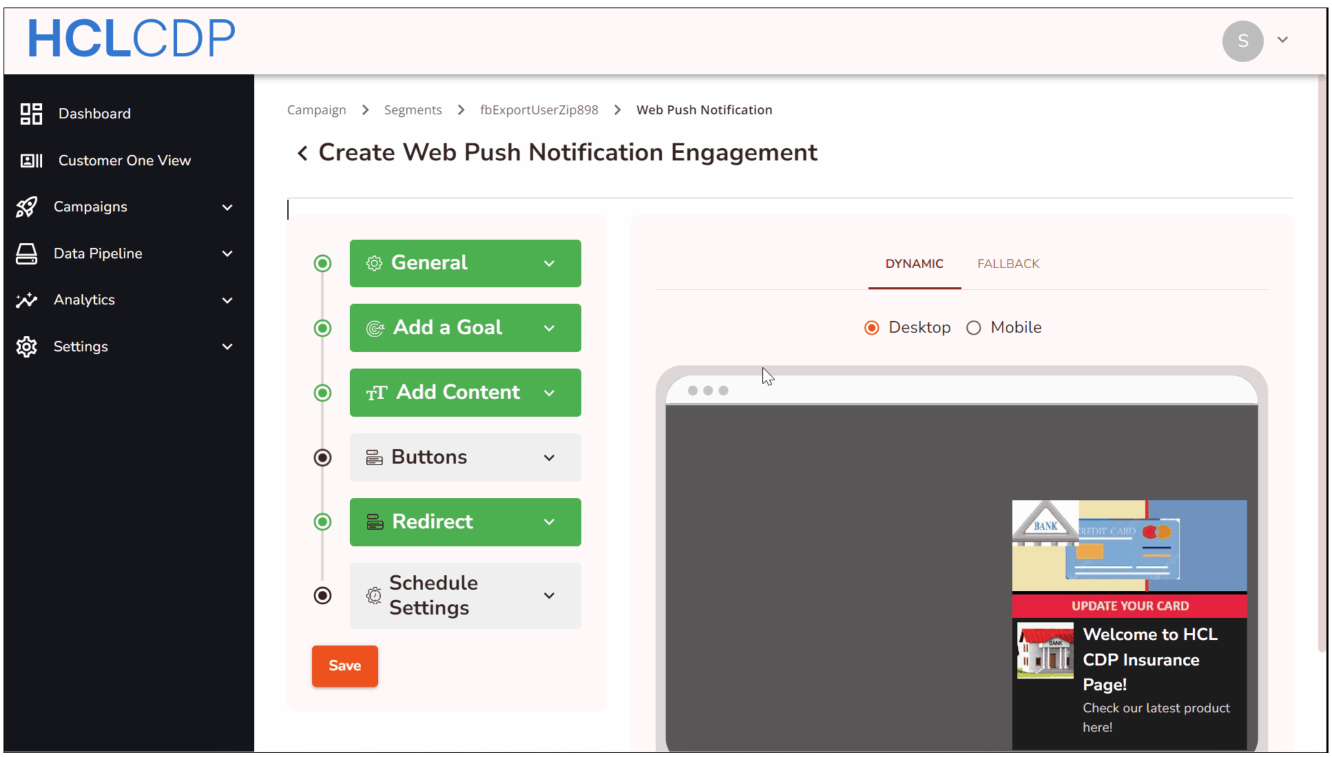
Note: After you have created an Engagement, you can neither change the name of the engagement nor change the schedule settings.

Add a Default Web Push Notification

This page explains on how to create a Web Push Notification for Android using HCL CDP Marketing Automation Platform.

Create a Default Web Push Engagement

Navigate to **Settings > Welcome Notification**.



General Details

- **Language (mandatory):** Select a language in which you prefer to code the Engagement.
- **Select Label (mandatory):** Choose a product label from the list. For more information about product labels, refer here on page 21.

Add Content

- **Notification Title (mandatory):** Enter the notification title message of the engagement. The recommended max length is **32 characters**.
- **Notification Message (mandatory):** Enter a brief message explaining the purpose of the Engagement. It should be at least 6 characters and upto 42 characters.
- **Icon (mandatory):** Upload an icon to represent the logo of your website or profile that will be displayed in your web push notification. The icon image supports **JPG or PNG file formats**, with **(192*192) pixel dimension** and a maximum **1 MB size**.
- **Notification Image:** Uploade the image indicating the purpose of the web push engagement. The notification image only supports **JPG, PNG, WEBP file formats**, with a **(720*480) pixel dimension** and **1 MB maximum size**.

Buttons

- **Icon:** Use an icon for the button in your web push engagement by either importing it via a URL or uploading it from the HCL CDP Image Media Repository. Ensure the icon image is in **JPG, PNG, or WEBP** format, with dimensions of **32x32** pixels and a maximum file size of 1 MB.
- **Text:** Enter the text you want to mention beside the icon on the button.
- **On Click Action:** Select an action to be performed when you click the button.

Redirect

Redirect URL (mandatory): Provide the URL of the webpage to which the web push notification will get directed.

Save

Click **Save** to save the default web push engagement.

FAQs

This page explains the frequently asked questions related to Web Push Notification.

Q1: Why is there a difference between the number of web push notifications sent and the impressions?

This difference can occur due to:

- The user logging in only after the notification expired.
- The user's device not running a browser.
- A failure in the communication between FCM (Firebase Cloud Messaging), the browser, and the operating system.
- The user disabling notifications on their device.

Q2: Which browsers and versions are supported by HCL CDP?

HCL CDP supports:

- Chrome: Version 42 and above
- Mozilla Firefox: Version 44 and above
- Opera: Version 25 and above

Q3: Can we track subscribed users who don't visit the website after integrating HCL CDP SDK?

No, users who don't visit the website after the HCL CDP SDK is integrated will not register the service worker on their devices. If the previous service provider uses a different payload structure or doesn't support HCL CDP's structure, users won't receive web push notifications. As a result, HCL CDP cannot track impressions even if users see the notification.

Q4: Why didn't the web push notification get delivered?

Web push notifications may not be delivered due to:

1. **Frequency Caps**: Notifications fail when the frequency cap limit is exhausted. Frequency caps are set daily, weekly, monthly, or over a lifetime. Only users whose frequency cap value is >0 will receive notifications. For more information about Frequency Caps, refer here on page 21.
2. **Personalization Failure**: Engagements fail if a parameter in the user's profile is missing. For example, if a user has no registered premium amount, they won't receive notifications requiring that parameter.
3. **FCM Failure**: Notifications fail due to issues with Firebase Cloud Messaging (FCM).
4. **FCM/APNS Configuration Issue**: Errors occur if the web configuration for push notifications is disabled, the APNS certificate isn't generated, or FCM is incorrectly configured.
5. **Unsubscribed Users**: Notifications fail if the user has unsubscribed from receiving push notifications.
6. **Other Issues**: This includes system failures, server crashes, or campaign-related errors.

External API

This page explains the simplified ways to configure External APIs and create engagement.

An External API allows seamless integration with a wide range of third-party services, enabling businesses to connect their systems with platforms such as CRMs, IVRs, private ESPs, SSPs, and more. By leveraging this capability, organizations can automate workflows, streamline engagements, and enhance operational efficiency.

Use cases for External API

1. **CRM Integration**: Connect directly with CRMs like Hubspot and Vymo to manage customer relationships seamlessly.
2. **IVR Integration**: Automate communication and deliver immediate responses by integrating with IVR services.
3. **Private ESP/SSP Integration**: Use your own email or SMS service providers to drive engagement while ensuring PII data confidentiality through robust encryption.
4. **Email Service Provider Integration**: Link with email service providers like Mailmodo to enhance email marketing campaigns.
5. **Facebook and Google Conversion API Integration**: Send conversion data from the CDP to Facebook and Google by integrating their conversion APIs.

6. **Internal System API Integration**: Transfer data from the CDP to internal APIs in services like banking, financial services, and insurance, leveraging confidential APIs for smooth operations.
7. **Lead Submission API Integration**: Submit data captured from WhatsApp or other lead forms directly into your lead management system.

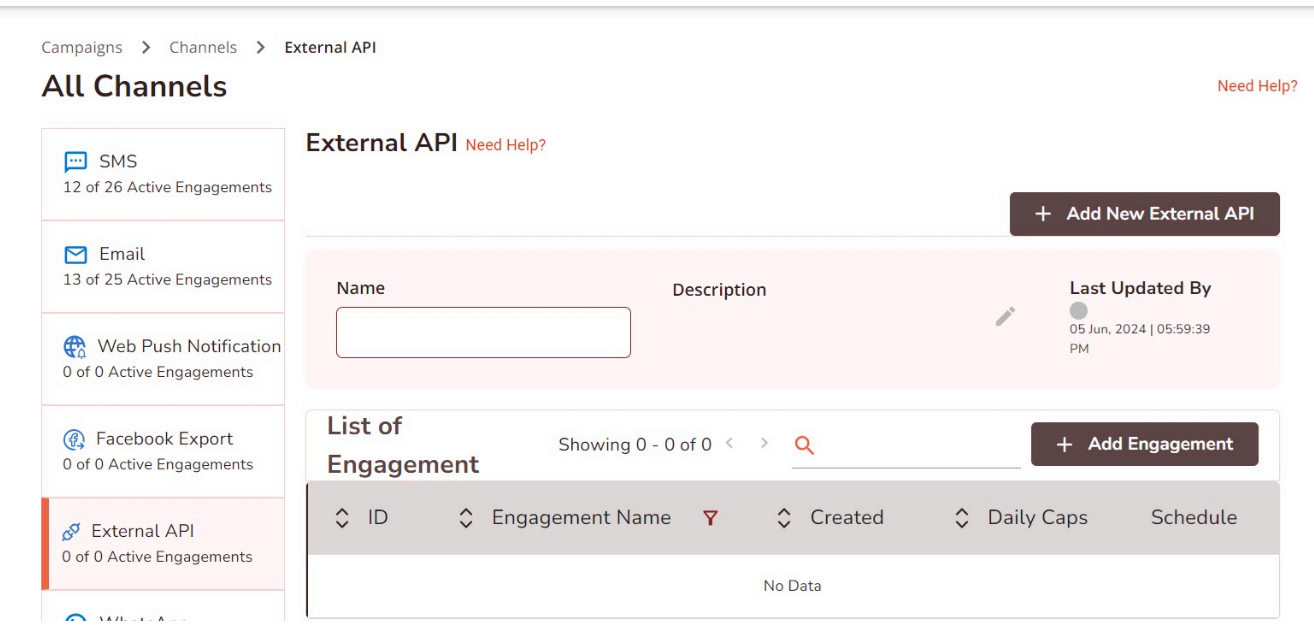
Prerequisite

API Docs / API reference docs

Valid authorisation scheme and keys: To integrate with external or internal systems, ensure you have the appropriate authorization mechanism along with the necessary keys, passwords, or tokens, based on your free or paid account with the external system or the internal tech implementation of the API. Your point of contact (POC) from the external vendor or your internal tech team will assist you in acquiring and configuring these credentials.

Tip: The API URL and the payload can be fetched from the API provider.

Configure an External API



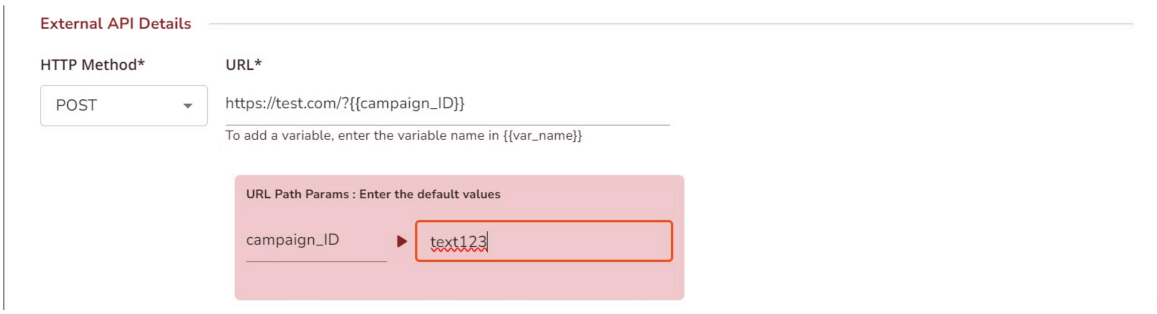
To configure an external API, follow the steps below:

1. Navigate to **Campaigns > Channels > External API**.
2. Click **+Add New External API** , and add the basic details.
    - **Name:** Enter the name for the External API. This name cannot be editable once it is saved.
    - **Description:** Enter the description of your API.
    - **Channel:** Select a channel in which you want the API to communicate with your audience. HCL CDP provides Email and SMS channels for the API to communicate.

Tip: The performance data of these Emails and SMS will be available in the Reports and Journey builder.

3. Add External API Details.
   - **HTTP Method:** Choose one of the supported HTTP methods—GET, POST, PATCH, PUT, or DELETE—based on the action you want to perform with the API.
   - **URL:** Enter the API's endpoint URL. If the URL contains path parameters, define the variables for these parameters. Path parameters are dynamic parts of the URL that specify a particular resource within a collection (e.g., `/users/{userId}`).

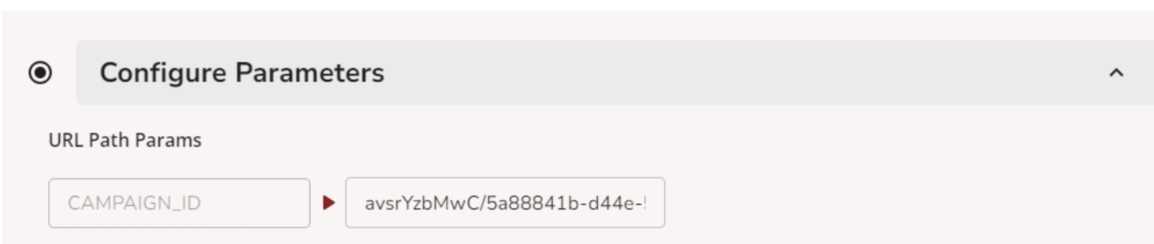
     Adding dynamic path parameters in the URL: If you have a path parameter that will change each time you trigger an engagement, you can configure it dynamically by defining the variable in {{variable}}. Here's an example to do it:



Tip: This URL is custom-made for demonstration purposes

{{Campaign_ID}} is the URL path parameter we declared above and added a default value.

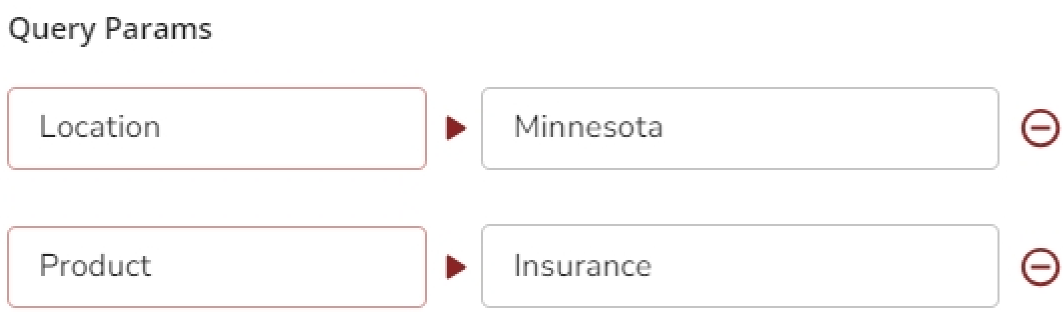
The parameters we add to this variable will be reflected while adding the engagement which can be changed later.



   - **Headers:** Include Headers to provide the metadata about the request. Common headers that are used while making requests:
     - Accept
     - Content-Type
     - Content-length
     - Authorization (use the necessary authorization keys which may vary according to the APIs)

- User-Agent
- Cache-Control
- Connection

- **Query Parameter:** Query parameters are the key-value pairs provided at the end of the URL which gives additional information to the web server while making the request.



- **Payload**: Select either the Global Level or Engagement Level option to define the user profile payload details. For more information about Payload, refer Payload on page 134.
- In the **Optional Field** drop-down, select **Yes** or **No**. For more information about Optional Field, refer Optional Field on page 136.

Payload

Paste the payload in the code editor provided. The payload contains the request body that the API requires for execution.

- For **GET requests**, leave the payload as `None`, as they do not include a request body.
- For **POST requests**, include the required payload as defined in the API documentation.

Ensure the payload structure adheres to the API specifications for a successful request.

Sample Payload:

```
{
    "details": {
        "data": {
            "param1": "Sample value",
            "param2": "Sample value"
        }
    },
    "token": "abc"
}
```

User can define the payload either at global level or engagement level.

Global Level: In the global level, you define the payload for the API by entering the JSON payload in the code block. Ensure the JSON is valid, as any invalid JSON will trigger an error in the UI. If the payload is correct, a tree view will be deployed. In this view, you can add static or dynamic fields, create variables, and flexibly assign display terms. The tree structure allows you to organize parameters based on parent and child objects, making it easy to assign values.

Engagement Level

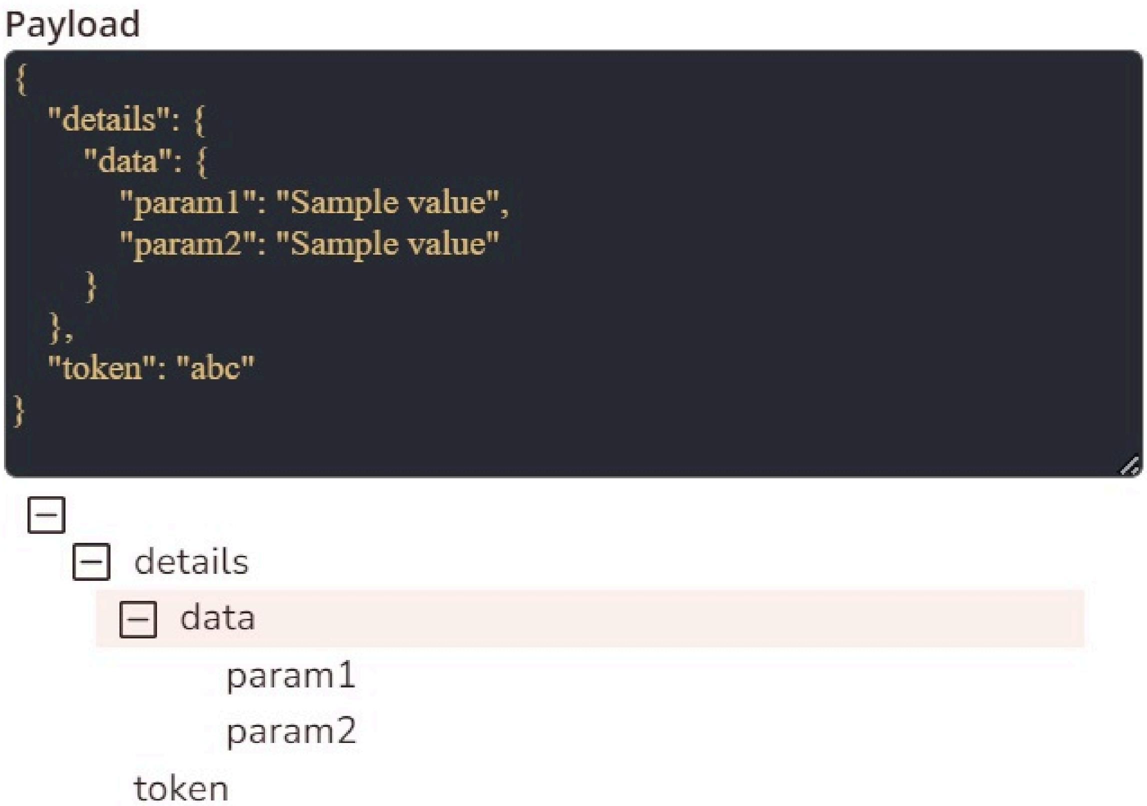
At the engagement level, you can define a custom payload tailored to each campaign's specific requirements. This feature enables you to send personalized data for every engagement, offering flexibility to meet diverse campaign needs.

- **Personalized Payloads**: Customize the payload for each engagement, making it ideal for campaigns with unique data requirements.
- **Integration Example**: When integrating with platforms like Mailmodo, this flexibility allows you to modify the payload for different campaigns seamlessly.
- **Supported Format**: Currently, the platform exclusively supports **JSON payloads** at the engagement level.

In the **Payload** textbox, enter the payload parameters. The payload you entered will be displayed in the following tree view. A sample payload is provided below.

```
{
    "details": {
        "data": {
            "param1": "Sample value", // You can configure these key value parameters by giving name and value
 which will be displayed in engagement level
            "param2": "Sample value"
        }
    },
    "token": "abc"
}
```

(This payload is custom-made for demonstration purposes)



- To Configure the parameters in engagement level, pass the variable between double curly braces i.e., {{variable_name}}.
- Enter the display name which will be shown on the UI as the variable alias, when you're creating engagements for the configured API.
- Enter the default value that assigns value to the parameter by default if the value is not provided by the user, or in the case of Macro when the system fails to replace it with a value.

  Expand the data tree and select a variable name to include a static or dynamic value. Use macros to insert dynamic values. Enter @ in the text box to view the list of macros available. Enter the default value that assigns value to the variable by default, if the value is not provided by the user, or in the case of Macro when the system fails to replace it with a value. For example, to use a user's email address, type @ and select the EMAIL macro from the list.

Optional Field

Optional Field

1. If you wish the field to be mandatory, select No.
2. Select Yes, if the field needs to be optional. In such a case, you have to define how to handle the payload when that particular key (param1 in the example) is not provided with a value.

Option 1:Send Empty Value (do nothing).

The parameters will be empty, and the default value will be shown here in all the engagements.

The payload will be:

```
{
"details": {
"data": {
"param1": " ",
"param2": "Sample Value 2"
}
},
"token": "abc123"
}
```

Option 2:Drop data $#$0

On Choosing drop data, the parent node (Data) will be dropped. The grandparent node (details) and (Token) will be considered as objects.

The payload will be:

```
{
"details": {},
"token": "abc123"
}
```

Option 3: Drop data (Grandparent Node)

On Choosing drop details, the grandparent parent node (Data) will be dropped along with its child (Data). Only (Token) will be considered as objects.

```
{
"token": "abc123"
}
```

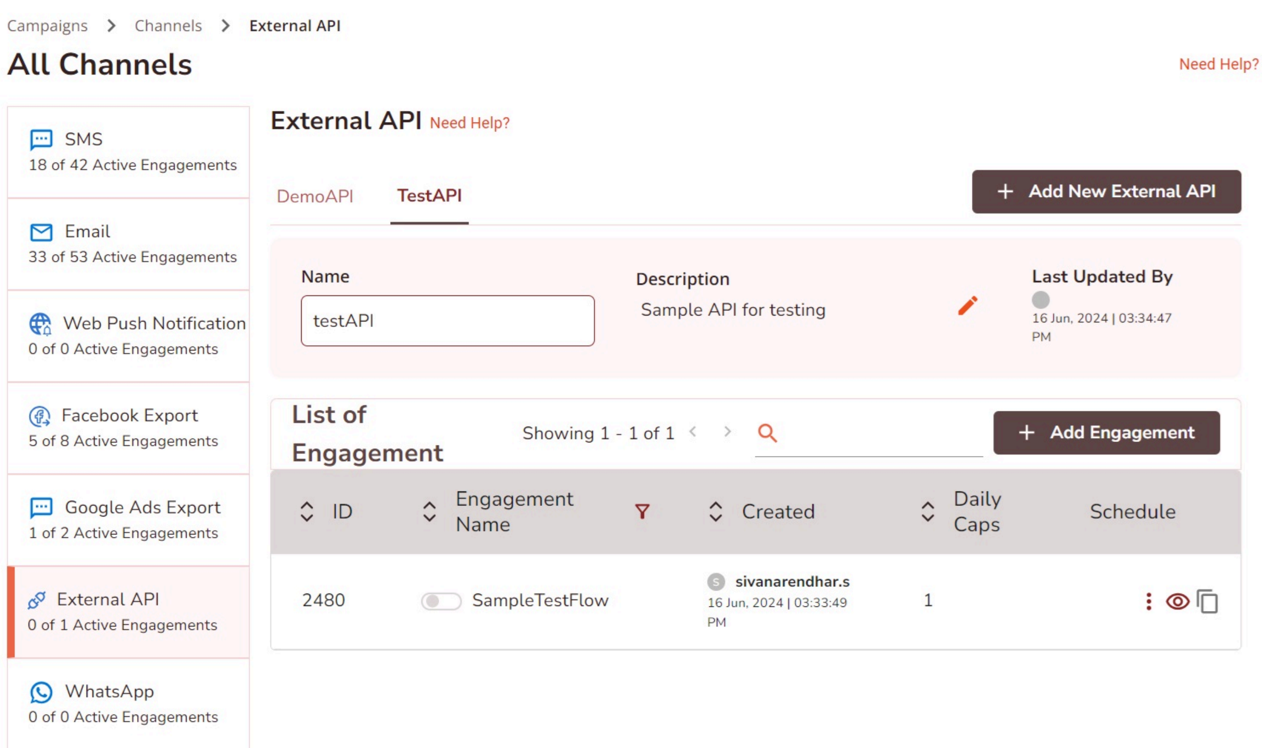
Option 4: Drop the whole Object

On choosing to drop the whole object, the entire payload will be dropped and the API won't get triggered.

Add External API Engagement

This page explains how to create an engagement with External API.

Create an Engagement for External API



Create an Engagement from Segments

To create an engagement from segments, follows the steps below:

- Navigate to **Campaigns > Segments**.
- Select the Segment Name, and on the left panel, click **External API**.
- Click **+Add Engagement**.

Create an Engagement from Channels

To create an engagement from channels, follows the steps below:

- Navigate to **Campaigns > Channels**.
- On the left panel, click **External API**, and click **Add Engagement**.
- Select Segment Name from the list.
- Click **Confirm And Proceed To the Next Step**.

Configure Engagement Details

To configure the engagement details, follow the steps below:

Add General details

- **Engagement Name (mandatory):** Enter a name for the Engagement. It should range between **6-25 characters**.
- **API(mandatory):** Choose your API.
- **Label (mandatory):** Choose a product label from the list. For more information about product labels, refer here on page 21.

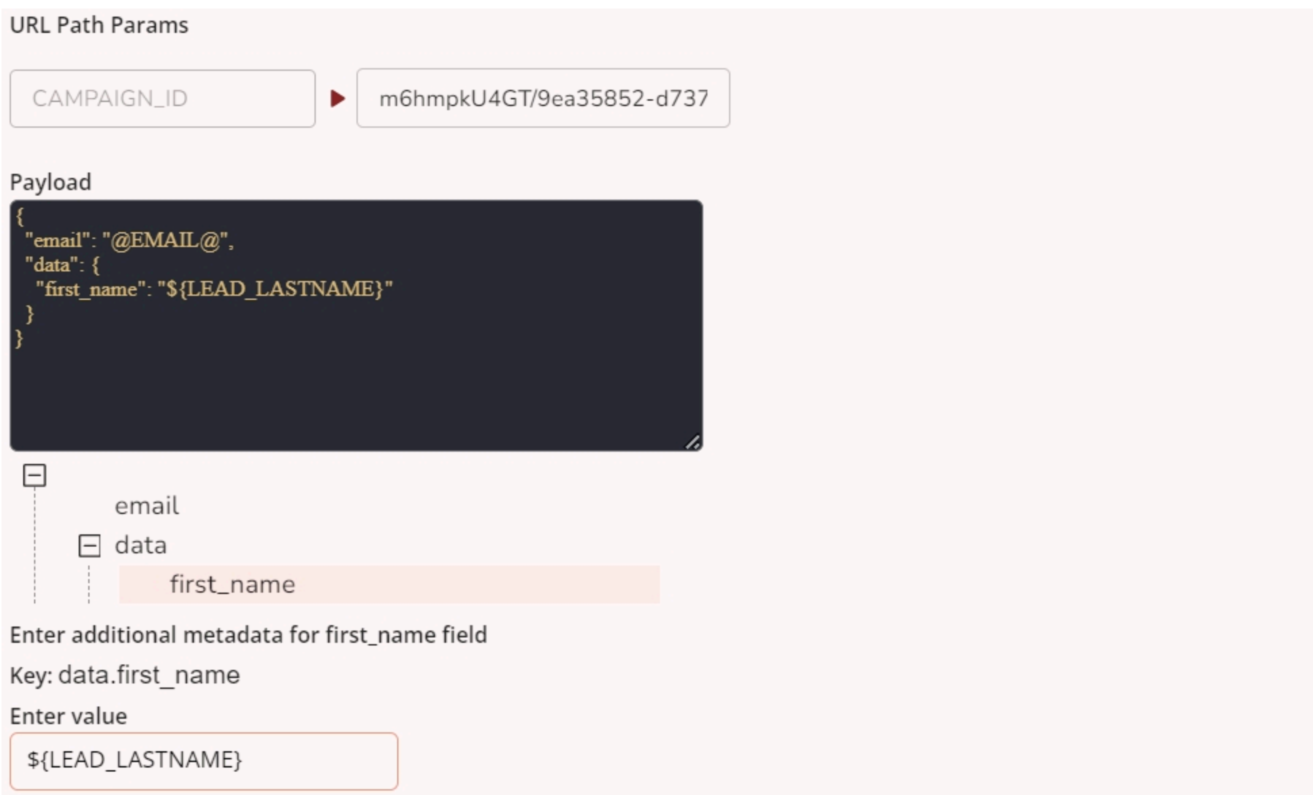
Add a Goal

Goal Type: Select a goal type from the drop-down list. Set it to none if the goal is not decided yet. For more information about **Goals**, refer Campaign Channels on page 21.

Configure Parameters

URL path parameters: This will be updated automatically based on the URL you configured while adding the external API.

Payload: Paste the payload in the code editor provided. The payload you enter here must be in JSON file format which will be displayed in the following tree view. You can edit the payload and add values by assigning variables using the tree view or the payload editor.



Also, you can map the payload value using the macro from the field given below.

Note: To get the payload value as raw email data, enter **@EMAIL@** in the input. To get the payload value as raw mobile data, enter **@MOBILE@** in the input. You can set the payload value as a variable by declaring value between {{ value }}

Schedule Settings

Schedule an engagement to send at a later time or trigger it immediately once the engagement goal is achieved. For more information about **Engagement Scheduling**, refer Campaign Channels on page 21

Save

Click **Save** to save the Engagement.

Note: After you have created an Engagement, you can neither change the name of the engagement nor change the schedule settings.

Test your API Configuration

Testing your external API is a crucial step in the configuration process. When setting up and customizing the payload, various issues can arise, such as syntax errors or incorrect parameter values. Proper testing helps identify and resolve these common errors, ensuring seamless integration and functionality. This guide provides valuable insights and tips to help you effectively test your API and address potential challenges during configuration.

To test your API configuration, follow the steps below:

1. Navigate to **Channels > External API**.
2. Select any engagement that you configured, and navigate to Test API.
3. Configure the payload.
4. Click **Test Configuration**. You can check the response of your payload and your communication status in the response section.

Note:

- Ensure the sender ID is a verified ID provided by the API vendor.
- Always enclose the variables in **double quotes** as required.
- You can edit the payload either through the **payload editor** or by using the **input box** in the tree view.

Use Cases of External APIs

This page explains the use cases of three different APIs and demonstrates the configuration and engagement creation of those APIs.

Lets explore three use cases demonstrating the versatility and flexibility of HCL CDP's External API integration, enabling you to seamlessly connect with third-party APIs. Two examples utilize global-level payloads, while one focuses on engagement-level payloads.

Use case 1: HubSpot - Create Contacts API

Objective: Integrate HubSpot CRM to sync contact data for enhanced customer engagement.

HubSpot CRM is widely used by businesses for sales and marketing. Its APIs enable data synchronization between platforms, ensuring optimal customer engagement with relevant information.

- **Integration Overview**: Configure HCL CDP's external API at the global level to pass contact data to HubSpot's **Create Contact** API.
- **Why Global Payload**: The payload remains consistent across all engagements, making it efficient to configure at the global level.
- **Outcome**: Streamlined contact management and enhanced CRM functionality.

Use case 2- Exotel's Make-a-call API

Objective: Automate voice calls to engage leads and customers.

Exotel is a voice communication platform that allows businesses to make automated calls for customer engagement and marketing campaigns.

- **Integration Overview**: Set up Exotel's **Make-a-call** API to transfer lead information from HCL CDP to Exotel's call database.
- **Why Global Payload**: The payload structure remains constant for all calls, enabling a single global configuration.
- **Outcome**: Simplified call automation for lead engagement and improved operational efficiency.

Use Case -3-Mailmodo API (Engagement Level)

Objective: Automate personalized email campaigns using dynamic payloads.

Mailmodo simplifies email marketing by enabling personalized AMP emails with custom templates for actions like form submissions and subscriptions.

- **Integration Overview**: Configure Mailmodo's API within HCL CDP to send engagement-specific payloads.
- **Why Engagement-Level Payload**: Each Mailmodo engagement requires a unique payload to personalize emails for different campaigns.
- **Outcome**: Tailored email campaigns with precise data, driving higher engagement and better results.

Use case 1: HubSpot - Create Contacts API

This page talks about integrating HubSpot CRM to streamline customer engagement by syncing contact data effectively.

HubSpot CRM is a powerful tool businesses use for sales and marketing to ensure optimal customer interactions. It offers a range of APIs that facilitate data synchronization across platforms, enabling businesses to engage customers with relevant and timely information.

In this use case, we demonstrate how to:

- Configure HCL CDP's External API to integrate with HubSpot's **Create Contact API**.
- Pass contact data to HubSpot by setting up the integration at the **global level payload**, as the payload values remain consistent across all engagements.

Prerequisites

Make sure the following things are in place, before you proceed to configure and test the integration:

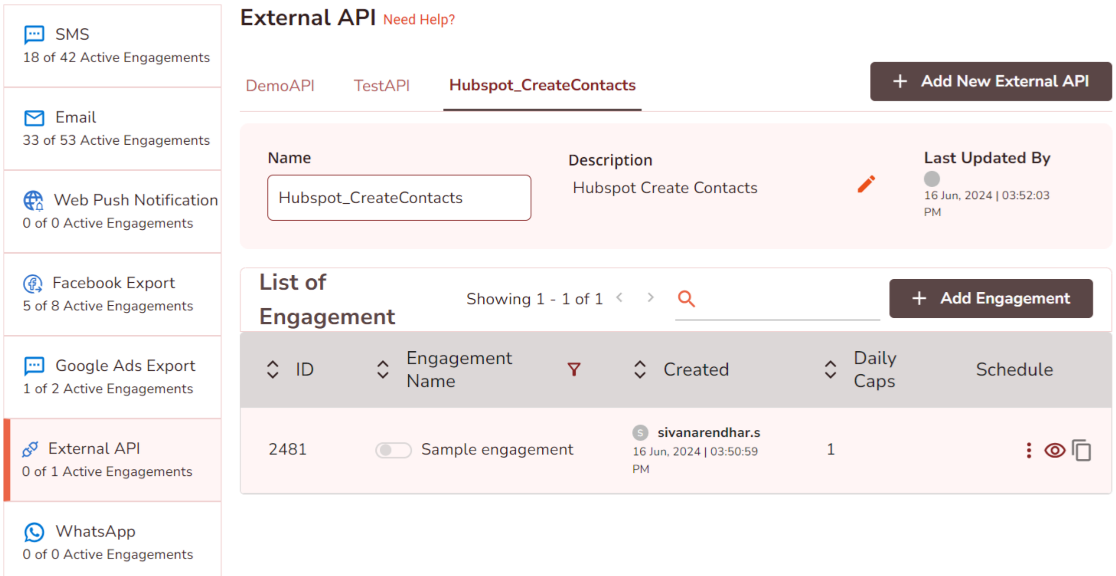
- **API Documentation/Reference**: Access the API documentation for HubSpot's Create Contact API here. This provides details on the endpoint, payload structure, and other configuration requirements.
- **Valid Authorization Scheme and Keys**:
    - Ensure you have the necessary authorization credentials (keys, tokens, or passwords) based on your account type (free/paid) or your internal API implementation.
    - Consult with your **POC from the external vendor** or your **tech team** to obtain and configure the appropriate authorization mechanism.
- **API URL and Payload**:
    - Obtain the specific API endpoint URL and required payload structure from the HubSpot team after setting up your account.
    - Ensure the payload matches the API documentation for successful configuration.

Configuring Hubspot - Create Contacts API

To configure HubSpot, follow the steps below:

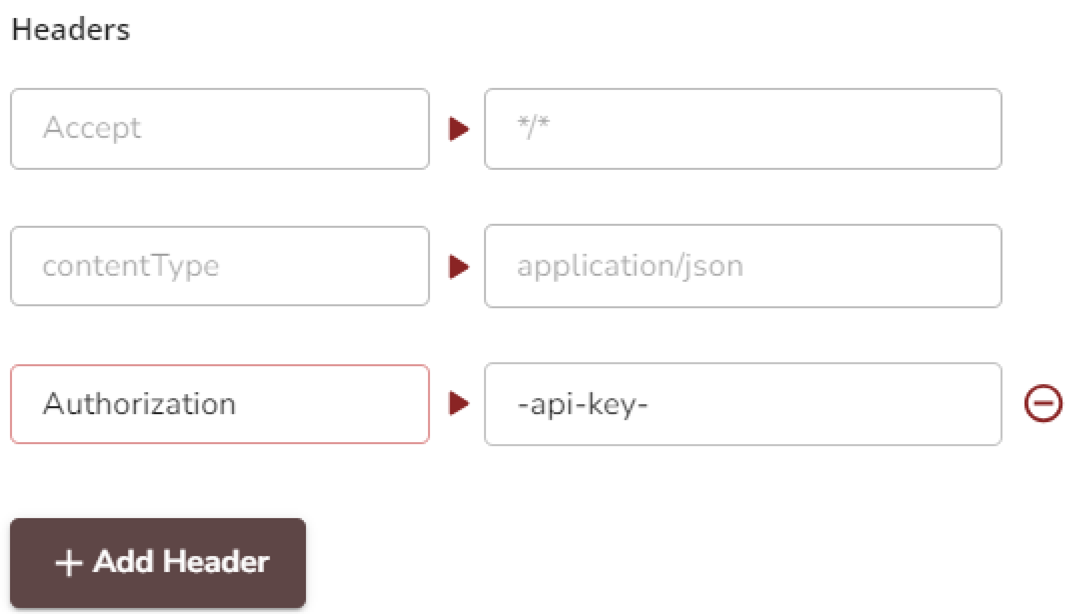
1. Navigate to **Campaigns > Channels > External API**.
2. Click **+Add New External API** , and **Add Basic Details**:
    - **Name:** Enter the name for the configuration as **Hubspot_CreateContacts**.
    - **Description:** Enter the description of your API.
    - **Channel:** Select the email channel to communicate with your audience.
3. **Add External API Details**

a. **HTTP Method:** Here we select POST as the HTTP Method as the API is a post request to add contacts emails in the Hubspot database.
b. **URL:** Paste the following API URL https://api.hubspot.com/crm/v3/objects/contacts. this API URL is from the API reference doc.



4. You can add parameters by creating variables at the end of the URL and declaring value inside {{value}} double curly braces. Since the Hubspot API does not contain any additional parameters, the window to configure the parameter will not appear.

◦ **Headers:** Add Headers to provide the metadata about the request. Here we add the authorization and API key in the headers to authenticate the API. The API key will be provided by the Hubspot team.



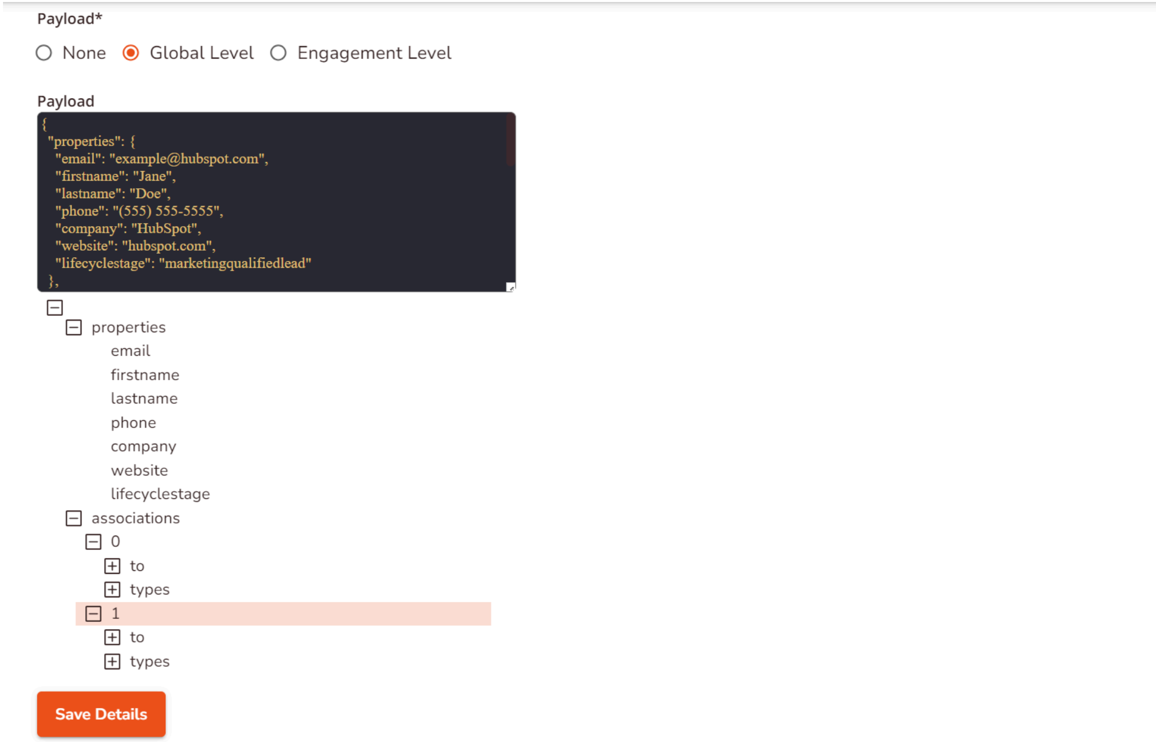
◦ **Payload:** Paste the payload in the black code edit screen as shown below. Here we set the payload at the global level as the API contains the value which remains the same for all the engagements.

(Payload from the API reference doc)

```
{
  "properties": {
    "email": "example@hubspot.com",
    "firstname": "Jane",
    "lastname": "Doe",
    "phone": "(555) 555-5555",
    "company": "HubSpot",
    "website": "hubspot.com",
    "lifecyclestage": "marketingqualifiedlead"
  },
"associations": [
    {
     "to": {
        "id": 123456
      },
      "types": [
        {
          "associationCategory": "HUBSPOT_DEFINED",
          "associationTypeId": 279
        } ]
    },
    {
     "to": {
        "id": 556677
      },
      "types": [
```

```
          {
            "associationCategory": "HUBSPOT_DEFINED",
            "associationTypeId": 197
          } ]
}]
}
```

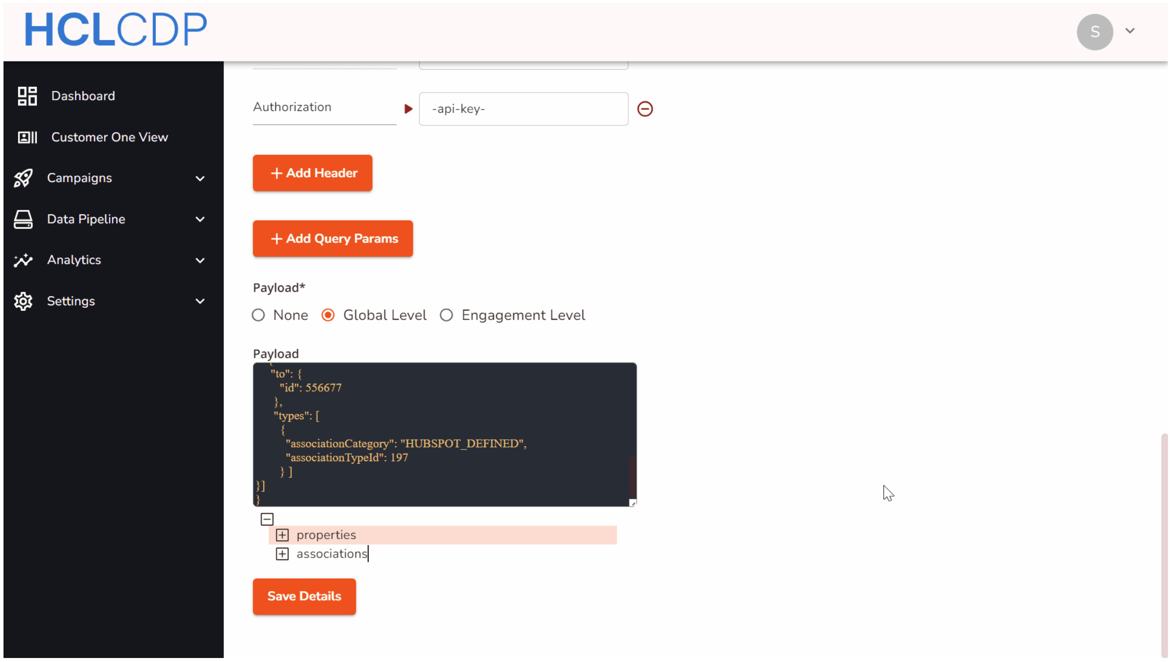
(Payload from the API reference doc)



Click the Payload value and enter the values and display names in the given fields as shown below. The display name will be shown on the UI as the variable alias when you're creating engagements for the configured API.

- **Default Value:** The default value will be assigned to the parameter if the value is not provided by the user, or in the case of Macro when the system fails to replace it with a value.

- **Optional Field:** You can set the field to be optional or to be mandatory by using the optional field and by assigning a condition to the optional field. Here we set the field as mandatory. For more about optional and its conditions, click External API on page 131.



5. After configuring all the fields, click **Save Details**.

Create engagement in Hubspot Create Contacts API

You can create engagement for Hubspot create contacts API either from Segments or Channels.

Create an Engagement from Segments

To create an engagement from segments, follow the steps below:

1. Navigate to **Campaigns > Segments**.
2. Select the Segment Name, and on the left panel, click **External API**.
3. Click **+Add Engagement**.

Create an Engagement from Channels

To create an engagement from segments, follow the steps below:

1. Navigate to **Campaigns > Channels**.
2. On the left panel, click **External API**.
3. Click **Add Engagement**, and select Segment Name from the list.
4. Click **Confirm And Proceed To the Next Step**.

Add General details

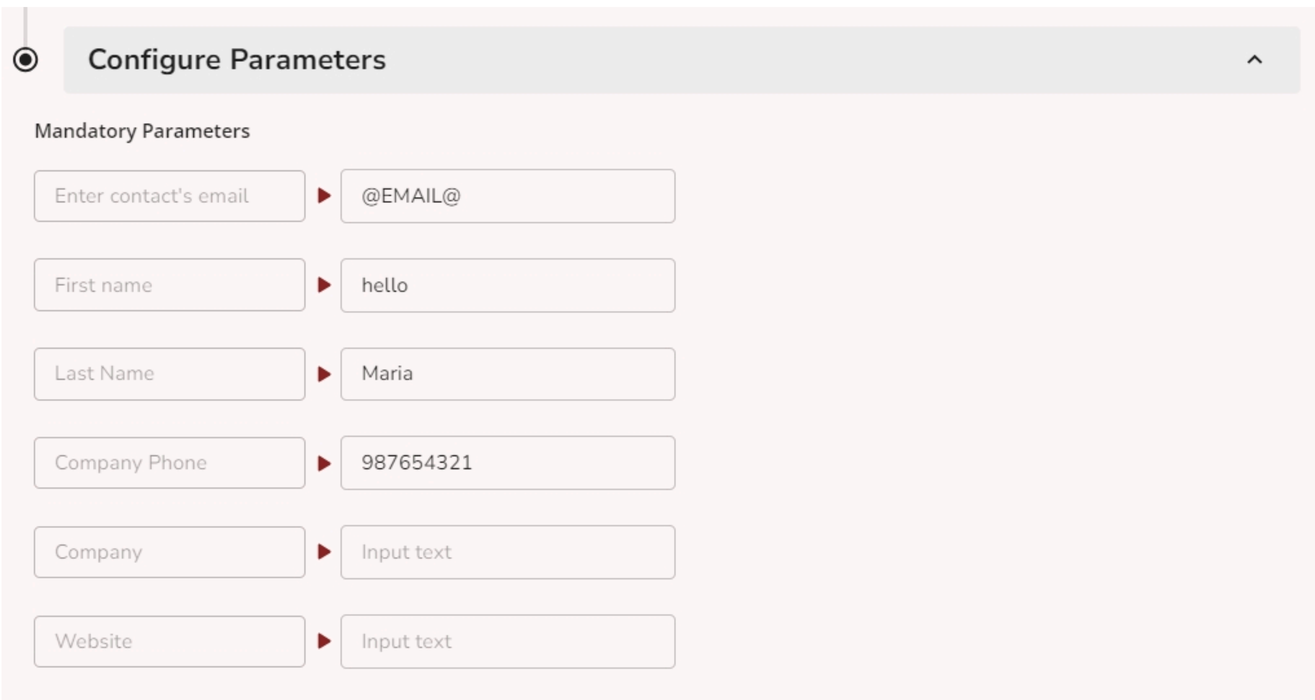
- **Engagement Name (mandatory):** Enter a name for the Engagement. It should range between **6-25 characters**.
- **API(mandatory):** Select the API as "Hubspot Create Contact".
- **Label (mandatory):** Choose a product label from the list. For more information about product labels, refer here on page 21.

Add a Goal

Goal Type: Select a goal type from the list. You can set it to none if the goal is not decided yet.

Configure Parameters

URL path parameters: This will be updated automatically based on the URL you configured while adding the external API. The parameters will be displayed here as you configured in the payload at a global level.



Schedule Settings

You can schedule an engagement to trigger immediately or to send later by configuring the Time and Date. Here we have selected the schedule as immediate.

Save

Click **Save**.

Use case 2: Exotel's Make a call API

This page talks about how to automate voice calls to engage customers by integrating Exotel with HCL CDP.

Exotel is a leading voice communication platform that enables businesses to make automated calls, streamlining customer engagement and marketing efforts. By integrating Exotel's API with HCL CDP, you can pass lead information directly to Exotel's call database for efficient voice call automation.

Integration Steps:

- Configure Exotel's **Make-a-call API** using HCL CDP's External API feature.
- Set up the integration at the **global level**, as the payload remains uniform across all engagements.

Prerequisites

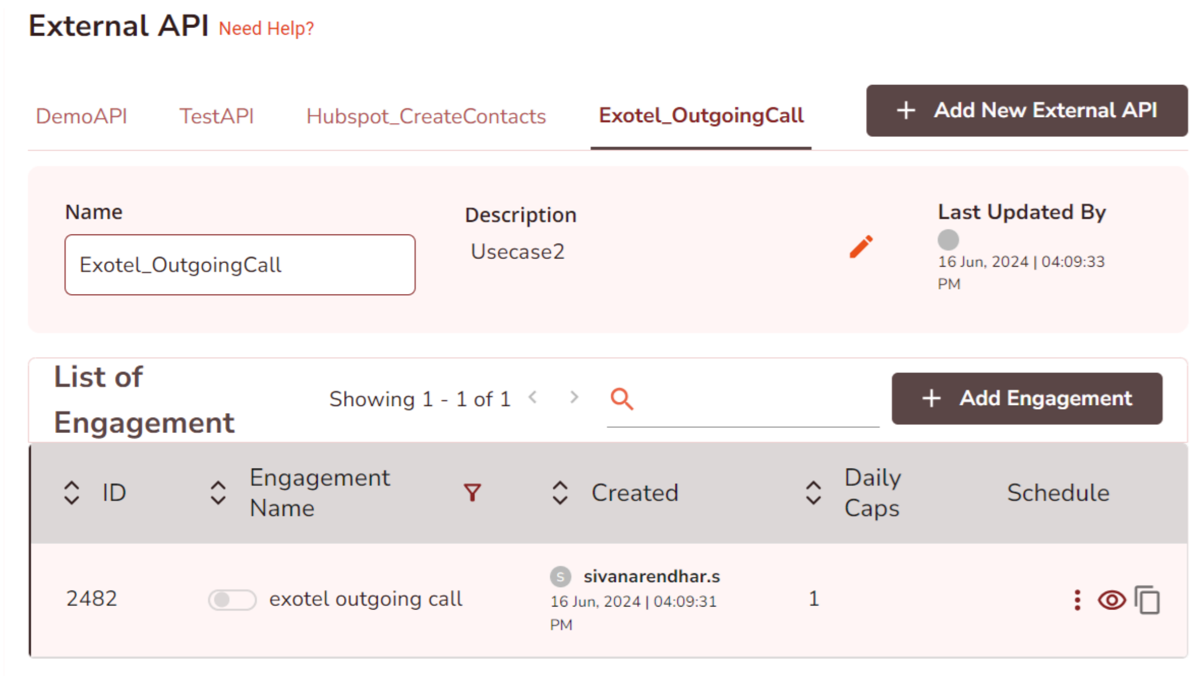
Make sure the following things are place, before you configure Exotel's Make-a-call API and initiate automated voice calls:

- **API Documentation/Reference:** Refer to the API documentation for Exotel's **Make-a-call API** here. This contains detailed instructions on the endpoint, parameters, and payload configuration.
- **Valid Authorization Scheme and Keys:**
  - Obtain the required authorization credentials (keys, tokens, or passwords) based on your account type (free/paid) or internal API setup.
  - Collaborate with your **POC from the external vendor** or your **internal tech team** to ensure proper configuration of the authorization mechanism.
- **API URL and Payload**:
  - Contact the Exotel team to receive the specific API URL and payload format once your account is set up.
  - Verify the payload structure aligns with the API documentation for accurate data transmission.

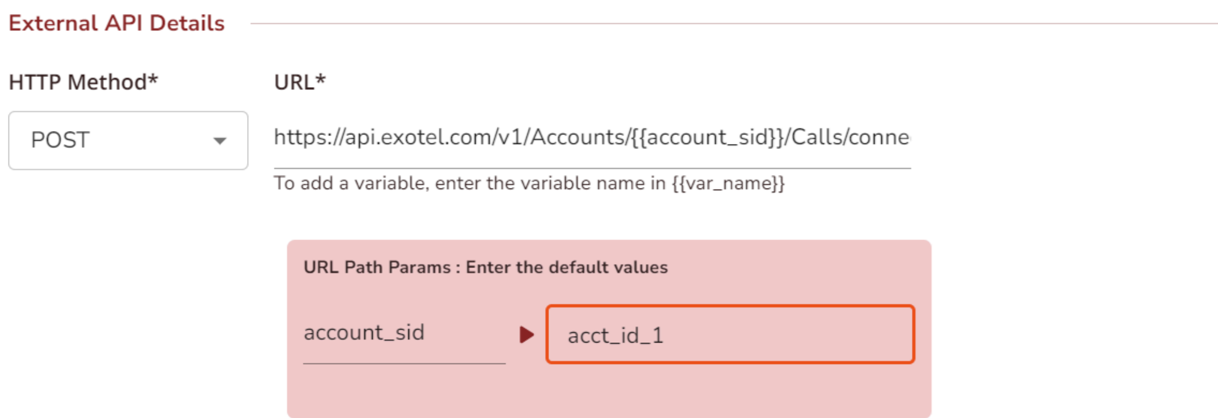
Configuring Exotel's Make-a-call API

To configure Exotel's make-a-call API, follow the steps below:

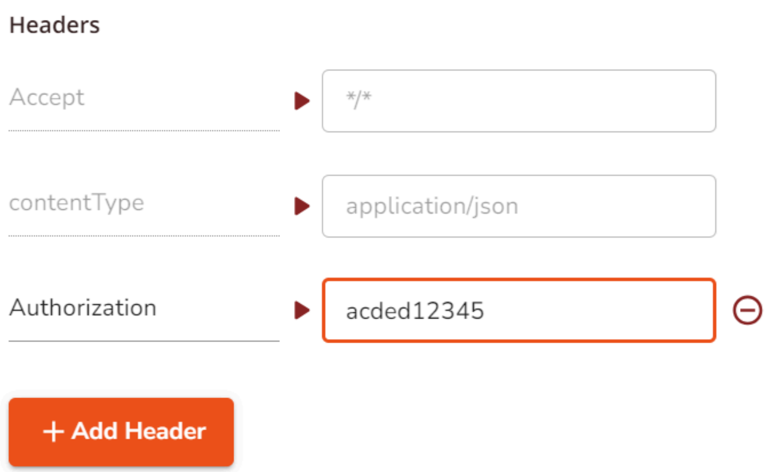
1. Navigate to **Campaigns > Channels > External API**.



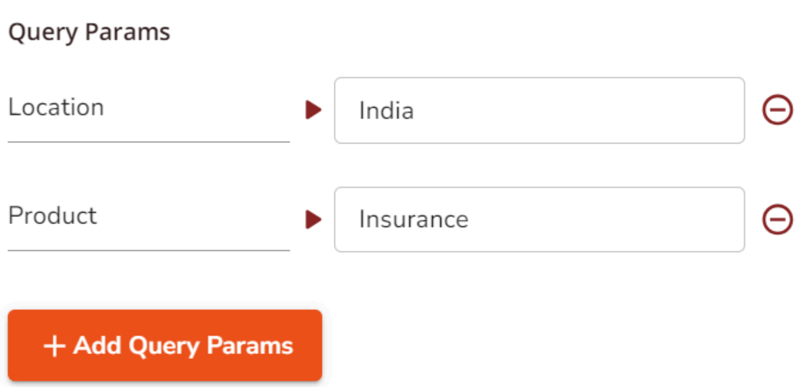
2. Click **+Add New External API**, and **Add Basic Details:**
    - **Name:** Enter a name for the configuration as Exotel's Make a Call API.
    - **Description:** Enter the description of your API.
    - **Channel:** Select the email channel to communicate with your audience.
3. **Add External API Details**
    a. **HTTP Method:** Here we select POST as the HTTP Method as the API is a post request to add contact details in the Hubspot database.
    b. **URL:** Paste the following API URL https://api.exotel.com/v1/Accounts/{{account_sid}}/Calls/connect. The API URL is from the API reference doc.
4. You can add parameters by creating variables at the end of the URL and declaring value inside {{value}} double curly braces. Here we added the parameter {{ account_sid}}in the URL and configured its default values which can be changed later while creating an engagement.



a. **Headers:** Add Headers to provide the metadata about the request. Here we add the authorization and API key in the headers to authenticate the API. The API key will be provided by the Exotel team.



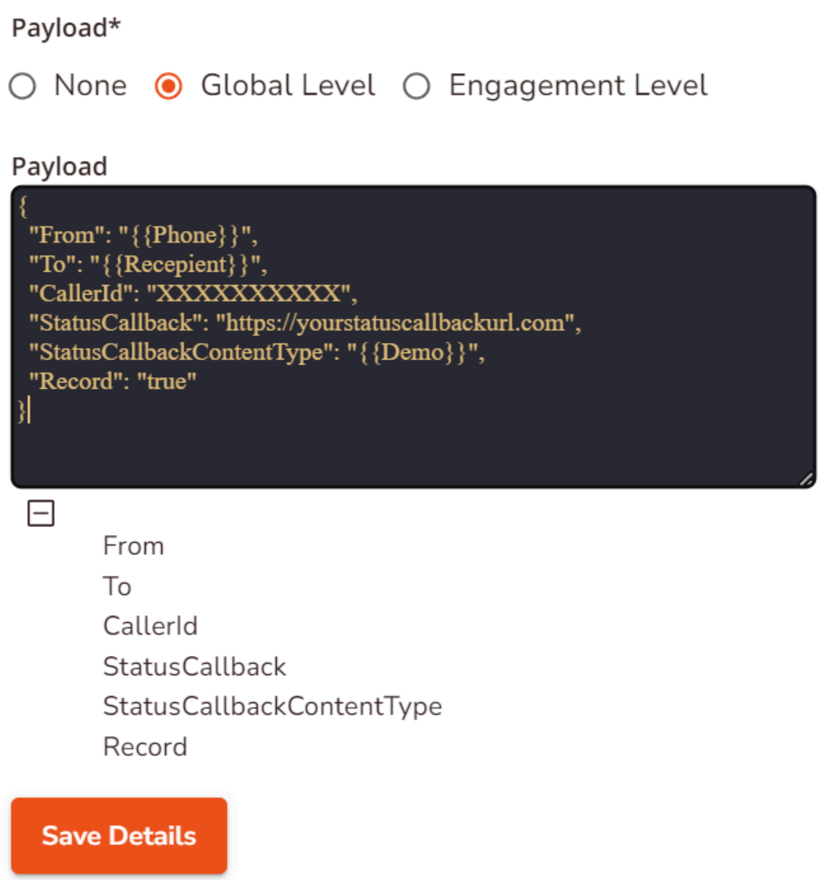
b. **Query parameters:** Query parameters are the key-value pairs provided at the end of the URL which gives additional information to the web server while making the request.



c. **Payload:** Paste the payload in the black code edit screen as shown below. Here we set the payload at the global level as the API contains the value which remains the same for all the engagements.

(Payload from the API reference doc)

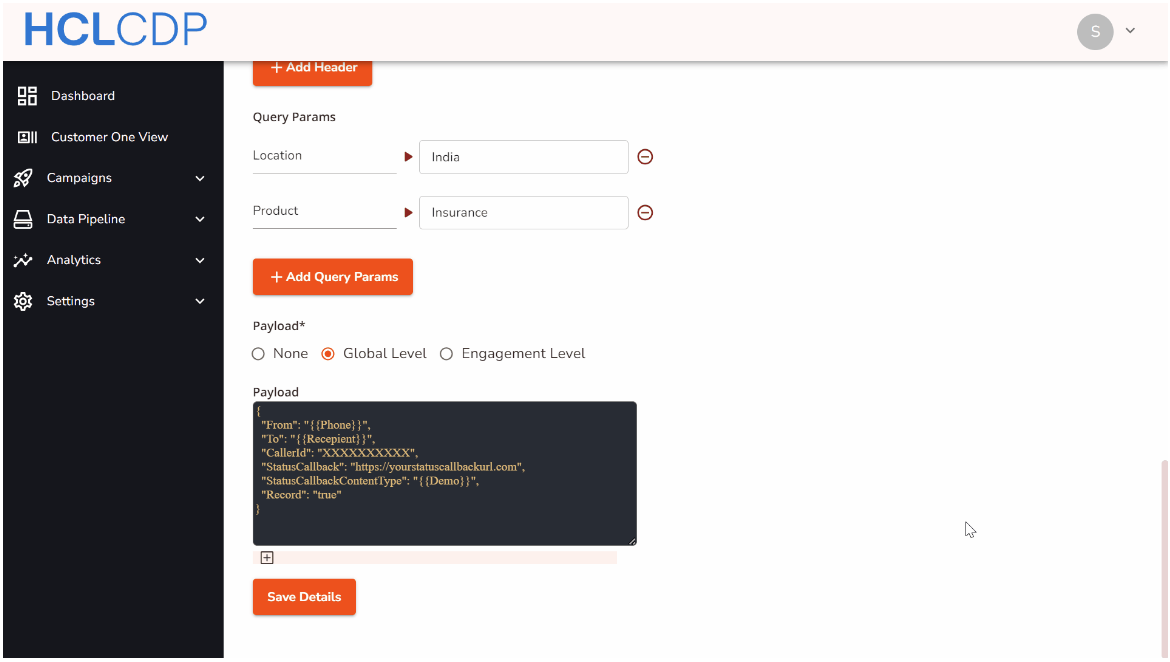
```
{
  "From": "{{Phone}}",
  "To": "{{Recepient}}",
  "CallerId": "XXXXXXXXXX",
  "StatusCallback": "https://yourstatuscallbackurl.com",
  "StatusCallbackContentType": "{{Demo}}",
  "Record": "true"
}
```



Click the Payload value and enter the values and display names in the given fields as shown below. The display name will be shown on the UI as the variable alias when you're creating engagements for the configured API.

d. **Default Value:** The default value will be assigned to the parameter if the value is not provided by the user, or in the case of Macro when the system fails to replace it with a value.

e. **Optional Field:** You can set the field to be optional or to be mandatory by using the optional field and by assigning a condition to the optional field. Here we set the field as mandatory. For more about optional and its conditions, click External API on page 131.



5. After configuring all the fields, click **Save Details.**

Creating Engagement in Exotel's Make-a-Call API

You can create engagement for Exotel's Make-a-Call API either from Segments or Channels.

Create an Engagement from Segments

To create an engagement from segments, follow the steps below:

1. Navigate to **Campaigns > Segments**.
2. Select the Segment Name, and on the left panel, click **External API**.
3. Click **+Add Engagement**.

Create an Engagement from Channels

To create an engagement from segments, follow the steps below:

1. Navigate to **Campaigns > Channels**.
2. On the left panel, click **External API**.
3. Click **Add Engagement**, and select Segment Name from the list.
4. Click **Confirm And Proceed To the Next Step**.

Add General details

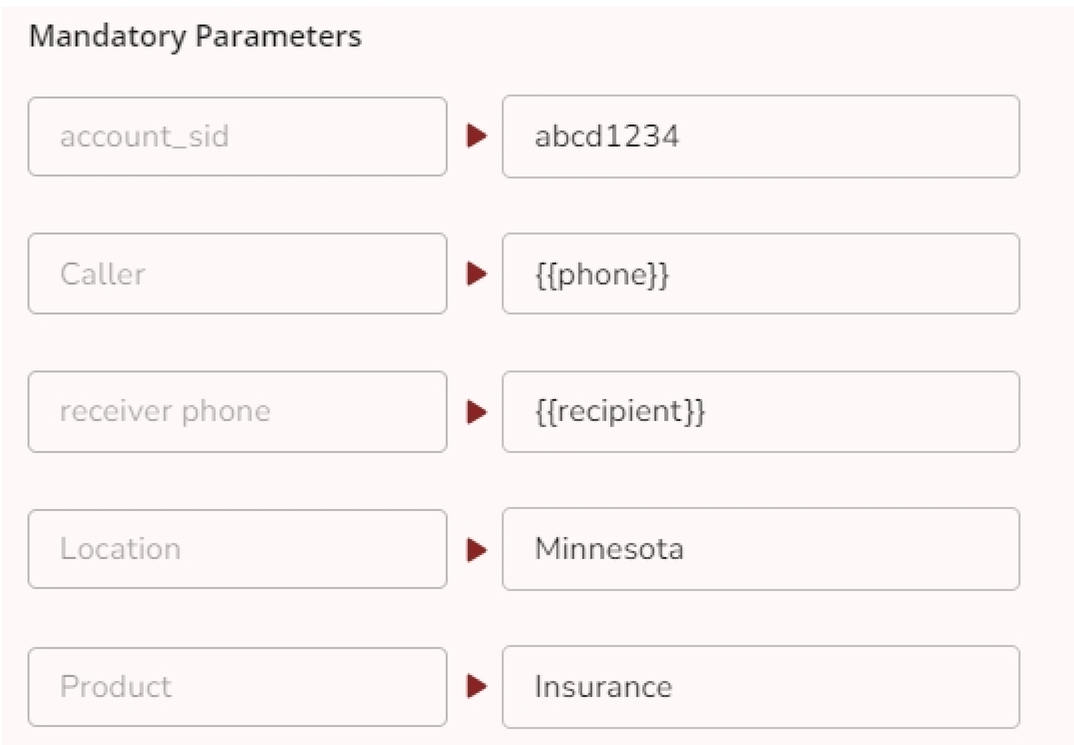
- **Engagement Name (mandatory):** Enter a name for the Engagement. It should range between **6-25 characters**.
- **API(mandatory):** Select the API as "Exotel_OutgoingCall".
- **Label (mandatory):** Choose a product label from the list. For more information about product labels, refer here on page 21.

Add a Goal

Goal Type: Select a goal type from the list. You can set it to none if the goal is not decided yet.

Configure Parameters

URL path parameters: This will be updated automatically based on the URL you configured while adding the external API. The parameters will be displayed here as you configured in the payload at a global level in which the value can be changed while creating an engagement.



Schedule Settings

You can schedule an engagement to trigger immediately or to send later by configuring the Time and Date. Here we have selected the schedule as immediate.

Save

Click **Save**.

Use case 3: Mailmodo's Send Campaign Email API

This page talks about how to enhance email marketing by automating personalized email campaigns using Mailmodo integration with HCL CDP.

Mailmodo simplifies email marketing with automated emails tailored to specific audiences through custom templates. It enables businesses to send interactive AMP emails, such as forms or subscription updates, while seamlessly receiving data on integrated platforms.

Integration Steps:

- Configure Mailmodo's API within HCL CDP to send personalized email engagements.
- Set up the payload at the **engagement level**, as each campaign requires unique data for customization.

Prerequisites

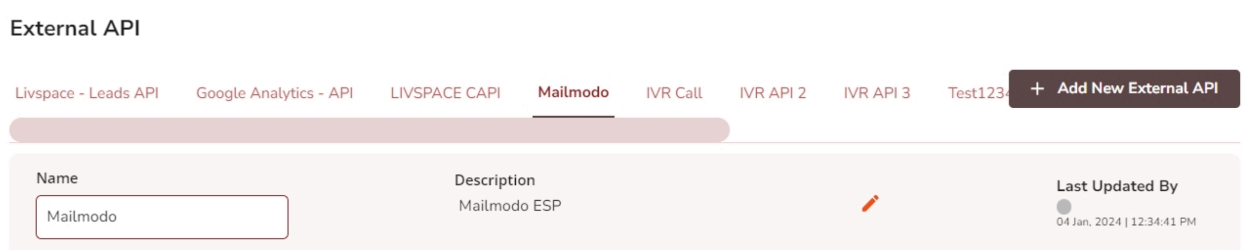
Make sure that the following things are in place, before you set up and customize Mailmodo's API integration in HCL CDP for tailored email campaigns.

- **API Documentation/Reference**: Refer to Mailmodo's API documentation for sending campaign emails here. This provides details on the endpoint, payload, and other configuration requirements.
- **Valid Authorization Scheme and Keys**:
  - Ensure you have the necessary authorization credentials (keys, tokens, or passwords) based on your account type (free/paid) or internal API implementation.
  - Coordinate with your **POC from the external vendor** or your **tech team** to acquire and configure the relevant authorization mechanism.
- **API URL and Payload**:
  - Obtain the specific API URL and payload structure from the Mailmodo team after creating your account.
  - Validate the payload format against the API documentation to ensure accurate configuration.

Configuring Mailmodo' Send Campaign Email API in HCL CDP

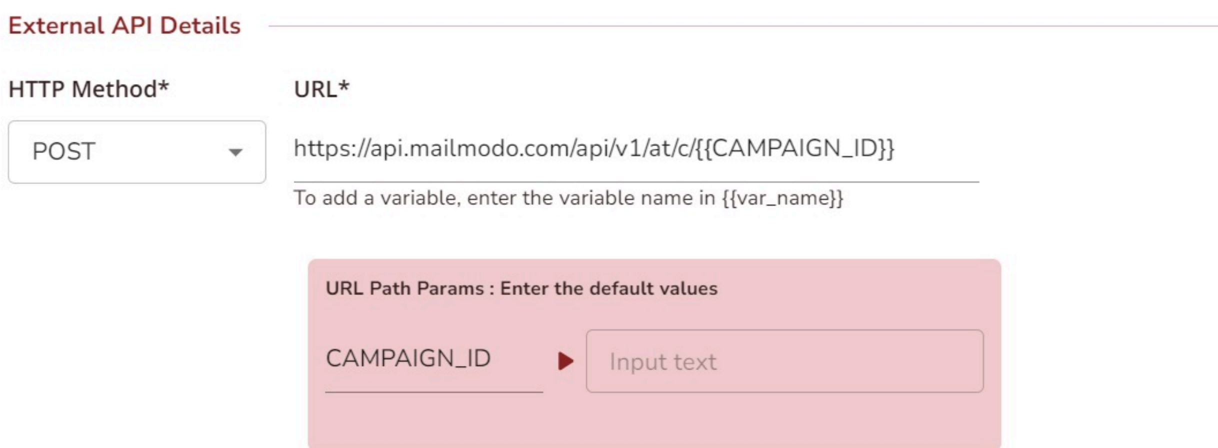
To configure the Mailmodo' Send Campaign Email API, follow the steps below:

1. Navigate to **Campaigns > Channels > External API**.

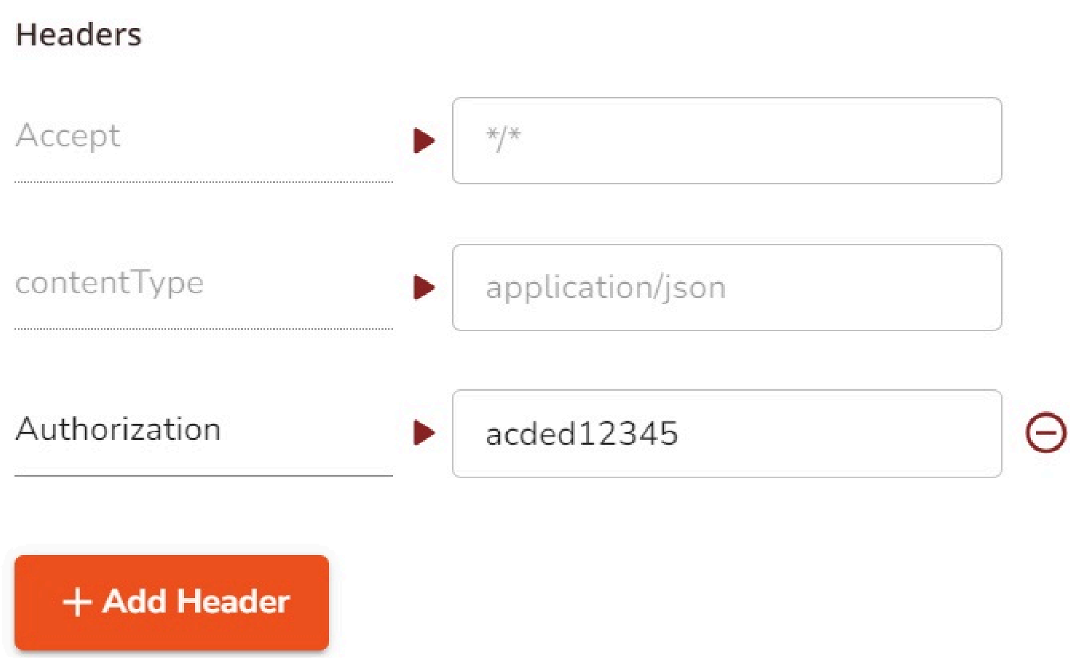


2. Click **+Add New External API** , and **Add Basic Details:**

  - **Name:** Enter name for the configuration as **Hubspot_CreateContacts**.
  - **Description:** Enter the description of your API.
  - **Channel:** Select the email channel to communicate with your audience.
3. **Add External API Details**
   a. **HTTP Method:** Here we select POST as the HTTP Method as the API is a post request to add contact details in the Hubspot database.
   b. **URL:** Paste the following API URL. https://api.mailmodo.com/api/v1/at/c/{{CAMPAIGN_ID}}
4. You can add parameters by creating variables at the end of the URL and declaring value inside {{value}} double curly braces. Here we added the parameter {{CAMPAIGN_ID}}in the URL and configured its default values which can be changed later while creating an engagement.



a. **Headers:** Add Headers to provide the metadata about the request. Here we added the authorization and API key in the headers to authenticate the API. The API key will be provided by the Mailmodo team.



5. After configuring all the fields, click **Save Details.**

Creating Engagement in Mailmodo's Send Campaign Email API

You can create engagement for Mailmodo's Send Campaign Email API either from Segments or Channels.

Create an Engagement from Segment

To create an engagement from segments, follow the steps below:

1. Navigate to **Campaigns > Segments**.
2. Select the Segment Name, and on the left panel, click **External API**.
3. Click **+Add Engagement**.

Create an Engagement from Channel

To create an engagement from segments, follow the steps below:

1. Navigate to **Campaigns > Channels**.
2. On the left panel, click **External API**.
3. Click **Add Engagement**, and select Segment Name from the list.
4. Click **Confirm And Proceed To the Next Step**.

Add General details

- **Engagement Name (mandatory):** Enter the name of the configuration as "Mailmodo".
- **API(mandatory):** Select our API as Mailmodo.
- **Label (mandatory):** Choose a product label from the list. For more information about product labels, refer here on page 21.

Add a Goal

Goal Type: Select a goal type from the list. You can set it to none if the goal is not decided yet.

Configure Parameters

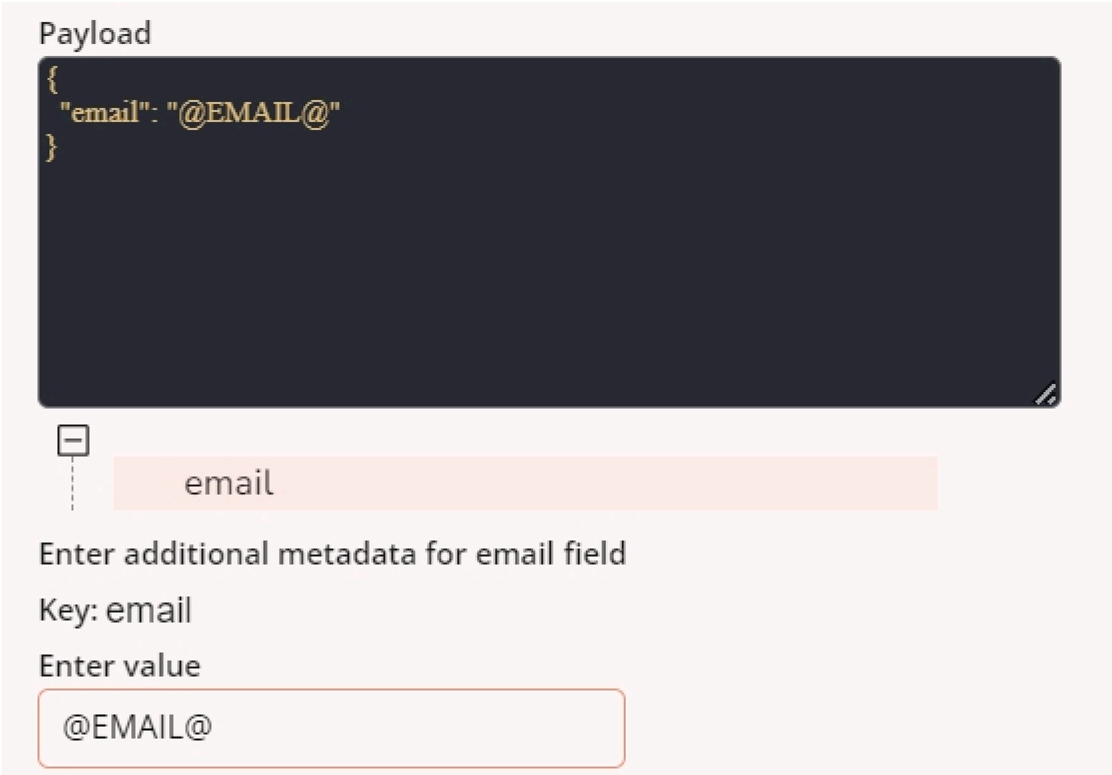
1. **URL path parameters:** This will be updated automatically as you defined in the URL path parameter while configuring the API.
2. **Payload:** We configured the API in engagement level, the payload will be added in this part in every engagement.

```
{
  "email": "@EMAIL@",
  "data": {
    "first_name": "${LEAD_LASTNAME}"
  }
}
```

   Add the values for the variables declared in the payload. Another payload example which varies at the engagement level is shown below.

   In this following payload, the email is variable.

```
{
  "email": "@EMAIL@"
}
```



Schedule Settings

You can schedule an engagement to trigger immediately or to send later by configuring the Time and Date. Here we have selected the schedule as immediate.

Save

Click **Save**.

Audience Export

This section provides an overview of audience export features in the Customer Data Platform (CDP). It includes guidance on exporting audience data to various channels, such as Facebook and Google Ads, and outlines the configuration steps, data formats, and integration processes to facilitate seamless audience data sharing with external platforms.

Facebook Export Channel

This page explains how to configure and use the Facebook Export Channel in the Customer Data Platform (CDP). It provides step-by-step instructions for exporting audience data to Facebook, including setting up the integration, selecting audiences, and managing the data synchronization process.

The Facebook Export Channel enables clients to create segments on the HCL CDP UI and export them in real-time to their respective business managers.

Set up Facebook Export Channel

Set up through Access Token

To enable Facebook Export as a channel, please provide the following details to HCL CDP:

- Access Token
- Ad Account ID

Follow below steps to generate and manage access tokens:

Tip: If you already have an access token, you can skip the Access Token generation process.

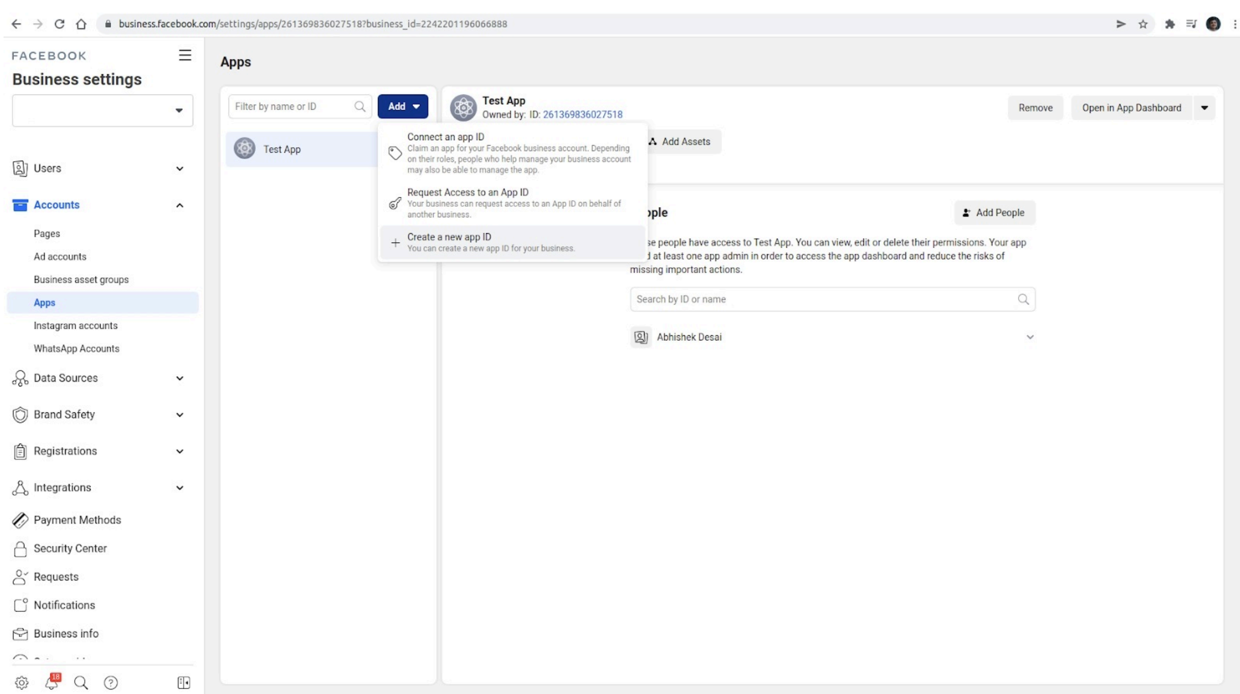
Access Token

To generate the System User's Access Token, you need a Business Type App.

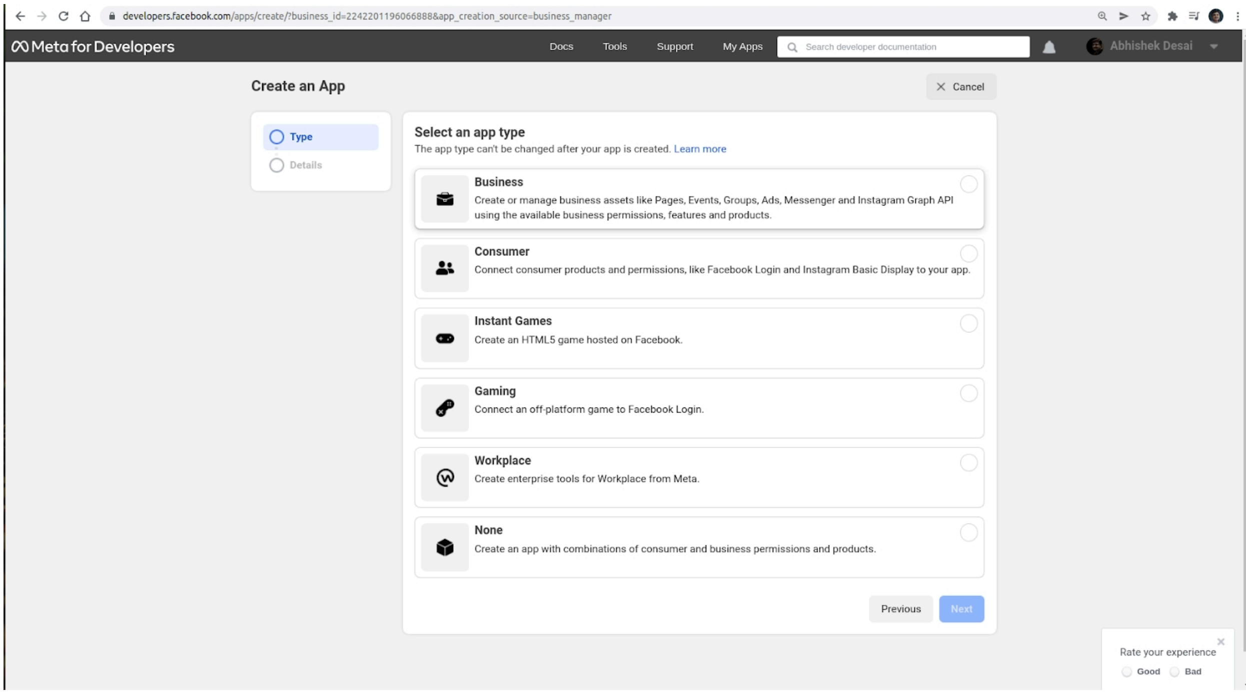
If you already have a Business Type App, proceed directly to the steps for generating the System User's Access Token. Otherwise, follow the instructions below to create an app first.

Create an APP

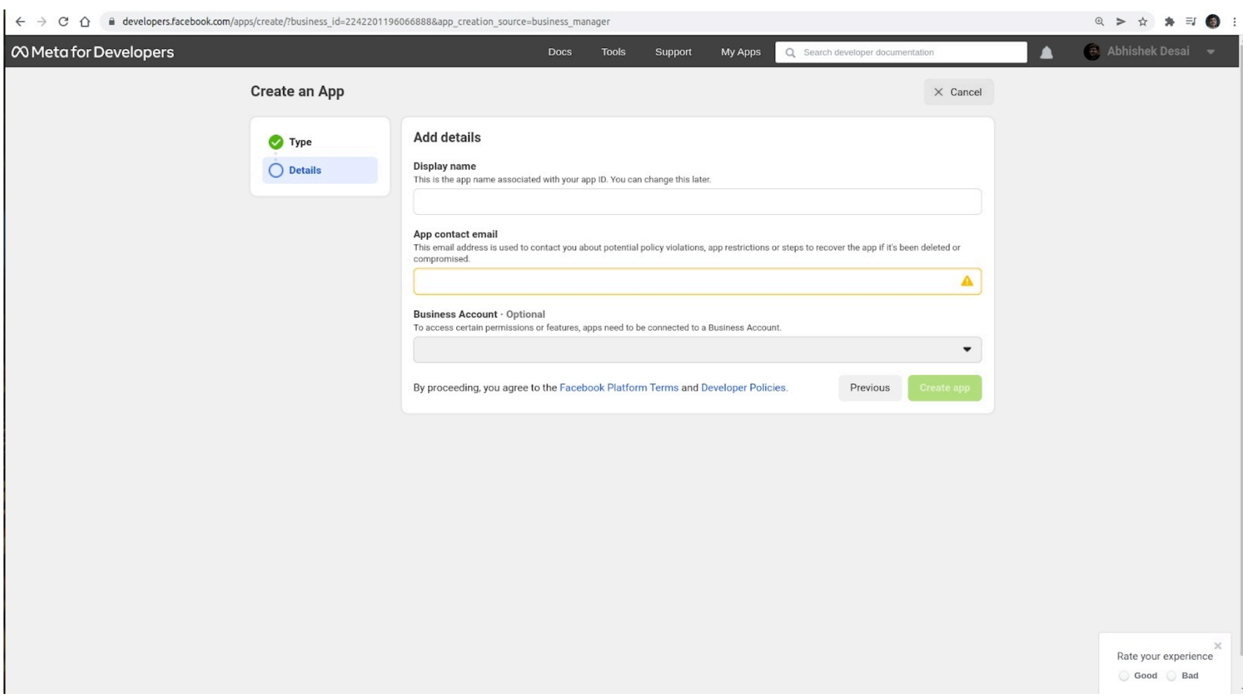
1. On the Facebook Business Manager, navigate to **Apps > AddButton > Create a new App ID**.



2. Select **Business** as the App Type, and click **Next**.



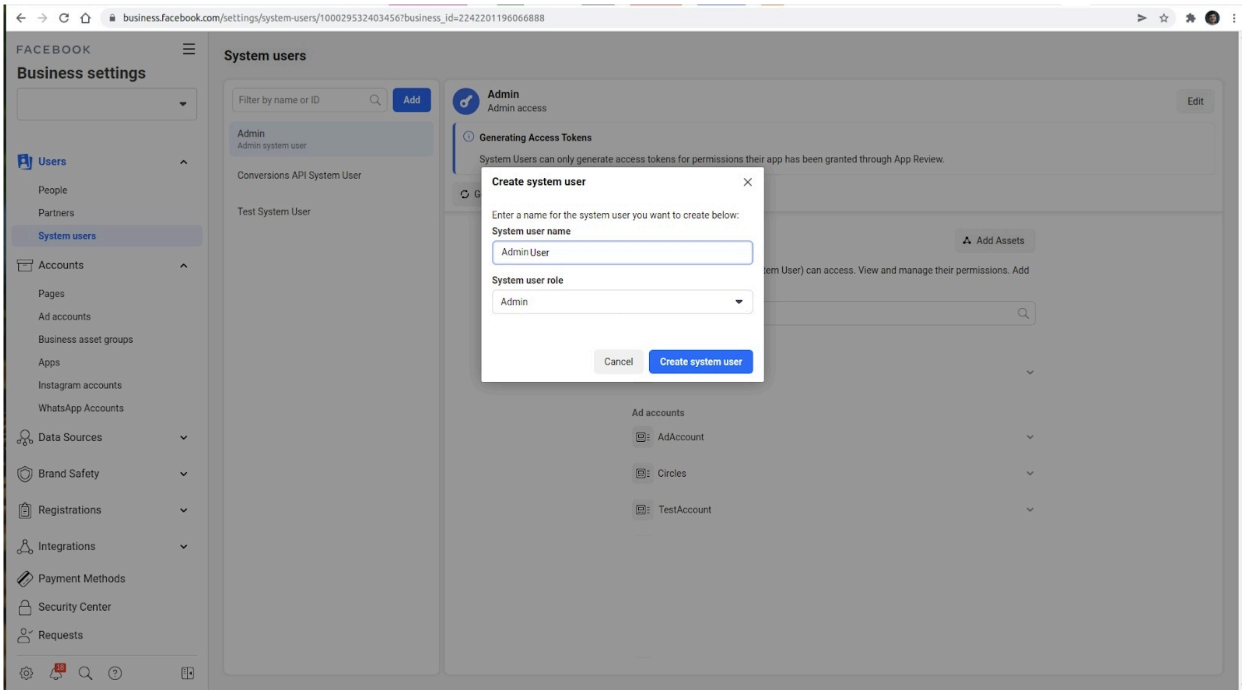
3. Provide the appropriate **DisplayName**, and **App** contact email, and click **Create App**.



The next step is to create a System User. If you already have one, skip directly to the generate access token on page 162.

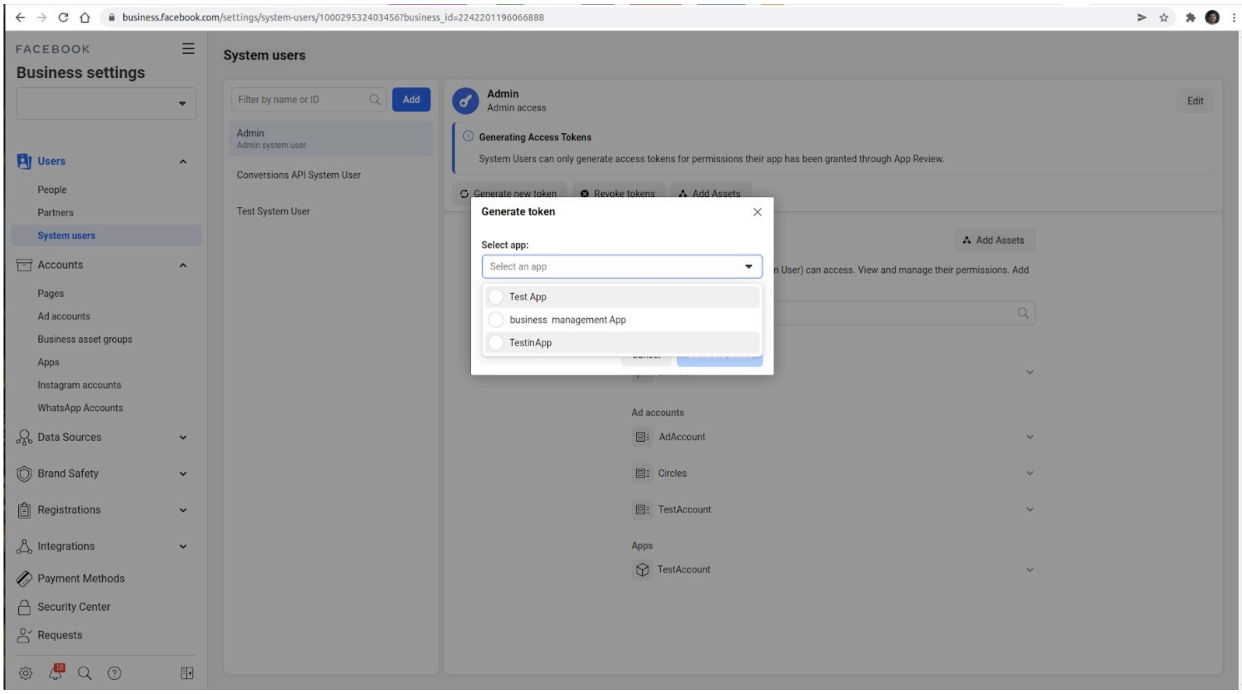
Generate System User’s Access Token:

1. On the Facebook Business Settings page, click **Users > System Users > Add**, type the appropriate *name*, and select *Admin* as the user role.

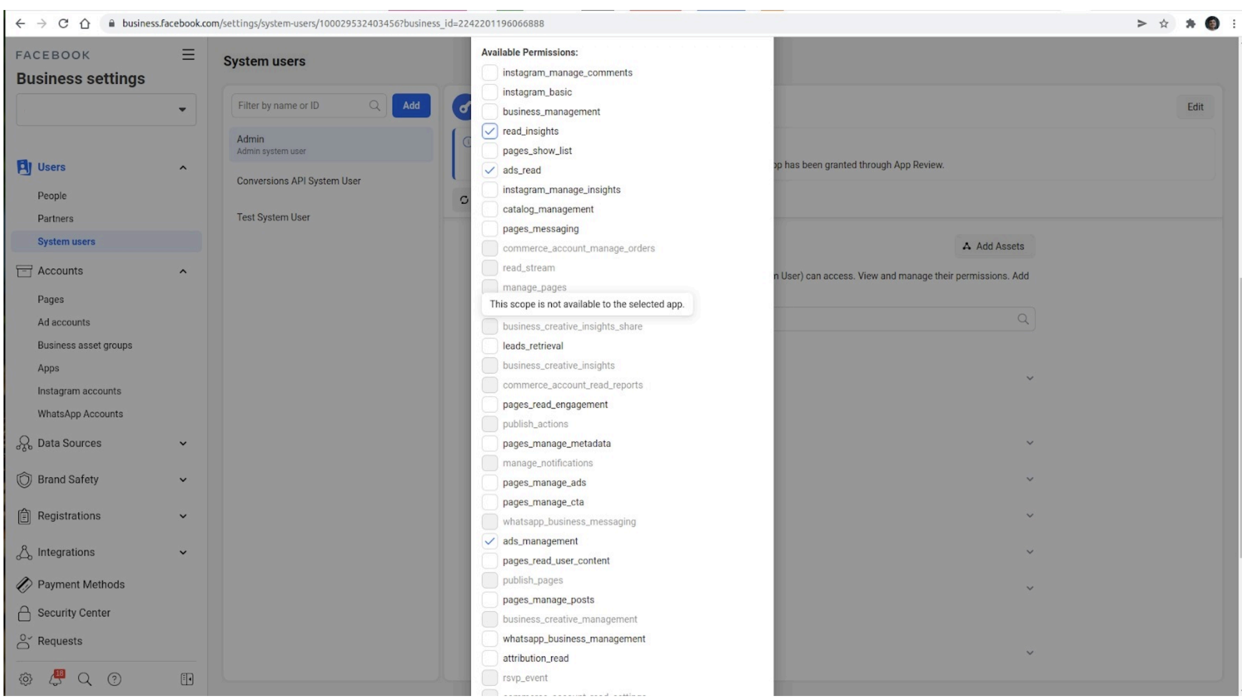


Generate Access Token

1. Navigate to **System Users** tab, click **Admin System User** > **Generate new token**, and select **Business App** from the drop-down list.



2. Select *read_insights, ads_read, and ads_management* from the list of **Available Permissions**, and then click **Generate AccessToken**.



3. Copy the *Access Token* displayed in the dialog box and share it with the HCL CDP team.

 Tip: Make sure to save the *token* after generating it, as it will not be visible in the UI later.

Add Ad Account ID

1. Select **Business Settings > Accounts > Ad Accounts**.
2. Select the **Ad Account** and share the associated account ID.

Set up through Partner Access

Pre-requisites

- It is a must to have a Business Manager. If you don't have one, then visit create a Business Manager.

Share Facebook Business Partner Information

- Contact Name
- Contact Email
- Partner Business ID. For more information about business ID, refer find your business ID.

Accept Partner Request

After receiving this information, HCL CDP will send a Partner Request. You need to accept the request and further share the Ad Account asset with HCL CDP.

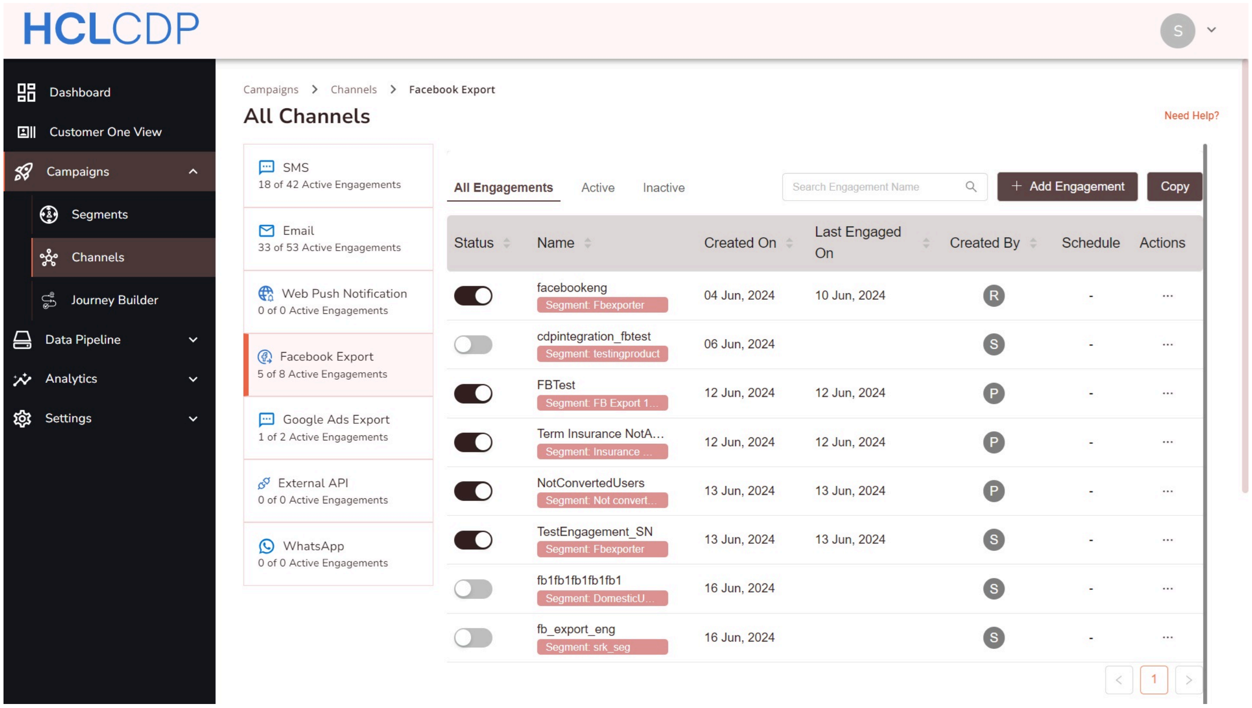
Share Ad Account Assets with HCL CDP

1. After you accept the Partner Request, you should see HCL CDP listed among your partners. Click the Partner, then select **Share Assets**.
2. Under **Asset Type**, choose **Ad accounts**, and select the specific asset to share.
3. Under **Full Control**, enable **Manage Ad Account** and click **Save Changes**.

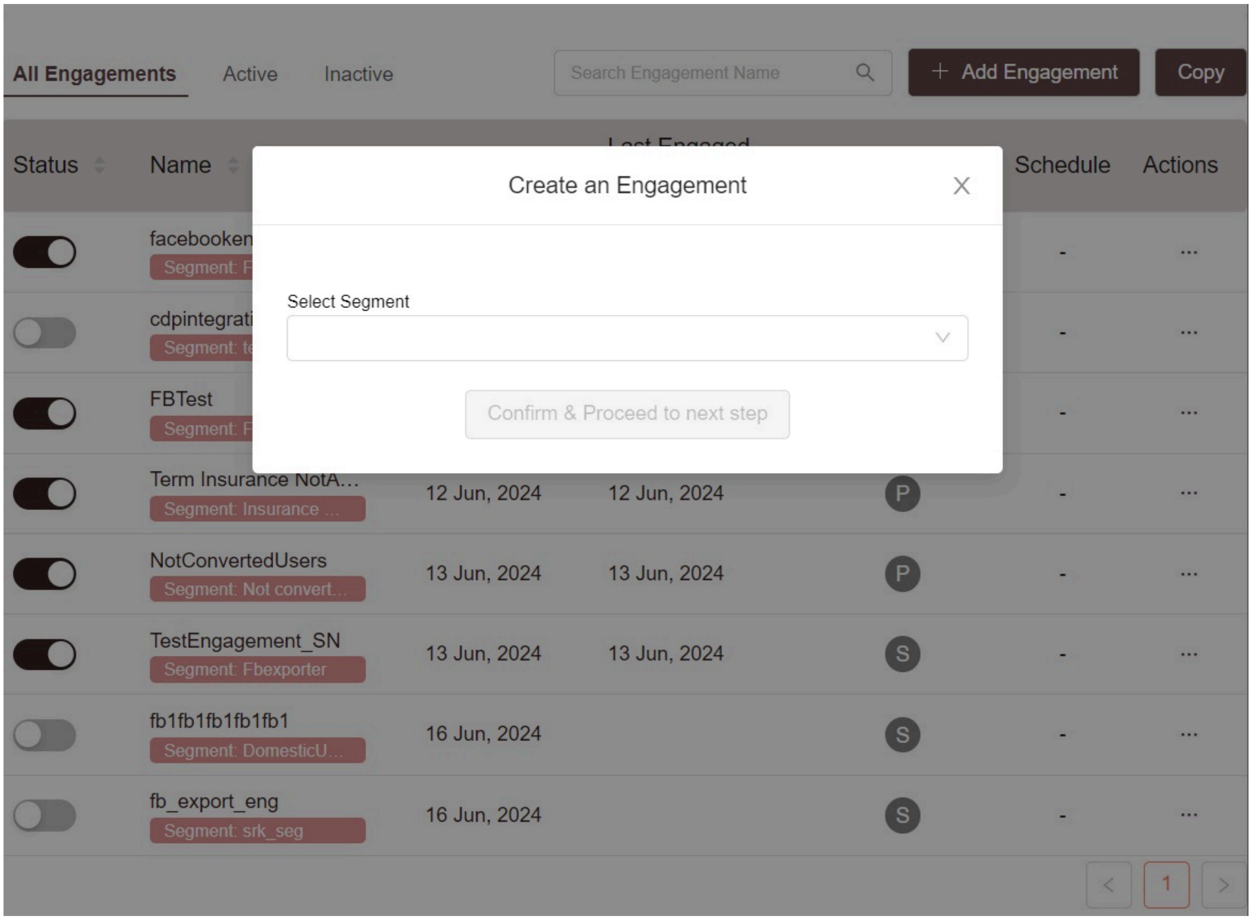
Facebook Channel Setup at HCL CDP

To set up Facebook notifications, you'll first need to create an engagement.

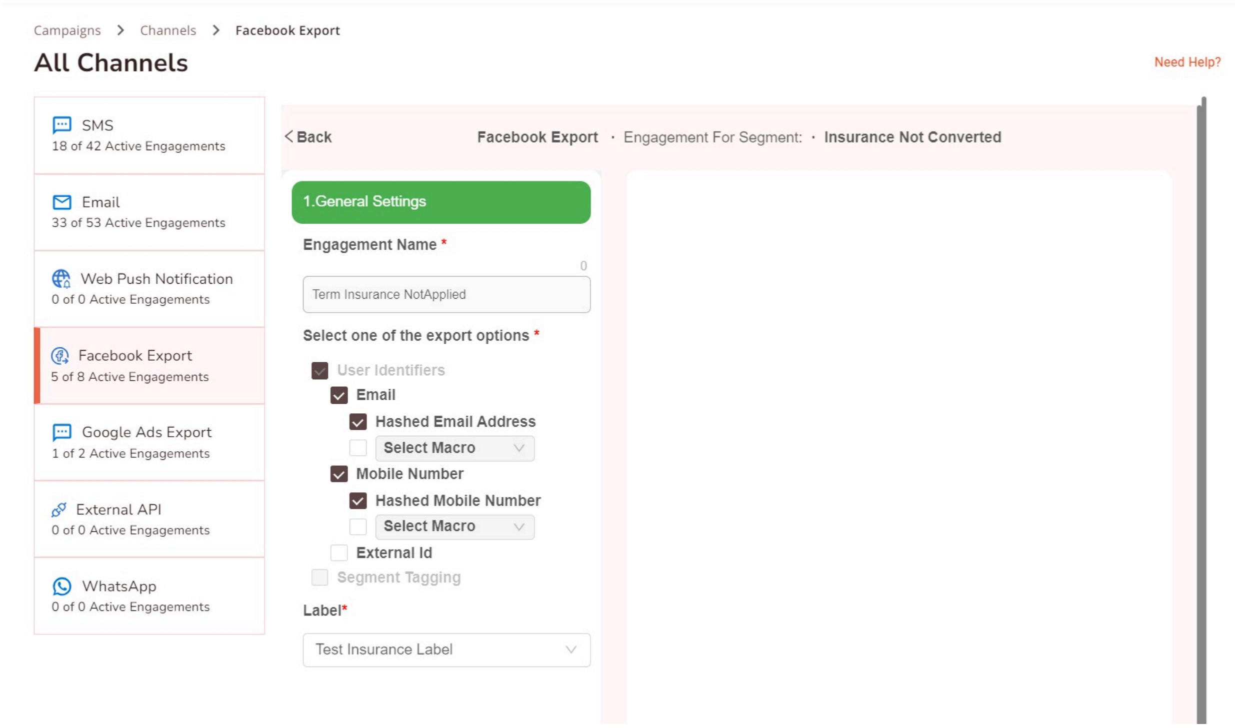
1. Navigate to **HCL CDP** > **Activate** drop-down> **Channels**. The **Channel Summary** tab opens by default.



2. Click **Facebook Export** tab or click icon in the **Facebook Export** tab in the dashboard.
3. Then, click **+Add Engagement**. A **Create an Engagement** pop-up appears.
4. Now, select a segment from the **Select Segment** drop-down.



5. Click **Confirm and proceed to the next step**.
6. In the **General Settings** section, enter engagement name in the **Engagement Name** text box.
7. Check the box and choose one of the export options to specify your export.



8. In the **Select Label** drop-down list, select the desired label.
9. Click **Save** to complete your engagement, which will now appear under the **Facebook Export** tab.
10. In the **Status** column, you can activate or deactivate the engagement at any time using the toggle switch.

Tip: User identifiers enable you to locate existing users by gathering information like email addresses, mobile numbers, and more. Facebook *hashes* this data and matches it with your customer profiles, allowing you to target them for advertising.

To simplify tasks further, you can use macros in HCL CDP to automate repetitive actions.

Tip:

- The Exported Audience will carry the same name as the Engagement Name.
- Once the user moves out of the segment, then user will be automatically removed from the audience.
- You can also set an Expiry (TTL) to remove users from the audience.

External ID

Facebook External ID (`external_id`) is a unique identifier that represents a user from other systems. Using External ID helps you create varied custom audiences on Facebook and improve match rates across channels. For more information about External ID benefits, refer here.

HCL CDP allows you to export HCL CDP User ID (`viz_cookie_id`) as a unique identifier for each user to Facebook as Facebook's `external_id`. Alternatively, you can select a custom variable to use as your own user identifier.

A Facebook Pixel ID is required to enable external ID use cases effectively.

To export External ID to Facebook via HCL CDP, follow the steps below:

1. Under **User Identifiers**, select the **External ID** checkbox, when creating a Facebook Export engagement.
2. Check the HCL CDP User ID checkbox to send the unique user ID to Facebook.
3. If you want to send your own user ID stored in the user profile, choose the appropriate variable from the **Select Macro** drop-down.

Important: Since the campaign will be hosted on Facebook's UI, HCL CDP will not manage performance and reporting.

Journey Builder Support

Facebook Export can only be used as the final node in the user journey.

Supported Audience Exports

The Journey Builder supports exporting User Identifiers, as Segment Tagging requires the user to return to the website.

Google Ads Export Channel

This page explains how to configure and use the Google Ads Export Channel in the Customer Data Platform (CDP). It provides detailed instructions for exporting audience data to Google Ads, including integration setup, audience selection, and managing the data transfer process.

The Google Ads Export Channel enables clients to create segments on the HCL CDP UI and export them in real-time to their respective business managers.

Set up Google Ads Export Channel

User Identifiers

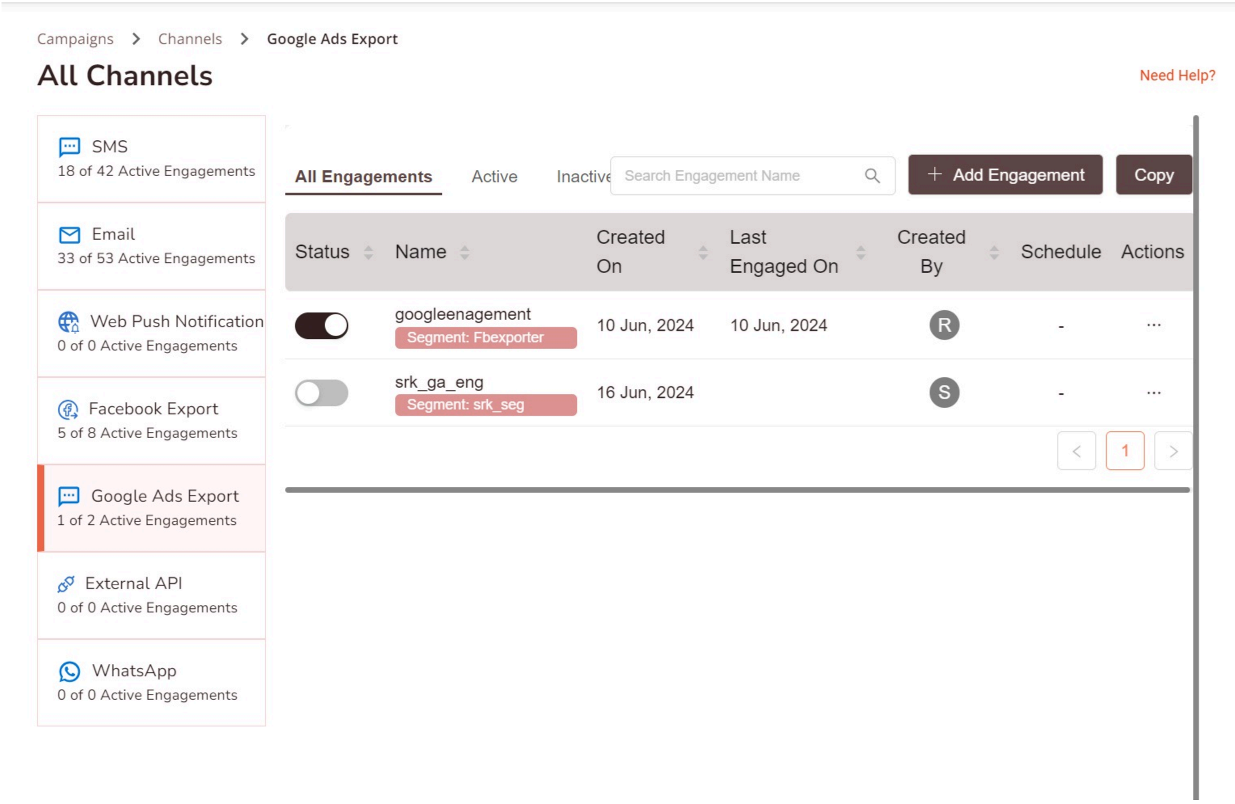
User identifiers allow you to locate existing users by gathering their information, such as email addresses and mobile numbers. Google Ads *hashes* this data and matches it with your customers' profiles, enabling targeted advertising.

To simplify the process, you can leverage macros that automate and streamline repetitive tasks within HCL CDP.

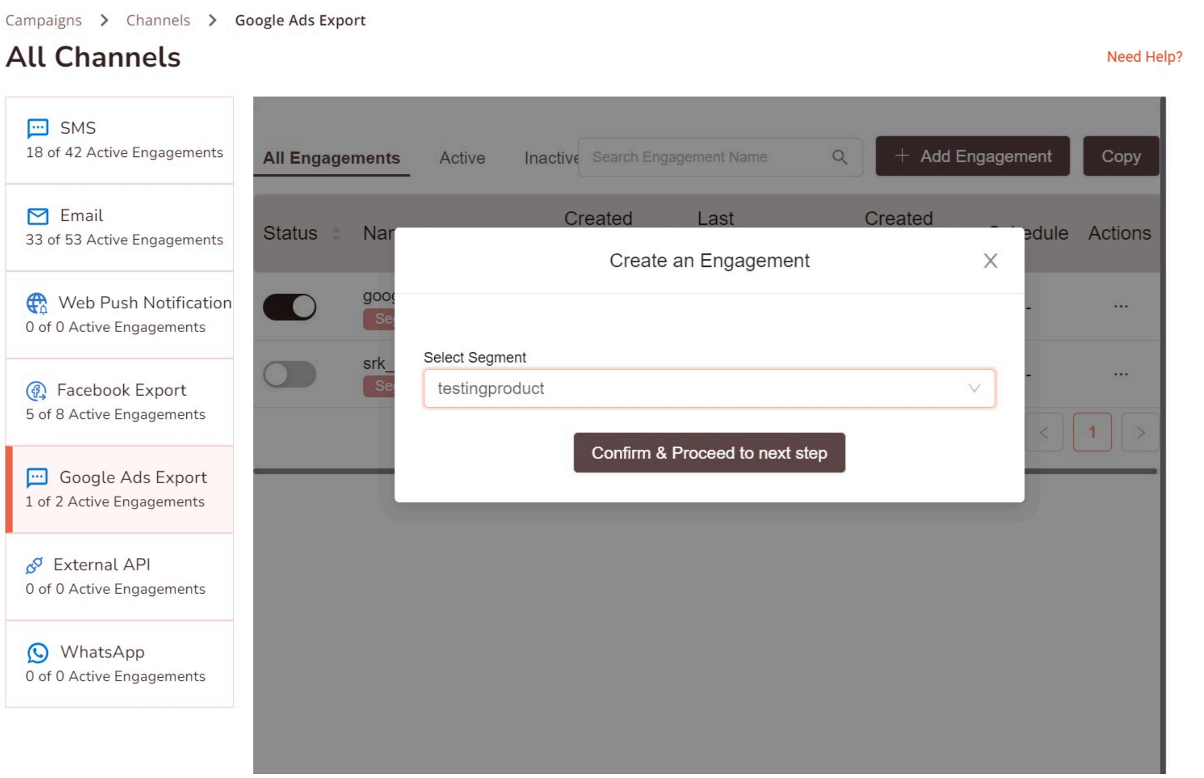
Audience Export Setup

To set up Google Ads notifications, you first need to create an engagement.

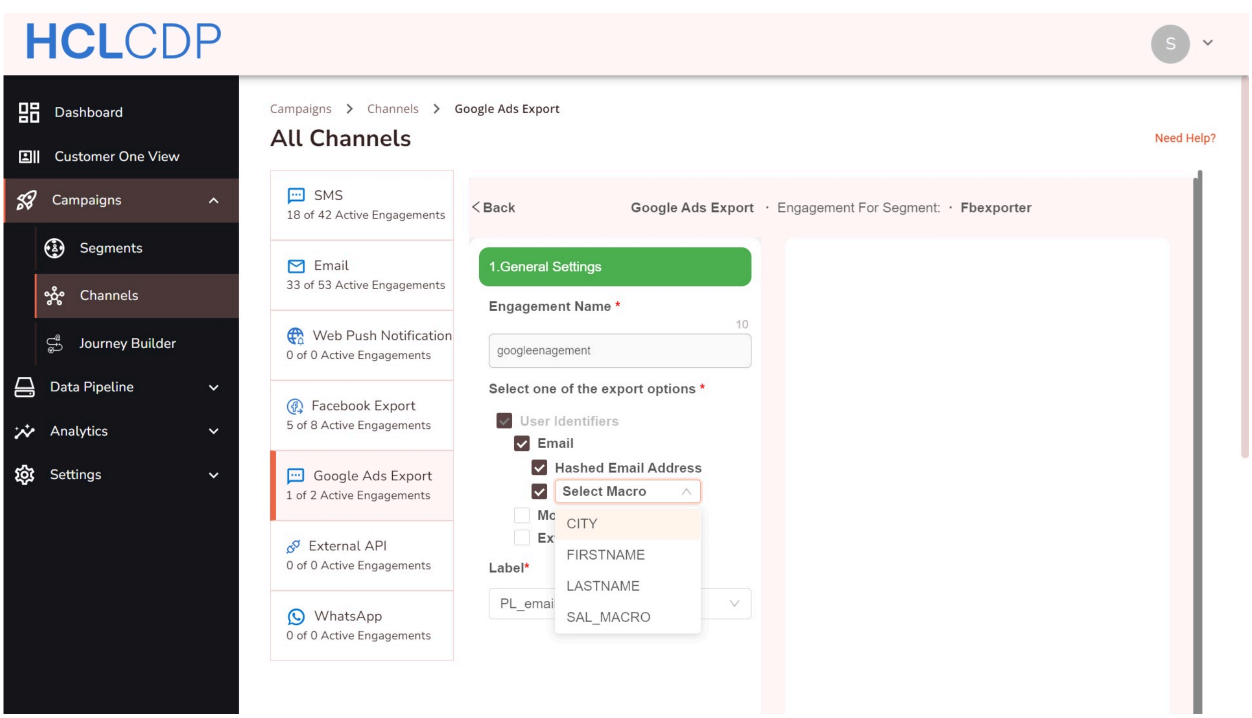
1. Navigate to **HCL CDP > Activate (drop-down) > Channels**. By default **Channel Summary** tab opens.



2. Click **Google Ads Export** tab or click on the icon in the **Google Ads Export** tab in the dashboard.
3. Then, click **+Add Engagement**. A **Create an Engagement** pop-up appears.
4. Select a segment from the drop-down of field **Select Segment**.



5. Click **Confirm & Proceed to the next step**.
6. In the **General Settings** section, enter the engagement name in **Engagement Name** text box.
7. Check the box and select the required export options to define your export.



8. In the **Select Label** drop-down field, select the label.
9. Click **Save**. Your engagement is successfully created and will appear under **Google Ads Export** tab.
10. Under the **Status** column, use the toggle button to activate/deactivate the engagement at any time.

Tip:
- The Exported Audience will carry the same name as the Engagement Name.
- Users will be automatically removed from the audience once they move out of the segment.
- You will have the option to set an Expiry (TTL) to remove users from the audience.

Reporting

We will assist you with audience creation, pixelling, and user uploads in HCL CDP.

Important: Since the campaign is hosted on the Google Ads UI, we will not assume responsibility for its performance and reporting.

Journey Builder Support

Google Ads Export can only be used as the final node in the user journey.

Supported Audience Exports

Journey Builder supports only the export of user identifiers, as segment tagging requires the user to return to the website.

Requirements

An admin user must follow these steps to share the required credentials:

1. Provide the Google Ads MCC ID.
2. Add the GA account ID to the URL and enter the URL as follows.

   URL: https://us-ax.hcl.cdp.co/OAuthGoogle/start.php?accountId=<Insert_Google_Ad_account_ID>
3. When the client clicks on the link, a popup appears for access request.

   Important: We support exporting users only with hashed email and hashed mobile numbers.

Advanced Campaign Features

This section provides an overview of advanced functionalities in the Customer Data Platform (CDP), including A/B testing to compare campaign effectiveness, configuring the Journey API for seamless profile transfers to Unica Journey, and exporting audience data to channels like Facebook and Google Ads. It offers detailed guidance on setup, configuration, and integration to enhance campaign performance and data management.

A/B Testing

This page explains how to create an A/B Test using HCL CDP Marketing Automation Platform to compare two campaign versions and determine which works best.

A/B testing helps measure how effective different channels are within a campaign. For instance, if a company wants to boost sales and build brand awareness, it might launch a campaign that targets a specific segment through various channels like email, SMS, social media, and web ads. Each user could interact with several of these channels, providing a chance to see which ones perform best. By running an A/B test, the marketer can gather insights into user engagement across channels and analyze which combination drives the most success.

Note: HCL CDP advises having an audience of at least 10,000 users for reliable A/B testing results.

Create A/B Test

To create an A/B test, follow the steps below:

1. Navigate to **Campaigns** > **Segments**.
2. Select a segment to perform A/B testing, and in the **Segment** page, select a Channel say SMS.
3. In the **List of Engagements** section, click the **A/B Testing** tab.
4. Click **Create A/B Test**.

   Note: make sure that at least two engagements are activated with a large audience before setting up the A/B test.

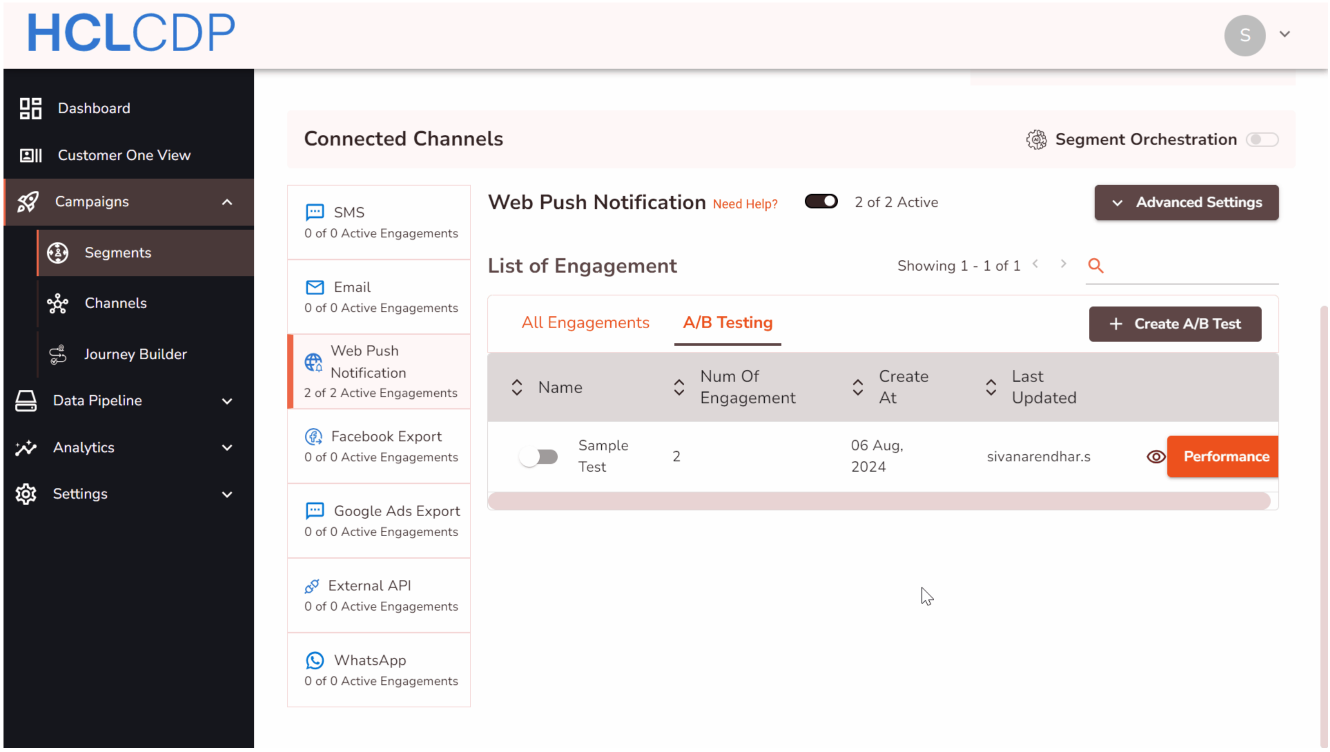
5. In the Create A/B Test page, **Add General details**
   - **Test Name (mandatory):** Enter a name for the test. It should be within the range of **6-25 characters**.
   - **Test Description (mandatory):** Give a brief description of the A/B test. It should be within the range of **6-25 characters**.
   - In the **Split the audience** section, enter the audience ratio of each active engagement.

     Note: All active engagements in the segment will be included in the A/B test, and the total audience split ratio must add up to 100%.

Performance of A/B Test

After creating the A/B test, track the results to see which campaigns version performs better and generates the highest conversion rate. The HCL CDP Marketing Automation platform offers this feature, providing actionable insights so you can pause any campaigns that prove ineffective.

To check the performance of an A/B test, at the right end of the A/B Testing list, click **Performance**. As a result, the **Test Overview** window will display the results of the A/B test.



Segments Overview

This page provides a detailed explanation of segments, their use cases, and types in the HCL CDP Marketing Automation platform. Segments allow marketers to automate user targeting, reduce manual errors, and drive higher conversions through precise audience categorization.

What are Segments?

Segments are groups of users who share specific characteristics or behaviors, making them ideal for targeted marketing campaigns.

Example

XYZ Retail is launching an exclusive summer sale and wants to target users who are more likely to respond positively. To maximize engagement and conversions, they focus on the following criteria:

- Users who purchased apparel within the last 3 months.
- Users with a purchase value of $200 or more in a single transaction.
- Users who engaged with the brand through email campaigns or the mobile app in the past month.

Challenges Without Segmentation

Traditional user targeting can involve several challenges:

1. **Siloed Data:** Marketers often depend on data teams to retrieve user information manually, leading to delays and missed opportunities.
2. **Manual Process:** Without automated segmentation, identifying and targeting new users repeatedly requires manual effort.
3. **Errors and Inefficiency:** The back-and-forth between marketing and data teams introduces inaccuracies and slows campaign execution.

By leveraging HCL CDP's Marketing Automation platform, marketers can create rich audience segments automatically, ensuring timely and accurate targeting.

Why Do Marketers Need Segments?

1. **Audience Categorization:** Segmentation helps group users based on their behavior, interests, and attributes, enabling personalized targeting.
2. **Omnichannel Engagement:** Target specific segments across multiple marketing channels (email, SMS, push notifications, digital ads, etc.) to maximize reach and impact.
3. **Performance Insights:** Generate detailed reports for each segment to analyze performance and identify high-converting audiences.

Types of Segments

Segments can be categorized based on various parameters that define user characteristics. These parameters help marketers tailor campaigns effectively.

Geographic Segmentation

Targets users based on their geographical location. Parameters include:

- **City, Region, or Country**
- **Population Density**
- **Postal Codes**

For example, a food delivery app targets users in downtown urban areas for a special lunch promotion, as these regions have higher traffic and working professionals.

Demographic Segmentation

Categorizes users based on statistical data, such as:

- **Age, Gender, or Income**
- **Family Size or Profession**
- **Education Level and Ethnicity**

For example, an online learning platform targets working professionals aged 25–35 with a bachelor's degree for a career advancement course.

Psychographic Segmentation

Focuses on users' intrinsic traits, such as:

- **Personality and Lifestyle**
- **Values, Goals, and Beliefs**
- **Habits and Interests**

For example, a fitness app targets users who have shown an interest in healthy living, yoga, and meal planning for its premium fitness coaching program.

Behavioral Segmentation

Analyzes user behaviors, including decision-making, usage patterns, and loyalty. Parameters include:

- **Benefit Sought:** Quality, price, or promotions.
- **Usage Rate:** Low, medium, or heavy users.
- **User Status:** First-time, current, or dormant users.
- **Loyalty Status:** None, medium, or strong loyalty.

For example, an e-commerce platform targets loyal customers (repeat buyers with a purchase frequency of 3 times per month) for a loyalty rewards program offering cashback and exclusive deals.

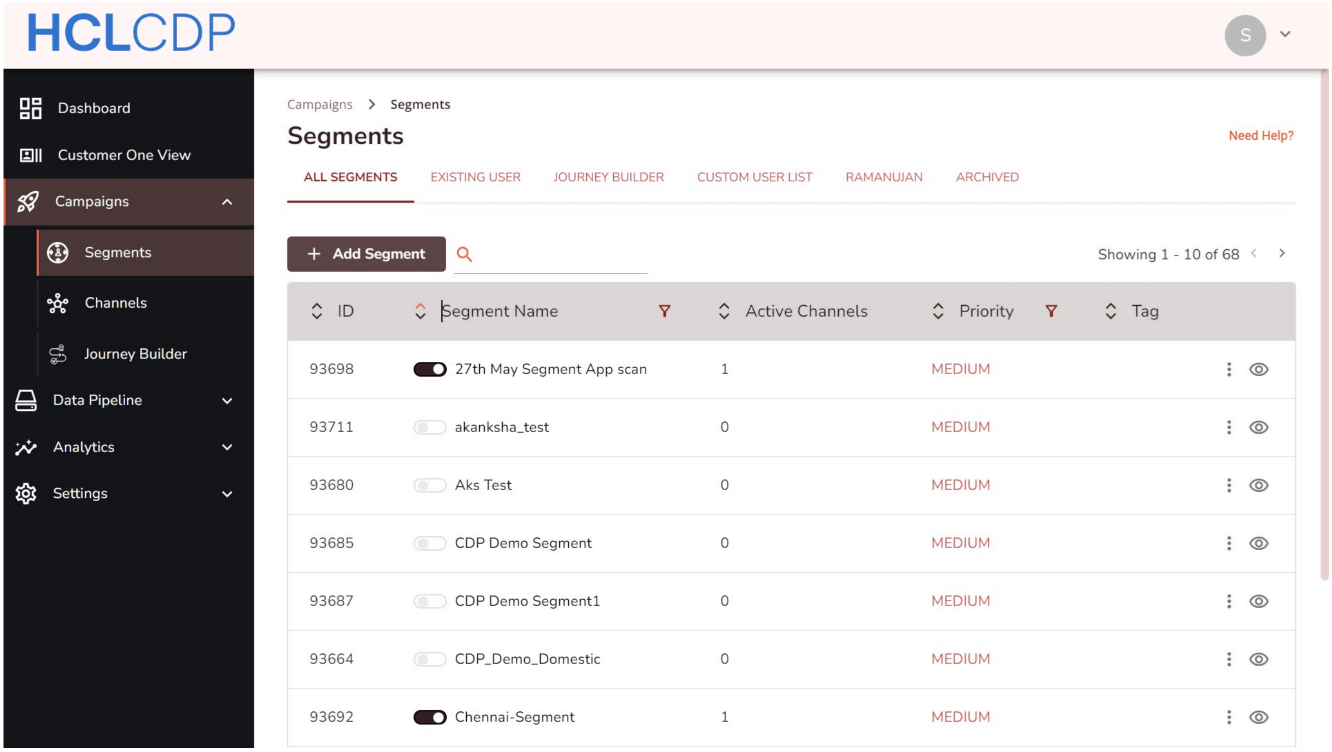
Creating and Managing Segments

This page explains how to create, manage, and utilize segments using the HCL CDP Marketing Automation Platform. Segments allow marketers to target specific groups of users based on defined criteria, automate campaigns, and analyze performance.

Segments Page

The Segments page displays all active, existing users, journey and archived segments and includes the following attributes:

1. **Toggle Switch**: Activate or deactivate a segment.
2. **Segment Name**: The name of the segment.
3. **Active Channels**: The total number of channels with engagements for this segment.
4. **Segment ID**: A unique identifier for each segment.
5. **Priority**: Priority level (High, Medium, Low).
6. **Tags**: Labels for segment identification.



Create a Segment

To create a segment, follow the steps below:

1. On the **Segments** page, click **+Add Segment** and select **Real Time** option to create a new segment.
2. In the New Segment screen, enter the following Segment details:
    - **Name**: Enter a unique name (6–25 characters).
    - **Segment Priority**: Assign a priority (default is Medium). Adjust to High or Low as needed.
    - **Tags**: Add descriptive keywords to organize and analyze the segment. You can add multiple tags to a segment. For more information about adding tags, refer Add a Tag on page 179.
    - **Description**: Provide a brief description (at least 6 characters).
3. To apply rules to the segments, in the **Dimension** field, define rules using parameters such as "Last Page Visited" or "Purchase Value". Contact your HCL CDP Implementation Team to add custom dimensions.
4. Choose operators: Use one of the following:
    - **String/Number**: Equals, Not Equals, Contains, Not Contains.
    - **Time**: After, Before (format: HH:MM:SS Zzzz).
    - **Date**: Before, After, On.
5. **Set Values**: Assign values to dimensions.
6. Click the **check icon** to apply the rule or the **delete icon** to delete a particular rule.

    Note: At least one rule is required to create a segment.

7. Click the (#☺) icon at the right side of the Applied Rules palette to view the Segment Audience and Reachability.

Remember: Check the Segment Audience after each rule is applied.

8. Click **Add Rule** to add a rule, or click **Add Group** to group multiple rules using **AND/OR logic** for complex segmentation.
9. For Group rules, click **AND**/**OR** logic as per the applied rules.
    - **AND**: Includes users who meet all conditions.
    - **OR**: Includes users who meet any condition.
10. Click **Save Segment** to save the Segment.

Create a Batch Segment

To create a batch segment, follow the steps below:

1. On the **Segments** page, click **+Add Segment** and select **Batch** to create a batch segment.
2. In the **New Segment** screen, enter the following Segment details:
    - **Name**: Enter a unique name (6–25 characters).
    - **Tags**: Add descriptive keywords or select a keyword to organize and analyze the segment. You can add multiple tags to a segment. For more information about adding tags, refer Add a Tag on page 179.
    - **Segment Priority**: select a priority (default is Medium). Adjust to High or Low as needed.
    - **Description**: Provide a brief description (at least 6 characters).
3. In the **Applied Rules** section, click **+NEW SOURCE GROUP** and select one of the data source from the drop-down list.
4. To apply rules to the segments, in the **Dimension** field, define rules using parameters such as "Last Page Visited" or "Purchase Value". Contact your HCL CDP Implementation Team to add custom dimensions.
5. In the **Aggregate** drop-down list, select appropriate available option.
6. Choose operators: Use one of the following:

Data Type	Operators	Aggregate Functions
String	Equal, Not Equals, Contains, Not Contains, In, Not In	(None)
String	Less Than, Greater Than, Less Than Equal, Greater Than Equal, Equal, Not Equal	COUNT
Numeric	Less Than, Greater Than, Less Than Equal, Greater Than Equal, Equal, Not Equal	SUM, COUNT, MAX, MIN, AVG
Date	BETWEEN, LAST *N* DAYS	(None)

7. **Set Values**: Assign values to dimensions either from the available drop-down options or manually enter the values.
8. Click the **delete icon** to delete a particular rule.

Note: At least one rule is required to create a segment.

9. Click the view icon at the right side of the Applied Rules palette to view the Segment Audience and Total Audience.

Remember: After the new rule is applied, the **Refresh Count** button is visible to view the latest Segment Audience count.

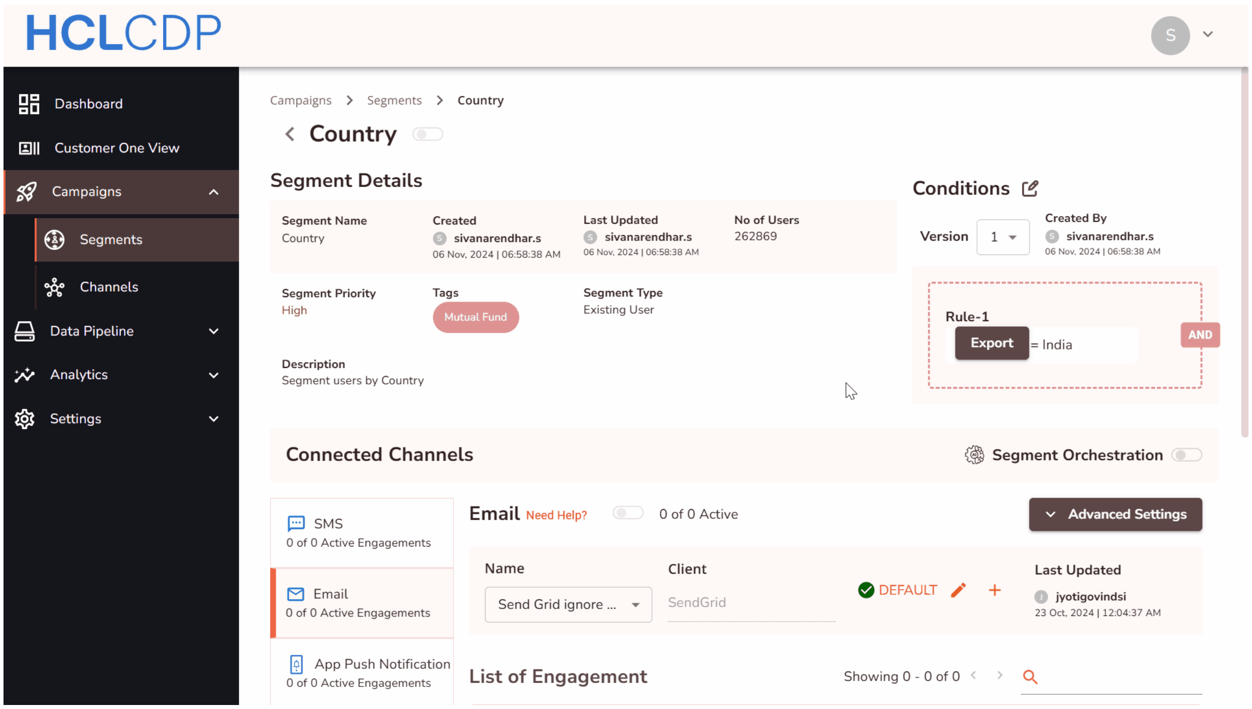
10. Click **+ Rule** to add a rule, or click **+ Group** to group multiple rules using **AND/OR logic** for complex segmentation.
11. For Group rules, click AND/OR logic as per the applied rules.
    - **AND**: Includes users who meet all conditions.
    - **OR**: Includes users who meet any condition.
12. To add multiple data source and filters, click **+NEW SOURCE GROUP**, and define the segment rules.
13. Click **Save Segment** to save the Segment.

Edit a Segment

To edit your segment and make changes to it, follow the steps below:

1. On the Segments page, click the name of the segment you want to edit.
2. Click the edit () icon next to Conditions, to start the editing, and implement changes to the Segment.
3. Click **Save** to apply the changes made. As a result, a pop-up window will appear to review the active engagements and journeys linked to the segment.
4. Click **Confirm Segment Edit** after reviewing the changes made.
5. As a result, a pop-up window will appear notifying the Segment Edited Successfully.

6. Click **View the Segment** to examine the changes made, and click the **Version** drop-down to view different versions of the segment.



Edit a Batch Segment

To edit your segment and make changes to it, follow the steps below:

1. On the Segments page, click the name of the batch segment you want to edit.
2. Click the Edit Rules ( ) icon next to Created By, to start the editing, and implement changes to the batch segment.
3. Click **Update Segment** to apply the changes made.
4. As a result, a pop-up window will appear notifying the Segment Edited Successfully.
5. Click **View the Segment** to examine the changes made, and click the **Version** drop-down to view different versions of the segment.

Duplicate a Segment

To duplicate a segment, follow the steps below:

1. Click the **three dots** next to the desired segment and click **Duplicate**.
2. Rename the duplicated segment, and modify the rules, tags, or attributes of the segment as needed.

 Note: Make sure the segment name should be unique.

3. Click **Save Segment**.

Publish Batch Segment

You can select the user profile attributes and schedule them to send the segmented user data to either Amazon S3. To publish batch segment data, follow the steps below:

1. In the **Segments** page, select a batch segment, and click **Publish**.
2. On the **Publish Segment** pop-up, in the **Send Data and Time** calendar, select the date and time for sending the segment data to the Amazon S3.
3. In the **Profile Attributes** menu, select the check-boxes of profile attributes to publish. You can choose properties from profiles to export along with the primary identifier. These properties come from the customer demographics data source.
4. To automate publish, select the **Repeat** checkbox to schedule the profile publish. You can schedule the profile publish on daily or weekly. Also, you can specify the frequency and end date to stop the frequency of the profile publish.
5. Click **Update** to schedule the profile publish. The exported data will be sent as a **CSV file** to the configured server.

Archive a Segment

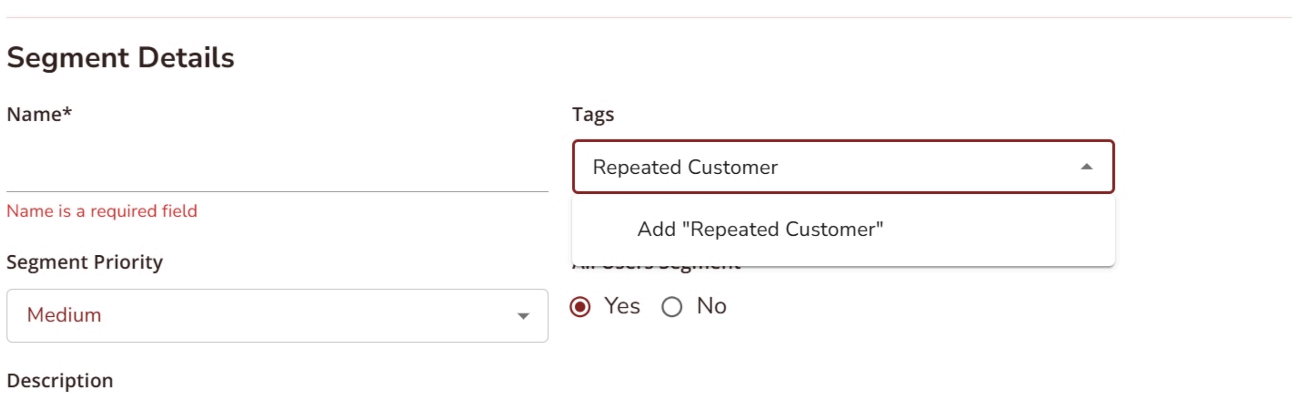
You can archive or unarchive the segments created. If a segment is Archived, all the engagements under that Segment will be deactivated and hidden from the UI.

1. In the **Segments** page, click the **three dots** next to the segment you want to archive. Archived segments will appear in the **Archived tab** and engagements under them will be deactivated.
2. In the **Segments** page, click the **Archived** tab.
3. Click the **three dots** next to the desired segment and select **Unarchive**.

Add a Tag

You can add multiple tags to a segment in the HCL CDP Marketing Automation platform to categorize and organize it effectively. These tags can be edited for existing segments as well.

To add a tag, in the **Tags** drop-down, enter the tag name and click Add tag name.



Data Pipeline

Data Pipeline enables seamless data flow by managing events, integrating data sources, and configuring destinations for unified and actionable customer insights.

Events Overview

This page provides a brief overview of events and their role in your marketing campaigns.

What is an event?

An **event** refers to any action performed by a customer while interacting with your business.

For example, consider a typical customer journey when purchasing a product:

1. The customer visits your brand's website, and the homepage loads.
2. The customer scrolls the page and clicks on the desired product.
3. The customer checks for offers and adds the product to the cart.
4. The customer receives an email about an ongoing offer and clicks the email link.
5. The customer is directed to the "Buy Now" page and completes the payment.

In this scenario, the following actions are considered events:

- **Page Load:** When the website homepage loads.
- **Track:** When the customer scrolls the page.
- **Click on Product:** When the customer clicks the product.
- **Add to Cart:** When the product is added to the cart.
- **Click on Email Link:** When the customer clicks the email offer link.
- **Page Load:** When the customer is directed to the "Buy Now" page.
- **Order Placed:** When the customer completes the payment.

Types of events in HCL CDP

Events in HCL CDP are categorized into **Standard Events** and **Custom Events**.

Standard events

Standard events are pre-defined in HCL CDP with standard mappings and attributes for various destinations. These events are automatically mapped and include:

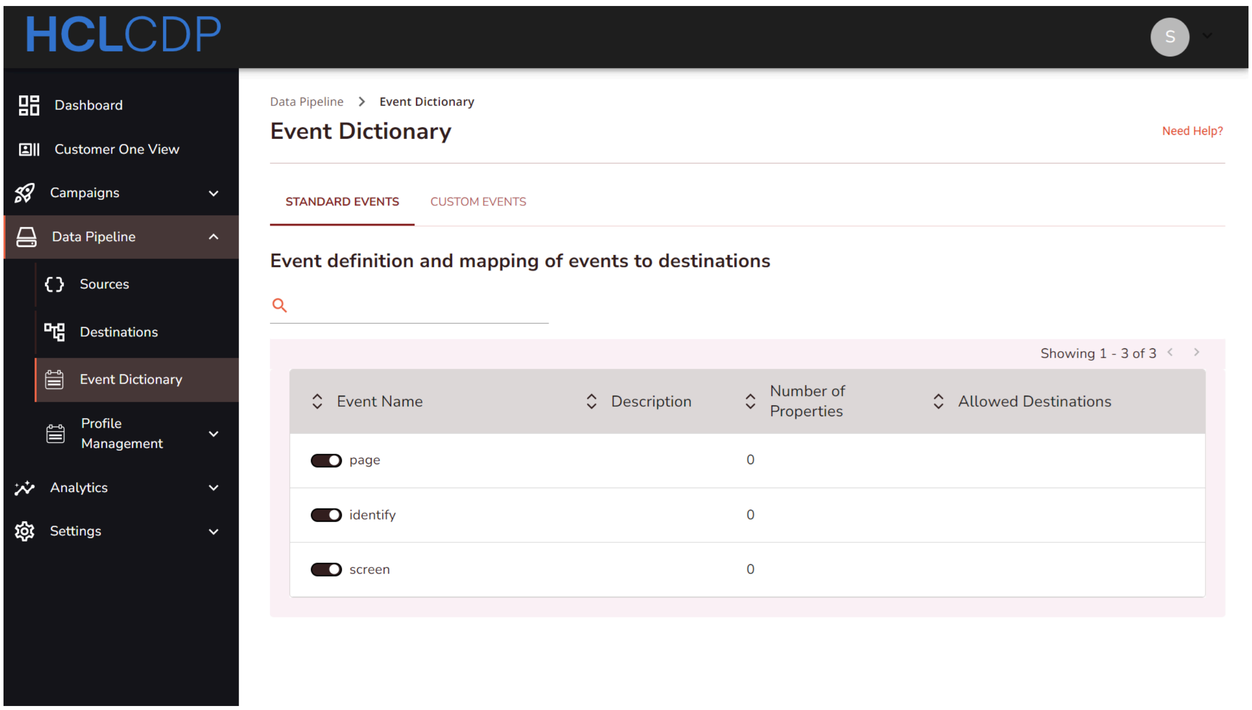
- **Identify:** Identifies the user and merges the cookie ID with the existing profile. Examples include login or subscription. Learn more on page 187.
- **Page:** Tracks the pages viewed by the user. It helps create a customer funnel and identifies drop-off pages. Learn more on page 189.

- **Screen:** Tracks the screens viewed by the user on an app. It helps create a customer funnel and identifies drop-off screens. Learn more on page 190.
- **Track:** Tracks user behavior on the website or app. Examples include time spent on the app, products added to the cart, or video drop-off points. Learn more on page 183

Viewing Standard Events

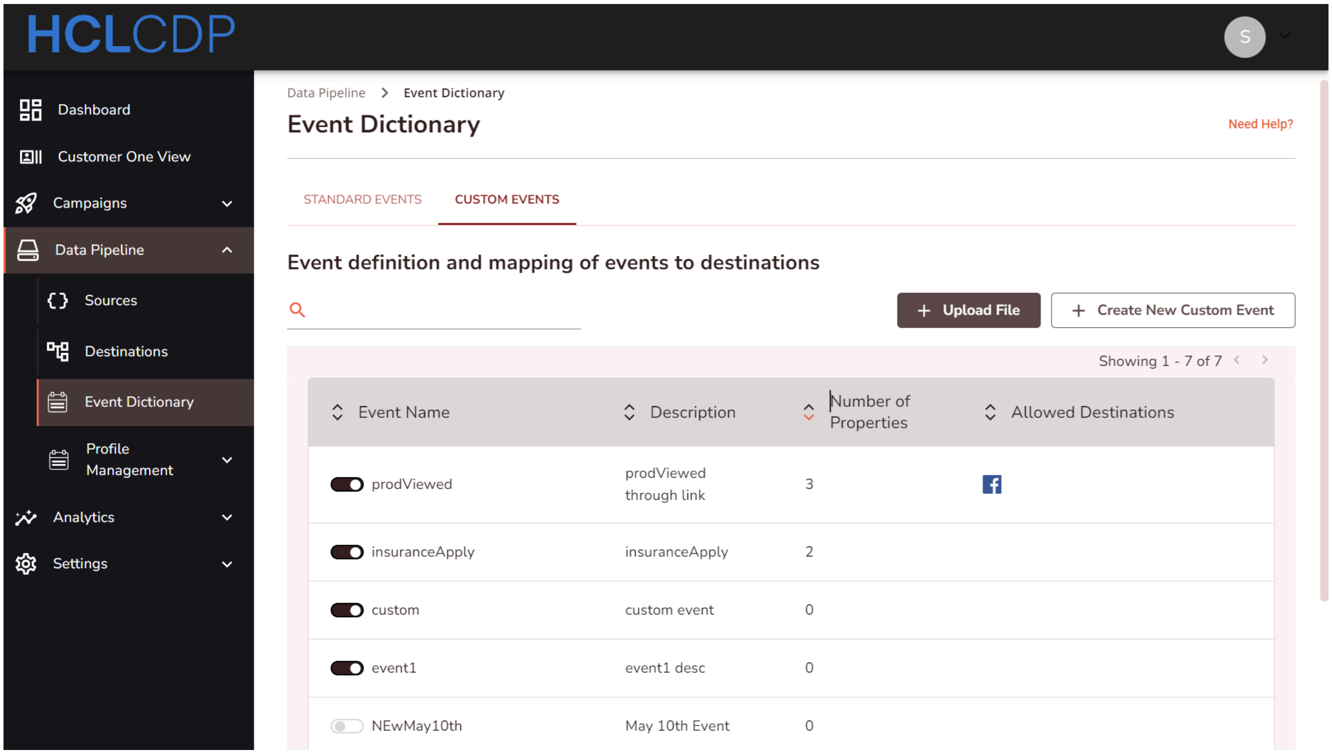
To view standard events:

1. Go to **Data Pipeline** > **Event Dictionary** > **Standard Events**.



Custom events

Custom events are not pre-defined in HCL CDP and do not have standard mappings. Businesses must create and map these events to destinations as needed.



Transformation

Transformations in HCL CDP allow you to convert user or event attributes into a destination-compatible format. Transformations are typically set up for custom events since the process is configured at the destination level. This is a one-time activity for tracking a specific event for a destination. The same event can be transformed differently across platforms.

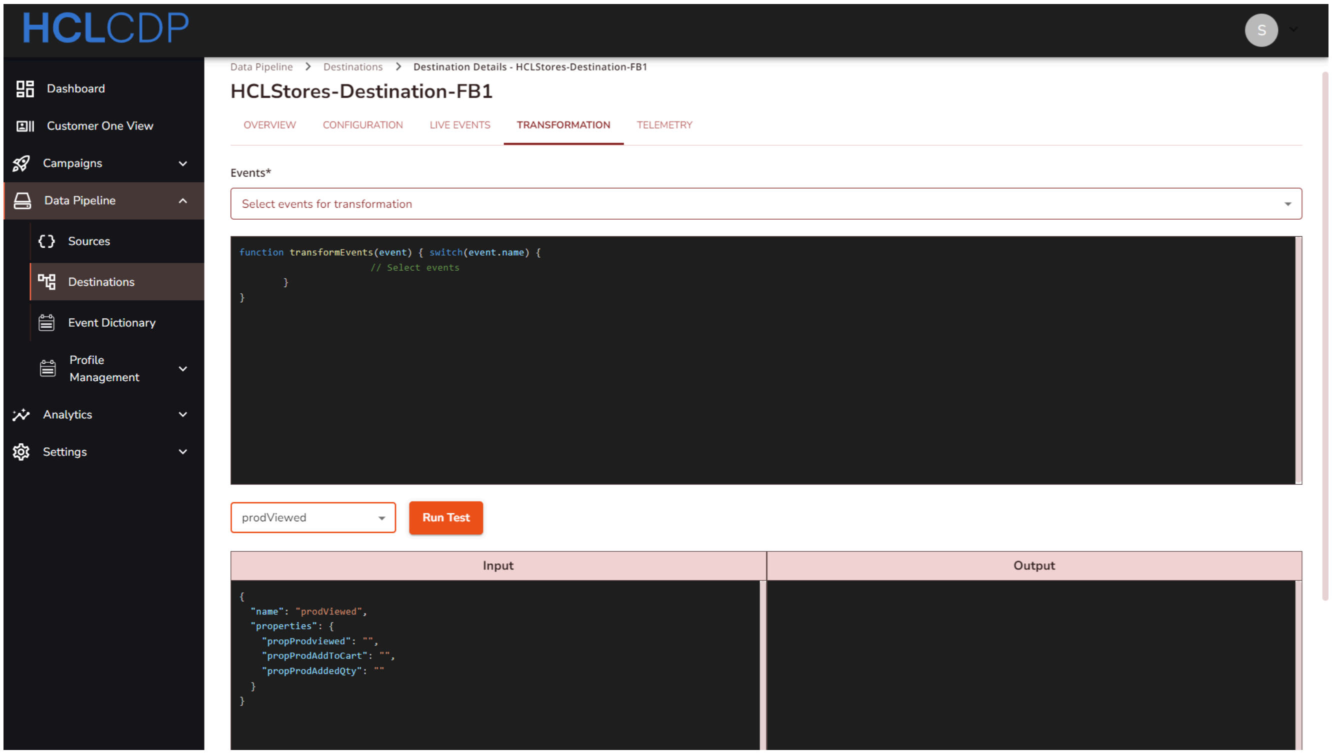
For example:

- A "productviewed" event might be transformed as:
  - "viewedproduct" for Facebook
  - "viewed" for Google Ads

Creating a Transformation

To create a transformation:

1. Go to **Data Pipeline** > **Destination**.
2. Select a destination and navigate to **Transformation**.
3. Click **Add Transformation**.
4. Select the events to transform from the list of available events.
5. Test the transformation:
   - Select an event in the **Events** field below the code snippet.
   - Click **Run Test**.
6. Click **Validate and Save** to save the transformation.



Deleting a Transformation

To delete a transformation, click **Delete Transformation** in the lower-left corner of the window.

Track

Explaining the track events, properties and the methods to propagate to destinations

The **Track API** records user actions (events) along with their associated properties. It is designed to capture and propagate information to specified destinations in a structured manner.

Each action is called an ***event***. Each ***event*** has a name and some properties associated with it along with an optional callback function. For example, the event name could be `productViewed`, while the properties can be `sort`, `currency` etc.

Example:

Sample JavaScript `track` event call:

```
lmSMTObj.track("productViewed", {
    "currency": "INR",
    "filters": "Price < 5000",
    "sort": "Price (Low to High)",
    "product": {
        "name": "Earbuds",
        "category": "Mobile Phone & Accessories",
        "position": 1
    }
}, {
```

```
    "trackerId": "6791c47a-0178-47bc-8711-86a2c67b2255"
}, function() {})
```

Sample `track` event payload:


```
{
  "id": "viz_6139c51ee9662",
  "userId": "6791c47a-0178-47bc-8711-86a2c67b2255",
  "otherIds": {
    "_fbp": 1631176031249,
    "_fbc": "6791c47a-0178-47bc-8711-86a2c67b2255",
    "_ga": "1631176031249",
    "trackerId" : "6791c47a-0178-47bc-8711-86a2c67b2255"
  },
  "context": {
    "library": {
      "name": "javascript",
      "version": "0.01"
    },
    "page": {
      "path": "/academy/",
      "referrer": "",
      "search": "",
      "title": "Analytics Academy",
      "url": "https://hcl.cdp.co"
    },
    "userAgent": {
      "deviceType": "DESKTOP",
      "osType": "Linux",
      "osVersion": "Linux",
      "browser": "Chrome",
      "ua": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_0) AppleWebKit/537.36 (KHTML, like Gecko)
 Chrome/46.0.2490.86 Safari/537.36"
    },
    "ip": "108.0.78.21",
    "utm": {
      "campaign": "TPS Innovation Newsletter",
      "source": "Newsletter",
      "medium": "email",
      "term": "tps reports",
      "content": "image link"
    }
  },
  "event": "productViewed",
  "messageId": "ajs-f8ca1e4de5024d9430b3928bd8ac6b96",
  "properties": {
  "currency": "INR",
  "filters": "Price < 5000",
  "sort": "Price (Low to High)",
  "product": {
    "name": "Earbuds",
    "category": "Mobile Phone & Accessories",
    "position": 1
  }
},
  "receivedAt": "2015-12-12T19:11:01.266Z",
  "sentAt": "2015-12-12T19:11:01.169Z",
  "timestamp": "2015-12-12T19:11:01.249Z",
```

```
  "type": "track",
  "originalTimestamp": "2015-12-12T19:11:01.152Z",
  "writeKey": "aUL2rZghe5jHvjWh"
}
```

Event

An **event** represents a single action performed by the user. Each event must have a **name** and may include associated **properties**.

Naming Conventions: Use camelCase for event names, ensuring clarity and semantic accuracy (e.g., `productSearched`, `registerButtonClicked`). Avoid generic names like `event123` or `rBClk`.

Properties

Properties provide additional context for an event, such as user details, action specifics, or product metadata.

Structure: Properties are passed as a JSON object in the track event call.

Supported Data Types: String, Number, Boolean, and Object (hash).

Example:

In the event `productViewed`, the properties include:

```
{
  "currency": "INR",
  "filters": "Price < 5000",
  "sort": "Price (Low to High)",
  "product": {
    "name": "Earbuds",
    "category": "Mobile Phone & Accessories",
    "position": 1
  }
}
```

Track API Call

Track API Call

The Track API call records events, their properties, and includes optional callbacks.

JavaScript Example:

```
lmSMTObj.track("productViewed", {
    "currency": "INR",
    "filters": "Price < 5000",
    "sort": "Price (Low to High)",
    "product": {
        "name": "Earbuds",
        "category": "Mobile Phone & Accessories",
        "position": 1
    }
```

```
}, {
    "trackerId": "6791c47a-0178-47bc-8711-86a2c67b2255"
}, function() {})
```

Track Event Payload

A typical track event payload includes metadata about the event and its context.

Sample Payload:


```
{
  "id": "viz_6139c51ee9662",
  "userId": "6791c47a-0178-47bc-8711-86a2c67b2255",
  "otherIds": {
    "_fbp": 1631176031249,
    "_fbc": "6791c47a-0178-47bc-8711-86a2c67b2255",
    "_ga": "1631176031249",
    "trackerId": "6791c47a-0178-47bc-8711-86a2c67b2255"
  },
  "context": {
    "library": {
      "name": "javascript",
      "version": "0.01"
    },
    "page": {
      "path": "/academy/",
      "referrer": "",
      "search": "",
      "title": "Analytics Academy",
      "url": "https://hcl.cdp.co"
    },
    "userAgent": {
      "deviceType": "DESKTOP",
      "osType": "Linux",
      "osVersion": "Linux",
      "browser": "Chrome",
      "ua": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_0) AppleWebKit/537.36 (KHTML, like Gecko)
 Chrome/46.0.2490.86 Safari/537.36"
    },
    "ip": "108.0.78.21",
    "utm": {
      "campaign": "TPS Innovation Newsletter",
      "source": "Newsletter",
      "medium": "email",
      "term": "tps reports",
      "content": "image link"
    }
  },
  "event": "productViewed",
  "messageId": "ajs-f8ca1e4de5024d9430b3928bd8ac6b96",
  "properties": {
    "currency": "INR",
    "filters": "Price < 5000",
```

```
    "sort": "Price (Low to High)",
    "product": {
      "name": "Earbuds",
      "category": "Mobile Phone & Accessories",
      "position": 1
    }
  },
  "receivedAt": "2015-12-12T19:11:01.266Z",
  "sentAt": "2015-12-12T19:11:01.169Z",
  "timestamp": "2015-12-12T19:11:01.249Z",
  "type": "track",
  "originalTimestamp": "2015-12-12T19:11:01.152Z",
  "writeKey": "aUL2rZghe5jHvjWh"
}
```

Propagating events to destinations

Events collected via the Track API are forwarded to configured destinations unless explicitly excluded.

- **Default Behavior**: Events and properties are passed to all mapped destinations.
- **Compatibility**:
  - If a destination does not support properties, only the event name is sent.
  - If a property type is unsupported, it will be converted or excluded, based on feasibility.

This ensures seamless integration across all destinations while maintaining data fidelity where possible.

Identify

Presenting the Identify feature to know customers better by recording their traits.

The **Identify** feature in HCL CDP allows you to associate a client with their activities and record specific traits, such as user ID, email, and name.

Identify Call

The `identify` call links a client to their actions and records their traits.

Example JavaScript Identify Call

```
lmSMTObj.identify(”6791c47a-0178-47bc-8711-86a2c67b2255”, {
 "firstName": "John",
 "lastName": "Doe",
 "gender": "Male",
 "age": "27",
 "city": "Mumbai"
}, {
 "email": "john.doe@gmail.com",
 "phone": "9848012345"
}, function() {})
```

Sample Identify Event Payload


```
{
  "id": "viz_6139c51ee9662",
  "userId": "6791c47a-0178-47bc-8711-86a2c67b2255",
  "otherIds": {
    "email": "john.doe@gmail.com",
    "phone": "9848012345",
    "_fbp": 1631176031249,
    "_fbc": "6791c47a-0178-47bc-8711-86a2c67b2255",
    "_ga": "1631176031249"
  },
  "context": {
    "library": {
      "name": "javascript",
      "version": "0.01"
    },
    "userAgent": {
      "deviceType": "DESKTOP",
      "osType": "Linux",
      "osVersion": "Linux",
      "browser": "Chrome",
      "ua": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_0) AppleWebKit/537.36 (KHTML, like Gecko)
 Chrome/46.0.2490.86 Safari/537.36"
    },
    "ip": "108.0.78.21"
  },
"page": {
      "path": "/academy/",
      "referrer": "",
      "search": "",
      "title": "Analytics Academy",
      "url": "https://hcl.cdp.co"
    },
  "messageId": "ajs-f8ca1e4de5024d9430b3928bd8ac6b96",
  "customerProperties": {
    "firstName": "John",
    "lastName": "Doe",
    "gender": "Male",
    "age": "27",
    "city": "Mumbai"
  },
  "receivedAt": "2015-12-12T19:11:01.266Z",
  "sentAt": "2015-12-12T19:11:01.169Z",
  "timestamp": "2015-12-12T19:11:01.249Z",
  "type": "identify",
  "originalTimestamp": "2015-12-12T19:11:01.152Z",
  "writeKey": "aUL2rZghe5jHvjWh"
}
```


This payload includes the user's unique identifier, additional identifiers (such as email and phone), context information (like user agent and IP address), page details, and customer properties.

Page

The **Page Tracking** feature enables you to monitor user interactions with your website by recording page views and associated properties

The `page` call records when a user views a specific page on your website, along with optional properties that provide additional context about the page.

Example JavaScript Page Call

```
lmSMTObj.page("contactUs", {
    "path": "/contact/",
    "title": "Contact Us",
    "url": "https://example.com/contact"
}, {
    "trackerId": "1234abcd-5678-efgh-9101-ijklmnopqrst"
}, function() {})
```

Sample Page Event Payload


```
{
  "id": "unique_event_id",
  "userId": "1234abcd-5678-efgh-9101-ijklmnopqrst",
  "otherIds": {
    "_fbp": "facebook_pixel_id",
    "_fbc": "facebook_click_id",
    "_ga": "google_analytics_id",
    "trackerId": "1234abcd-5678-efgh-9101-ijklmnopqrst"
  },
  "context": {
    "library": {
      "name": "javascript",
      "version": "0.01"
    },
    "userAgent": {
      "deviceType": "DESKTOP",
      "osType": "Linux",
      "osVersion": "Linux",
      "browser": "Chrome",
      "ua": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_0) AppleWebKit/537.36 (KHTML, like Gecko)
 Chrome/46.0.2490.86 Safari/537.36"
    },
    "ip": "108.0.78.21",
    "utm": {
      "campaign": "Communication",
      "source": "Website",
      "medium": "email",
      "term": "Campaign Term",
      "content": "Campaign Content"
    }
  },
  "name": "contactUs",
  "messageId": "unique_message_id",
```

```
  "properties": {
    "path": "/contact/",
    "referrer": "",
    "search": "",
    "title": "Contact Us",
    "url": "https://example.com/contact"
  },
  "receivedAt": "2024-12-16T19:11:01.266Z",
  "sentAt": "2024-12-16T19:11:01.169Z",
  "timestamp": "2024-12-16T19:11:01.249Z",
  "type": "page",
  "originalTimestamp": "2024-12-16T19:11:01.152Z",
  "writeKey": "your_write_key"
}
```


This payload includes the user's unique identifier, additional identifiers (such as tracker ID), context information (like user agent and IP address), UTM parameters for campaign tracking, and page properties.

By utilizing the `page` call, you can gain deeper insights into user behavior and interactions on your website, enabling more effective analysis and optimization of the user experience.

Screen

The **Screen Tracking** feature enables you to monitor user interactions within your application by recording screen views and associated properties.

The `screen` call records when a user views a specific screen in your app, along with optional properties that provide additional context about the screen.

Example Screen Event Payload


```
{
  "id": "viz_7893c51ee9662",
  "userId": "1247c47a-98b6-52cd-1299-bc7e8b658add",
  "otherIds": {
    "trackerId": "1247c47a-98b6-52cd-1299-bc7e8b658add"
  },
  "context": {
    "library": {
      "name": "android sdk",
      "version": "1.2.3"
    },
    "app": {
      "name": "MyFitnessApp",
      "version": "1.4.0",
      "build": "1.4.0.102"
    },
    "device": {
      "id": "D8392EF0-F12E-11E4-8DFC-AA07A5B093DB",
      "advertisingId": "3C7D9AE0-CDF5-11E4-8DFC-AA07A5B093DB",
      "adTrackingEnabled": true,
      "manufacturer": "Samsung",
```

```
      "model": "Galaxy S21",
      "type": "android",
      "token": "abc15bc0c20c4aa6cd50854ff165fd265c838e5405bfeb9571066395b8c9da449"
    },
    "screen": {
      "width": 1080,
      "height": 2400,
      "density": 3
    },
    "userAgent": {
      "osType": "Android",
      "osVersion": "11"
    },
    "ip": "192.168.1.1"
  },
  "name": "workoutSummary",
  "messageId": "ajs-8cfa5e4de5024d9430b3928bd8bff2a5",
  "properties": {
    "completedExercises": 8,
    "totalTime": "45 mins",
    "caloriesBurned": 350
  },
  "receivedAt": "2024-12-16T19:30:01.366Z",
  "sentAt": "2024-12-16T19:30:01.269Z",
  "timestamp": "2024-12-16T19:30:01.349Z",
  "type": "screen",
  "originalTimestamp": "2024-12-16T19:30:01.252Z",
  "writeKey": "abcd3Zghe5jHvjWh"
}
```


By utilizing the `screen` call, you can gain deeper insights into user behavior and interactions within your application, enabling more effective analysis and optimization of the user experience.

App Events

App events track various actions performed within an application. These events can be used for user segmentation and analytics. Some events are triggered automatically, while others require manual firing.

Event List

Event Name	Description	Manual Trigger
Application Installed	Automatically triggered when a user installs the application.	No
Application Opened	Automatically triggered when a user opens the application.	No
Application Updated	Automatically triggered when the app gets updated.	No
Application Backgrounded	Should be sent when a user backgrounds the app.	Yes (iOS) No (Android)

Application Crashed	Should be sent when the app crashes.	Yes
Application Uninstalled	Should be sent when the app is uninstalled.	Yes
Application Session Started	Automatically triggered when a user spends 10+ seconds in the app.	No
Application Session Concluded	Automatically triggered after 20 minutes of user inactivity.	No

Event Examples

Application Installed

Triggered automatically when the app is installed.

Properties:

Property	Type	Description
`userId`	String	Unique ID of the user
`type`	String	Type of event (`track` in this case)
`event`	String	Name of the event
`properties`	Object	Additional data (e.g., app version, build number).

Example:

```
{
  "userId": "019mr8mf4r",
  "type": "track",
  "event": "Application Installed",
  "properties": {
    "version": "1.2.3",
    "build": "1234"
  }
}
```

Application Opened

Triggered automatically when the app is opened.

Properties:

Property	Type	Description
`from_background`	String	If application transitioned from "Background" to "Inactive" state prior to foregrounding (as opposed to from "Not Running" state).

`referring_application`	String	The value of `UIApplicationLaunchOptionsSourceApplicationKey` from `launchOptions`. **Automatically collected on iOS only**.
`url`	String	The value of `UIApplicationLaunchOptionsURLKey` from `launchOptions`.**Collected on iOS only**.
`version`	String	The version installed.
`build`	String	The build number of the installed app.

Example:

```
  {
  "userId": "019mr8mf4r",
  "type": "track",
  "event": "Application Opened",
  "properties": {
    "from_background": false,
    "referring_application": "GMail",
    "url": "url://location"
  }
}
```

Application Updated

Triggered automatically when the app gets updated.

Properties:

Property	Type	Description
`previous_version`	String	The previously recorded version.
`previous_build`	String	The previously recorded build.
`version`	String	The new version.
`build`	String	The new build.

Example:

```
{
  "userId": "019mr8mf4r",
  "type": "track",
  "event": "Application Updated",
  "properties": {
    "previous_version": "1.1.2",
    "previous_build": "1234",
    "version": "1.2.0",
    "build": "1456"
```

```
  }
}
```

Application Background

Manually triggered when the user backgrounds the application.

Properties:

Property	Type	Description
`userId`*	String	Unique ID of the user
`type`*	String	Type of the event (`track` in this case)
`event`*	String	Name of the event
`properties`	Object	Additional properties of the event

Example:

```
{
  "userId": "019mr8mf4r",
  "type": "track",
  "event": "Application Backgrounded",
  "properties": {} //add any properties you like
}
```

Application Uninstalled

Manually triggered when the app is uninstalled.

Example:

```
{
  "userId": "019mr8mf4r",
  "type": "track",
  "event": "Application Uninstalled",
  "properties": {} //add any properties you like
}
```

Application Crashed

Manually triggered when the app crashes.

Example:

```
{
  "userId": "019mr8mf4r",
  "type": "track",
  "event": "Application Crashed",
  "properties": {} //add any properties you like
}
```

Application Session Started

Automatically triggered when a user spends more than 10 seconds in the app.

Example:

```
{
  "userId": "019mr8mf4r",
  "type": "track",
  "event": "Application Session Started"
}
```

Application Session Concluded

Automatically triggered after 20 minutes of inactivity, or when a session ends.

Property	Type	Description
`userId`*	String	Unique ID of the user
`type`*	String	Type of the event (`track` in this case)
`event`*	String	Name of the event
`properties`	Object	Additional properties of the event

Example:

```
{
  "userId": "019mr8mf4r",
  "type": "track",
  "event": "Application Session Concluded",
  "properties": {
    "length": "45000",
    "sessionId": "f92j2tj",
    "lastEventTimestamp": "1638458316949"
  }
}
```

`properties` definition:

`length`	String	Total session length in seconds.
`sessionId`	String	Unique ID identifier for the session.
`lastEventTimestamp`	String	The timestamp of the last event recorded before inactivity.

Event Dictionary

The Event Dictionary standardizes and manages event schemas to ensure data consistency, integrity, and real-time control across all sources and destinations.

The **Event Dictionary** is a global event definition database designed to standardize event schemas within your account. It ensures consistency and accuracy of event data across all sources, providing flexibility and control for marketers.

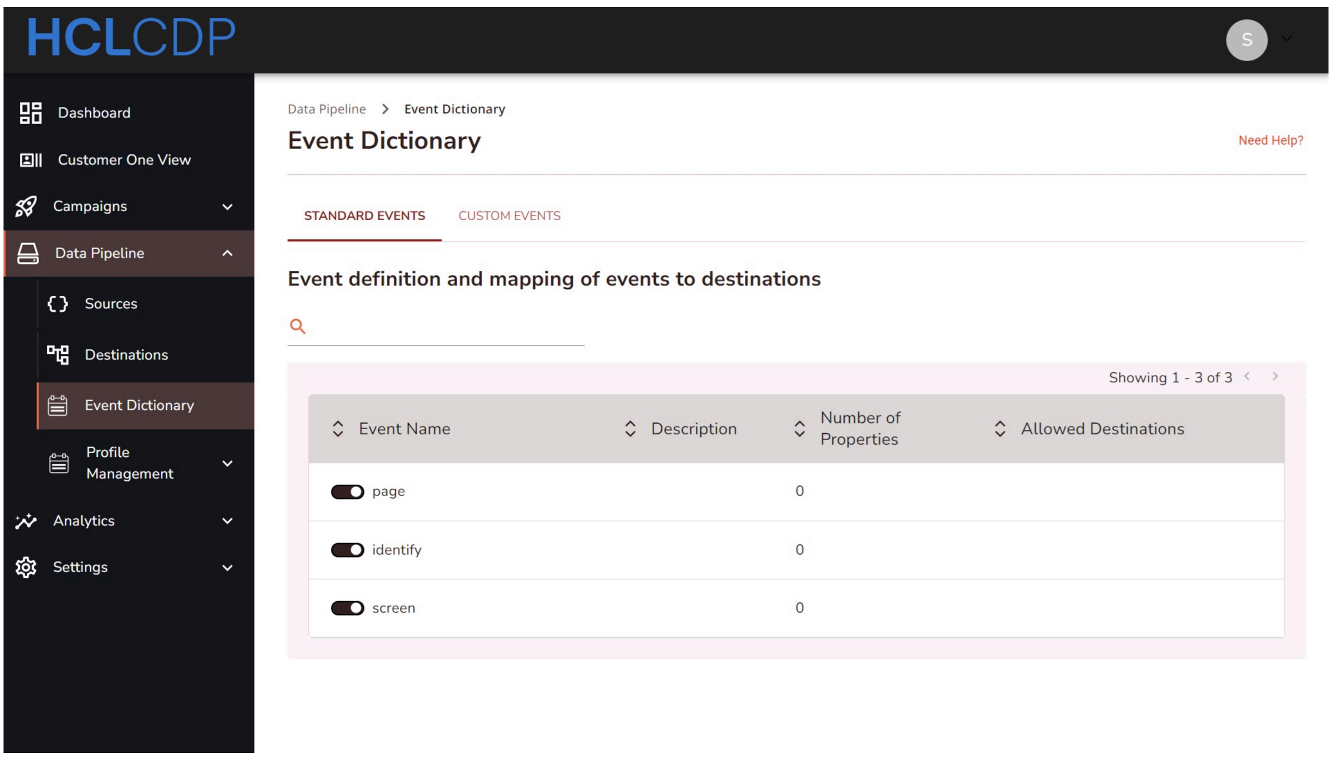
Benefits of Event Dictionary

1. **Define Event Schema**: Specify event names, properties, and their data types to maintain a structured schema.
2. **Ensure Consistency**: Standardize events across all data sources for reliable and uniform reporting.
3. **Validate Data**: Prevent incorrect data from entering the system, maintaining data integrity.
4. **Real-Time Management**: Add, delete, or modify event properties in real-time, enabling quick adjustments.
5. **Filter Events for Destinations**: Control which events are sent to specific destinations.

Types of Events in the Event Dictionary

Standard Events

Standard events are pre-configured by HCL CDP, and include the following methods page on page 189, screen on page 190 and identify on page 187.



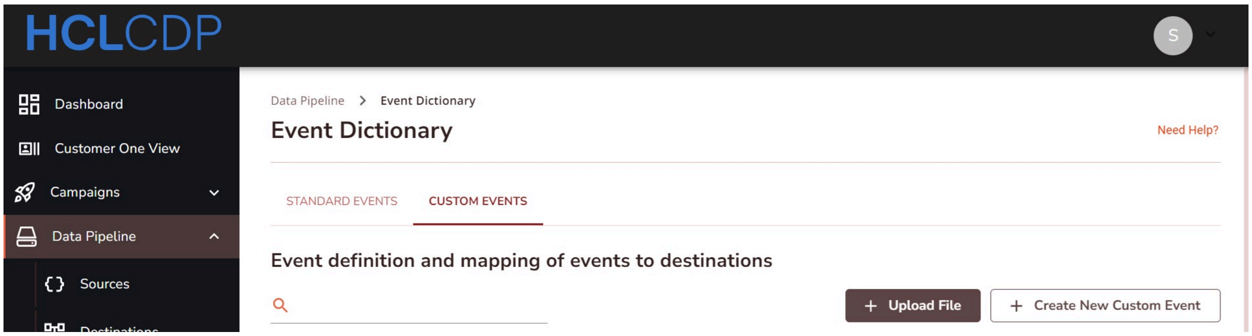
Custom Events

Custom events allow you to define and track on page 183 specific user actions. These events can capture customer behavior such as product clicks, purchases, or user information.

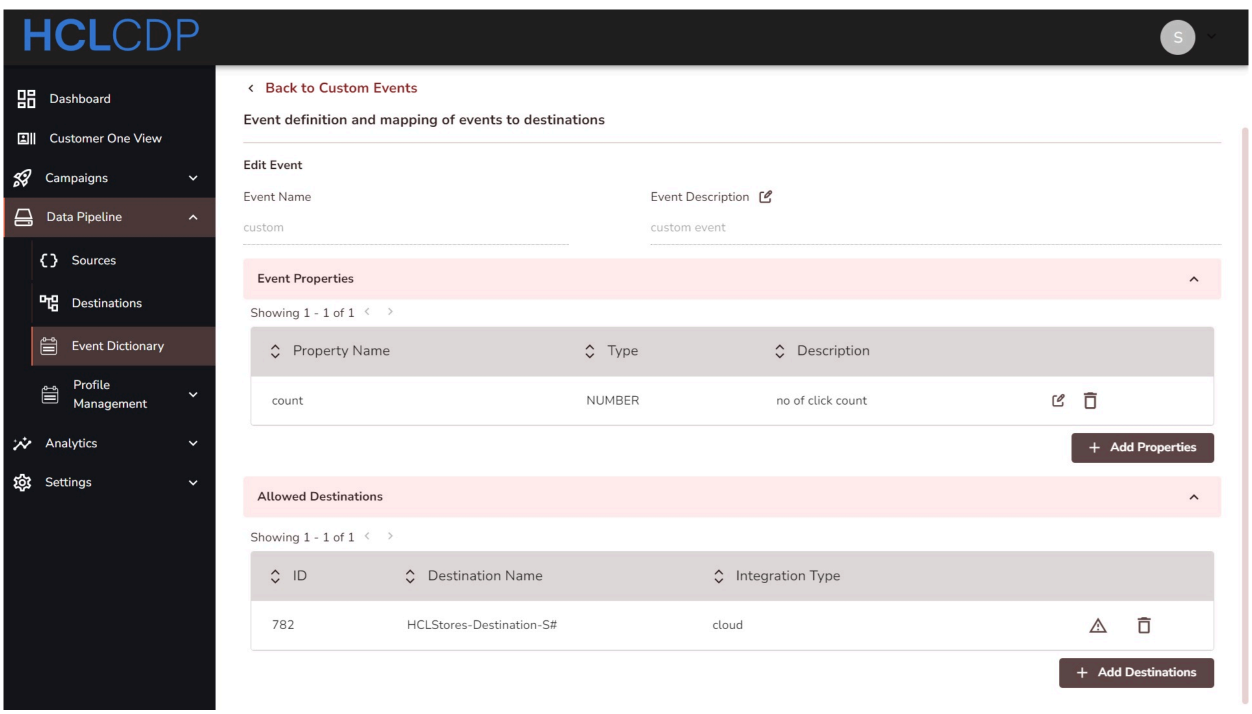
Creating a Custom Event

To create a custom event in the Event Dictionary, follow the steps below:

1. Click "**Create New Custom Event**". Add a name for your event and a description for the event.



2. Click **Save** to create the event.
3. To add properties, specify the property name for the custom event, and define the property data type (e.g., STRING, NUMBER).
4. Add a description for the property, and click **Save**.
5. To manage Event Properties, edit property names, types, or descriptions as needed.
6. Delete unused properties to keep the schema clean.



Data Sources Overview

This document provides an overview of the supported sources in HCL CDP and explains how to configure these sources to collect and unify customer data.

What is a data source?

A **data source** is any system or touchpoint that collects user data and events. This includes websites, mobile apps, CRM systems, and other platforms where user interactions occur.

HCL CDP aggregates data from multiple sources, creating a unified, enriched customer profile for each user. The more sources integrated into HCL CDP, the more comprehensive and accurate the customer profile becomes.

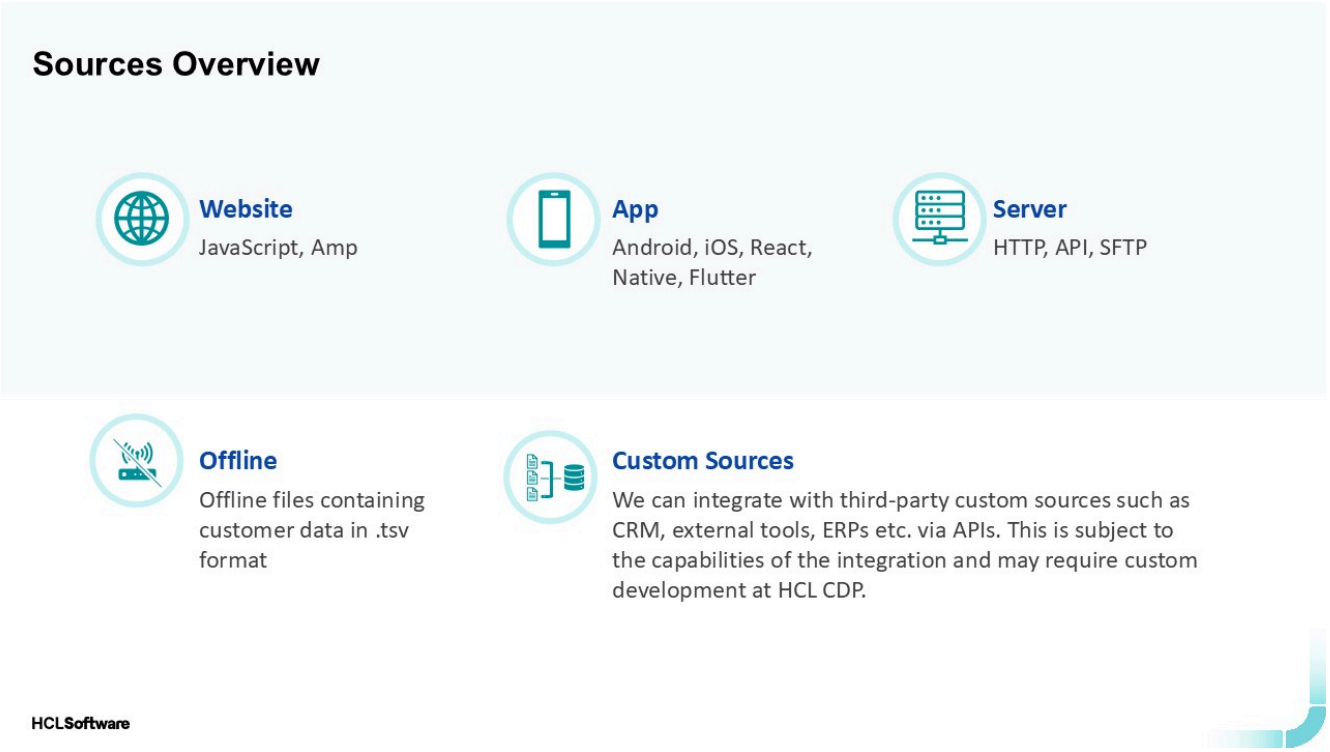
Once the data is collected, these events can be:

- Sent to different destinations on page 217.
- Used in marketing automation campaigns and workflows.

Sources Supported

HCL CDP supports a variety of sources for event and data collection. Some common source types include:

- Websites
- Mobile Applications
- CRM Systems
- APIs (e.g., HTTP integrations)
- File-based integrations (e.g., SFTP uploads)

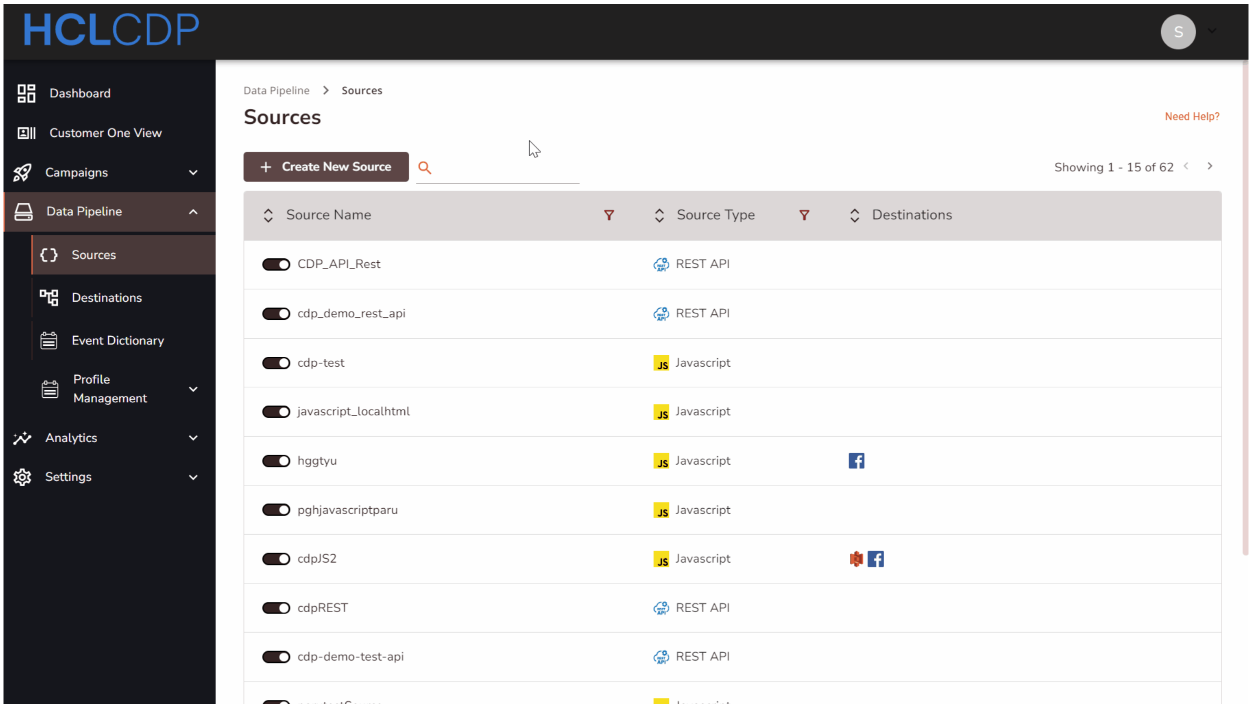


How to create a source in HCL CDP?

To create a source in HCL CDP, follow the steps below:

1. On the left pane of the home page, click the **Data pipeline** section, and click **Source**.
2. Click **Create New source**.
3. Choose the type of source you want to configure. Common types include:
    - Javascript SDK: For tracking websites.
    - HTTP: For direct API-based integrations.
    - STFP: For file-based uploads of customer data.
4. Enter a descriptive name for the source.
5. Follow the provided links for specific instructions based on the selected source type:

- Javascript SDK on page 200: Add a JavaScript snippet to your website.
- HTTP on page 206: Use the provided API documentation for event tracking.
- STFP on page 213: Set up file transfer protocols for data uploads.



Benefits of Integrating Multiple Sources

1. **Comprehensive Customer Profiles**: Combining data from multiple touchpoints provides a richer understanding of your customers.
2. **Enhanced Data Usability**: Unified data can be used for precise marketing campaigns, automation workflows, and personalized experiences.
3. **Cross-Channel Tracking**: Monitor user behavior and interactions across platforms seamlessly.

JavaScript SDK

This page provides a comprehensive guide to the HCL CDP JavaScript SDK, detailing its installation, usage, supported methods, and troubleshooting steps. The SDK facilitates seamless data tracking from your website to configured destinations, as defined in the HCL CDP Dashboard.

Overview of the HCL CDP JavaScript SDK

The HCL CDP JavaScript SDK is designed to capture user events on your website and transmit them to various destinations of your choice. Configuration of these destinations is managed via the CDP Dashboard. To ensure proper implementation, use this documentation in conjunction with an Event Tracking Plan provided by your HCL CDP Customer Success Contact.

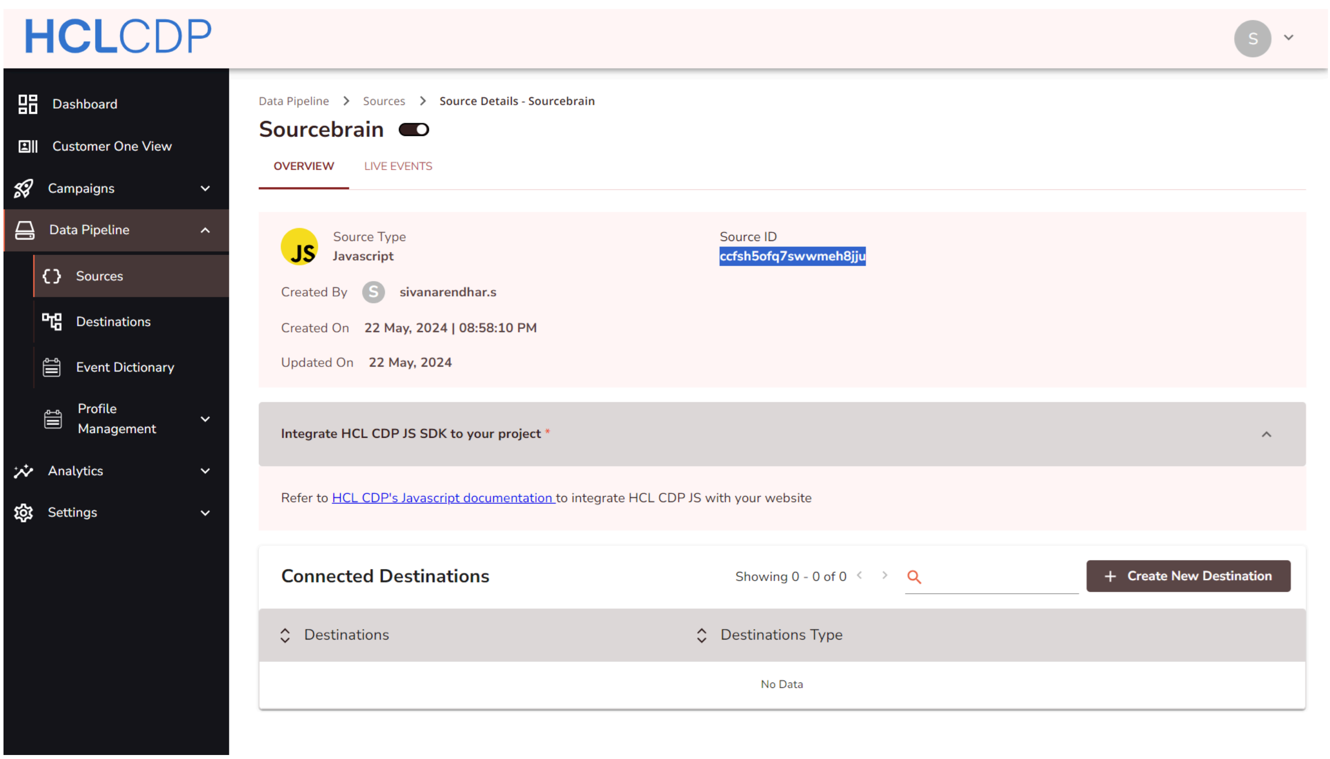
Installing the JavaScript SDK

To integrate the HCL CDP JavaScript SDK into your website:

Add the following code snippet to the <head> section of your website:

```
<script type="text/javascript">
window.lmSMTObj = window.lmSMTObj || [];
var methods = ["init", "page", "track", "identify"];
for (var i = 0; i < methods.length; i++) {
    lmSMTObj[methods[i]] = (function(methodName) {
        return function() {
            lmSMTObj.push([methodName].concat(Array.prototype.slice.call(arguments)));
        };
    })(methods[i]);
}
lmSMTObj.init("<WRITE_KEY>");
var a = document.createElement("script");
a.type = "text/javascript";
a.async = true;
a.src = "//cdn25.hcl.cdp.co/ssp/st/<CAMPAIGN_ID>.js";
var b = document.getElementsByTagName("script")[0];
b.parentNode.insertBefore(a, b);
</script>
```

Replace <WRITE_KEY> with the write key from the CDP Dashboard and <CAMPAIGN_ID> with the campaign ID provided by the delivery team.



Important:

1. Insert the code only in the `<head>` section of your webpage.
2. Avoid using tag managers like GTM for SDK integration as it can cause data loss, troubleshooting difficulties, and performance issues.

JavaScript SDK API Methods

Below is a summary of the methods supported by the SDK:

Method	Description
`init()`	Initializes the SDK with the provided write key.
`page()`	Tracks page views when a user navigates to a page.
`identify()`	Associates user actions with their profile information.
`track()`	Captures specific user actions or events.

All these methods are accessible via the global object `lmSMTObj`.

Detailed Method Descriptions

`init()` method

Initializes the SDK with a write key.

Usage:

```
lmSMTObj.init("WRITE_KEY");
```

Parameter	Type	Description
`WRITE_KEY`	String	Write key from the CDP Dashboard.

`page()` method

Captures page view details whenever a user visits a page.

Usage:

```
lmSMTObj.page("pageName", {properties},{otherIds}, function())
```

Example:

```
lmSMTObj.page(”home”, {
 "path": "/academy/",
 "title": "Analytics Academy",
```

```
 "url": "https://hcl.cdp.co"
}, {
  "trackerId": "6791c47a-0178-47bc-8711-86a2c67b2255",
}, function() {})
```

Parameter	Type	Description
`path`	String	URL path of the page (`location.pathname`).
`referrer`	String	URL of the previous page (`document.referrer`).
`search`	String	Query string of the page URL (`location.search`).
`title`	String	Title of the page (`document.title`).
`url`	String	Full URL of the page.
`keywords`	String	Keywords describing the page content.

Note: Most properties (e.g., `path`, referrer) are automatically collected.

`identify()` method

Associates user actions with their profile and traits.

Usage:

```
lmSMTObj.identify("userId", {properties}, {otherIds}, function()  {})
```

Example:

```
lmSMTObj.identify("user123", {
    firstName: "John",
    lastName: "Doe",
    age: "30",
    city: "New York"
}, {
    email: "john.doe@gmail.com"
}, function() {});
```

Parameter	Type	Description
`name`	String	Full name of the user.
`firstname`	String	First name.
`lastname`	String	Last name.
`age`	String	User's age.

`email`	String	User's email address.

`track()` method

Tracks custom user events.

Usage:

```
lmSMTObj.track("event_name", { properties }, { otherIds }, function() {});
```

Example:

```
lmSMTObj.track("addToCart", {
    products: [
        {
            name: "Laptop",
            id: "prod123",
            category: "Electronics",
            subprod: {
                name: "Laptop Bag",
                price: "40"
            }
        }
    ]
}, {
    trackerId: "user123"
}, function() {});
```

Parameter	Type	Description
`event_name`	String	Name of the event

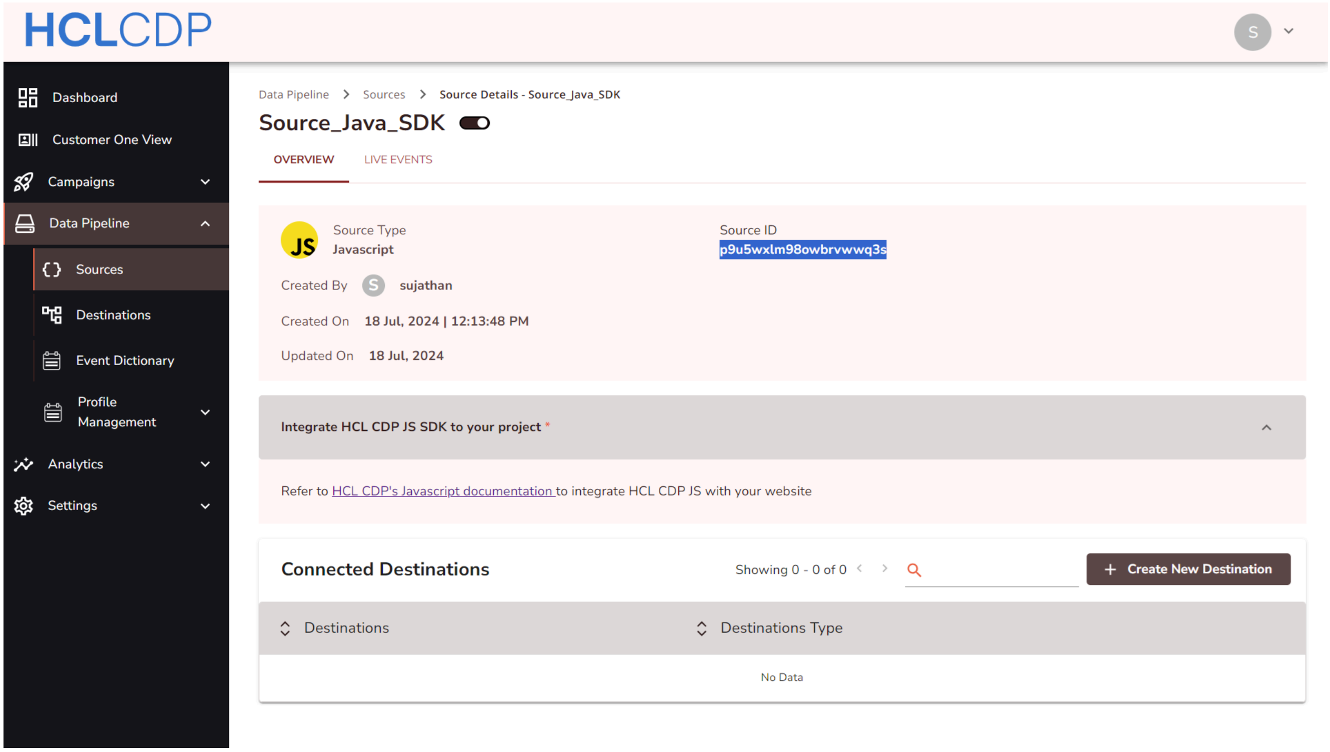
Supported Browser Versions

The SDK supports browsers compatible with ES5 and newer versions.

FAQs

1. Where can I find the write key?

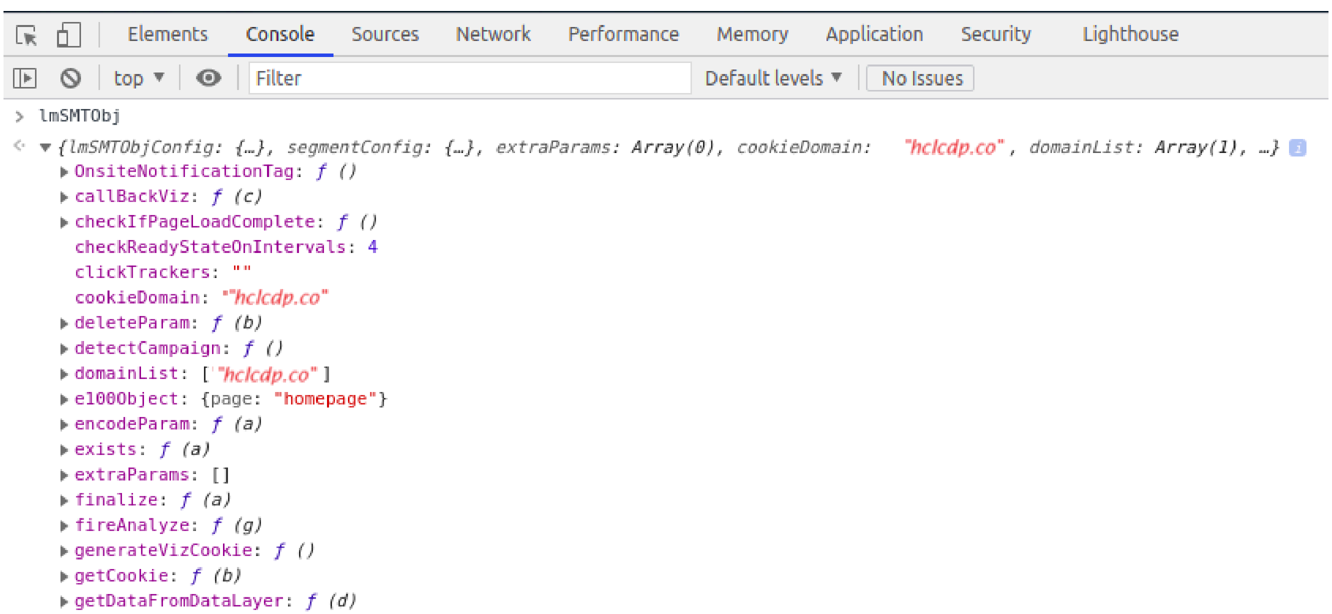
Navigate to `Data Pipeline > Sources` in the sidebar. Select a source, Click the **Integrate HCL CDP JS SDK to your project** and the write key will be displayed under the integration instructions.



2. How do I verify if the SDK is installed correctly?

To check if the SDK has loaded correctly, open the JavaScript console in your browser:

In the console, type `lmSMTObj` and press `Enter`. If it shows an object as shown below, it means the SDK has loaded correctly.



If the above command gives you an error `Uncaught ReferenceError: lmSMTObj is not defined`, it means that the SDK was not properly installed or instantiated.

Q3. Is there a payload size limit?

No, there are no restrictions on the request payload size.

Common Troubleshooting steps

In case you encounter any issues with the SDK, follow the steps below to fix the errors and run the SDK correctly.

- Ensure the SDK is loaded in the `<head>` section.
- Disable ad blockers and check for conflicting browser extensions.
- Clear browser cookies and cache, then retry.
- Verify that the system date and time are accurate.

For unresolved issues, contact the HCL CDP support team.

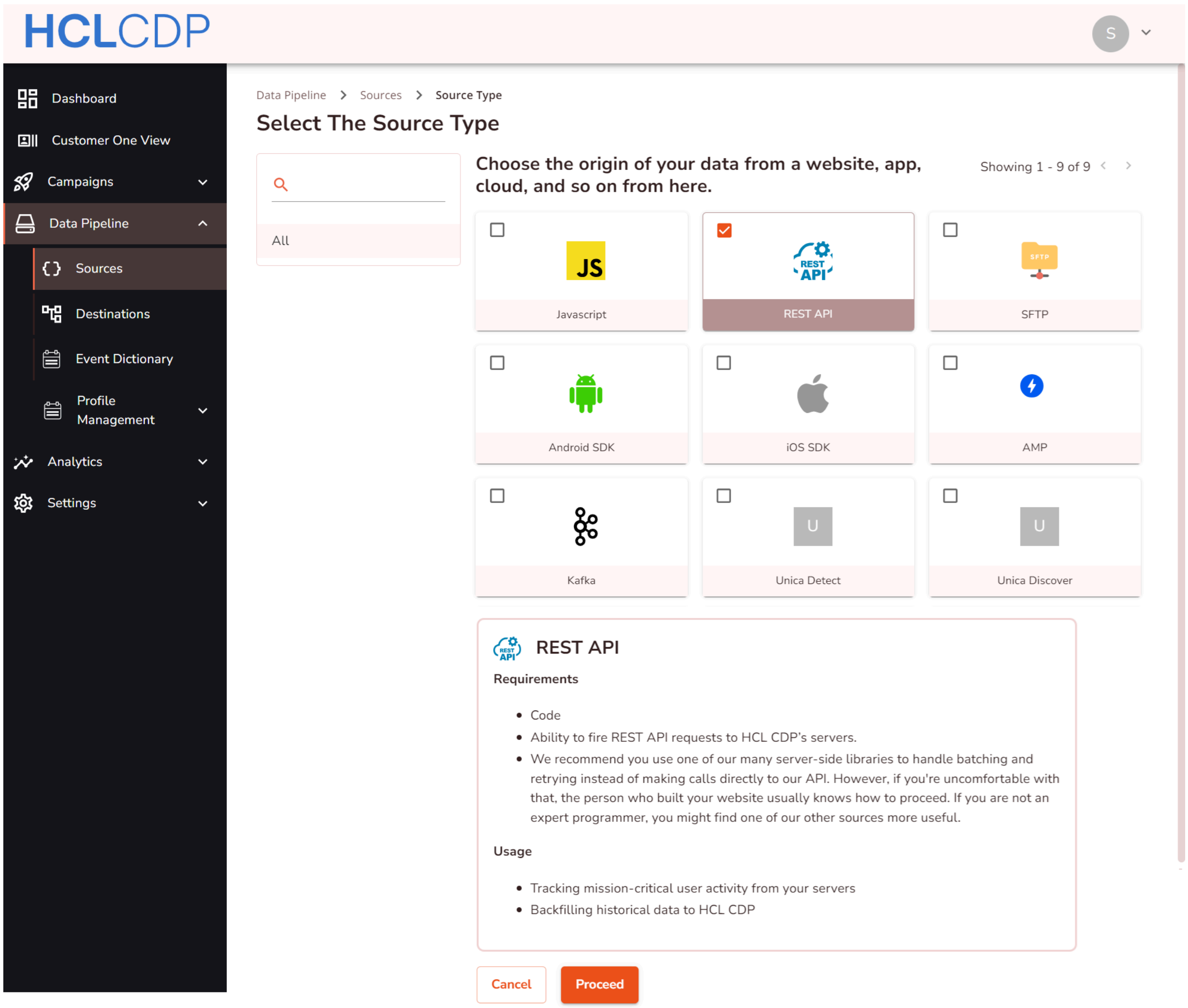
REST API

This document provides detailed technical guidance on integrating the HCL CDP REST API to send website or app data to your configured destinations. Use this document alongside an **Event Tracking Plan** provided by your HCL CDP Customer Success contact to ensure proper and complete implementation.

The HCL CDP REST API serves as a data collection source, enabling you to track customer events across any platform (web, Android, or iOS). Each API request processes your data and routes it to the destinations configured in your HCL CDP Dashboard.

Configure REST API as Source

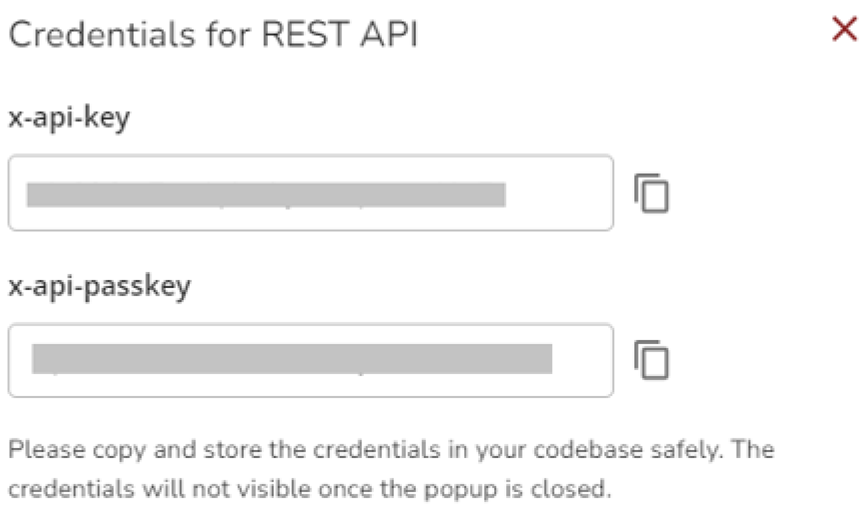
1. Navigate to **Data Pipeline** > **Sources**, and click **+Create New Source**.
2. Select the source type as REST API, and click **Proceed**.



3. In the **Source name** field, add a unique name to the source, and click **Create**.

4. Every request must include two headers, `x-api-key` and `x-api-passkey`. These keys are displayed in a pop-up when creating the source.

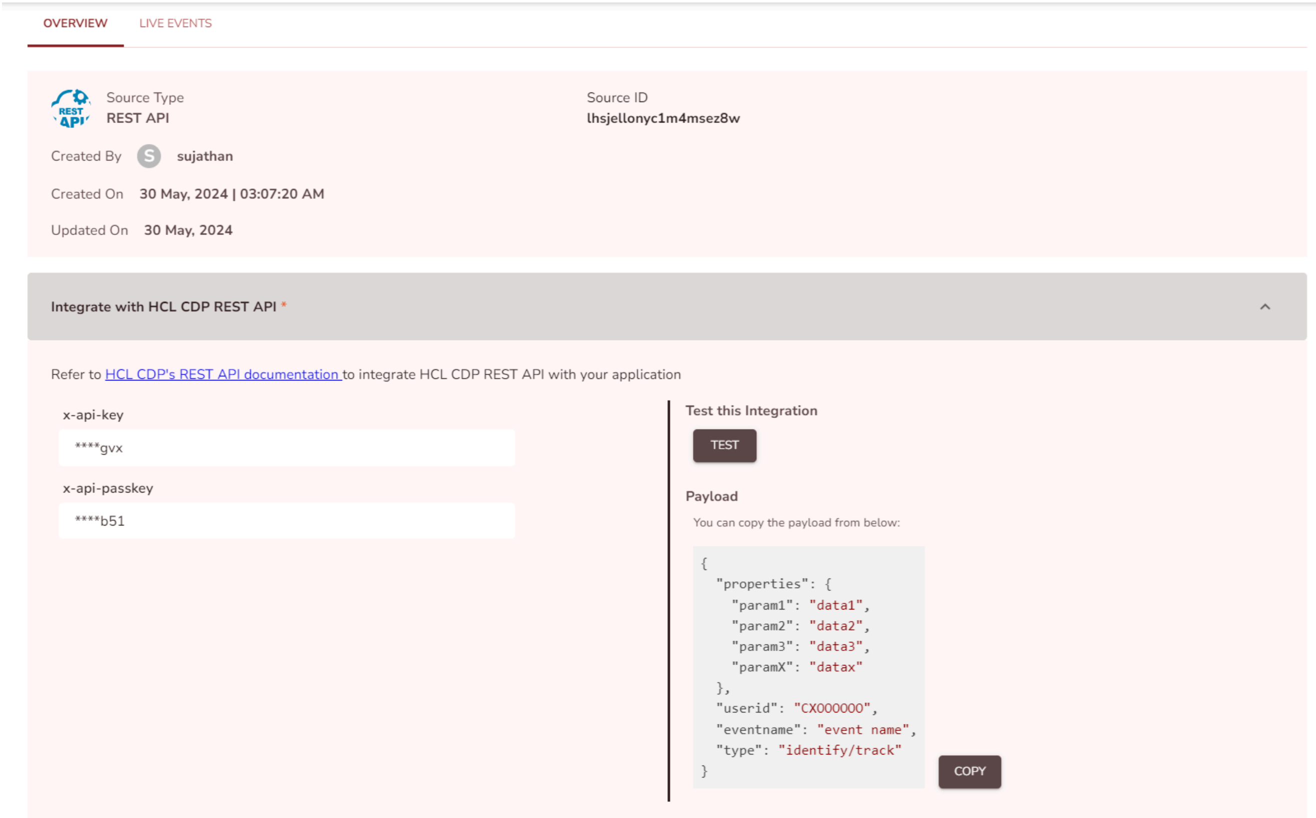
   Note: Copy the keys immediately as they will not be shown again.



Testing the Integration

To test the integration, configure the REST API credentials and click **TEST** to validate the integration. A success message will confirm the correct configuration.

Payload Testing: A sample payload format for events is provided during the setup process. You can copy the payload and use it while sending API requests.



Making a Request

Supported event types

The REST API source only supports `identify` and `track` event types.

Supported HTTP methods

The REST API supports the following HTTP methods:

- `POST`: To create or update profiles.
- `DELETE`: To remove objects or delete profiles entirely.

Endpoint

Base Endpoint: https://crux.dev.hxcb.now.hclsoftware.cloud/v3/data

POST Request Specifications

Request Structure

A sample payload for ingesting 1 record is given below.

```
{
    "properties": {
        "param1": "data1",
        "param2": "data2",
        "param3": "data3",
        "paramX": "datax"
    },
    "userid": "CX000000",
    "eventname": "event name",
    "type": "identify/track"
}
```

The parameter definition for accepted fields is provided below:

Parameter	Type	Description
properties	Object	Event-specific attributes (key-value).
userid `required`	String	Mandatory User ID or Anonymous ID.
eventname	String	Name of the event being tracked.
type	String	Event type: "identify" or "track".

PII Data handling

For personally identifiable information (PII), include `email` (lowercase) and `mobile` (E.164 format) within the `properties` object.

Example Request

```
curl --location 'https://<base url>/v3/data' \
--header 'Content-Type: application/json' \
--header 'x-api-key: xxxx' \
--header 'x-api-passkey: xxxx' \
--data '[
    {
        "properties": {
            "CUSTOMER_ID": "ID000001",
            "CITY": "New York",
            "STATE": "NY",
            "COUNTRY": "USA"
        },
        "eventname": "Account Created",
        "type": "track"
    }
]'
```

Response Structure

```
[
    {
```

```
        "message": "Data Processed successfully",
        "id": "2510c39011c5be704182423e3a695e91"
    },
    {
        "message": "Invalid input request. Incorrect userid.",
        "id": ""
    }
]
```

Parameter	Type	Description
message	Object	Status of the event processing.
id	String	User ID or object identifier.

DELETE Request Specifications

Request Structure

A sample payload to delete 3 records is given below:

```
[
    {
        "properties": {
            "id": "someid"
        },
        "object": "Segment"
    },
    {
        "properties": {
            "id": "anotherid"
        },
        "object": "__profile"
    }
]
```

Parameter	Type	Description
properties	Object	Key-value pair used to identify the target object.
id	String	Object type (e.g., "Segment", "Lead", "__profile").

1. Use `__profile` to delete the entire user profile.
2. The **id** parameter must uniquely identify the object.

Example

```
curl --location --request DELETE 'https://<base url>/v3/data' \
--header 'Content-Type: application/json' \
--header 'x-api-key: xxxx' \
--header 'x-api-passkey: xxxx' \
```

```
--data '[
    {
        "properties": {
            "id": "23553"
        },
        "object": "Segment"
    }
]'
```

Example Response

```
[
    {
        "message": "Segment object deleted successfully",
        "id": "2510c39011c5be704182423e3a695e91"
    },
    {
        "message": "Profile not found.",
        "id": ""
    }
]
```

Response Code

Status Code	Description
200 Success	Data processed successfully.
400 Bad Request	Payload format is incorrect.
401 Unauthorized	Missing or invalid `x-api-key` or `x-api-passkey`.
500 Server Error	Issue occurred while processing the request.

FAQs

Q1. Which event types are supported with the HCL CDP REST **API?**

The HCL CDP REST API supports `identify` and `track` event types.

Q2. Why am I receiving a 400 Bad Request error?

1. Verify your payload matches the provided schema.
2. Ensure `userid` and other mandatory fields are correctly populated.
3. Validate your JSON payload using tools like Postman.

Q3. How do I obtain `x-api-key` and `x-api-pass-key`?

The API keys are displayed when you create a REST API source. Ensure you save them securely as they will not be displayed again.

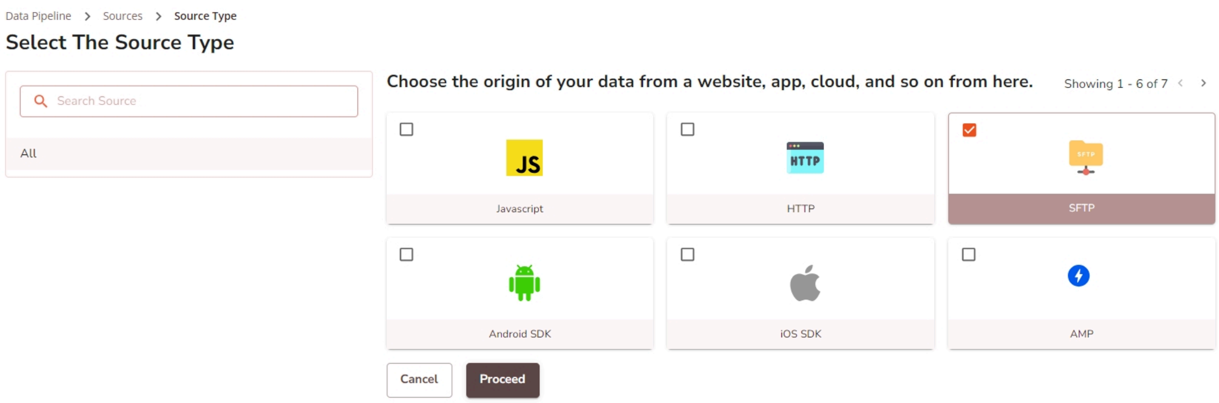
SFTP Integration

Secure File Transfer Protocol (SFTP) is a secure method for transferring and managing large volumes of confidential data. It ensures encrypted data exchange between systems and is a reliable source configuration option in HCL CDP.

Configuring SFTP as Source

To set up SFTP as data source, follow the steps below:

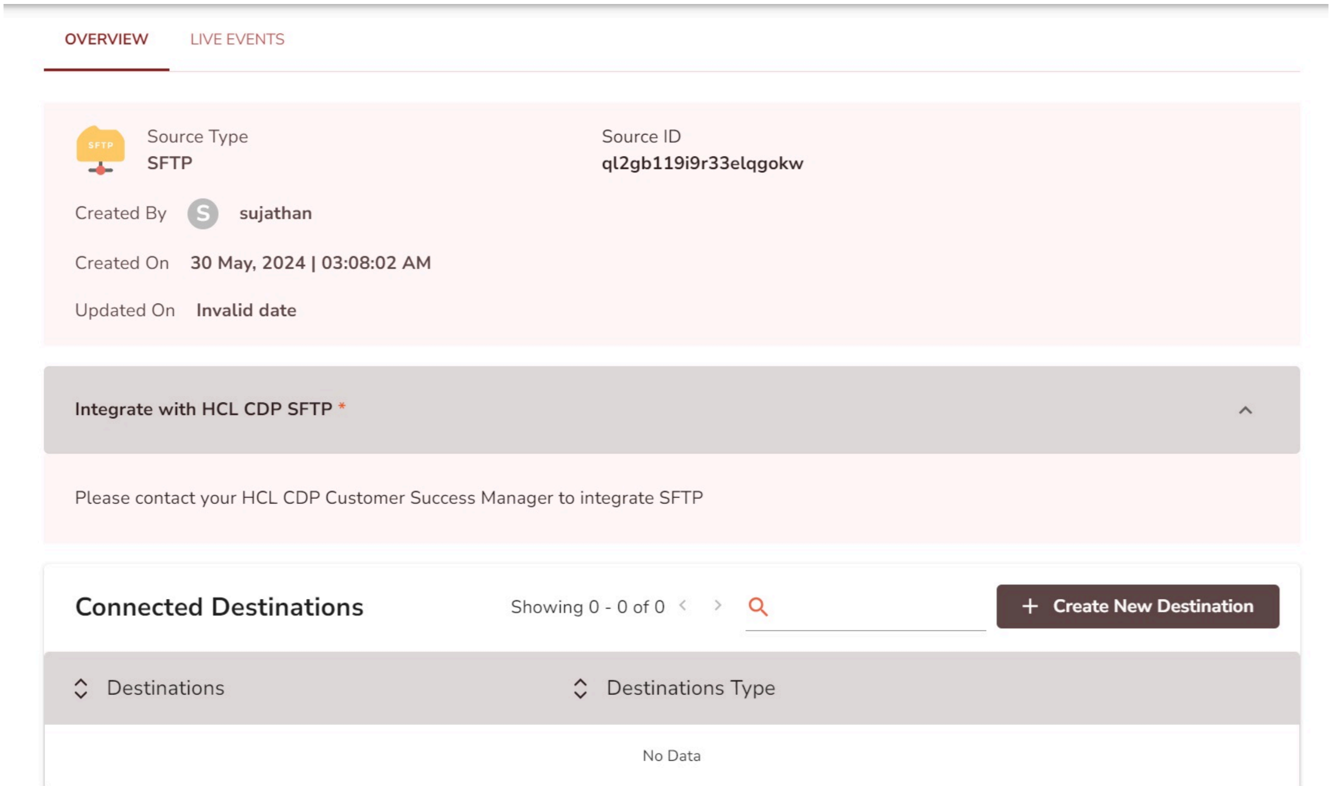
1. On the left pane, navigate to **Data Pipeline** > **Sources**.
2. Click **+ Create New Source**.
3. In the source type screen, select source type as **SFTP**, and click **Proceed**



4. On the **Source Setup** page, in the **Source Name** field, add a unique name to the source, and in the **Authentication** drop-down, select **Basic Authentication** or **SSH Public Key based** option, and click **Create Source**.

Encrypting SFTP file with GPG2 Encryption

To ensure secure data transfer, encrypt files using **GPG2 encryption** before uploading them to the SFTP server.



1. Download the **Public Key** provided in the SFTP source setup. The key will have a `.key` extension and resemble the following format:

```
-----BEGIN PGP PUBLIC KEY BLOCK-----
<public key contents here>
-----END PGP PUBLIC KEY BLOCK-----
```

2.
3. Open a terminal and list the available public keys:`gpg2 --list-public-keys`.
4. As a result, the expected output is as shown below.

```
gpg: directory `/home/ubuntu/.gnupg' created
gpg: new configuration file `/home/ubuntu/.gnupg/gpg.conf' created
gpg: WARNING: options in `/home/ubuntu/.gnupg/gpg.conf' are not yet active during this run
gpg: keyring `/home/ubuntu/.gnupg/pubring.gpg' created
gpg: /home/ubuntu/.gnupg/trustdb.gpg: trustdb created
```

5. Import the downloaded public key (replace `hclcdp_public_key.key` with the actual filename):`gpg2 --import hclcdp_public_key.key`.
6. As a result, the expected output is shown below:

```
gpg: keyring `/home/ubuntu/.gnupg/secring.gpg' created
gpg: key #: public key "HCL CDP <infra@hcl.com>" imported
gpg: Total number processed: 1
gpg:               imported: 1  (RSA: 1)
```

7. Prepare the file for encryption (e.g., `content.tsv`).

8. Use the following command to encrypt the file:

```
gpg2 --encrypt --recipient infra@hcl.com --output content-<date>.gpg2 content.tsv
```

Note: Replace `<date>` with the current date or timestamp (e.g., `content-3Jan2024.gpg2`) to avoid overwriting files.

9. As a result, the expected output will be as shown below:

```
gpg: ADAA0048: There is no assurance this key belongs to the named user
pub  3072R/ADAA0048 2024-01-03 HCL CDP <infra@hcl.com>
Primary key fingerprint:
     Subkey fingerprint:
It is NOT certain that the key belongs to the person named
in the user ID.  If you *really* know what you are doing,
you may answer the next question with yes.
Use this key anyway? (y/N)
```

10. Type `y` and press **Enter** to confirm encryption.
11. Place the encrypted file (`content-3Jan2024.gpg2`) in the SFTP folder shared with you.

Important Notes

1. Ensure that all files uploaded to SFTP are encrypted with the provided public key.
2. Use unique filenames with timestamps or dates to prevent overwriting existing files.
3. Contact your HCL CDP support team if you encounter issues during setup or encryption.

Kafka

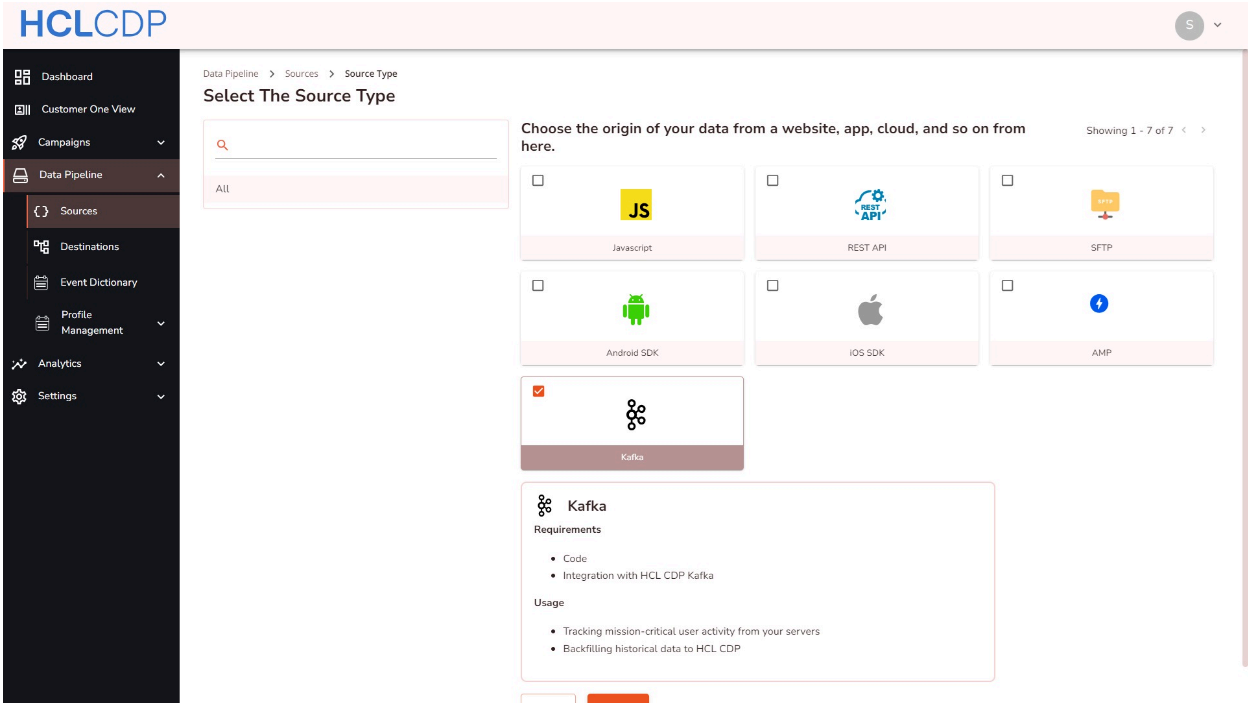
This page provides detailed instructions for configuring **Kafka** as a data source in **HCL CDP**. Kafka allows you to send large volumes of real-time data to HCL CDP with security and reliability.

Kafka serves as a source in HCL CDP, enabling data transfer from your Kafka producers to HCL CDP. It is ideal for handling high volumes of streaming data in real-time.

Configure Kafka as Source

To configure Kafka as source, follow the steps below:

1. On the left pane, navigate to **Data Pipeline** > **Sources** .
2. Click **+Create New Source**.
3. From the source type, select Kafka, and click **Proceed**.



4. In the **Source Name**, add a unique name to the source, and click **Create**.
5. Set up source details in the following parameters:
    - **Host Name**
    - **Port**
    - **Topic Name**
    - **Authentication Details**

   You can configure these details in your Kafka setup to produce messages to our Kafka.

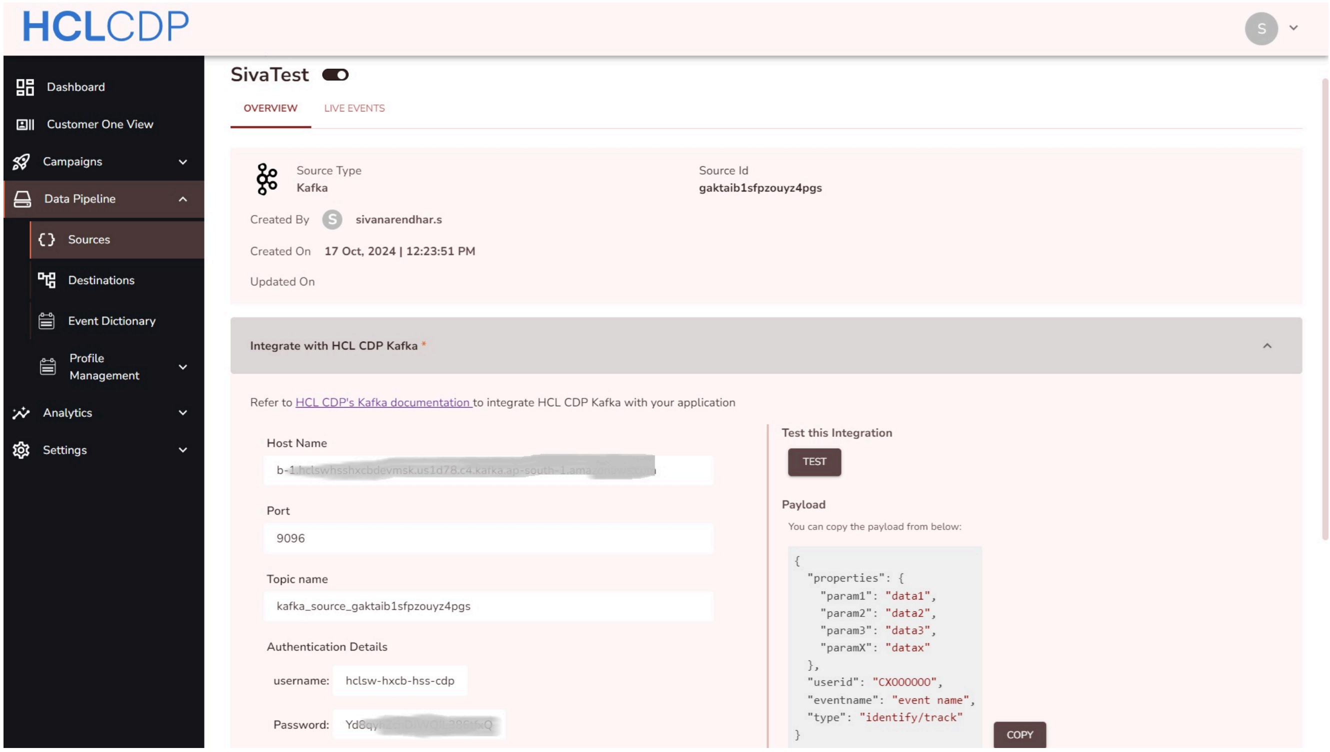
   Tip: A maximum of three Kafka sources can be added per account.

6. Click **Test** to test your configuration. If we're able to connect and produce event to the given Kafka config, a success event will be shown otherwise error message will be shown.
7. On successful testing, click **Update** to update the Kafka configuration.

Test the integration

To test the integration, configure the Kafka details shown and click **TEST**. Produce a Kafka event to the consumer and if we receive the event successfully, a success message will be shown indicating successful source configuration.

Payload: The correct format for the payload to send events will be displayed here. You can copy the payload and use it while sending Kafka events.



Data Destinations

This page explains the concept of destinations in HCL CDP, their connection modes, and provides a step-by-step guide for adding a destination.

What is Destination?

A destination in HCL CDP (Customer Data Platform) refers to a pre-built integration that allows seamless delivery of event data to various platforms. These events can be utilized on the integrated platforms for purposes such as marketing, analytics, or other operational needs.

Connection modes

HCL CDP supports two primary modes for setting up destinations:

Device Mode Destinations

In this mode, SDK provided by HCL CDP are loaded onto your website or mobile app. When a user performs an action:

1. An event is triggered.
2. HCL CDP communicates this event to destination platforms that support client-side data collection.

Key Points:

- The destination SDK is loaded by the HCL CDP SDK.
- Destination SDK methods are invoked to fire events.

Cloud Mode Destinations

In this mode, HCL CDP sends user behavior events directly to destination platforms via APIs in real time.

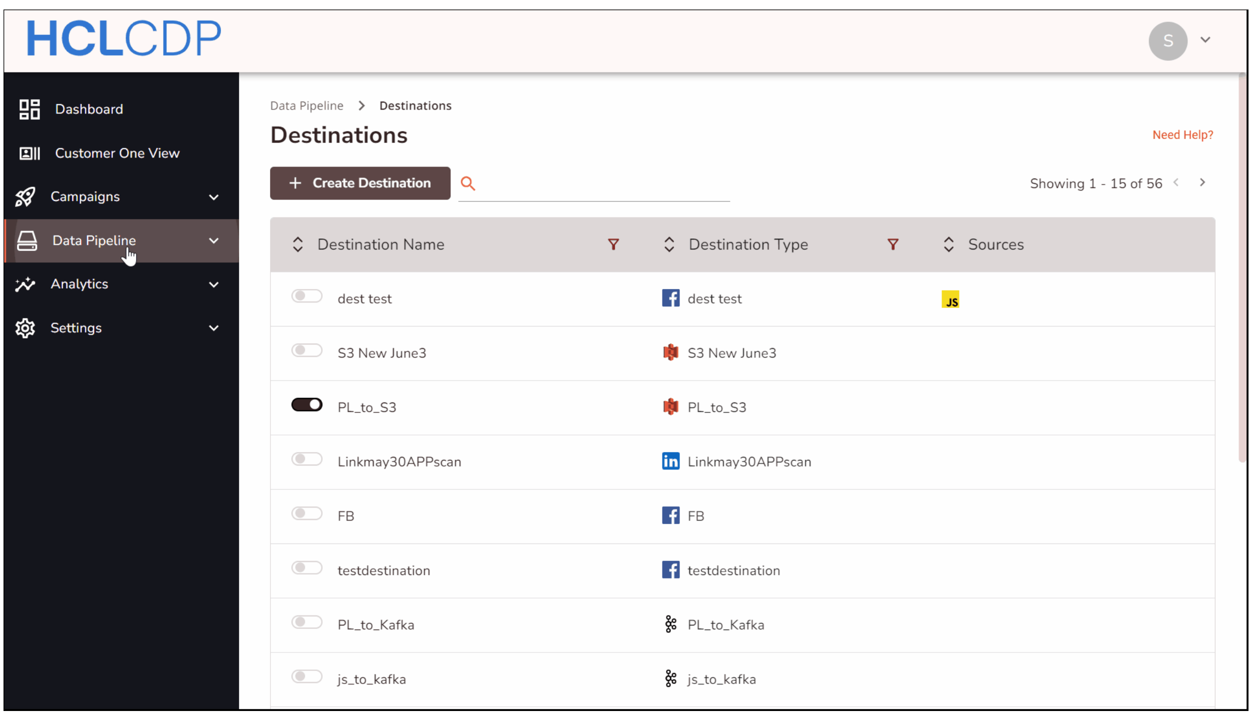
Key Points:

- Data is transferred from HCL CDP servers to the destination platform's servers.
- Events are sent using destination APIs for real-time processing.

Create a Destination in HCL CDP

To create a destination in HCL CDP, follow the steps below:

1. On the left pane, click **Data pipeline** > **Destinations**, and click **Create Destination**
2. Select a destination from the list of destination type, and click **Proceed**.
3. Choose the source you want to integrate with the selected destination, and click **Continue** to proceed.
4. In the **Destination Name** field, enter the name of your destination in no longer than 25 characters.
5. If needed, click **Add Source** to integrate additional sources with the destination. This enables multi-source integration for enhanced data flow.



Google Analytics 4 (GA4)

This page explains the features, connection methods, and use cases of Google Analytics 4 (GA4), along with guidance on getting started, recommended events, and custom event mapping.

Google Analytics 4 (GA4) is a leading analytics tool used for tracking and reporting website and application traffic. It offers advanced capabilities to uncover insights and understand customer behavior across devices and platforms with the help of machine learning.

Connection Modes

Connection	Web	Mobile
📱Device **Mode**	✅	✅
#☺Cloud Mode	⊘	⊘

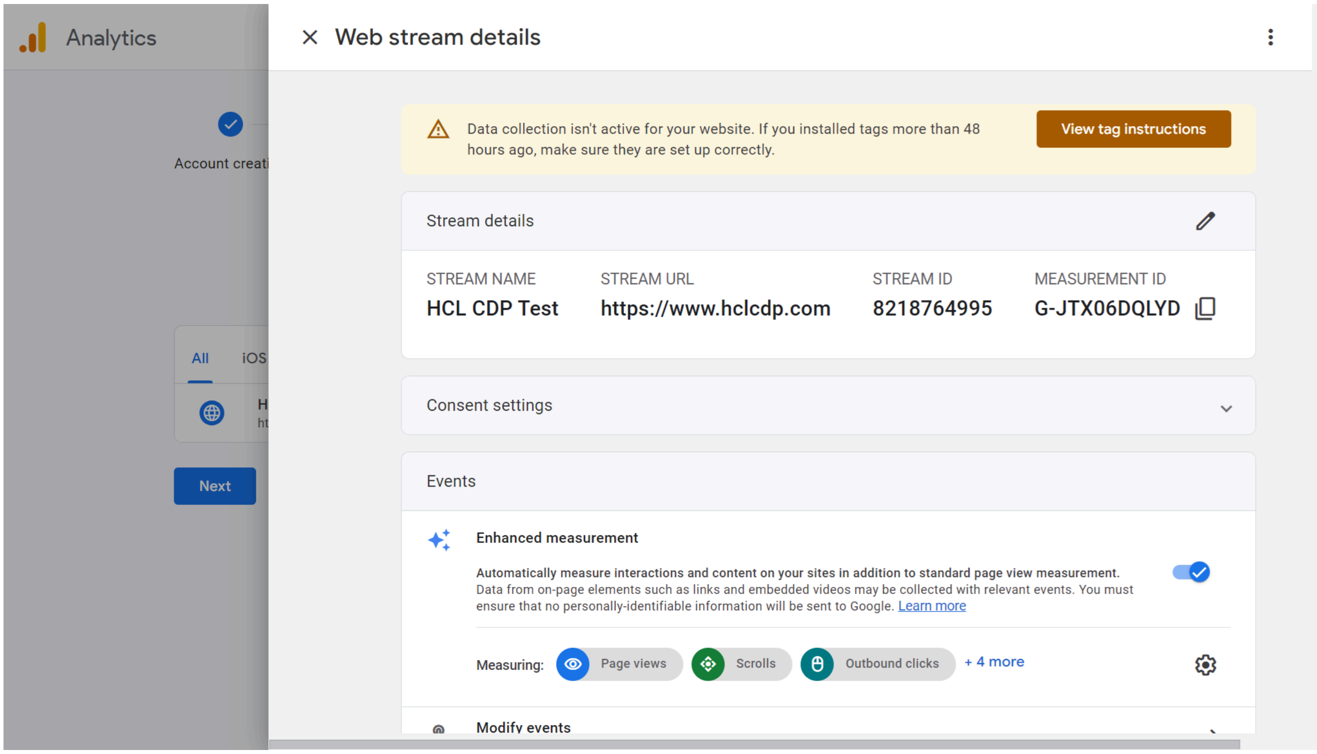
Use Cases of GA4

- Data mapping is configured during setup for action-based destinations.
- Allows precise mapping between source data segments and GA4 data segments.
- Pre-built mappings for recommended GA4 events are available.
- These mappings can be customized as needed.
- Analyze nested products in arrays, such as items in an order completion event.
- GA4 provides clear insights into user navigation across sites and sub-domains.

Getting started with GA4

To start using GA4 with HCL CDP:

1. Configure a Google Analytics 4 property in your Analytics account. For more information about Google's Set up Analytics for a website and/or app for guidance, refer Set up Analytics for a website and/or app.
2. Share your *Measurement ID* and *API Secret* from the GA4 property with the HCL CDP customer success or delivery team.



Parameter	Description
`Measurement ID`	Unique identifier from GA4: **Admin** > **Data Streams** > **Select Stream** > **Measurement ID**.
`projectName`	Name of your project.
`appId`	Application ID.
`apiKey`	API Key associated with your app.
`projectId`	Project ID.
`messagingSenderId`	Unique sender ID for your project.
`enable`	Toggle to enable or disable event sending (default: `false`).

Recommended Events

GA4 provides a set of recommended events that can be mapped using the HCL CDP SDK:

Event	Description
Page View	Triggered when a user views a page.
View Item List	Triggered when a user views a list of items.
Add to Cart	Triggered when a user adds items to their cart.
Purchase	Triggered when a user completes a purchase.

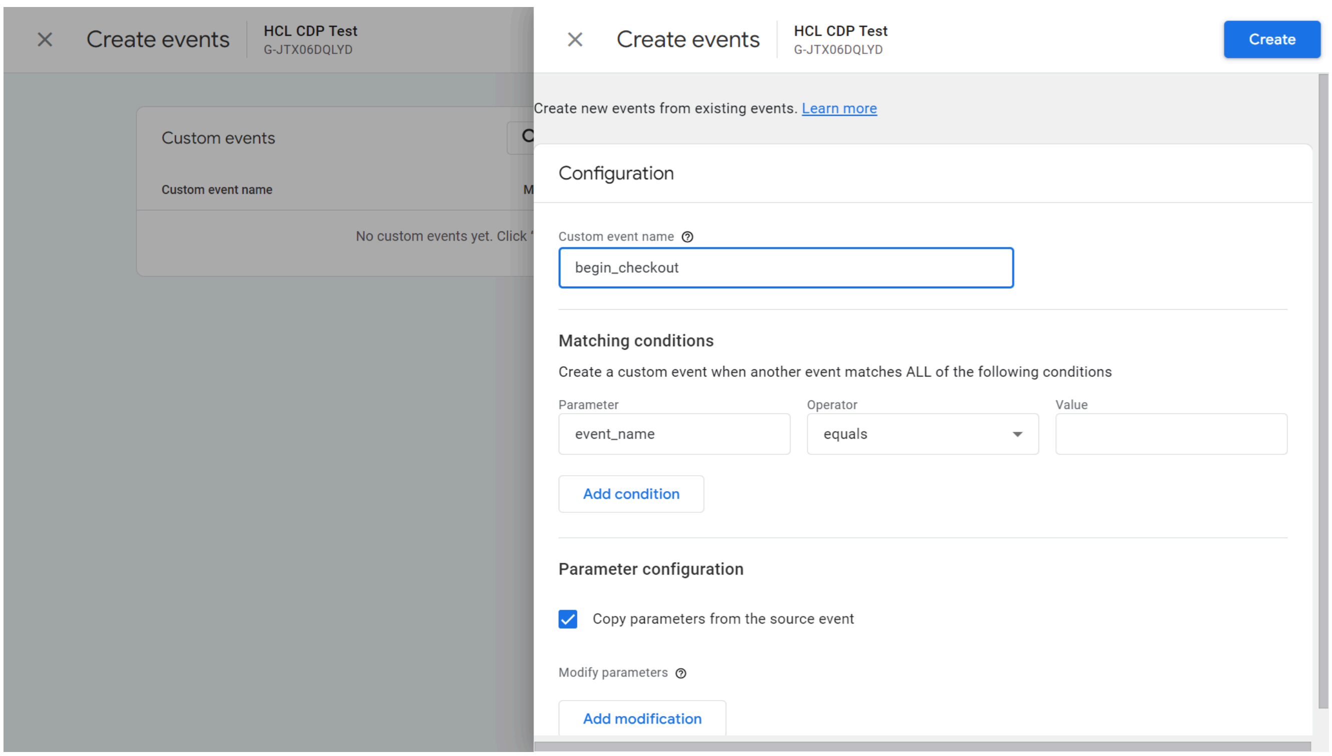
Event	Description
Login	Triggered when a user logs into the application.

For a complete list, refer to Google's Recommended events.

Custom Events

To create and use custom events in GA4, follow the steps below:

1. Create custom dimensions and metrics in your GA4 account.
2. Link event parameters to corresponding dimensions or metrics.
3. Select a parameter from already collected fields or define new parameters for future collection. For more information about Google's Custom Dimensions documentation, refer Custom dimensions.



Meta Pixel Integration

This page provides an overview of Meta Pixel, its use cases, and the step-by-step process for integrating Meta Pixel as a destination in HCL CDP.

Meta Pixel is a **JavaScript snippet** that tracks visitor activity and gathers critical metrics for building effective marketing and advertising campaigns. It collects data such as:

- HTTP headers
- Pixel ID
- Meta cookies
- User interactions (e.g., button clicks)
- Conversion values
- Website field names

Use Cases of Meta Pixel

Lookalike Audiences

1. Reach new audiences with characteristics similar to your existing customers.
2. Based on demographics, interests, and behaviors from your Custom Audience.

Conversion Tracking and Optimization

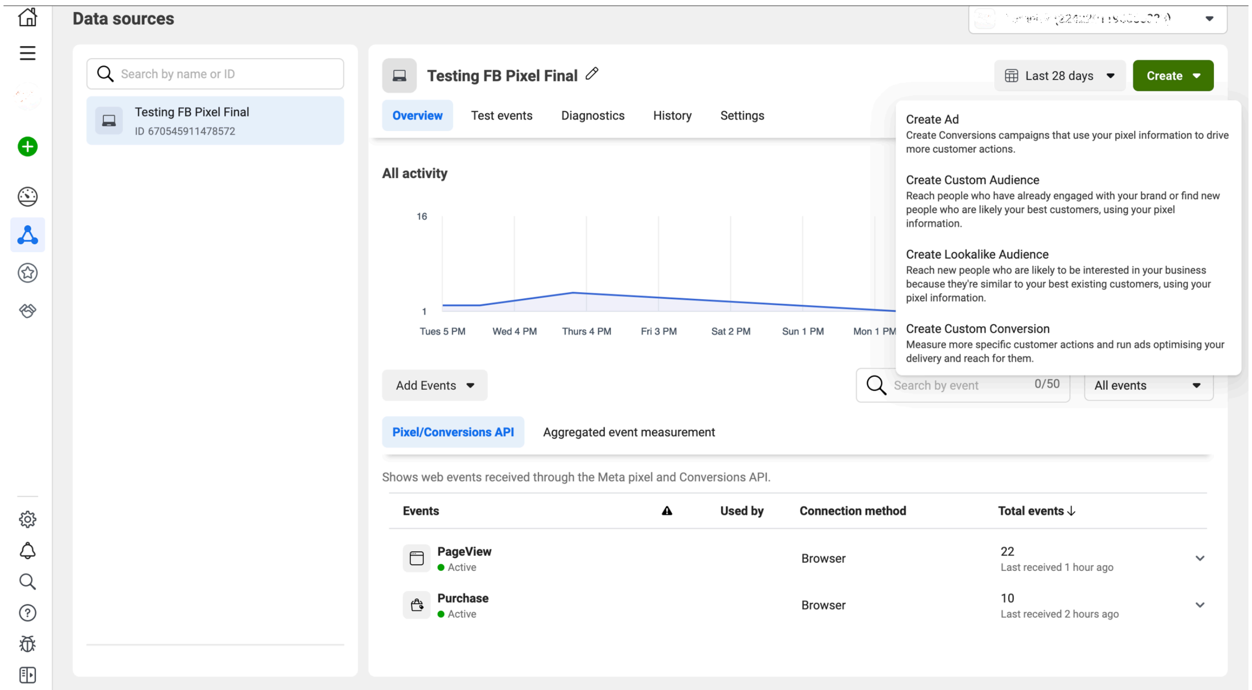
1. Track visitor actions (conversions) for ad performance analysis.
2. Use conversions to define custom audiences for ad targeting.

Remarketing

1. Create Custom Audiences from website visitors.
2. Automatically showcase dynamic ads based on user interactions with your products.

Custom Conversion Rules

1. Create rules for tracking specific actions, such as purchases of items within a price range.
2. Optimize ad delivery to reach audiences most likely to act.



Connection Modes

Connection	Web	Mobile
Device Mode	✓	⊘
Cloud Mode	⊘	⊘

Event Tracking Methods

Meta Pixel supports three key tracking methods:

- **Track Events:** Logs standard or custom events using the `fbq('track')` function. For example:

```
fbq('track', 'Purchase', {currency: "USD", value: 30.00});
```

- **Identify Events:** Logs custom events with customer properties using `fbq('trackCustom')`. For example:

```
fbq('trackCustom', 'identify', {name: "John Doe", city: "Mumbai"});
```

- **Page Events:** Logs page views using `fbq('track')` with `PageView`. For example:

```
fbq('track', 'PageView', {name: "home", title: "Home Page", path: "/home"});
```

Standard and Custom Events in Meta Pixel

1. **Standard Events:** Predefined by Meta, used for conversion tracking, optimization, and audience building. For example:

   ```
   fbq('track', 'AddToCart', {content_ids: ['123'], value: 50, currency: "USD"});
   ```

   To see all the standard event lists and their description you can click here.

2. **Custom Events:** Actions not covered by standard events. Custom names represent specific actions. For example:

   ```
   fbq('trackCustom', 'ShareDiscount', {promotion: 'share_discount_10%'});
   ```

Custom Data Parameters

Custom parameters allow additional data collection for ad optimization.

Example:

```
<script>
fbq('track', 'ViewContent', {
  content_name: 'Running Shoes',
  content_category: 'Apparel > Shoes',
  content_ids: ['1234'],
  value: 0.50,
  currency: 'USD'
});
</script>
```

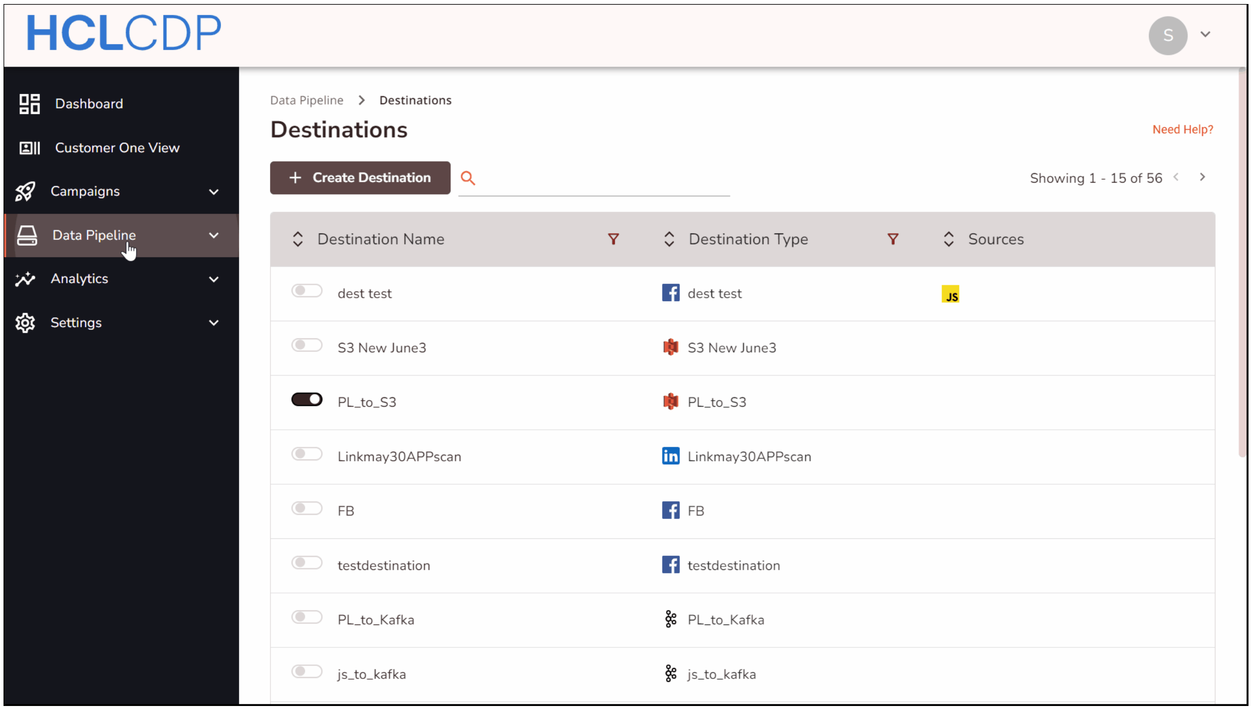
Tip: For more on Custom data parameters click here.

Setting up Meta Pixel destination in HCL CDP

To add Meta Pixel as a destination in the HCL CDP, follow the steps below:

1. Navigate to **Data Pipeline** > **Destinations**, and click **+Create Destination**.
2. Select **Meta Pixel** from the catalog, and click **Continue**.
3. Choose a source and click **Continue**.
4. In the **Destination Name** field, enter a unique name for your destination, and click **Submit**.
5. In the **OVERVIEW** tab, toggle the **Status** button to activate, and confirm activation.
6. In the Configuration tab, paste the Pixel ID from Meta Pixel's creation page.
7. In the Map Events section, define mappings for your events to Meta Standard Events, and add fields as needed.
8. Enable/disable options like **Limited Data Use**, **Advanced Matching**, and **Send UserId as External ID** using toggle buttons.

9. Click **Update** to save settings.

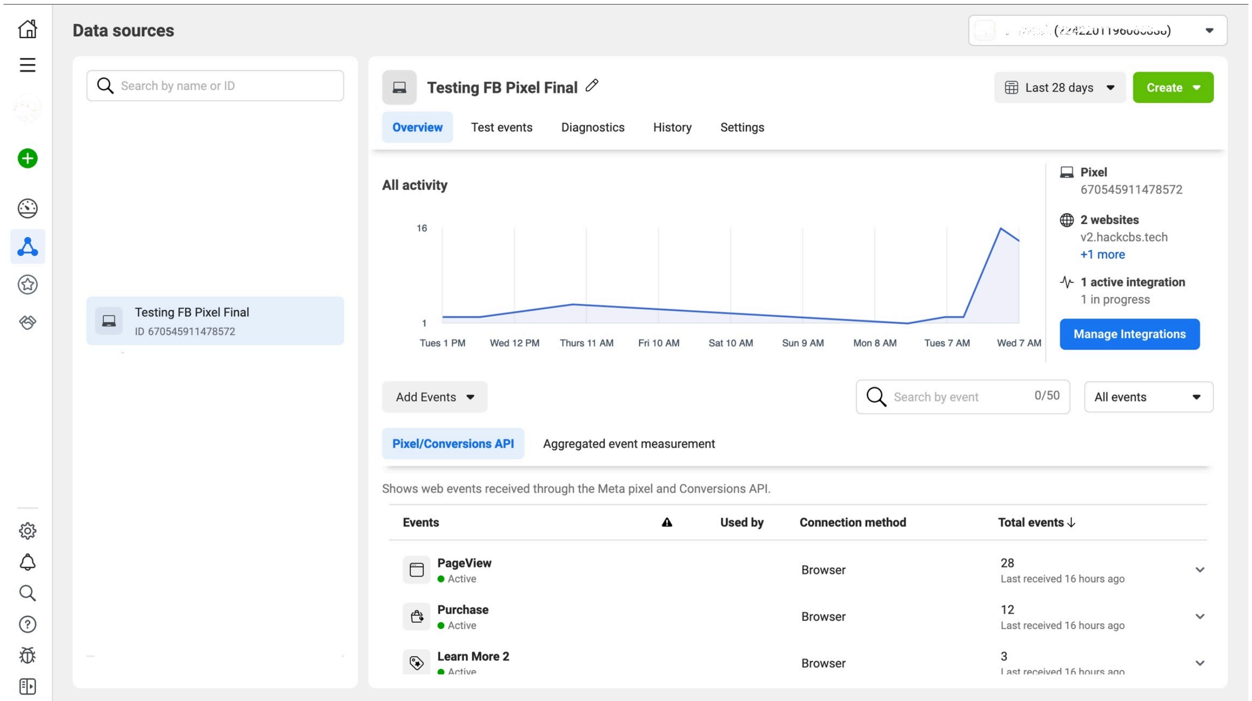


Verify Events in Meta Pixel

To verify events at Meta Pixel, follow the steps below.

1. Go to **Meta Events Manager**.
2. Select your Pixel from the left navigation panel.

3. Check the event dashboard to verify the events sent by HCL CDP. For reference, check the below image.



AWS S3

This page explains the features and use cases of AWS S3 and provides step-by-step instructions for integrating it as a destination in HCL CDP.

AWS S3 (Simple Storage Service) is a **cloud-based object storage service** that allows businesses and individuals to securely store data within containers called buckets. S3 is versatile and supports use cases such as:

- Data lakes
- Websites
- Mobile applications
- Backups and archives
- IoT device data
- Big data analytics

Key Features of AWS S3

1. **Intelligent-Tiering:** Automatically optimizes storage costs for changing access patterns.
2. **Storage Management:** Tools for cost management, regulatory compliance, and latency reduction.
3. **Access Auditing:** Features to manage and audit access to your buckets and objects.

For more details, refer to the AWS S3 Documentation.

Connection Modes

Connection	Web	Mobile
Device Mode	⊘	⊘
Cloud Mode	✓	✓

Setting Up AWS S3 as a Destination in HCL CDP

To configure AWS S3 in HCL CDP, follow the steps below:

1. Navigate to **Data Pipeline** > **Destinations** and click **+Create Destination**.
2. From the catalog pop-up, select **Amazon S3** and click **Continue**.
3. Select a source, and click **Continue**.
4. In the Destination Name field, enter a unique name to identify the destination. Click **Submit**.
5. Toggle the **Status** button to activate or deactivate the destination.
6. Click **+Add Sources** to add sources, and select desired sources.
7. Click **Continue**. In the **Bucket Name** text box, enter the bucket name.

   Note: To get the bucket name, login to your Amazon AWS S3 console and then create a new S3 bucket (you can also choose an existing one, if any).

8. Add an optional prefix path (e.g., if the bucket name is `AbcdS3` and prefix is `AWS`, the full name becomes `AWS AbcdS3`).
9. Click **Update Destination** to save your settings.

Data Handling in AWS S3

Data Processing:

- HCL CDP collects data from sources, processes it in hourly batches, and stores it as gzipped, newline-separated JSON files.
- Files are first uploaded to an HCL CDP S3 bucket and then securely copied to your S3 bucket.

Bucket Policy: Add the following bucket policy to allow HCL CDP access:

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "AllowhclcdpUser",
            "Effect": "Allow",
            "Principal": {
                "AWS": "arn:aws:iam::821664204980:user/s3-copy"
            },
            "Action": [
                "s3:PutObject",
                "s3:PutObjectAcl"
```

```
            ],
            "Resource": "arn:aws:s3:::<s3-bucket-name>/hclcdp-logs/*"
        }
    ]
}
```

File Naming Convention: Files are named using the following format:

```
s3://{bucket}/hclcdp-logs/{source-id}/{received-day}/filename.gz
```

Event Types

HCL CDP supports several event types, stored as JSON objects in AWS S3:

1. **Track Events:** Track user actions with event-specific details.

```
{
    "anonymousId": "viz_62200c405e6de",
    "event": "otp_verified",
    "type": "track",
    "properties": { "customerId": "1192900" }
}
```

2. **Identify Events:** Identify user attributes.

```
{
    "anonymousId": "viz_62200ceef3fd6",
    "type": "identify",
    "traits": { "email": "user@example.com" }
}
```

3. **Screen Events:** Track app screen views.

```
{
    "type": "screen",
    "event": "page_viewed",
    "context": { "app": { "name": "MyApp" } }
}
```

4. **Page Events:** Track website page views.

```
{
    "type": "page",
    "properties": { "url": "https://example.com/home" }
}
```

FAQs

Q1. What connection does AWS S3 use?

The AWS S3 is available in Cloud mode for both web and mobile.

Q2. How do I configure AWS S3?

Log in to your Amazon AWS S3 console and then create a new S3 bucket or use an existing one.

Q3. How is the data processed in HCL CDP?

HCL CDP collects data in hourly batches, stores it in its S3 bucket, and securely copies it to your S3 bucket. There is no size limit.

Q4. How do I set up AWS S3 as a destination?

Navigate to **Data Pipeline** > **Destinations**, select **Amazon S3** and follow the setup process.

Q5. How to add a prefix path to the destination name?

Add the prefix (e.g., `AWS`) before the bucket name in the **Bucket Name** text box. For example, the full name becomes `AWS AbcdS3`.

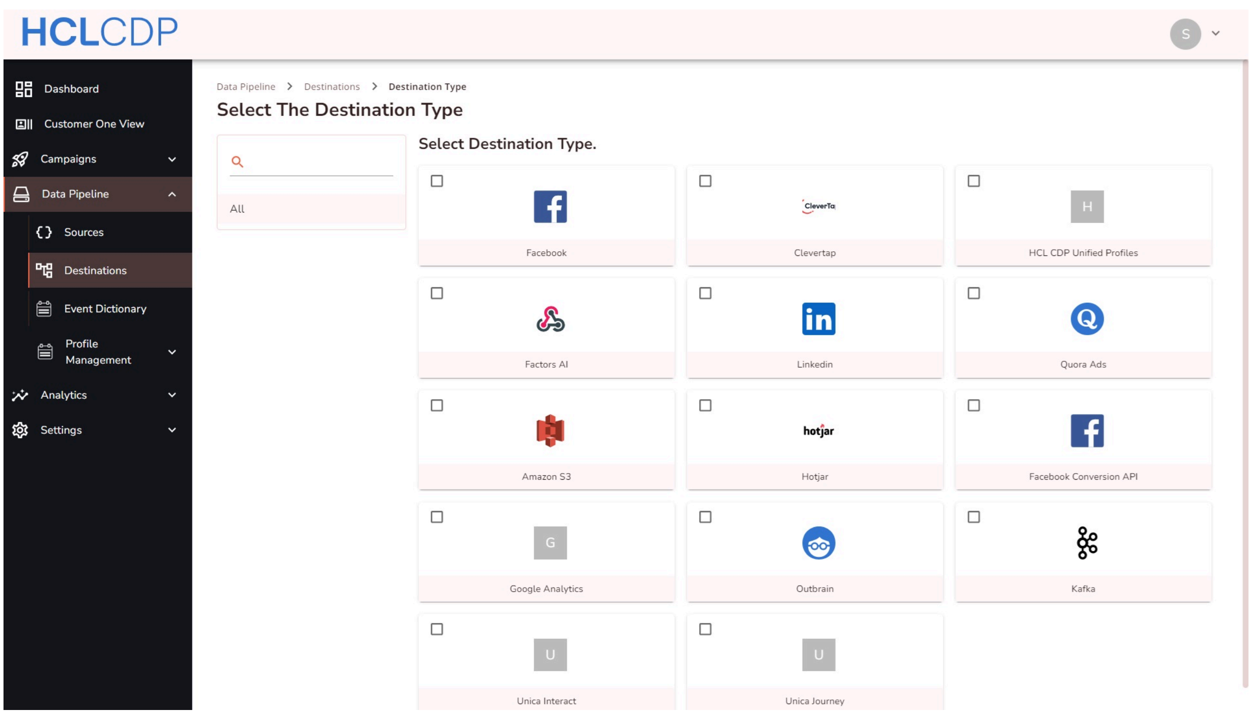
Kafka

This page provides step-by-step instructions to configure **Kafka** as a destination in HCL CDP, enabling the consumption of raw events directly to your Kafka consumer.

Kafka integration allows HCL CDP to stream raw events from various data sources to your configured Kafka destination. This enables seamless real-time event processing and data streaming for further analysis and applications.

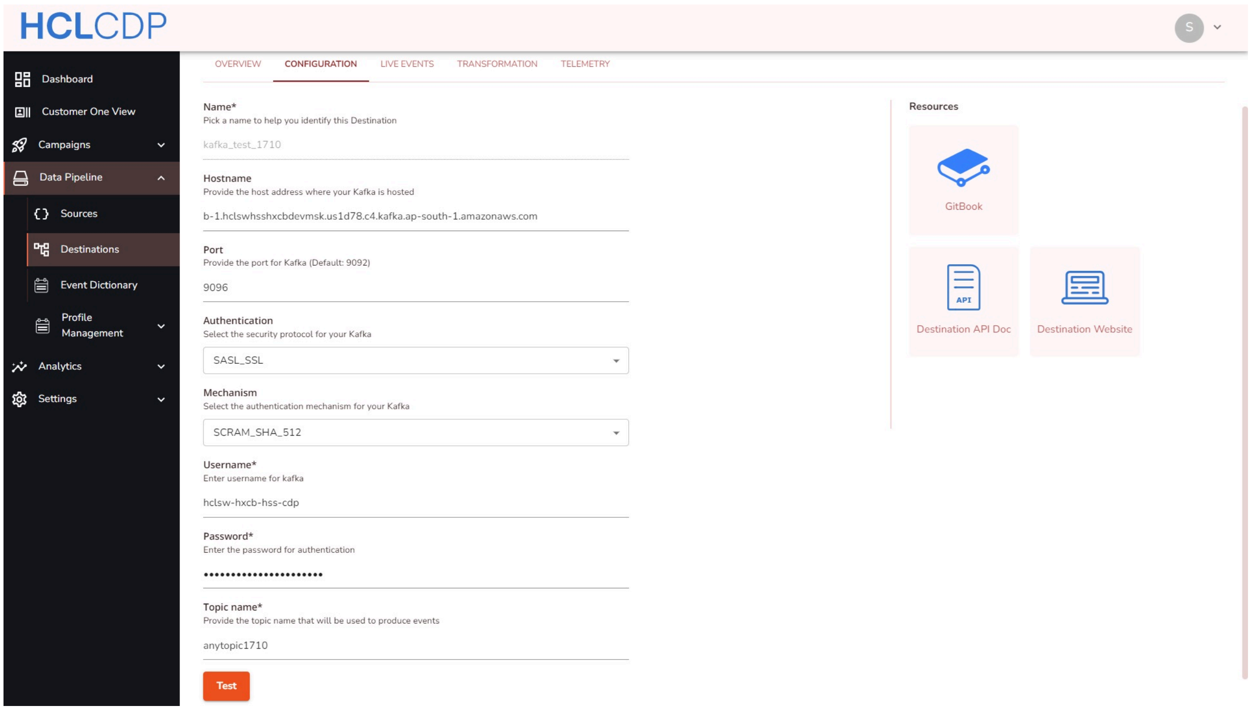
Setup Kafka as Destination in HCL CDP

1. Navigate to **Data Pipeline > Destinations**, and click **+Create Destination**.

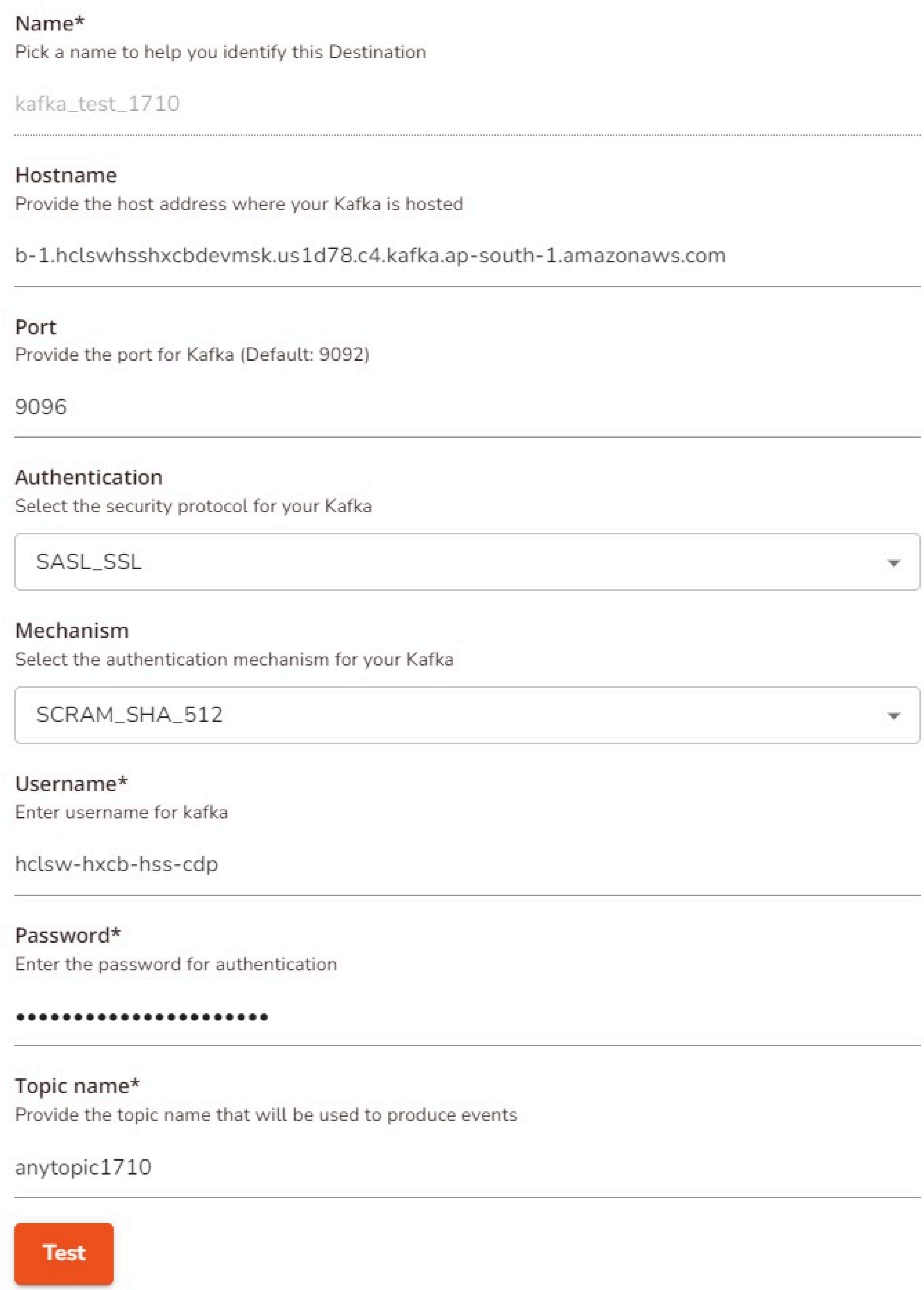


2. Select **Kafka** from the destination list.
3. Choose the source you created earlier, and click **Continue**.

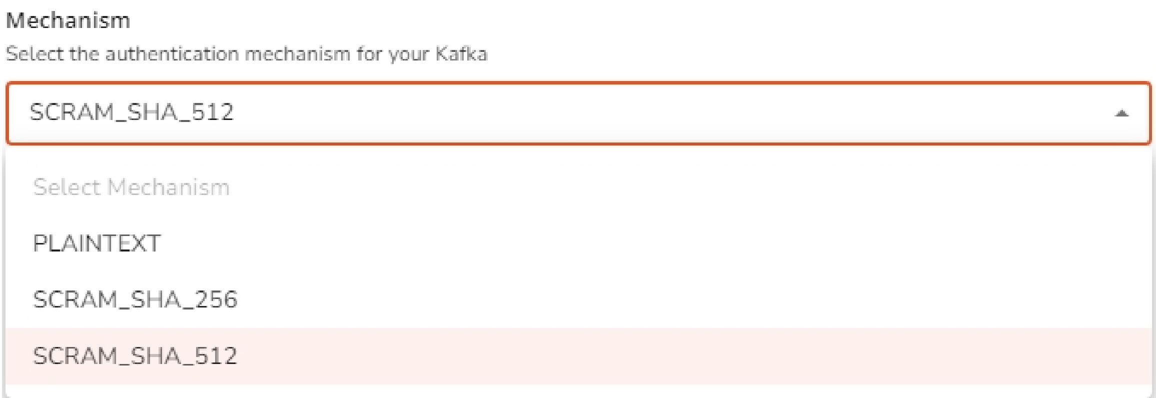
4. In the **Destination Name** field, enter a unique name for your destination, and click **Submit**.
5. After creating the destination, navigate to the **CONFIGURATION** tab.



6. Enter the following details to configure your destination.
    - **Name:** Enter a descriptive name for your Kafka destination.
    - **Hostname:** Provide the Kafka host address where your Kafka instance is hosted.



- **Authentication:** choose between `PLAINTEXT` and `SASL_PLAINTEX`. If using `SASL_PLAINTEXT`, select one of the three available authentication mechanisms.



- **Topic name**: Enter the Kafka topic name where HCL CDP will produce the Kafka events.

7. Click **Test** to verify the connection and ensure events can be produced to the specified Kafka configuration. If successful, a success message will appear. If not, an error message will indicate the issue.
8. After a successful test, click **Update** to save your Kafka destination configuration.
9. Toggle the activation status to enable the destination.

Tip: It may take up to 30 minutes for the destination to become fully functional after activation.

Chapter 2. Insights and Actions

This section details unify real-time dashboards and AI-driven intelligence to transform data into impactful outcomes.

Dashboard

This page explains the purpose of the dashboard and its benefits.

The HCL CDP dashboard provides a feature-rich, yet simplified, user experience by using impressive visualizations to convey a story. Its design and development follow a user-centric approach with a simplified architecture, allowing users to easily explore data and gain valuable insights for further progress.

By connecting various tables and columns, the dashboard creates meaningful visualizations through different elements like charts and graphs, offering a clearer overview of your business operations. It serves as an excellent tool for monitoring business activities, generating quick and relevant reports, and providing at-a-glance access to key metrics. The dashboard is useful for organizations, as it enables multiple departments, stakeholders, and executives to assess business performance and take relevant actions to enhance outcomes and achieve set goals.

Dashboard for Organizational Needs

Strategic Insights for C-Level Executives

High level management focus on organizational performance and growth. They require a simple interface to quickly access overall performance reports for analyzing the organization's progress. Spending time delving deep into the data for insights can be challenging for them.

HCL CDP's feature-packed dashboard offers valuable performance insights with a detailed data overview. It enables users to gain in-depth insights into the organization’s performance and marketing campaigns, helping them identify growth trends with just a few clicks.

Advanced Analytics for Business Analysts

Business analysts focus majorly on data to extract the insights needed to streamline actions and drive optimal results, contributing to the growth and performance of the organization. They provide critical insights to stakeholders and C-level executives, who use this information to make informed decisions and propel the organization toward its growth targets.

Our simplified dashboard empowers business analysts to dive deep into reports and gather data on KPIs, while also forecasting growth and identifying risk opportunities. The dashboard minimizes the time spent sifting through every report, allowing analysts to quickly generate optimal reports and gain valuable insights without needing to analyze each individual campaign in detail.

Data-Driven Decision Making for Marketing Teams

The marketing team focuses on analyzing user behavior and market trends to create and execute effective campaigns that engage users with relevant content. They develop strategies to convert users into potential leads and support sales operations.

This dashboard provides a clear, comprehensive overview of the performance and user behavior related to their marketing campaigns. The CDP's simple yet interactive dashboard allows marketers to spend more time building strategies rather than analyzing reports from multiple channels. Its user-friendly architecture helps marketers navigate specific events easily and gain deep insights from the data collected across campaigns.

Driving Sales with Personalized Dashboards

Sales professionals play a vital role in any organization, directly engaging with consumers and providing valuable feedback to improve product performance while driving revenue. They work to deliver the right pitch to target customers and encourage them to use the product.

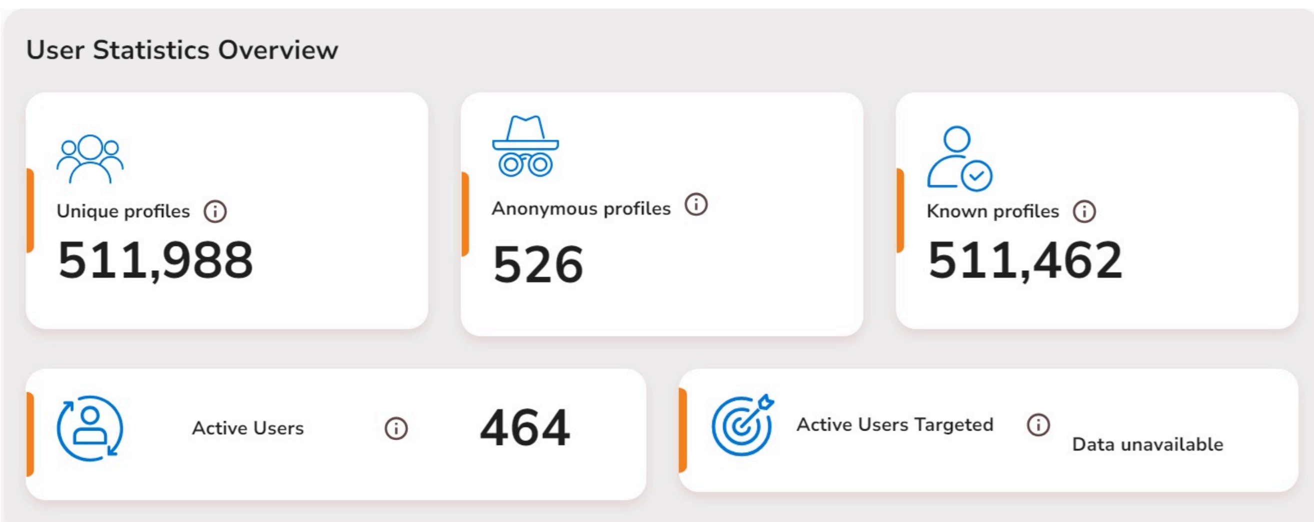
The dashboard offers strong support by helping the sales team target the right audience through analysis of customer behavior, interests, and market trends. This insightful tool allows the sales team to quickly access overall user behavior and interests, eliminating the need to spend time digging through individual campaign data for necessary insights.

Overview of Key Features

This page explains the component and the features of the dashboard.

User Statistics Overview

This section displays the total number of users on your platform categorized into Unique Profiles, Anonymous Profiles, and Known Profiles from the date you started your journey on the platform.



Data Points	Overview.
Unique Profiles	Unique profiles are the summation of anonymous and known profiles in which at least one identifier will be used to identify the users' Eg: CRMID, Email, Mobile number, etc. You can target users through various channels using these identifiers depending on the identifier available for the user

Data Points	Overview.
Anonymous Profile	Any profile in the database which is identified only with cookie Id and Device Id will be displayed under Anonymous profiles. You can target these users through channels like web push notification.
Known Profiles	Known profiles will be identified with the profiles which have personal identification Information (PII) and other defined user identifiers but not just cookie ID or Device ID. The number of profiles that carry personal information will be displayed under this category. You can target these users through any channel depending on the identifier available for the user.
Active Users	Users who have performed any event or action through any of these sources within the given time frame. This data shows the active users for the last 30 days.
Active Users Targeted	Users among the active users who have been targeted via one or more channels. This is the subset of active users. This data shows the active users for the last 30 days.

The data of **Active users** and **Active users targeted** will be displayed only from the past 30 days.

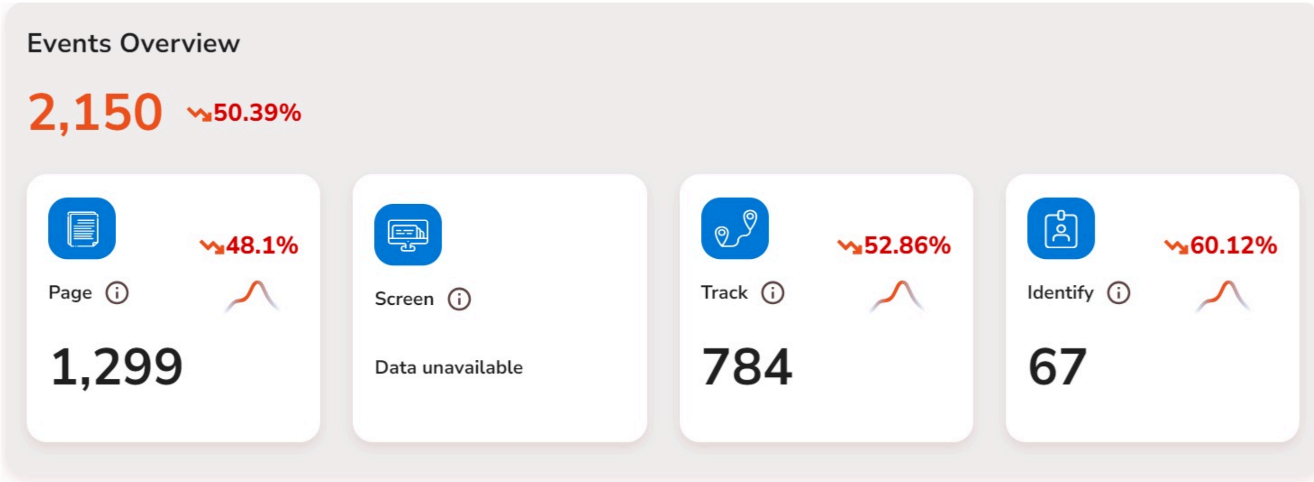
For custom date range, select the **Date range** in the field displayed on the right edge of the window to fetch the data as per your required time frame.

Tip: The data presented after this point will be based on the date range you selected in the required field.

Events Overview

Events Overview shows the data of users who engaged with any specific events from your campaign. This is the sum of different events like Identify, Page, Screen, and Track events.

The data will be shown from the last 7 days by default. Your current data will be compared with the previous 7 days and the comparison will vary according to the data range you select. Eg: If you select the date range for 30 days, the current data will be displayed in comparison with the data of the previous 30 days.



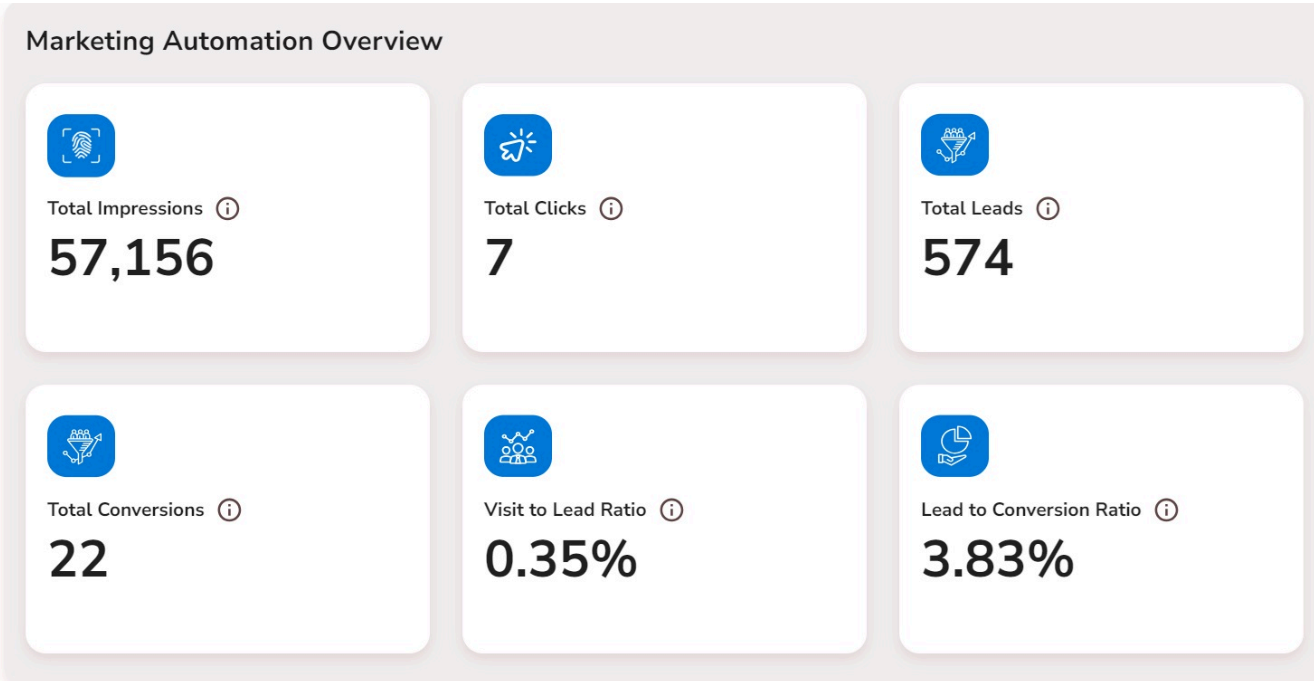
Events	Description
Page Event	Page Event shows the number of users who visited the websites through the engagements triggered by your marketing campaigns. It helps you to create a customer funnel and identify on which page the user dropped.
Screen Event	This event shows the number of users who visited the screens through the mobile devices in which your campaign engagement pops up to engage users. These event metrics support you in analyzing the performance and engagement level of your mobile application. It also helps you to create a customer funnel and identify on which screen the user dropped. The data is unavailable due to the lack of screen events that took place in our campaign.
Track Event	Track event helps you to analyze the user behavior in your website or mobile application. Eg: Time spent on the app, the product added to the cart, a customer dropped from a video, etc.
Identify Event	This event helps you to know about the users, their purchase history, subscriptions, memberships, etc.

Tip: If the data for any metric doesn't flow through HCL CDP system, the Dashboard will display that metric with "Data Unavailable" prompt

Marketing Automation Overview

This section shows an overview of your campaign performance as per each engagement proceedings from the marketing automation.

Tip: The metrics of each event will also be displayed in percentage; Green and Red indicators indicate the growth and decline in overall performance.



Values	Description
Total Impressions	Shows the total number of impressions served/clicks received for the selected time frame through the engagement triggered by your campaign.
Total Clicks	Shows the total number of clicks made in the engagement for the selected time frame
Total Conversions	Shows the occurrence of conversions that took place in the campaign with the engagement click for the defined time frame of 30 days. These conversions will be the subset of leads.
Total Leads	Shows the number of users who perform the intended lead event with an engagement click.
Visit to lead Ratio	Shows the total number of leads generated from the total number of unique visits in a selected time frame.
Lead to Conversion Ratio	Shows the percentage of lead conversations from the total number of leads generated from any engagement in a selected time frame. If the selected time frame is less than the average conversion period the ratio may not show any numbers for you.

Unique Profiles

Now, click on **Unique Profiles**. This window shows the data points that the platform has collected from the Unique profiles.

Interpretation of the above chart.

This graph interprets the stats from the data points of Unique profiles collected in the platform. The Orange dots in the graph represent the data points Partner, Email, Mobile, and Cookies. The orange line that connects the dots indicates the inclusion of two or more data points.

The pointer allows you to navigate and explore the data points by highlighting the presence of each data point's contribution to other data points in rows and column-wise. Eg: If you hover the pointer on Cookie in the row, it will highlight the number of cookie data present in other data points too.

The chart shows the platform has collected the following information about the users,

Data points	Number of Users
Partner	976,878
Email	705,896
Mobile	1,827,757
Cookie	6,957,775

Data points	Number of Users
Partner & Email	9,005
Partner & Mobile	357,549
Partner & Cookie	113
Email & Mobile	12,777
Email & Cookie	264
Mobile & Cookie	9,957
Partner,Email & Mobile	355,105
Partner,Email & Cookie	468
Partner,Mobile & Cookie	16,263
Email,Mobile & Cookie	166,613
Partner,Email,Mobile & Cookie	153,601
Other	227

The platform also allows you to export the graph in multiple file formats such as SVG, and PNG which supports sending the data to other teams and stakeholders to make collaborative decisions.

Campaign Summary

This page explains how Campaign Summary Reports help analyze segment performance and engagement success.

Key Features and Benefits

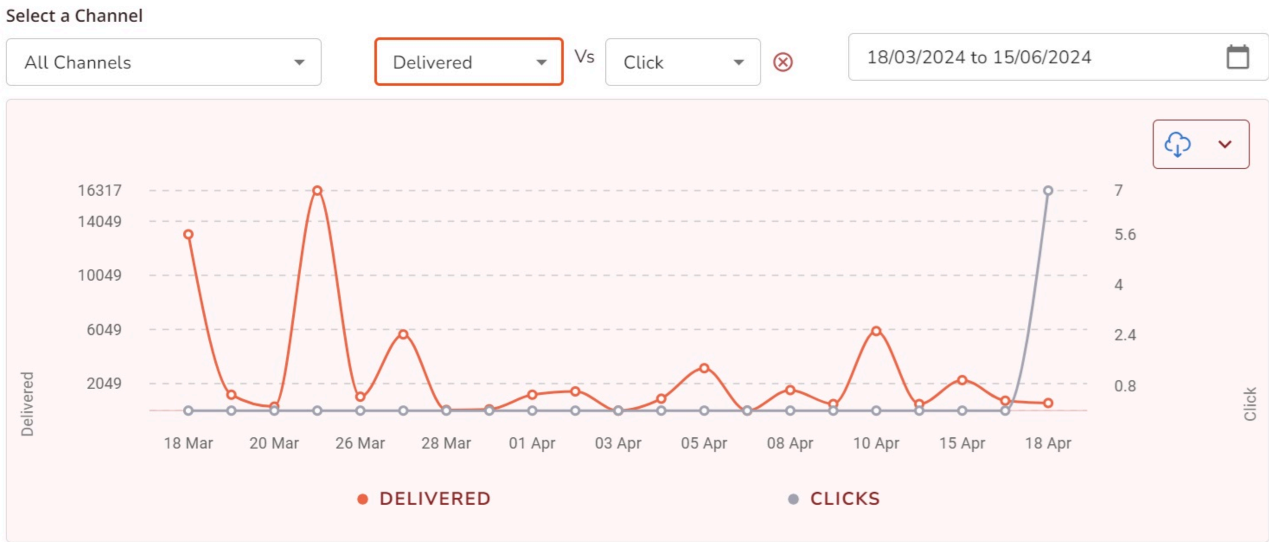
1. **Analyze Data Points**: Review metrics like CTR, conversions, and opens for your segments and engagements.
2. **Break Down Data**: Split segments and engagements by various dimensions.
3. **Visualize and Compare**: Use graphs to compare metrics and identify trends.

HCL CDP Reporting: Insights Across Channels

HCL CDP Reporting provides actionable insights by offering data on:

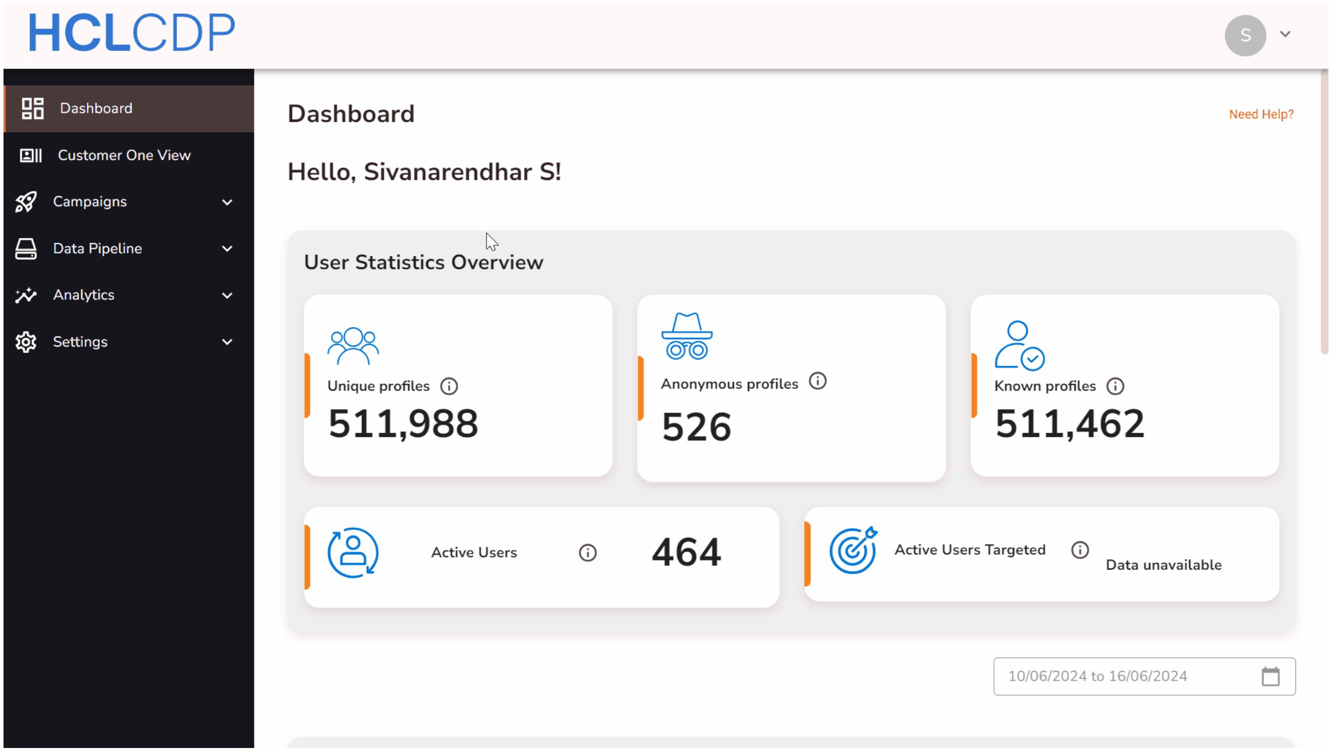
- The number of users who received communications.
- Communications that bounced.
- Trends for specific metrics over time.
- Top-performing campaigns.
- Best-performing channels.

You can create precise, customizable reports to better understand campaign performance and engagement.

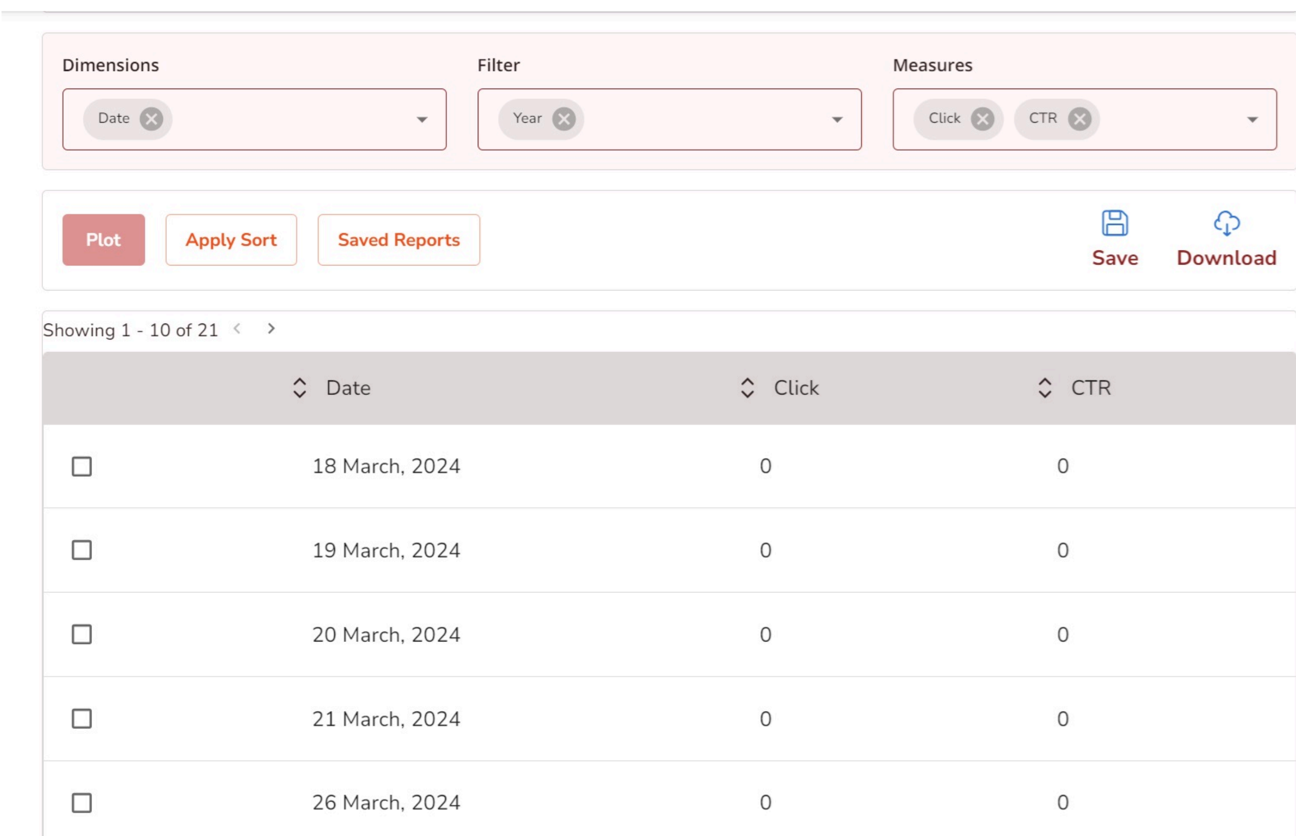


To fetch the report for the **App Push Notification** channel by comparing the **CTR** (click-through rate) and **Clicks** between the period **23 Dec to 29 Dec**.

1. Navigate to **Analytics** > **Campaign Summary**.
2. Select Channels: Use this field to select the specific channel(s) for which you want to retrieve details. For more information about the channels, click here on page 21. For this example, select **App Push Notification** as the channel to fetch the details of campaign performance.
3. Comparison: The comparison field allows comparing the stats of any two measures. For this example, select **CTR** and **Clicks**.
4. Time Range: Time range supports in fetching the details between specific durations. Select the time range as **23 Dec to 29 Dec**
5. Graph: shows the graphical representation of the required stats.



The below fields allow customizing the data for precise reports based on your preferences.



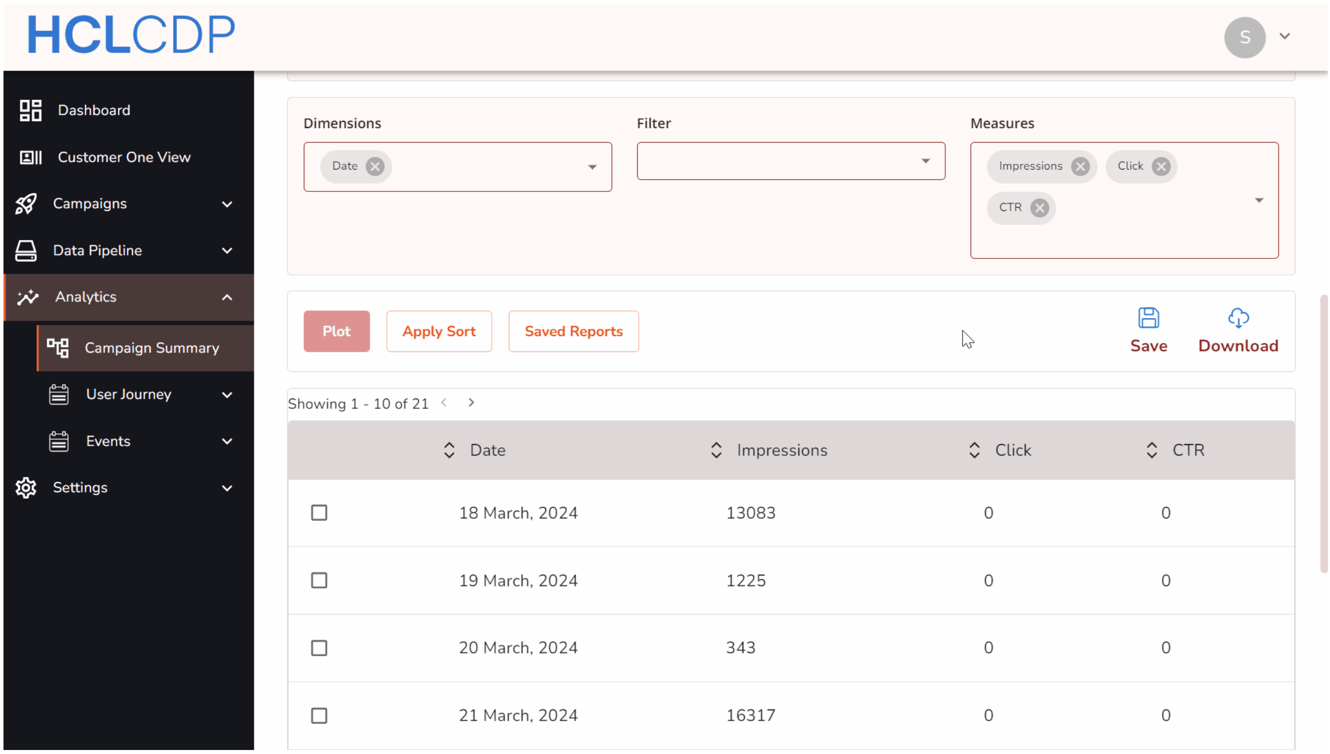
Further, if you want to generate more personalized reports for the **App Push Notification** channel based on the **Segments**, **OS**, and **Devices** for the particular region **Singapore**, with the measures **CTR** and **Clicks**, Dimensions, Filters and Measures are used.

Dimension: The dimension allows you to segregate the report based on different parameters.

- **Date:** Select a specific date to generate reports for that day.
- **Month:** Generate reports for a selected month.
- **Year:** Generate reports for a specific year.
- **Device:** View data on actions performed through a specific device, such as mobile, PC, etc.
- **OS:** View data on actions performed using a particular operating system, such as Android, Windows, or Mac.
- **Browser:** View data on actions performed through a specific browser, such as Chrome, Safari, or Firefox.
- **City:** Generate reports for a specific city.
- **Country:** Generate reports for selected countries.
- **Segment:** Analyze data based on the chosen segments.
- **Engagement:** Analyze data for the selected engagements, supporting multiple engagements within a campaign.
- **Hour of the Day:** Generate reports for a specific hour of the day.
- **Existing User:** View actions performed by existing users within the campaign.
- **Product:** View data related to the selected product.
- **Conversion Goal:** Retrieve data on the conversion goal of your engagement.

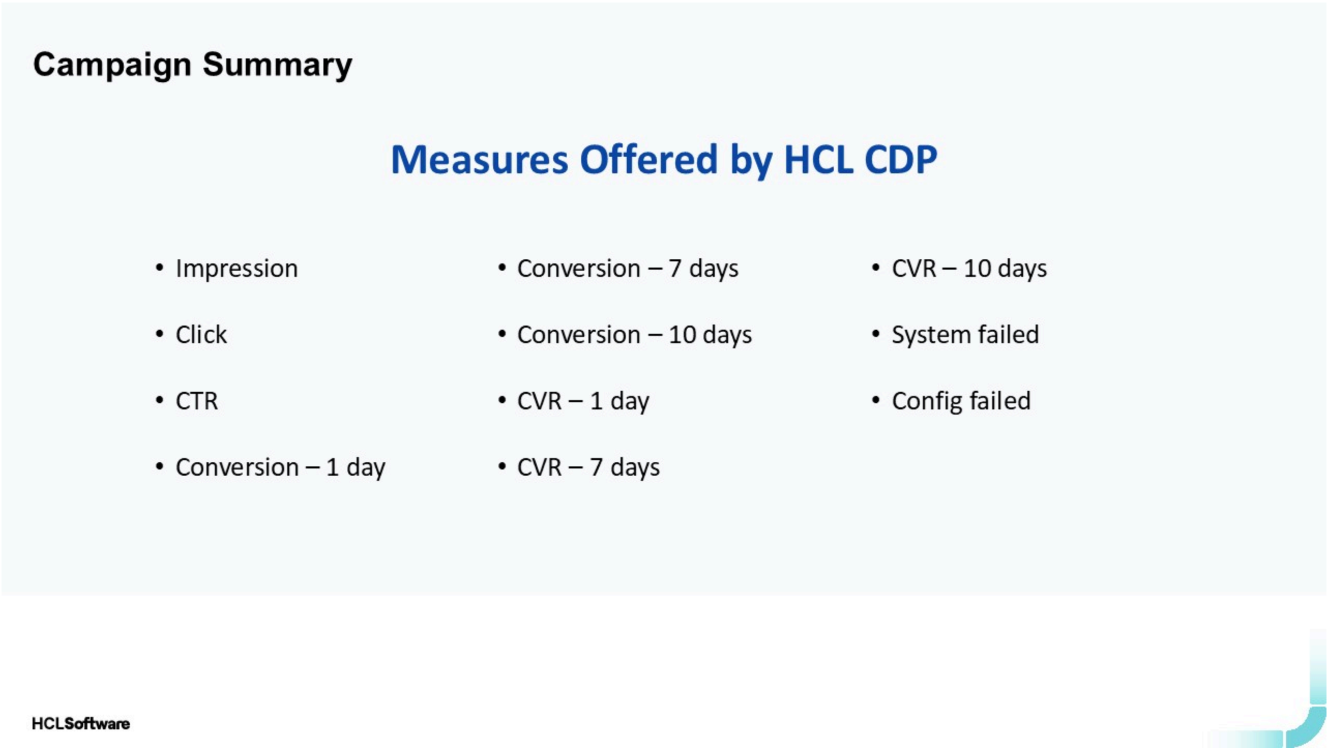
In this example, we have selected the dimensions as **Segment, OS, and Device**

Filters: Filters allow you to segregate more personalized data for the selected dimensions based on your preferences. For the example, we have selected the city and personalized it to filter the data for the location as "**Singapore**".



Tip: The parameters available for Dimensions are also applicable for Filters. However, any parameter selected in Dimensions will not be available in Filters, and vice versa.

Measures: Use measures to retrieve data for specific events based on the selected dimensions and filters. These measures are displayed in the table alongside the dimensions and filters.



Tip: These measures may vary according to the channels.

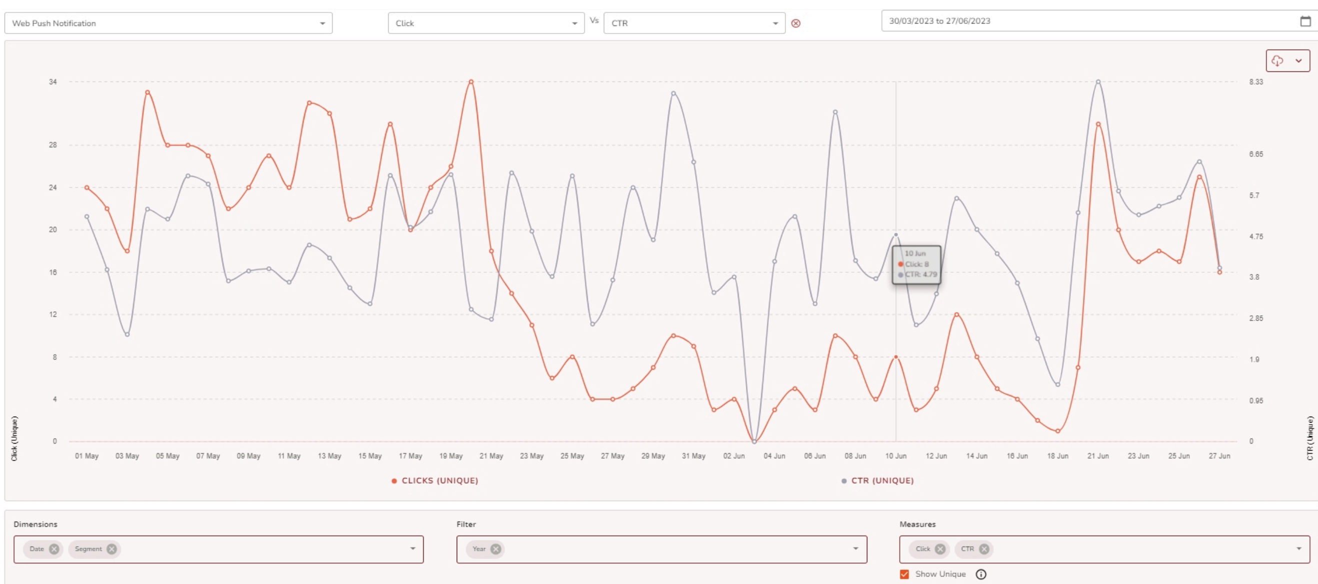
Some common measures are:

- **Impression** - Indicates how often users appear in the campaign.
- **Click** - Reflects the frequency of clicks performed in the campaign.
- **CTR (Click-Through Rate)** - Represents the ratio of clicks to appearances. CTR is calculated as the number of clicks divided by the number of times the engagements are shown.
- **Conversion** - Displays the total number of conversions achieved in the campaign.
- **CVR (Conversion Rate):** Represents the rate of conversions for the campaign, such as app installs or subscriptions resulting from the campaign.
- **System Failed:** Shows the count of system failures that occurred.
- **Config Failed:** Displays instances of configuration failures, e.g., when an email or notification is sent to an unsupported platform like Android instead of Windows.
- **Sent:** Shows the number of engagements sent to users.
- **Open:** Displays the number of engagements opened by users.

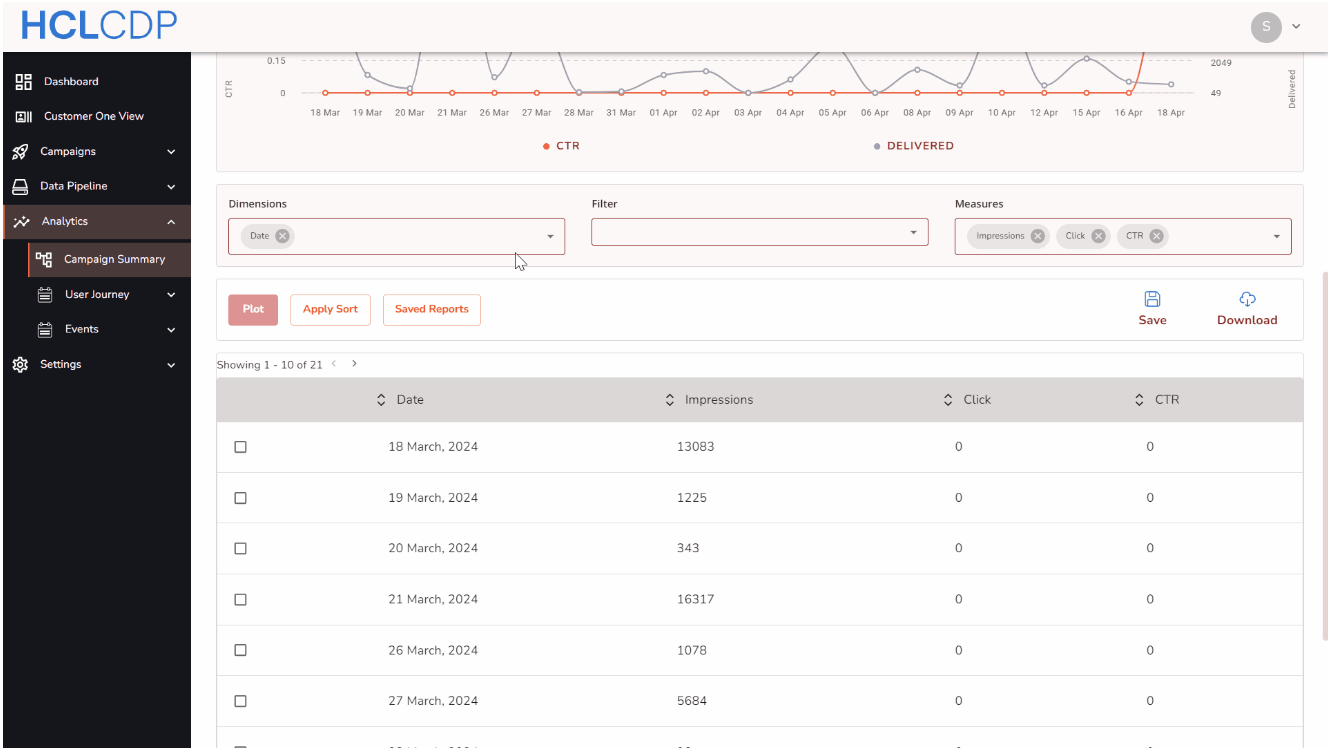
For this example, "**Clicks and CTR**" is selected as the measures to fetch the report.

Unique Metrics: By default, Campaign Summary reports include data for all users, which may include duplicates if the same user is reached multiple times during the selected period. To view metrics for unique users only, enable the ☑ **Show Unique** option under Measures.

This feature is available only when a specific channel is selected. Supported dimensions include **Segment**, **Engagement**, **Date**, **Month**, **Year**, and **Vendor**. If any other dimension is selected, the **Show Unique** checkbox will not appear. In Unique Metrics, all measures are displayed except **Failed**.



Save & Download: click **Save** to save the data and enter the folder name and Report name in the popup and click **Save**. Your data will be saved which can be accessed from the **Saved reports.** The **Download** option supports downloading reports accordingly for further actions.



Let's consider an email campaign to understand the flow of user communication and outcomes. As a marketer, you might want insights into how many users were targeted, how many actually received the communication, and what happened to the rest.

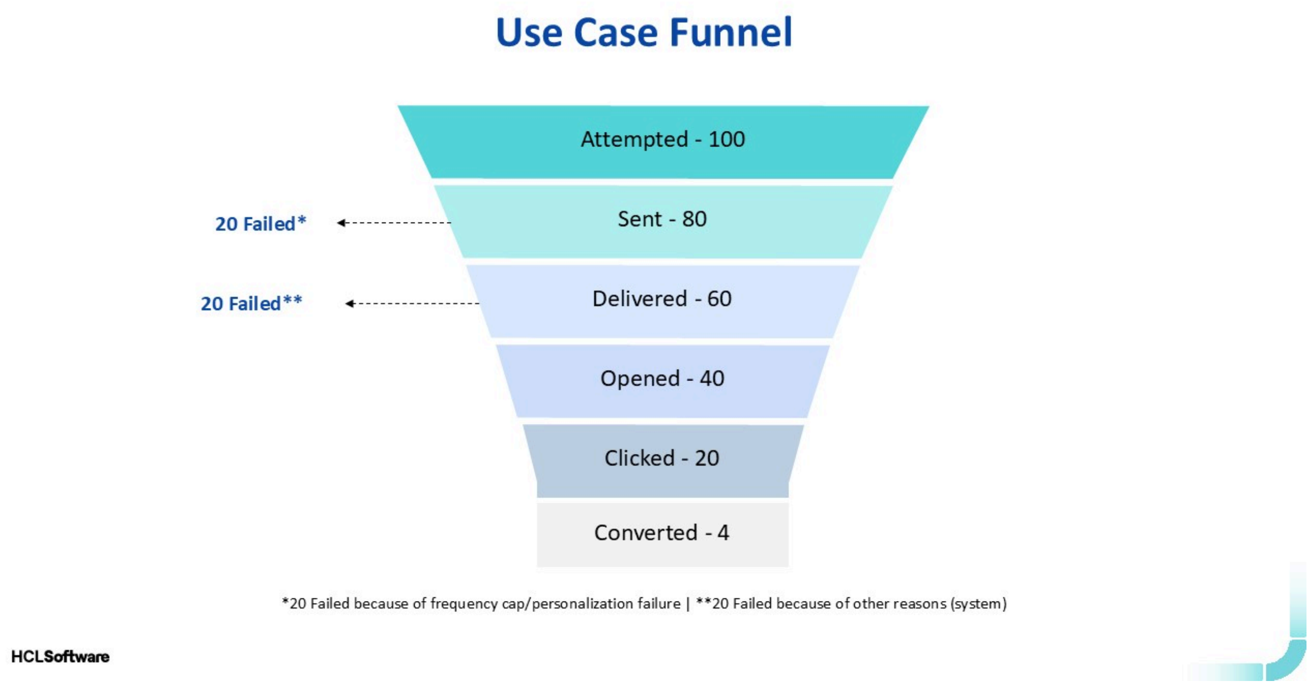
Here's an example:

- From the **Email** channel, 100 emails were attempted. Of these, 80 were successfully sent, while 20 failed.
- Analyzing the 80 sent emails further, 60 were successfully delivered, and 20 failed.
- Out of the 60 delivered emails, 40 were clicked, with 20 emails opened and 20 failing to result in any action.
- Among the 20 opened emails, 4 successfully converted into leads.

This flow adheres to the following equation:

Delivered + Failed = Attempted

The process can be visualized through the funnel below, illustrating each stage of engagement and the outcomes at every step.



Failed Reasons and Descriptions

1. **Frequency Caps**
    - **Daily:** Reached the daily frequency cap limit.
    - **Weekly:** Reached the weekly frequency cap limit.
    - **Monthly:** Reached the monthly frequency cap limit.
    - **Lifetime:** Reached the lifetime frequency cap limit.
2. **Personalization Failures**: Occurs when macro replacement fails during communication.
3. **Others**: Includes all other reasons for undelivered communication not covered by the above categories.

Channel Metrics

This section outlines the metrics and potential reasons for communication failures across different channels, including Email, SMS, WhatsApp, App Push Notifications, and Web Push Notifications. Each channel has unique metrics and failure reasons that provide insights into campaign performance and user engagement.

Email Metrics and Failures

- **Attempted:** Total audience targeted for the email campaign (e.g., 100).
- **Sent:** Emails for which requests were successfully made to the vendor (e.g., 80).
- **Delivered:** Emails successfully delivered to user inboxes, based on ESP confirmation (e.g., 60).
- **Opened:** Emails opened by users. Data is captured via webhook events or an open tracker (e.g., 20).
- **Failed Reasons:**

    - **Frequency Caps:** Exceeded daily, weekly, monthly, or lifetime limits.
    - **Personalization Failure:** Issues in replacing macros with user-specific data.
    - **Hard Bounce:** Permanent delivery failures due to invalid email addresses or blocking.
    - **Soft Bounce:** Temporary delivery failures.
    - **Insufficient Credits:** Insufficient ESP quota or client credits.
    - **Vendor Failure:** Failures on the vendor's or network's end.
    - **Dropped:** Emails dropped due to user unsubscriptions or blacklist status.

SMS Metrics and Failures

- **Attempted:** Total audience targeted for the SMS campaign.
- **Sent:** SMS successfully queued by the marketer for vendor delivery.
- **Delivered:** SMS delivered to users' inboxes, as confirmed by SSP.
- **Clicked:** SMS clicked by users, tracked via webhook or click tracker. Unique click counts are also calculated.
- **Failed Reasons:**
    - **Frequency Caps:** Exceeded limits for sending SMS.
    - **Personalization Failure:** Issues in macro replacement.
    - **Hard Bounce:** Permanent failures due to invalid numbers or blocks.
    - **Soft Bounce:** Temporary delivery failures.
    - **Insufficient Credits:** SSP quota or credit limit exceeded.
    - **Dropped:** SMS dropped for reasons such as blacklisted contacts.
    - **Pending:** Pending delivery from the vendor's end (e.g., Tubelight).
    - **Invalid Sender ID:** Sender ID is invalid.
    - **Duplicate Message Drop:** Duplicate messages sent to the same number (e.g., Netcore).
    - **Blacklist:** Number is blacklisted (e.g., Netcore).
    - **Vendor/Operator Failure:** Failures due to vendor or network issues.
    - **DND List:** SMS blocked as the number is on the DND list (e.g., Netcore).
    - **DLT Error:** Non-whitelisted SMS template (e.g., Infobip).

WhatsApp Metrics and Failures

- **Attempted:** Total audience targeted for the WhatsApp campaign.
- **Sent:** WhatsApp messages successfully queued by the marketer.
- **Delivered:** Messages delivered to users' inboxes, based on WSP confirmation.
- **Opened:** Messages opened or read by users.
- **Subscribed:** Number of users who opted in for WhatsApp communication.
- **Unsubscribed:** Number of users who opted out, making them unreachable for future campaigns.
- **Failed Reasons:**
    - **Frequency Caps:** Exceeded messaging limits.
    - **Personalization Failure:** Issues in macro replacement.
    - **Invalid WhatsApp Number:** Messages sent to unregistered numbers.
    - **Insufficient Credits/Rate Limit:** Credit or quota limit exceeded.

  - **Not Opted-in:** Recipient has not opted in.
  - **International Number Not Supported:** Vendor does not support international numbers.
  - **Template Mismatch:** Mismatch or non-existence of the message template.
  - **Queued:** Message requests queued by the vendor.
  - **Vendor Failure:** Failures on the vendor or network end.

App Push Notification Metrics and Failures

- **Attempted:** Total audience targeted for app push notifications.
- **Sent:** Notifications successfully queued by the marketer for delivery.
- **Delivered:** Notifications delivered to end users. Events such as clicks or dismissals without delivery are also reported here.
- **Clicked:** Notifications clicked by users (unique counts calculated).
- **Dismissed:** Notifications dismissed by users (unique counts calculated).
- **Failed Reasons:**
  - **Frequency Caps:** Exceeded notification limits.
  - **Personalization Failure:** Issues in macro replacement.
  - **Unsubscribed:** Users who unsubscribed are marked as unreachable for future notifications.
  - **FCM Failure:** Notifications sent but not delivered by FCM.
  - **Not Delivered:** Notifications marked as delivered by FCM, but no response from the SDK.

Web Push Notification Metrics and Failures

- **Attempted:** Total audience targeted for web push notifications.
- **Sent:** Notifications successfully queued by the marketer.
- **Delivered:** Notifications delivered to end users. Events like clicks or dismissals without delivery are included here.
- **Clicked:** Notifications clicked by users (unique counts calculated).
- **Dismissed:** Notifications dismissed by users (unique counts calculated).
- **Failed Reasons:**
  - **Frequency Caps:** Exceeded notification limits.
  - **Personalization Failure:** Issues in macro replacement.
  - **Unsubscribed:** Users who unsubscribed are marked as unreachable.
  - **FCM Failure:** Notifications sent but not delivered by FCM.
  - **Not Delivered:** Notifications marked as delivered by FCM but no response from the SDK.

Event Analytics

Event Analytics provides insights into user interactions by analyzing event occurrences, telemetry data, and behavioral patterns. It includes tools like Funnels, Paths, and Traffic Analysis to understand and optimize the customer journey effectively.

Events Occurrence

This page talks about overview of event occurrences, their types, and how to plot a chart.

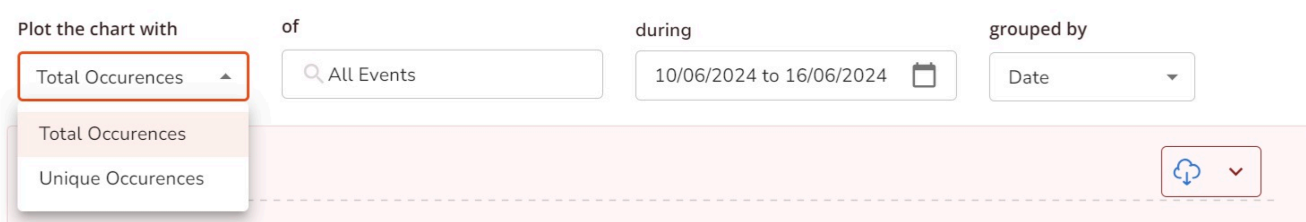
Interaction events- These are all interactive tracking events, such as page views, identity checks, and screen views.

Event Occurrence in Reporting feature lets you analyze event occurrences based on the total number of events and the number of users associated with each event.

For example, if a marketer wants to know how often a particular event has occurred within a set time-frame, they can track user activity through this feature.

There are two types of Occurrences:

- Total occurrences
- Unique Occurrences



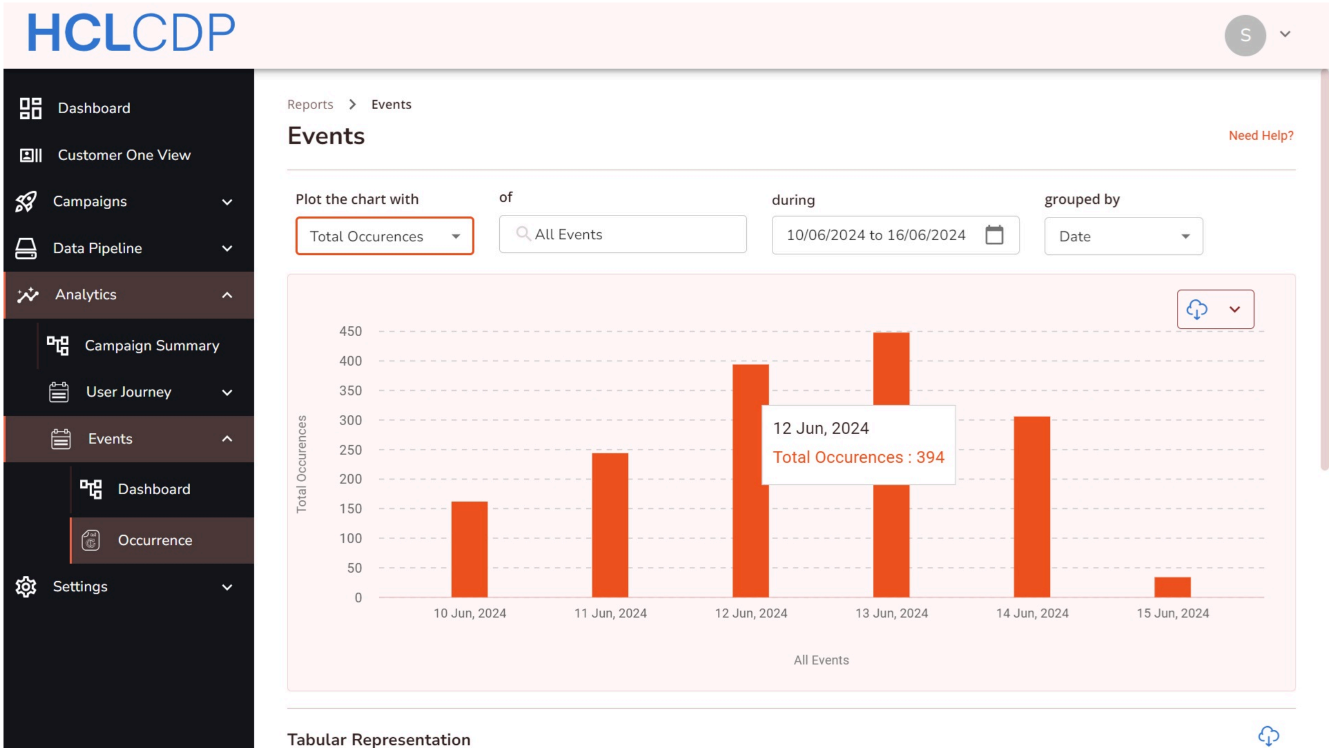
Unique occurrence will always be less than the total occurrence, this is because total occurrence is based user activities; whereas, unique occurrence depends on the user.

- **Total Occurrences**: This represents the total number of times an event has occurred within the specified time-frame, regardless of the number of users. For example, if you want to know the total event count without considering individual users, total occurrences will provide this data.
- **Unique Occurrences**: This shows the number of users who performed a specific event within the defined time-frame, regardless of how frequently the event was performed. This is helpful for seeing how many unique users engaged in an event.

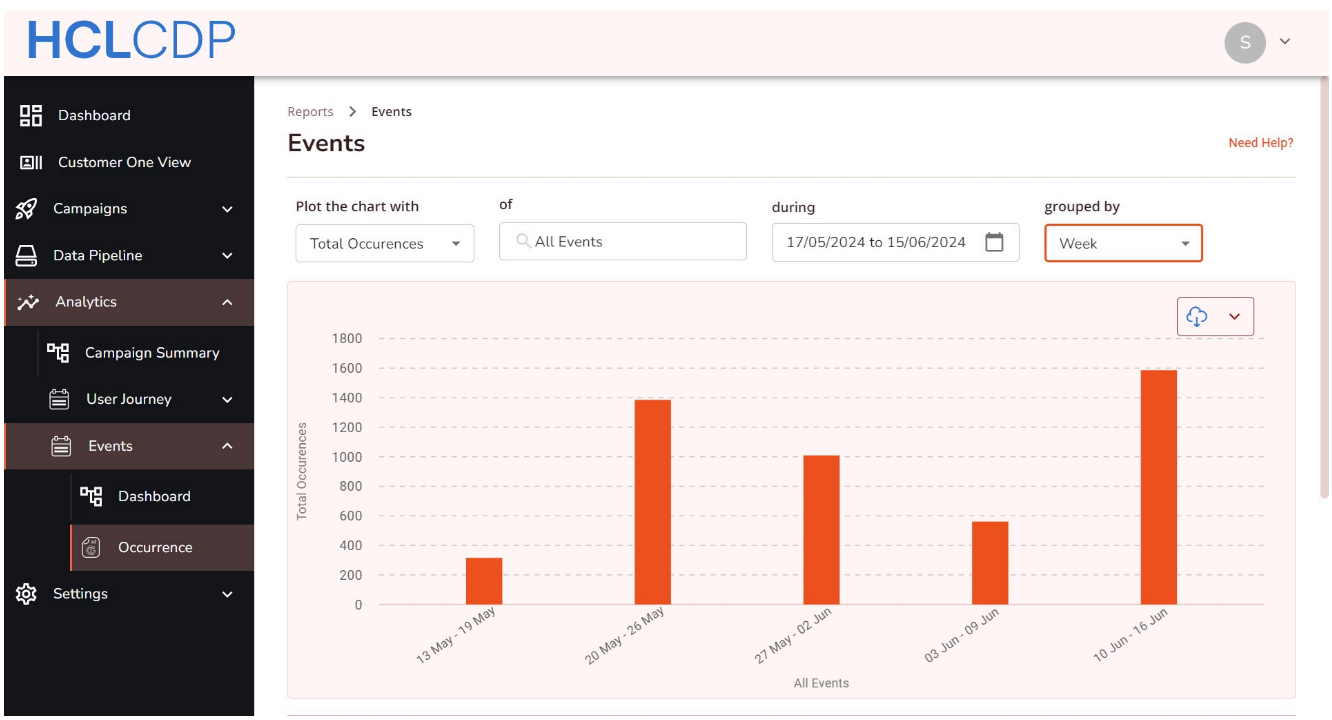
Steps to Plot a Chart

- Locate event occurrence in CDP navigate to **Reports** > **Events** > **Occurrence**.
- Choose to view either the total or unique occurrences of the events.
- Select all events or a specific event from the list.
- Pick a start date and drag to set an end date.
- Organize the data by date, week, month, or event.

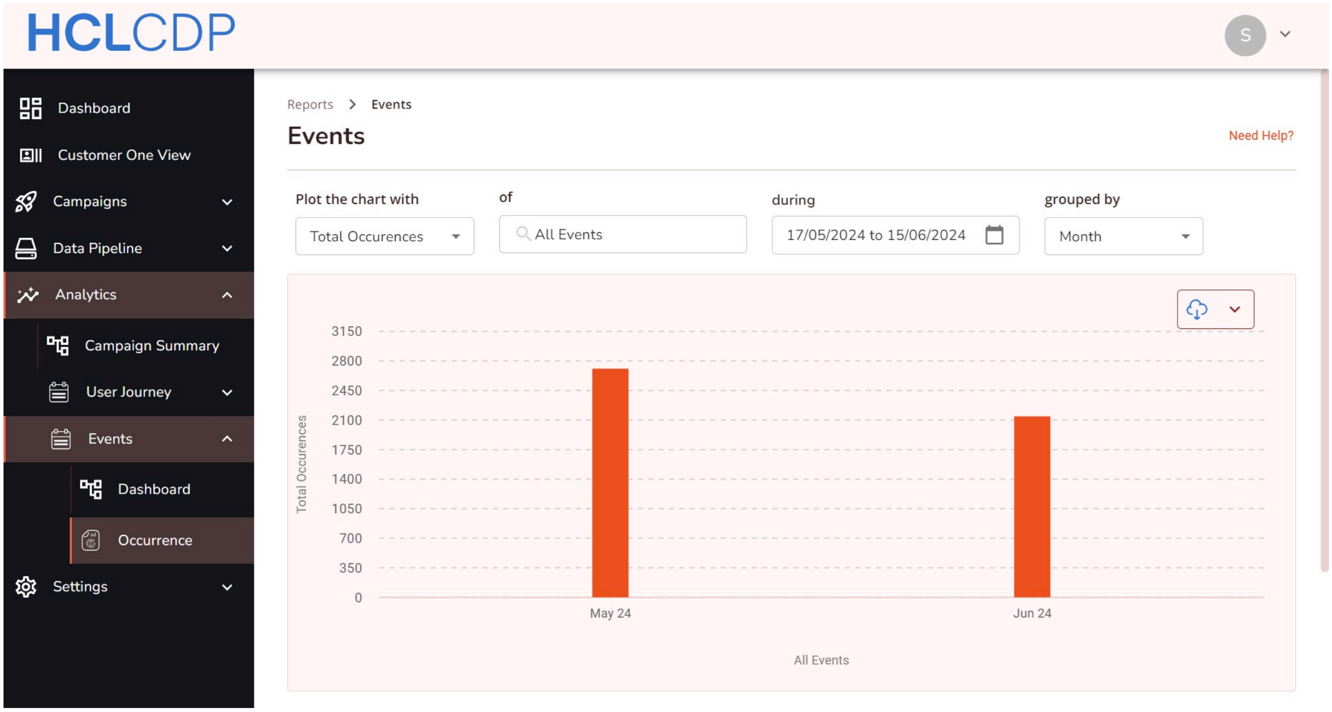
Date: Displays groups occurrences by selected dates.



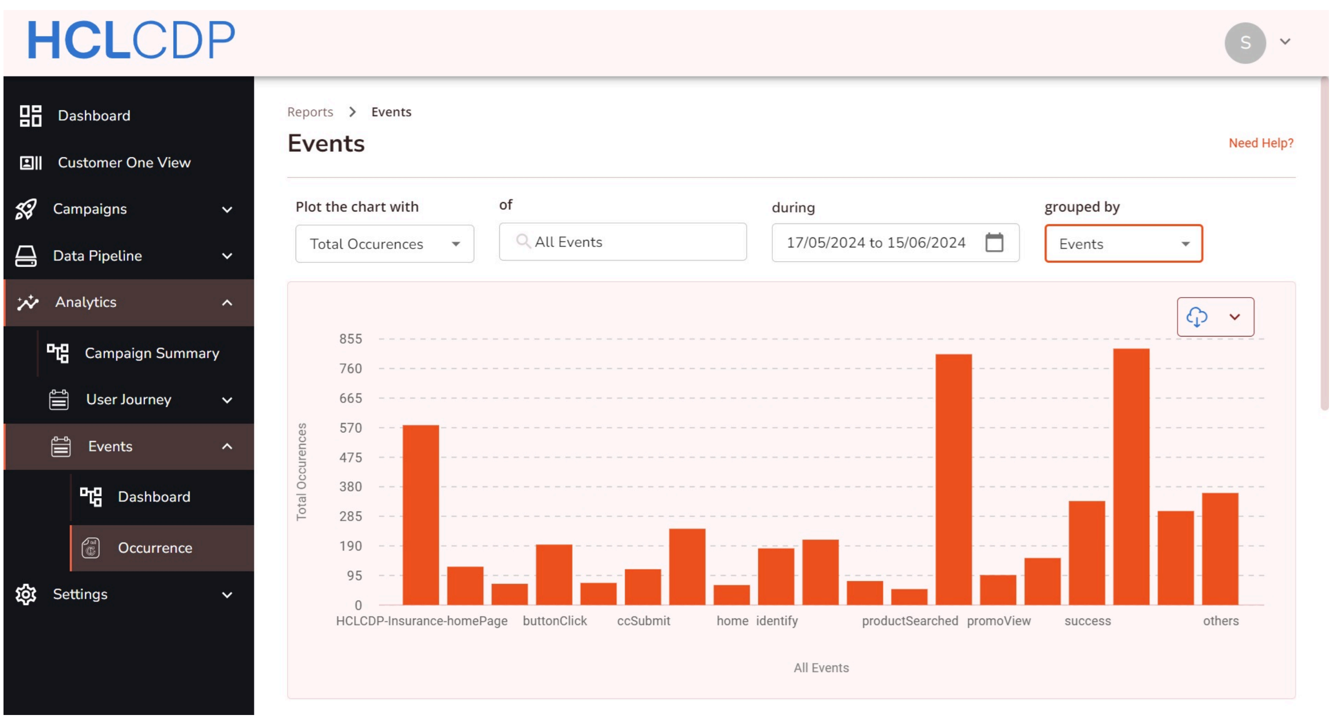
Week: Displays groups occurrences by week.



Month: Displays groups occurrences by month.



Event: Displays counts of all events, allowing comparison of event occurrences.



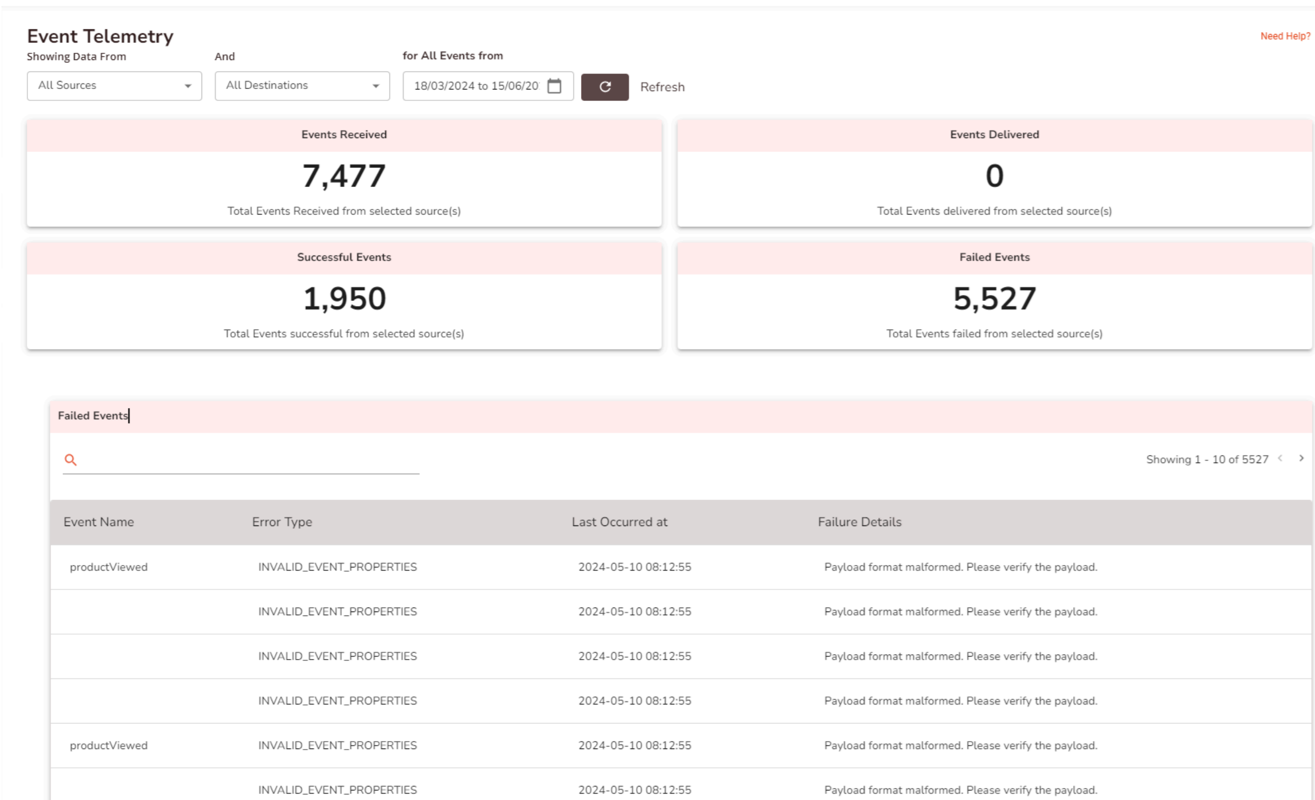
Tip: You can view both chart and table formats for the occurrence data.

Event Telemetry

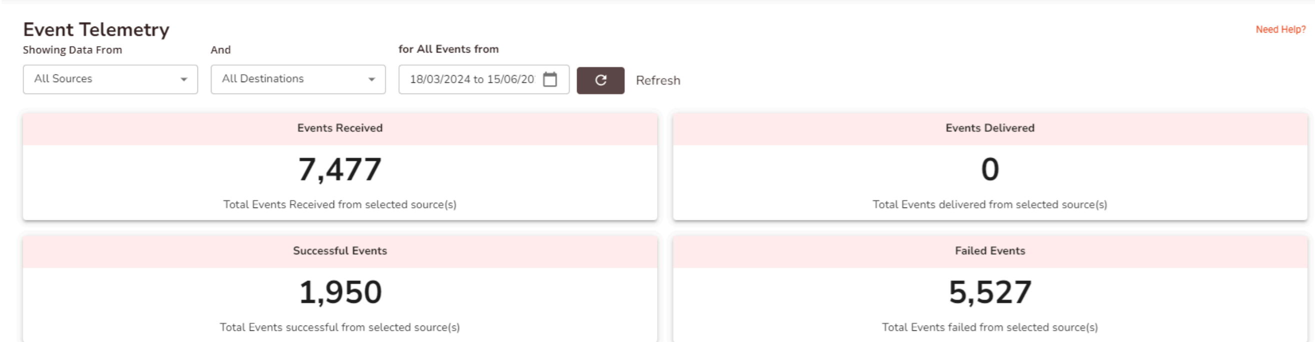
This page provides an overview of event processing, delivery metrics, and detailed failure analyzes across sources and destinations.

Event telemetry provides an overview of events received from sources, their processing in the CDP, and how they are sent to destinations. This telemetry breaks down data by key metrics such as Events Received, Events Delivered, Success and Failure Rates, and provides detailed insights for each source and destination. It also offers an in-depth explanation of any event failures, including event name, error type, last occurrence, and specific failure reasons.

As a marketer, you can filter data by specific sources, destinations, and date ranges by using the calendar and selection options in the dashboard. Alternatively, you can view data for all sources and destinations.



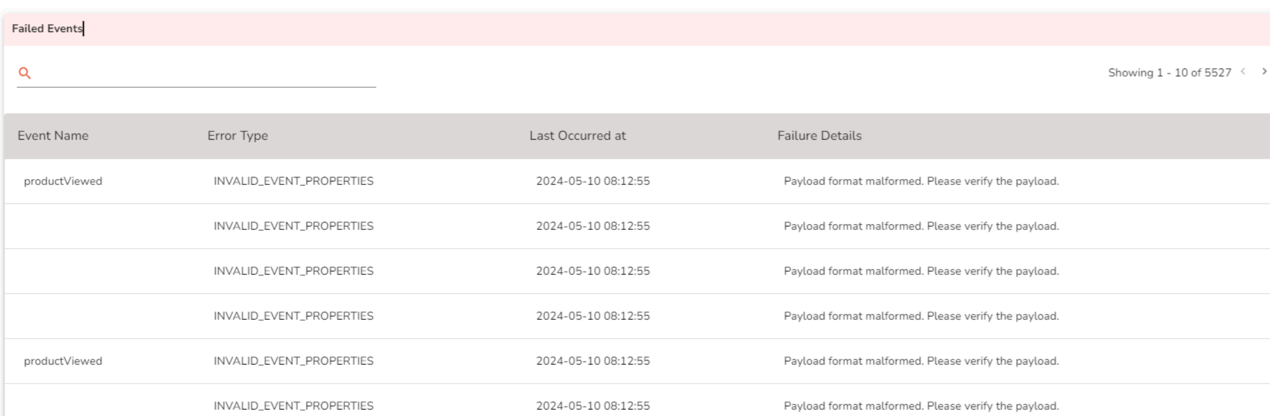
Dashboard Interpretation



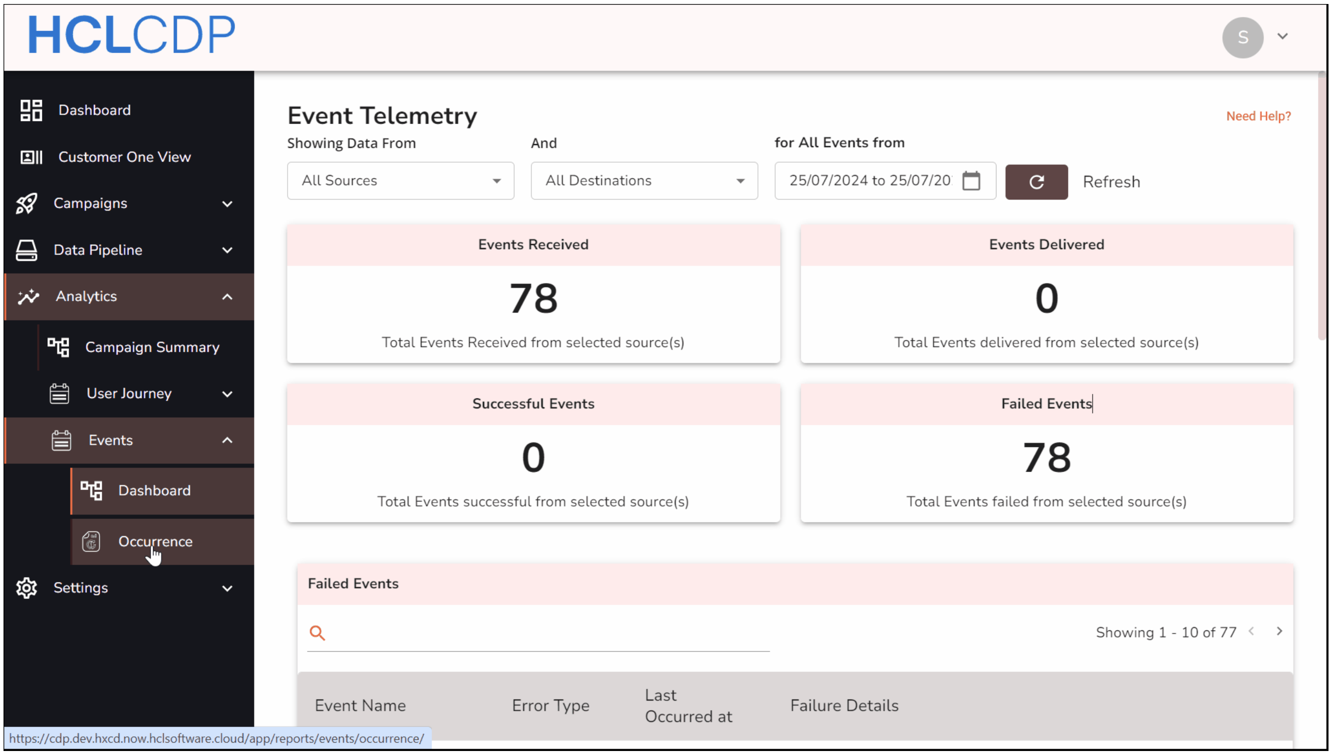
- **Showing Data From:** Displays all sources created in the HCL CDP.
- **And:** Displays all destinations created in HCL CDP.
- **For all Events From:** Allows you to set a date range to view data within the selected period.
- **Refresh:** Refreshes data displayed on the dashboard.
- **Events Received:** Total events received from selected sources.
- **Events Delivered:**Total events delivered to the selected destinations.
- **Successful Events:** All events processed successfully by HCL CDP from the sources.
- **Failed Events:** Total events from sources that HCL CDP was unable to deliver to the destination.

Explaining failed events

This section provides detailed insights on failures, including the specific time frame and reasons for each failed event.



- **Event Name:** Name of the failed event.
- **Event Type:** Type of event where the failure occurred.
- **Last occurred at:** Date and time of the latest failure.
- **Failure Details:** Reasons behind the failures, with multiple reasons listed in sequence if applicable.



Funnels, Paths, and Traffic

Funnels, Paths, and Traffic Analysis help visualize user journeys, identify drop-off points, and evaluate traffic patterns to optimize conversions and improve user engagement strategies.

Funnels

This page provides a comprehensive overview of funnel reporting, including its use cases, steps to create funnels, and methods to optimize user engagement. Funnel reporting is a key feature in marketing automation platforms that helps businesses analyze customer journeys, identify drop-offs, and take actionable steps to improve conversion rates.

Funnel reporting tracks the performance of marketing campaigns by visualizing user behavior across defined conversion paths on websites or mobile applications. It helps marketers prevent users from deviating from the intended path and optimize engagement and conversions.

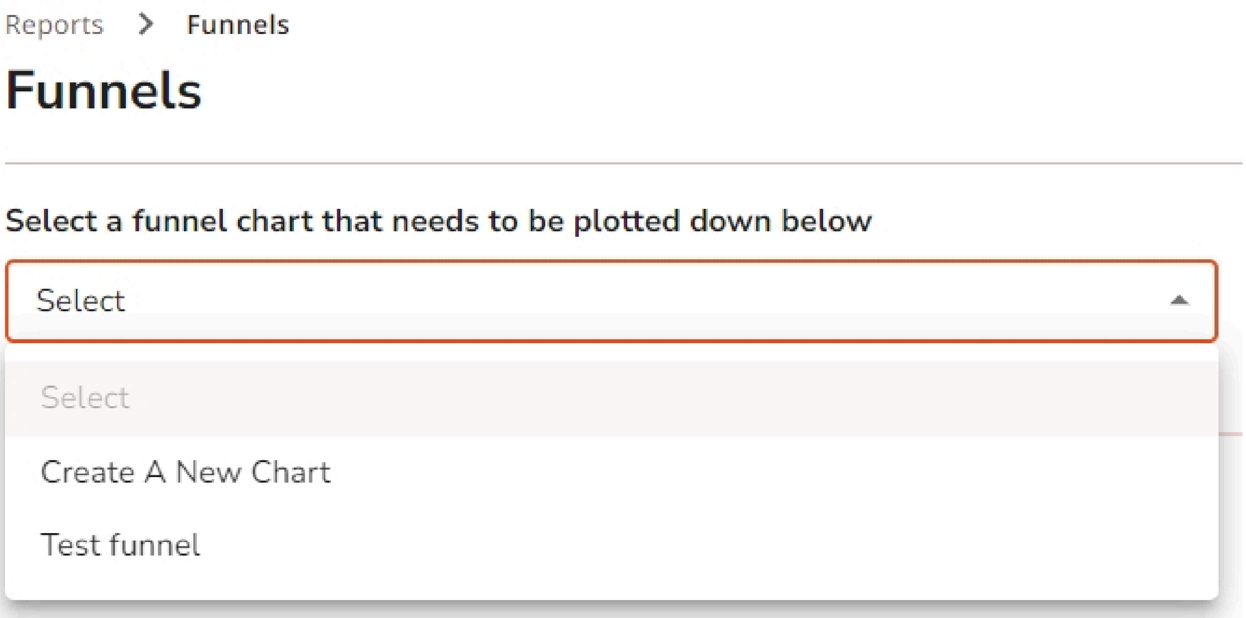
Key Use cases

- **Lead Generation**: Track and analyze lead generation campaign performance to identify effective tactics that drive users through the funnel.
- **Sales Conversion**: Monitor sales conversion campaigns performance to determine strategies that convert leads into paying customers.

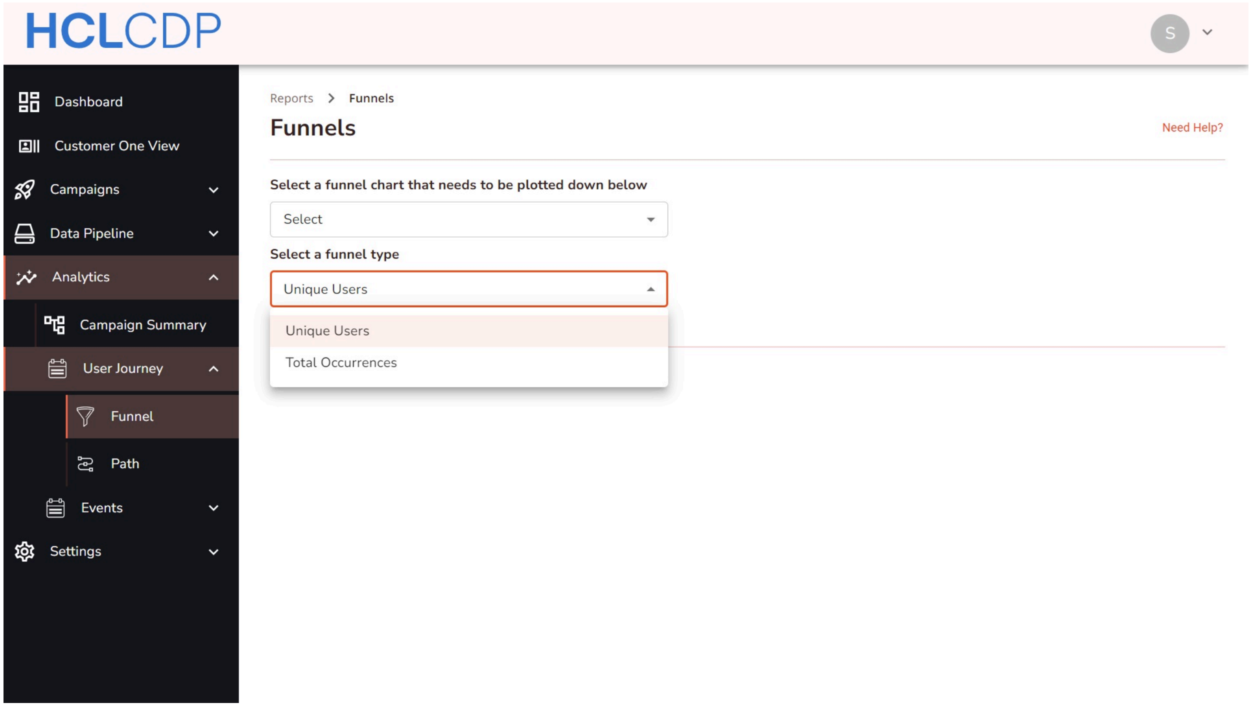
- **Customer Retention and Loyalty**: Evaluate retention and loyalty initiatives to ensure users remain engaged with your brand.
- **ROI Tracking**: Measure the return on investment (ROI) of various campaigns to prioritize resources for the most profitable ones.

Creating a Funnel

To create a funnel for tracking user journeys, follow the steps below:

1. Navigate to **Analytics**> **User Journey** > **Funnel**.
2. In the **Funnel** page, from the Select a funnel chart drop-down list, select **Create A New Chart.**


3. In the Select a funnel type, select one of the following types.
   a. **Unique Users:** Tracks unique users who interact with your website/application during a specific time frame.
   b. **Total Occurrences:** Tracks the frequency of user events rather than unique users.



4. **Select Time Frame**: Define the duration for the funnel using a date range.
5. **Add Events**: Choose the sequence of events (e.g., page visits, clicks) users must perform.
6. **Apply Filters**: Use filters to include/exclude specific URLs or properties for granular analysis.
    - For events **Open, Click and Impressions**, you can filter the funnel in Segment and Engagement level. These events were tracked from HCL CDP's Add External API Engagement on page 137.
    - For events **Track,Page visited, Page and Identify** type, you can filter the events based on URL

Tip: It's mandatory to add URLs in the filters if you are selecting the event `Page Visited`. Also, the event `Identify`will not provide the option to filter the URLs.

Example Use cases for Funnel Reporting

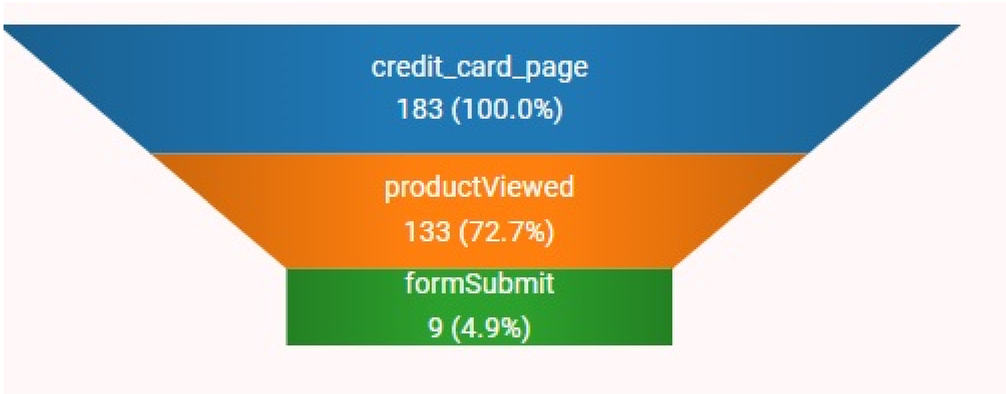
Use Case 1: Analyze Drop-offs in a Lead Conversion Funnel

You want to maximize leads from your website. Your conversion funnel has three events:

1. **credit_card_page**: Users visit a product page as **Event 1**.
2. **productViewed**: Users click a product as **Event 2**.
3. **formSubmit**: Users submit the lead form as **Event 3**.

Process:

- In the Funnel page, add these events to the funnel, set date range, and click Plot Funnel.



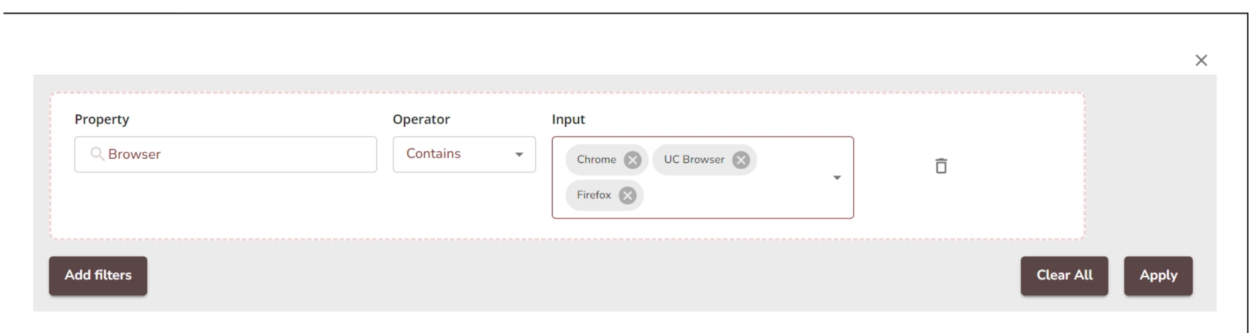
From the Funnel chart above, the maximum drop-off is between Event 1 and Event 2. This helps the marketeer get the insights that a lot of users who visit the page are not clicking the button for the lead form submission model. Now, the marketeer can take actions based on this data such as :

1. Analyze the data to identify where drop-offs occur (e.g., fewer clicks or form submissions).
2. Take corrective actions, such as making the product more appealing or prompting form completion with onsite notifications.

Use Case 2: Filter Funnel based on `Engagement_Impression`

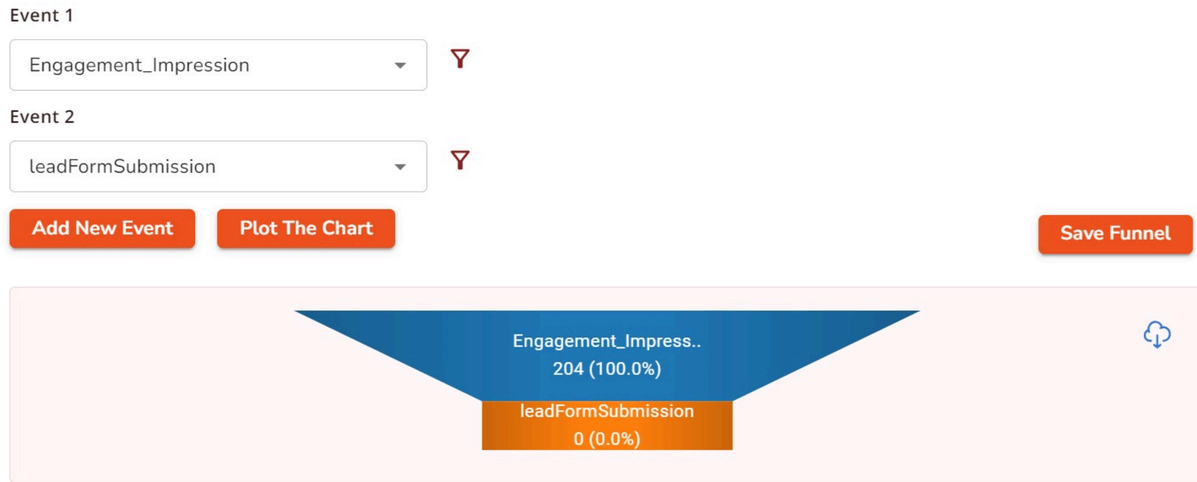
You want to track users engaging with your campaign using specific browsers.

1. In the **Funnel** page, select **`Engagement_Impression`** from the drop-down in **Event 1.**
2. Click the **Filter** icon, select **Add Filter** and apply the filters as follows.
    - **Property:** Browser
    - **Operator:** Contains
    - **Input:** Chrome, UC Browser, Firefox



3. Select `LeadFormSubmitted` in **Event 2**, and click **Plot the Chart**.

The funnel will be plotted as shown below,



Managing Funnels

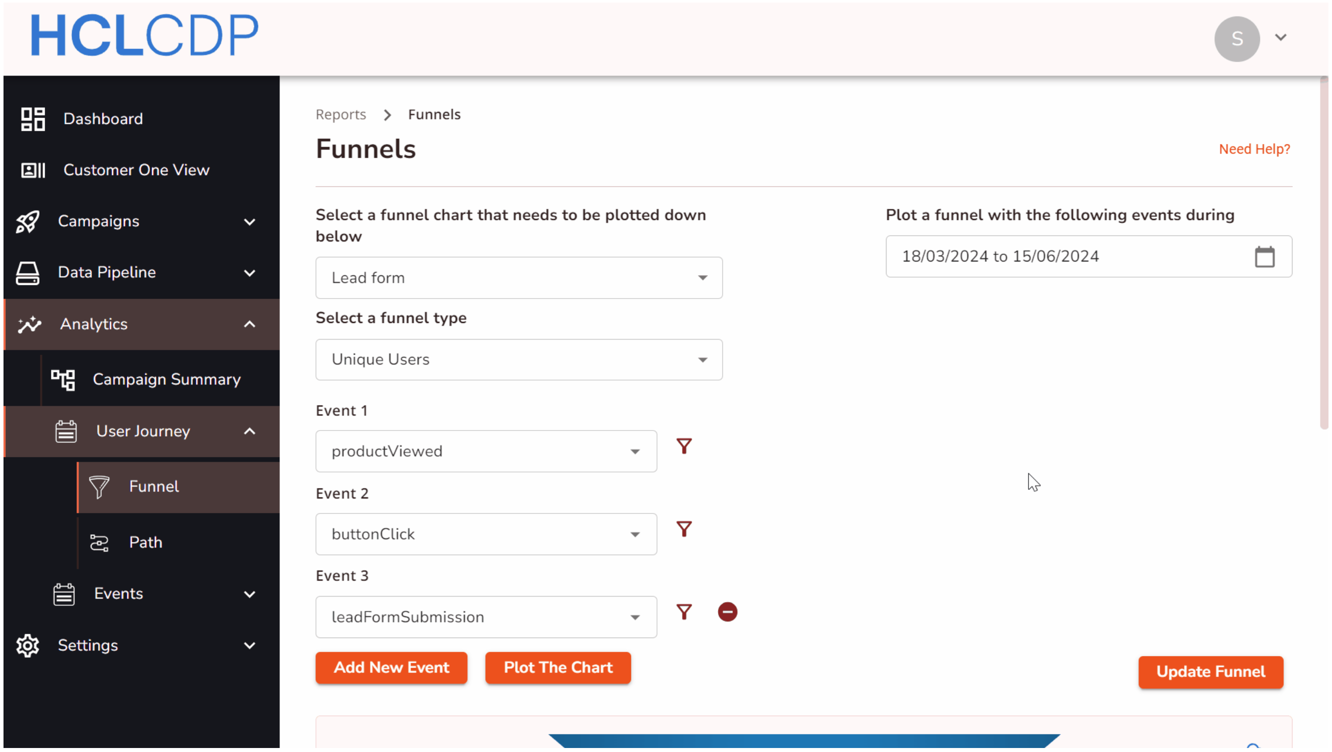
Adding and Deleting Events

To add new events, click the **Add New Event** button displayed below the events. Similarly, to delete the events, click (-) icon displayed next to each event.

Saving and Updating Funnels

To save the funnel, click the save icon, name your funnel, and click **Save**. The saved funnel chart can be fetched under the **Select new funnel chart** field.

Similarly, to update the existing funnel, add the additional events as shown below.



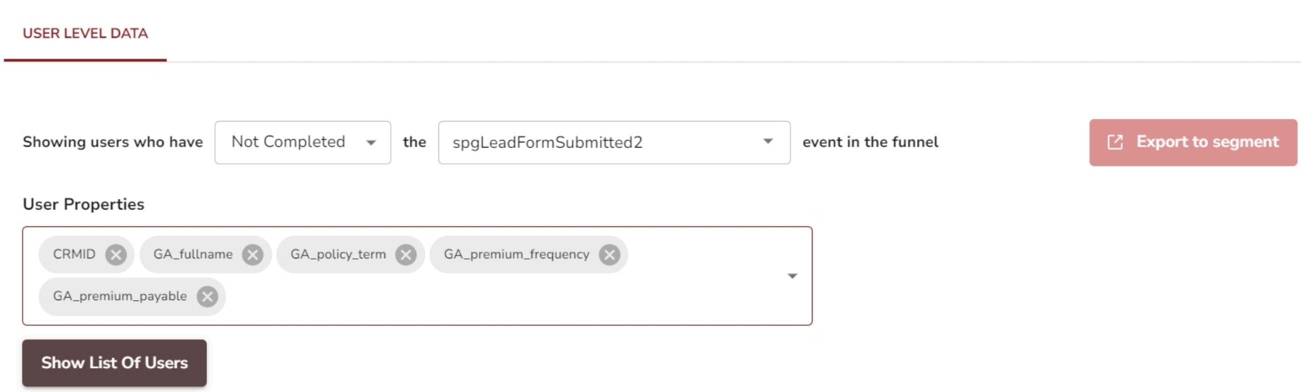
Tip: You can plot upto 25 events. Also, note that larger funnels may take longer to load.

Data Visualization and Analysis

Splitting Funnel Data

You can split the funnel data into meaningful segments:

1. **Date**: View performance for each date.
2. **Week**: Analyze trends weekly.
3. **Month**: Track long-term engagement trends.



User Level Data

User-level data provides detailed insights into individual users who have not entered a specific funnel or have exited the platform without achieving the desired goal. This data helps marketers identify these users, analyze their behavior, and export their details into segments for targeted retargeting campaigns.

Identifying Funnel Dropouts

As a marketer, identify users who completed every step in the funnel except the final step, thereby not achieving the intended goal. Suppose the final step in the funnel is the `proceedToBuy` event. You can leverage user-level data to pinpoint individuals who failed to complete this specific event.

To use the funnel, follow the steps below:

1. **Select "Not Completed":** In the designated field, choose the option **Not Completed**.
2. **Specify the Event:** Identify the critical event (`proceedToBuy`) as the target to track non-completions.
3. **Fetch Data:** The system retrieves details of users who did not complete the `proceedToBuy` event, allowing you to export this data for further segmentation.

User Properties

User properties are attributes that provide detailed information about users, supporting marketers in gaining a deeper understanding of their audience. These properties are instrumental in designing and executing targeted actions based on user behavior and characteristics.

Examples of User Properties:

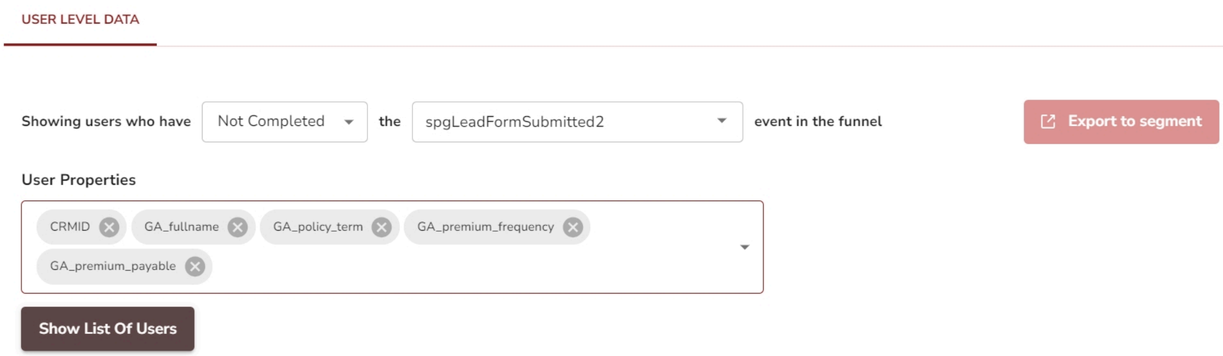
- **Demographics:** Age, gender, location.
- **Behavioral Data:** Frequency of platform visits, time spent on specific pages.
- **Interaction Metrics:** Steps completed in a funnel, abandoned steps.
- **Purchase History:** Items added to the cart, past purchases, or abandoned carts.

By using these properties, marketers can tailor campaigns, create personalized messaging, and implement precise retargeting strategies to re-engage users effectively.

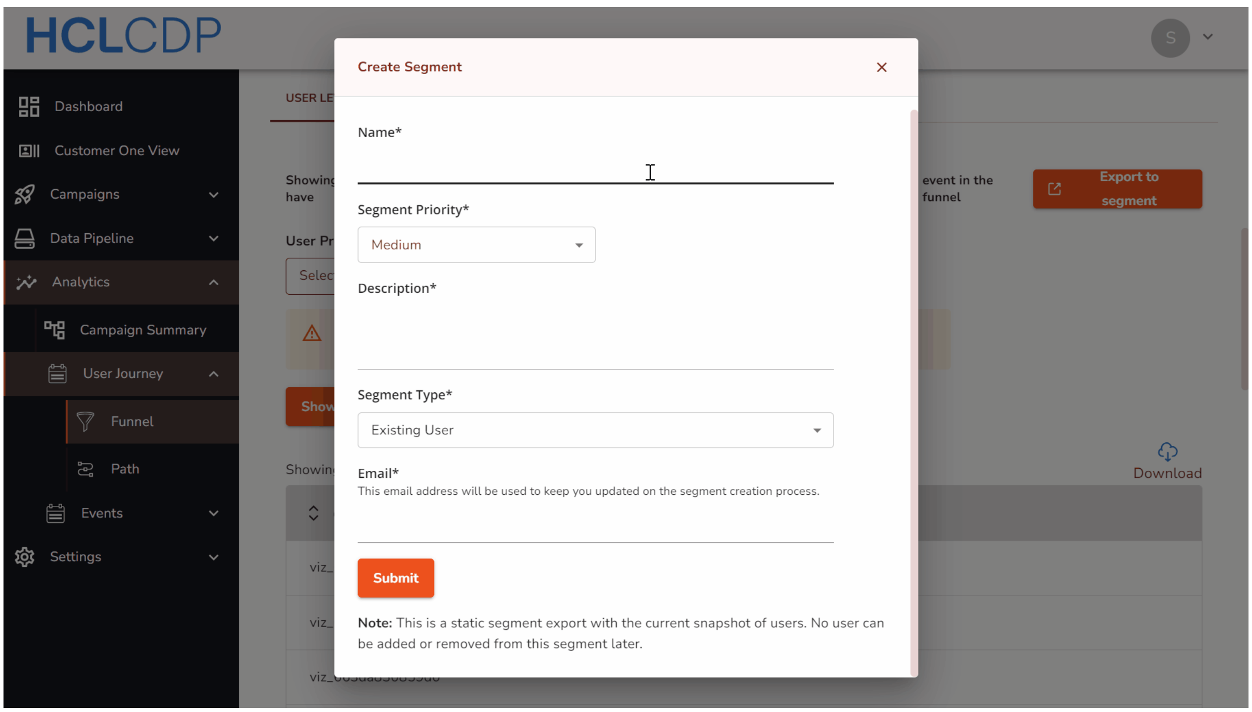
Exporting Data and Creating Segments

To export data and create segments, follow the steps below:

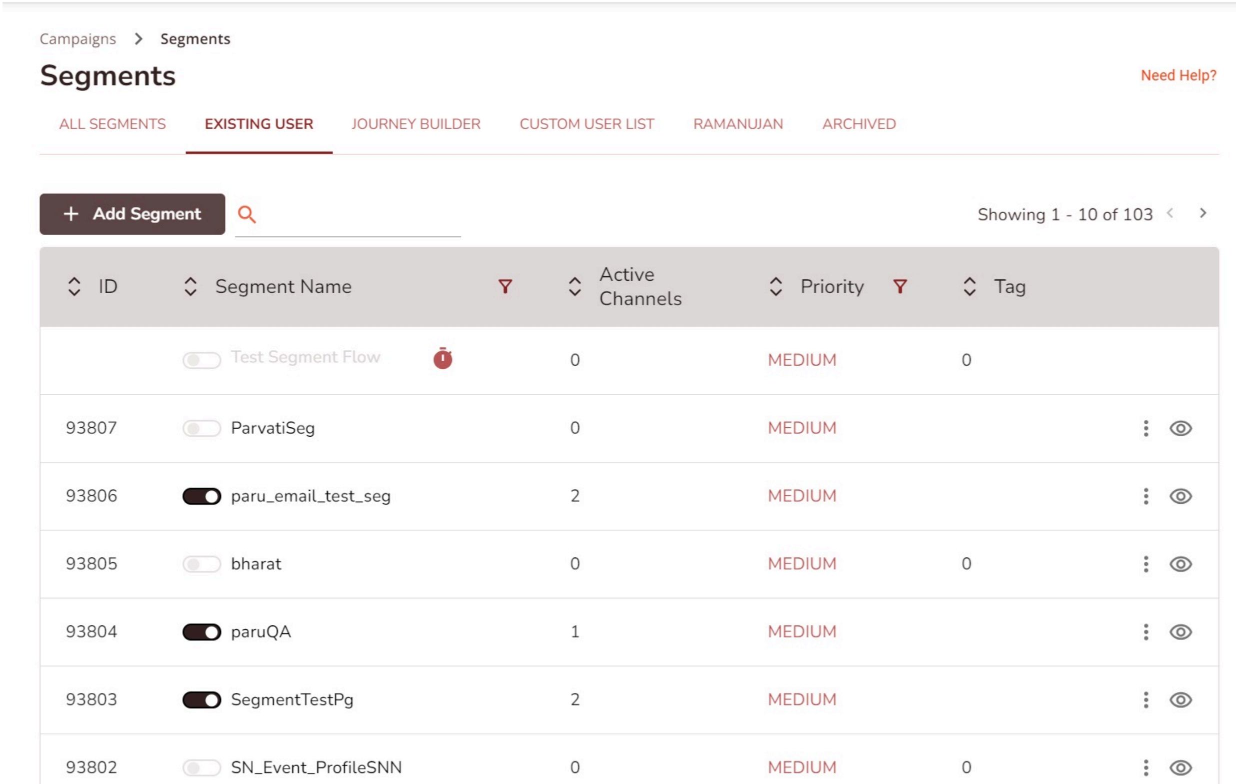
1. To export data, click **Export to Segment** after fetching user data.



2. **Create Segment**: Name your segment, set priority, define its type, and click **Submit**.
3. As a result, a pop-up will display **Request received successfully**. We will send you further updates through (xxx@ymail.com).



4. **Monitor Status**: Check the segment creation status under **Campaigns** > **Segments**.



Note: The final segment count may differ due to filtering out blacklisted or merged users. The actual user count represents the valid target audience.

Paths

This page explains about the use of path metrics and steps to create paths.

Path Metrics is an effective analytical tool from HCL CDP that allows you to know your campaign performance and its engagement level by knowing every action performed by users *in between*, *before* and *after* certain events. This supports knowing about the user actions across all data sources not limited to just App and Website and identifying the bottlenecks that deviate the users from achieving a certain event and drop off.

Path Metrics will also support the business to identify the flaws in the architecture of their Website/Application and campaign performance and optimize it with precise data analytics rather than making decisions by guesswork. With this feature, businesses can gain promising engagements with proven records from the history of user behavior.

Note: Use Case

Let's say,

As a marketer, you want to know the actions of the users and analyse where the major drop off and major conversion happens in your website/Application. Creating a perfect journey towards your end goal and analyzing the journey performance will help you to know your users better and support you in improving your campaign performance. This will also help to architect a better website or application that directs the users towards reaching the end goal without any deviations.

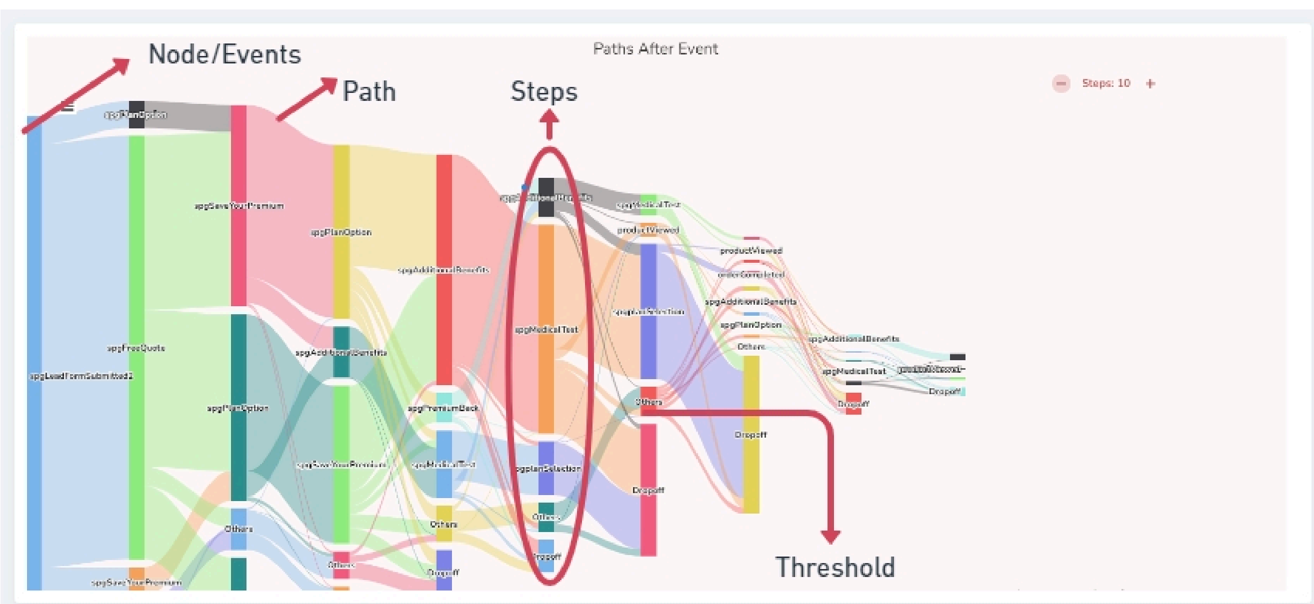
Let's assume you are a marketer of an e-commerce business and you want to know at which point the majority of users get dropped off. You can configure the journey with multiple events like`productVisited`,`added to wishlist`,`Checkout` etc. If there occurs a major dropoff after the event `product visited` or before `Checkout`, you can analyse the actions performed before after and between each event to get detailed insights into your user behaviour with the help of these path metrics and optimize your platform or marketing campaign for better traction.

It also supports you to gain answers to critical business questions like,

- *What are the activities performed by the user before attaining a certain event?*
- *When do users exit the Website/Application?*
- *How do users move from one step to another?*
- *When do users drop off before purchasing a product?*
- *What makes a user uninstall the application?*

Before diving deep into the path let's know how to read the path by knowing its indicators.

Analyzing the Path Diagram



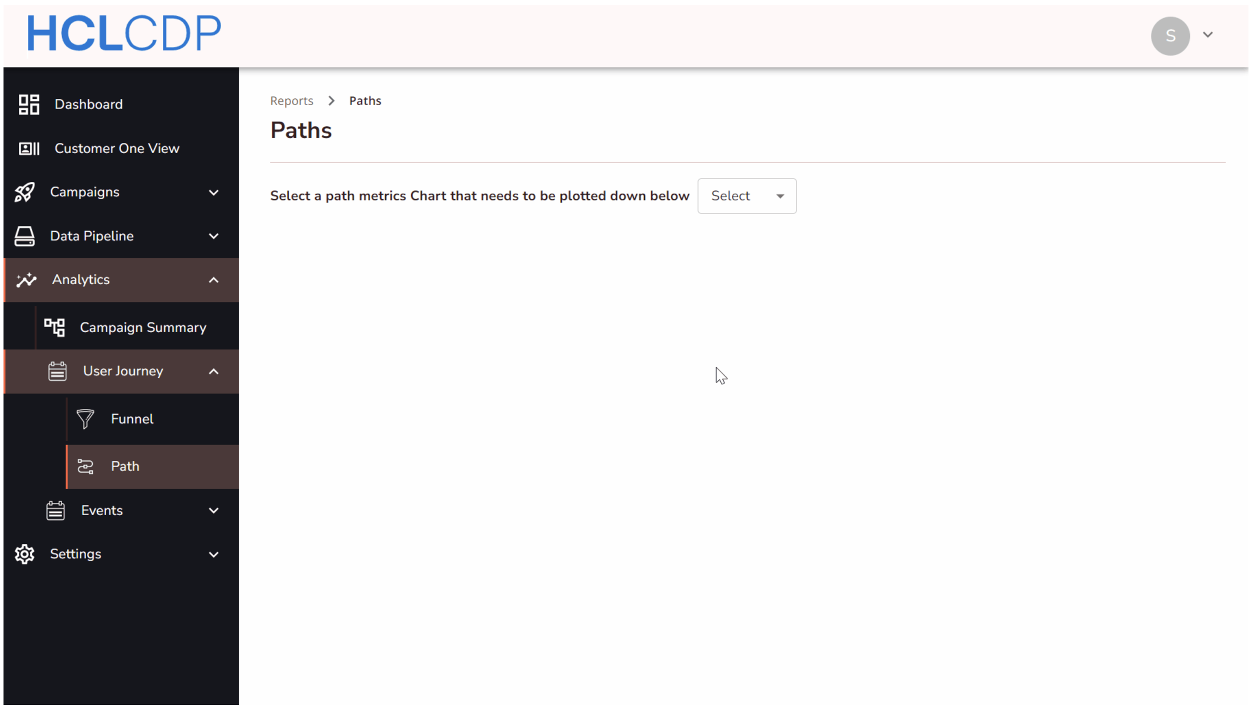
- **Event:** Each action configured in the path like, product visited, check out, drop off, etc.
- **Steps:** Number of actions performed by the user before, after or in between certain events, which is also a collection of events.
- **Node:** Each event is a node, hovering over each node will show the number of drop-offs and the next steps with its counts and percentage.
- **Path:** Path is the direction the user took from one event to another event in another set of steps. hovering over the path will show the direction of each path from one step to another.

Plot the path

To plot the path, follow the steps below:

1. Navigate to **Analytics** > **User Journey** > **Path**.
2. Select a path metrics chart from the drop-down. The paths options can be:
    - **Before an Event:** The plot will be shown before a certain event. The steps will be calculated from the point before the particular event.
    - **Between Events:** The plot will be shown from one event to another. The steps will be calculated between those events.
    - **After an Event:** The plot will be shown after triggering a certain event. The steps will be calculated from the point the event is triggered
3. Select **Show all paths starting with** if the path metrics is selected as **After an Event** in previous step. These paths can be configured by the marketer based on the website/Application.

- If you choose **Between Events** in the previous step, then you must select Events from **Show All Paths starting with** and the Events from **Show All Paths ending with.**
- If you choose **Before an Event** in the previous step, then you must select Events From **Show all paths ending with** to plot the charts.



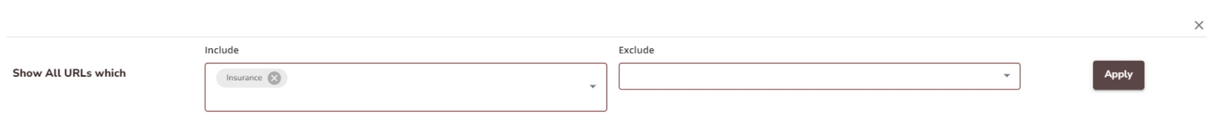
Filters

Use filters to refine data and plot paths based on specific criteria such as URLs, browsers, segments, and engagements. Follow the steps below for precise data analysis and visualization.

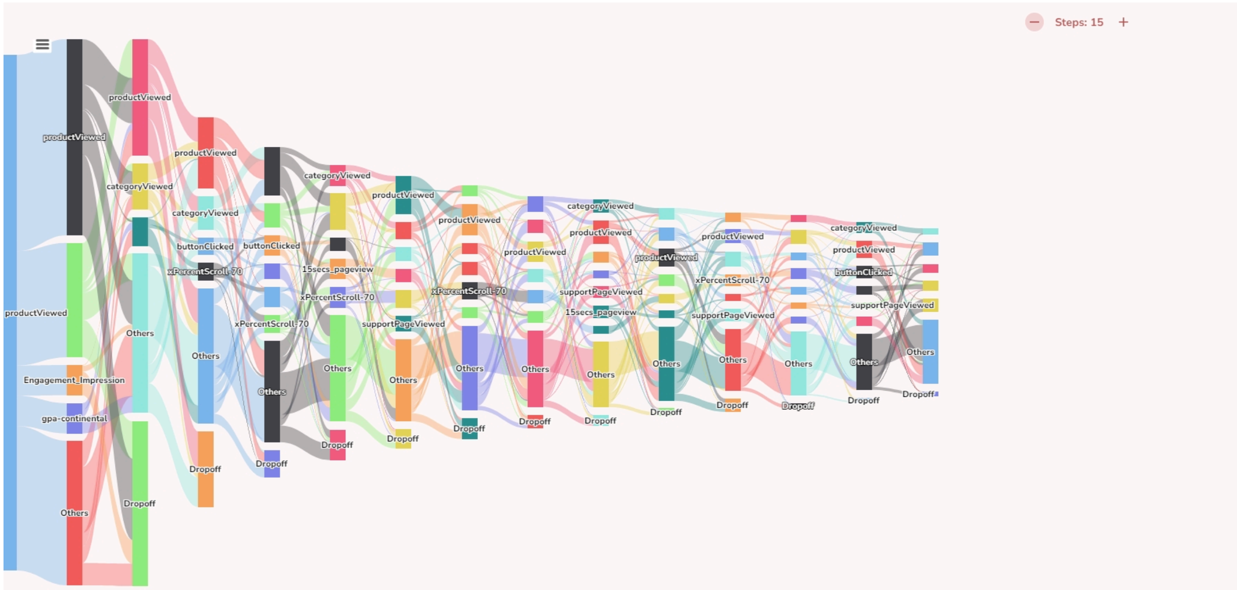
Filter event based on URL

To plot the path for the event *Product Viewed* and filter it using URLs that include the term *Insurance*, follow the steps below:

1. Click the filter icon beside the event.
2. An input window will appear. Apply the filter based on URLs.



3. The filtered path will be plotted based on the applied criteria.



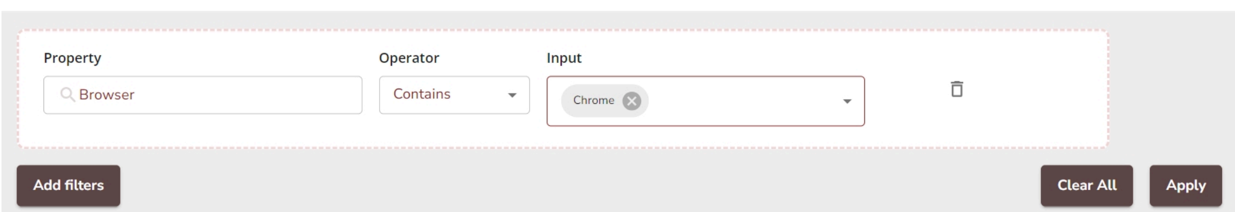
4. **Additional Filtering Options:** For events like *Open*, *Click*, and *Impressions*, filter paths based on:
    - **Browser**
    - **Segment**
    - **Engagement**

    These events were tracked from HCL CDP's Add External API Engagement on page 137.

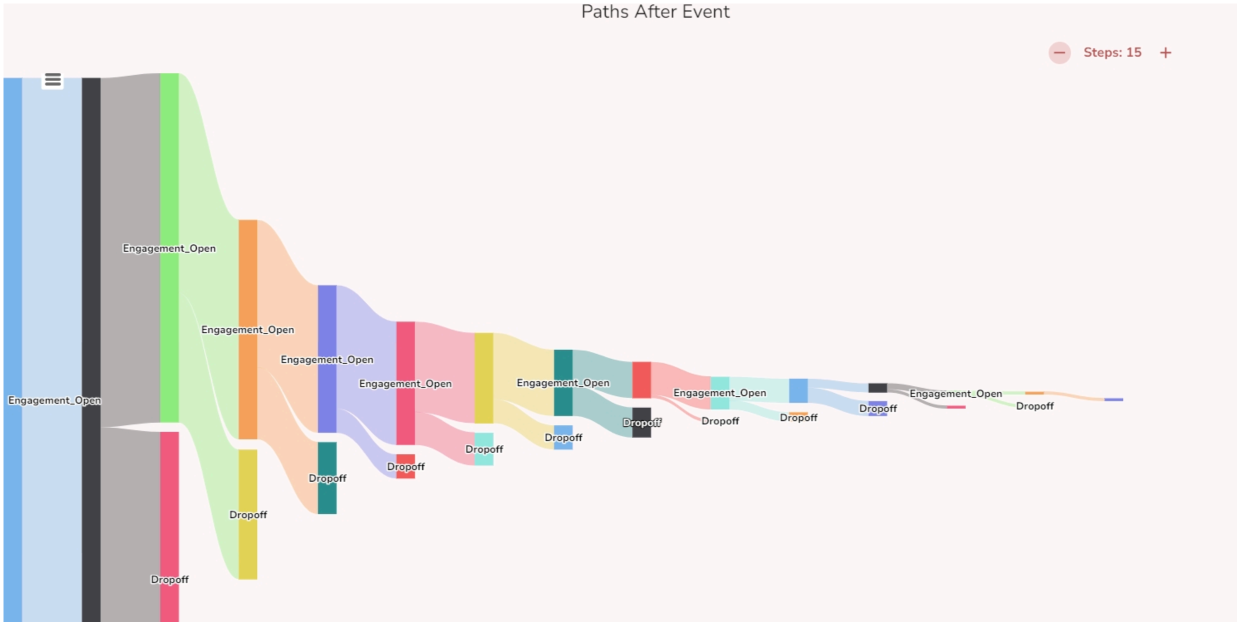
Case 2: Filtering Event based on Engagement_Open

To plot the path for the event *Engagement_Open* and filter it at the browser level, follow the steps below:

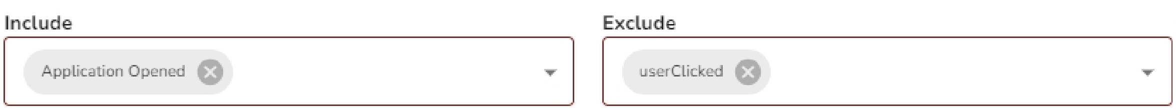
1. Select *Engagement_Open* from the drop-down menu in *Event 1*.
2. Click the filter icon, select *Add Filter*, and apply the following:
    - **Property:** Browser
    - **Operator:** Contains
    - **Input:** Chrome



3. The paths will be plotted based on the applied filters.

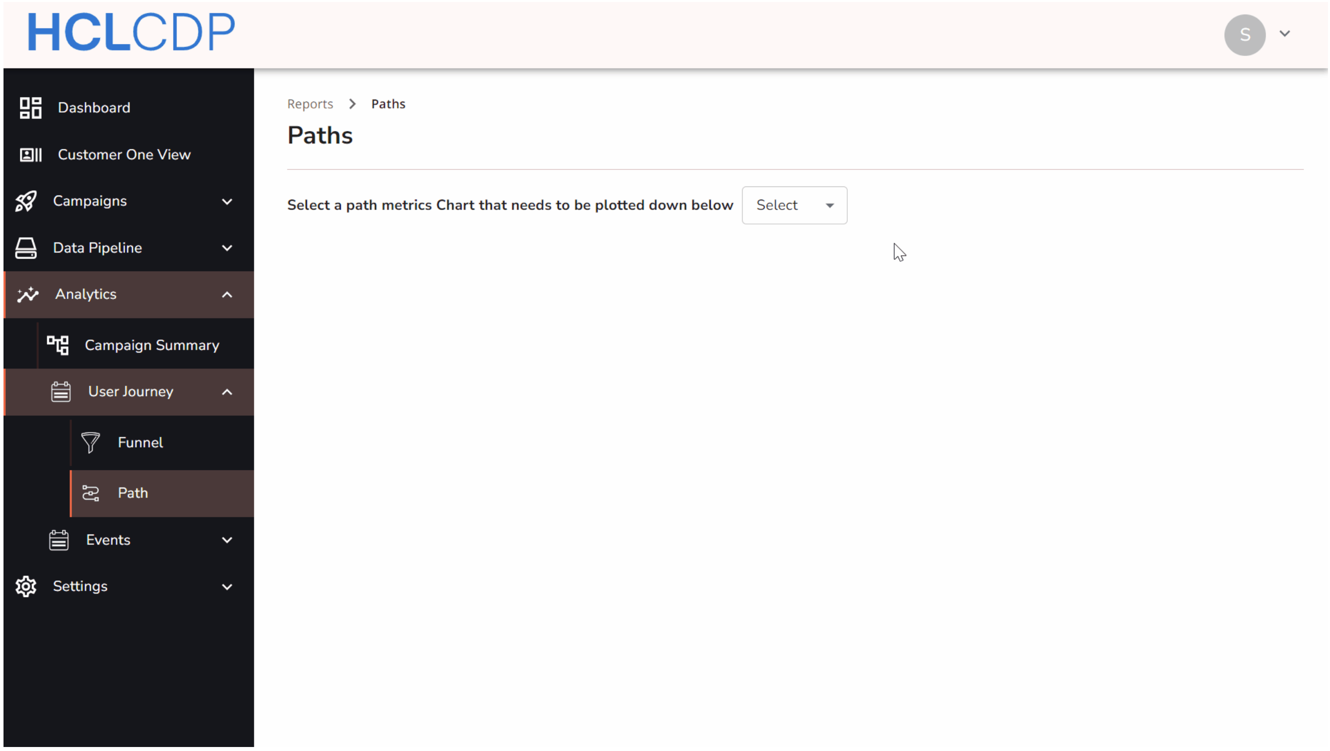


4. **Set the Time Window:** From the drop-down menu, select a window period (e.g., *Within the Window Of*). For example: If you choose the starting event *ProductVisited*, set the window to *1 day* and the time frame to *Last 90 Days*. This will show user actions within a day of the selected event in the last 90 days.
5. Use the field *During* to specify the time frame (e.g., *Last 90 Days*).
6. Specify the number of steps you want to analyze before a particular event. For example: Select *10 steps* (up to 15 steps can be chosen) to focus on high-impact signals while minimizing noise.
7. **Set the Other Events Threshold:** Choose a threshold to group low-traction events under *Others*. For example: Set the threshold to *5%* (minimum: 5%, maximum: 20%).
8. **Include and Exclude Events:**
    - **Include Events:** Add relevant events to the path.
    - **Exclude Events:** Remove unnecessary events for better data clarity.



9. After configuring the filters and settings, click *Plot the Chart* to visualize the path.

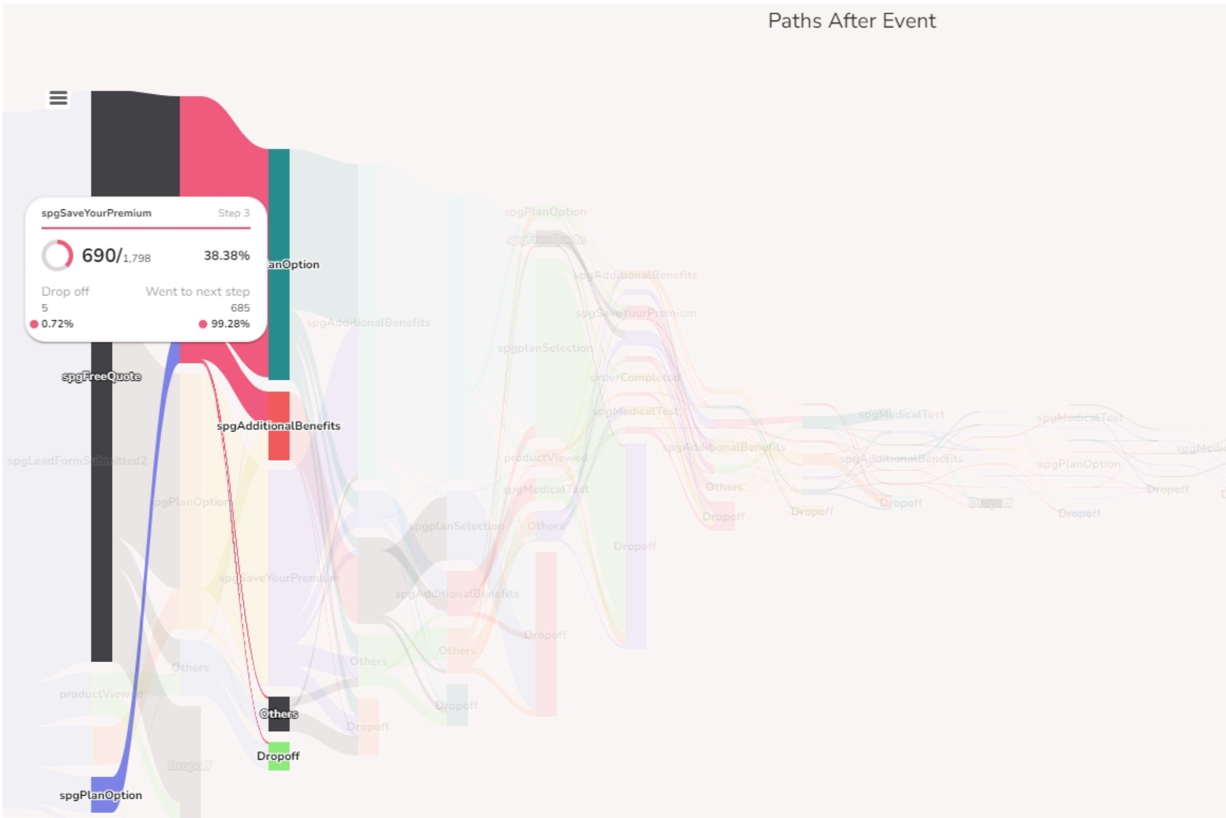
Plotting Paths After an Event



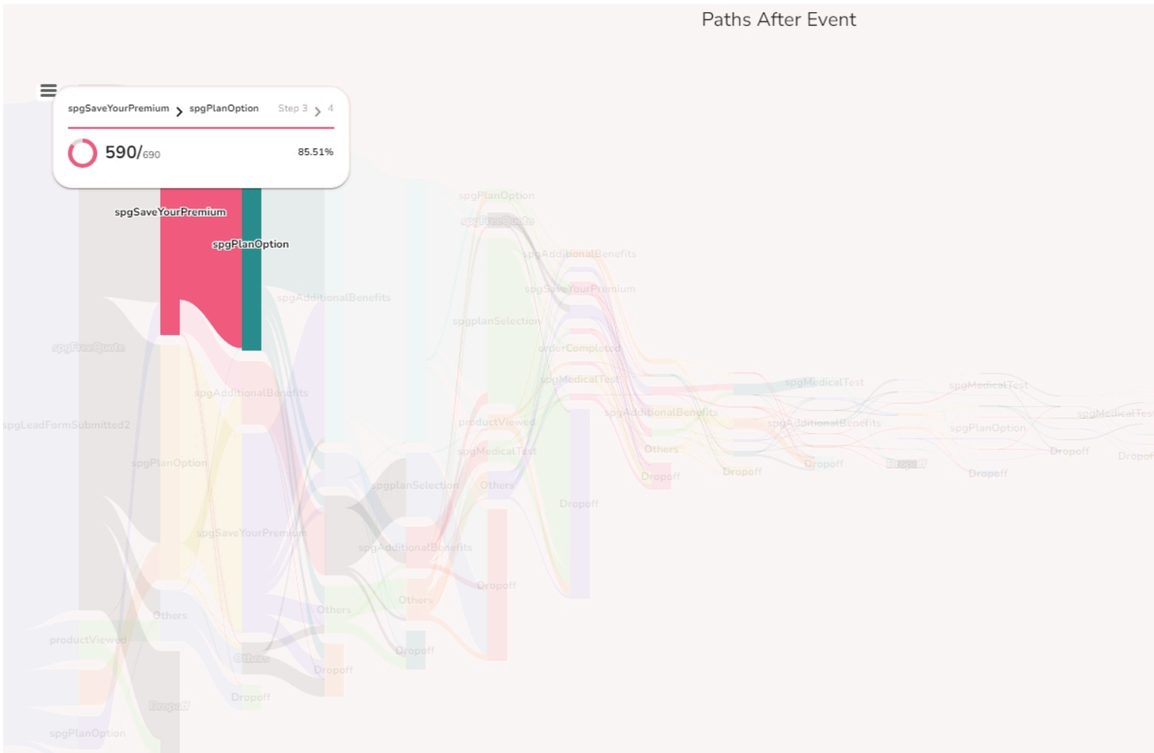
In the *After Event* view, a **Drop-Off Node** node is displayed at each step. This node represents users who exited or disengaged after completing the event(s) at that specific step. This allows gaining insights into where users drop off to identify areas for improvement and effectively re-target them.

Hovering over Nodes and Paths

- **Nodes:** Hover over each node to view the **number of drop-offs** from that step, and the **next possible paths**, including their counts and percentages.

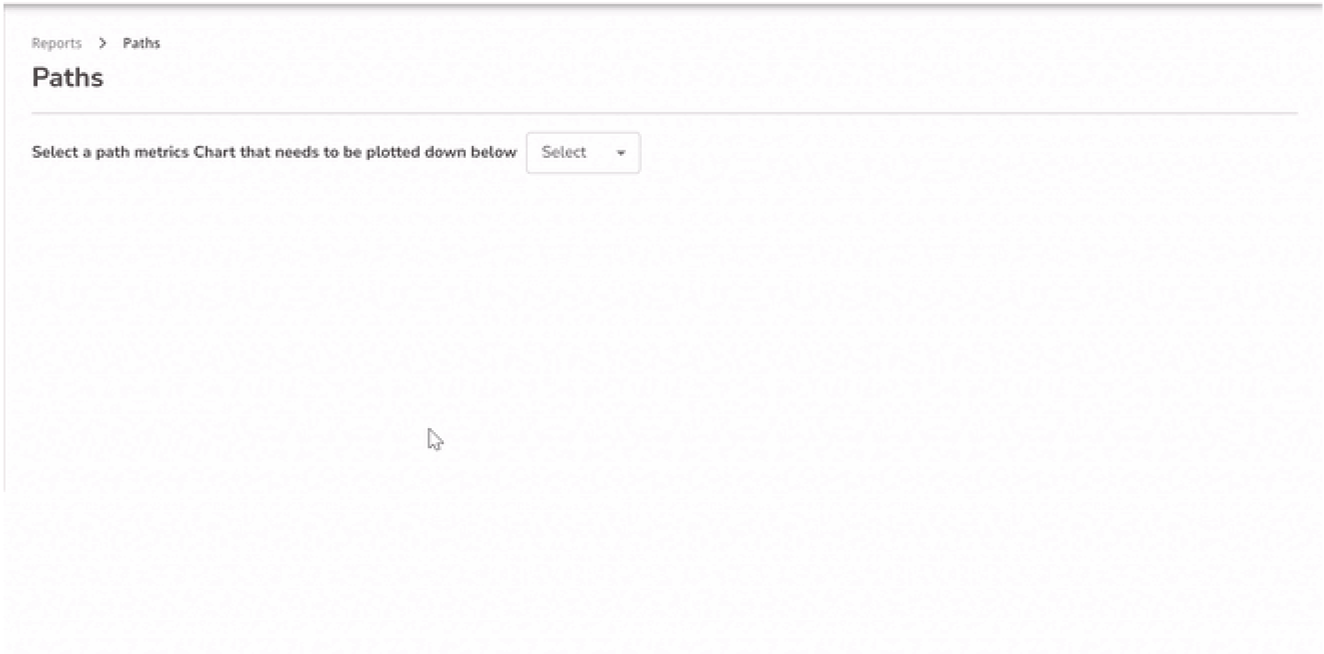


- **Paths:** Hover over a path to see the **next steps** users took from one node to the next, and drop-offs that occurred during the transition.



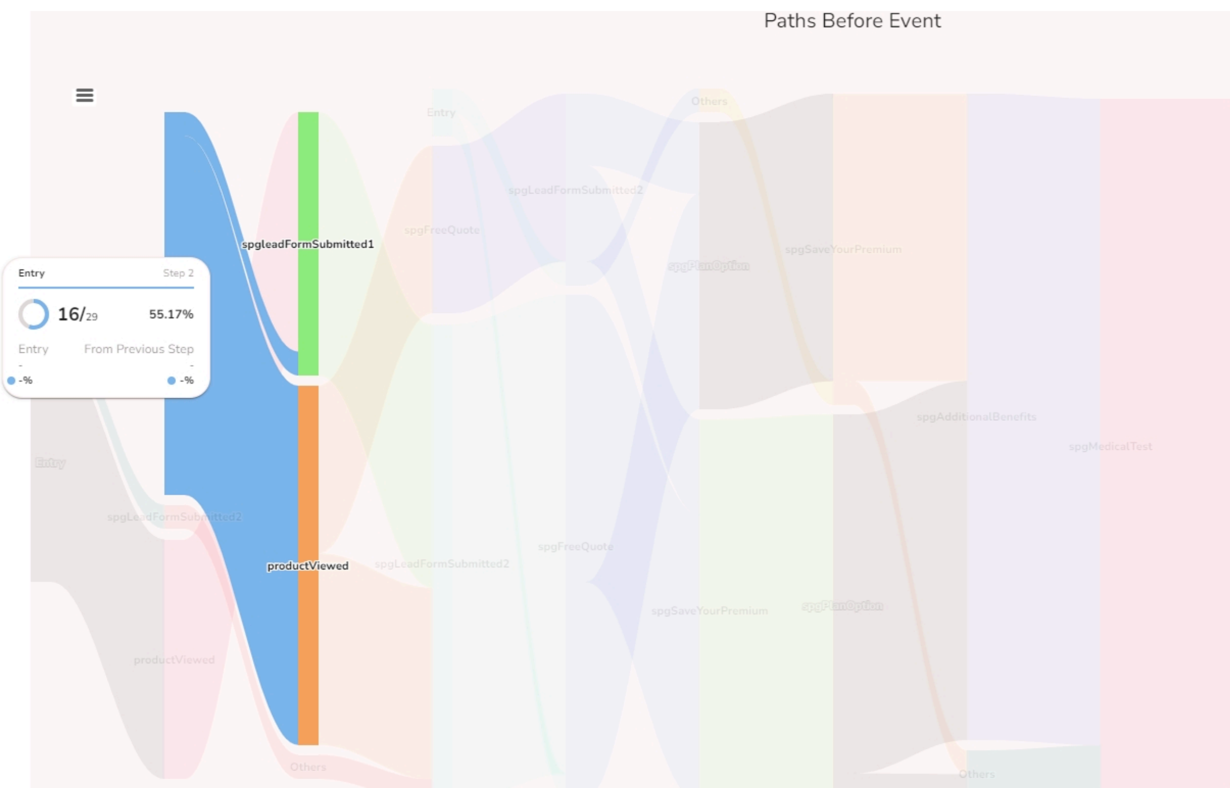
Plotting Paths Before an Event

In the *Before Event* view, an **Entry Node** is displayed at each step. Users who directly entered the step without traversing through the intended previous steps or paths. Understand the various touchpoints where users are coming from directly, offering insights into alternative or unexpected user journeys.

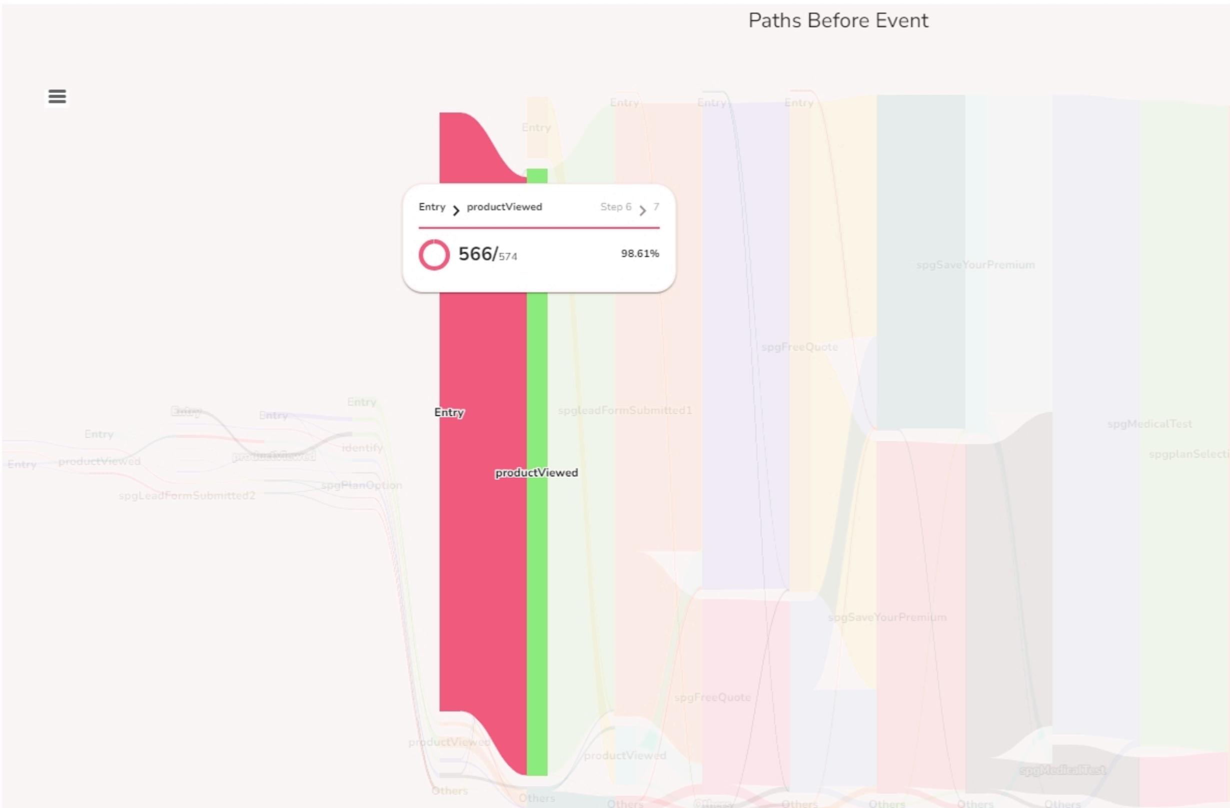


Hovering over Nodes and Paths

- **Node:** Hover over each node to view the **number of direct entries** at that step and the **paths from previous steps**, including their counts and percentages.

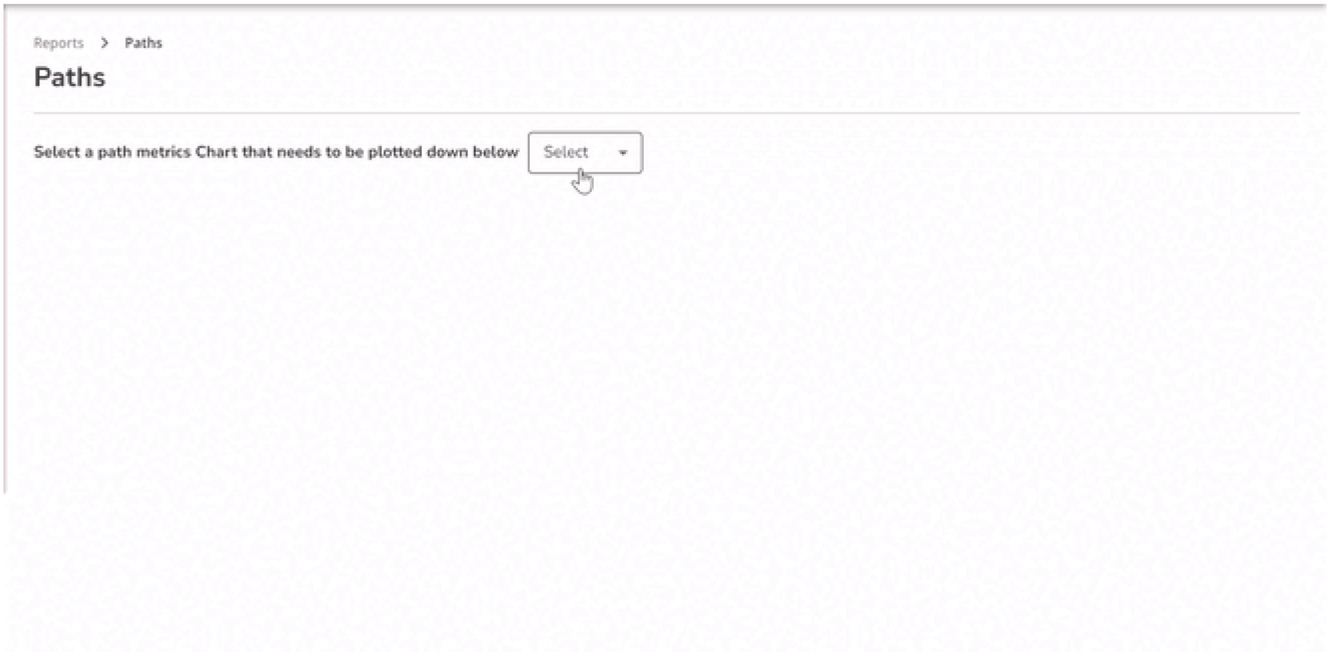


- **Paths:** Hover over each node to see the **steps users took** from their entry points to transition between nodes, and the corresponding **counts and percentages** for each transition.



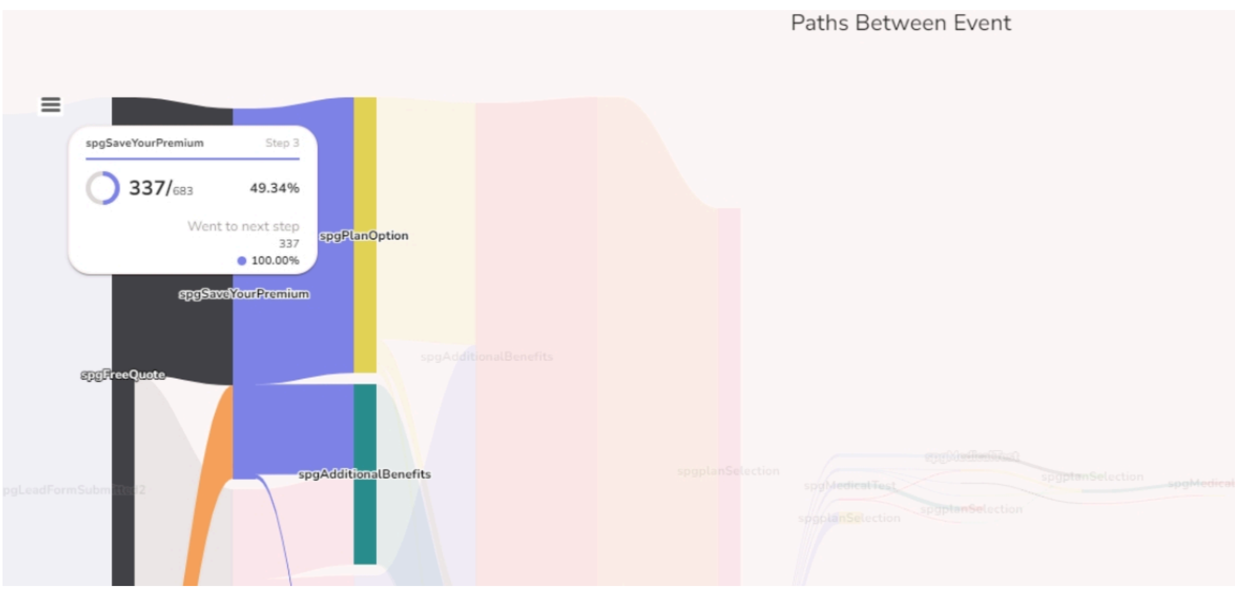
Plotting Paths Between The Events

In the *Between Event* view, the visualization displays the exact paths users followed between two specified events. Unlike *Before* or *After Event* views, there are no **drop-off** or **entry nodes** shown. This view focuses solely on the transitions between events.

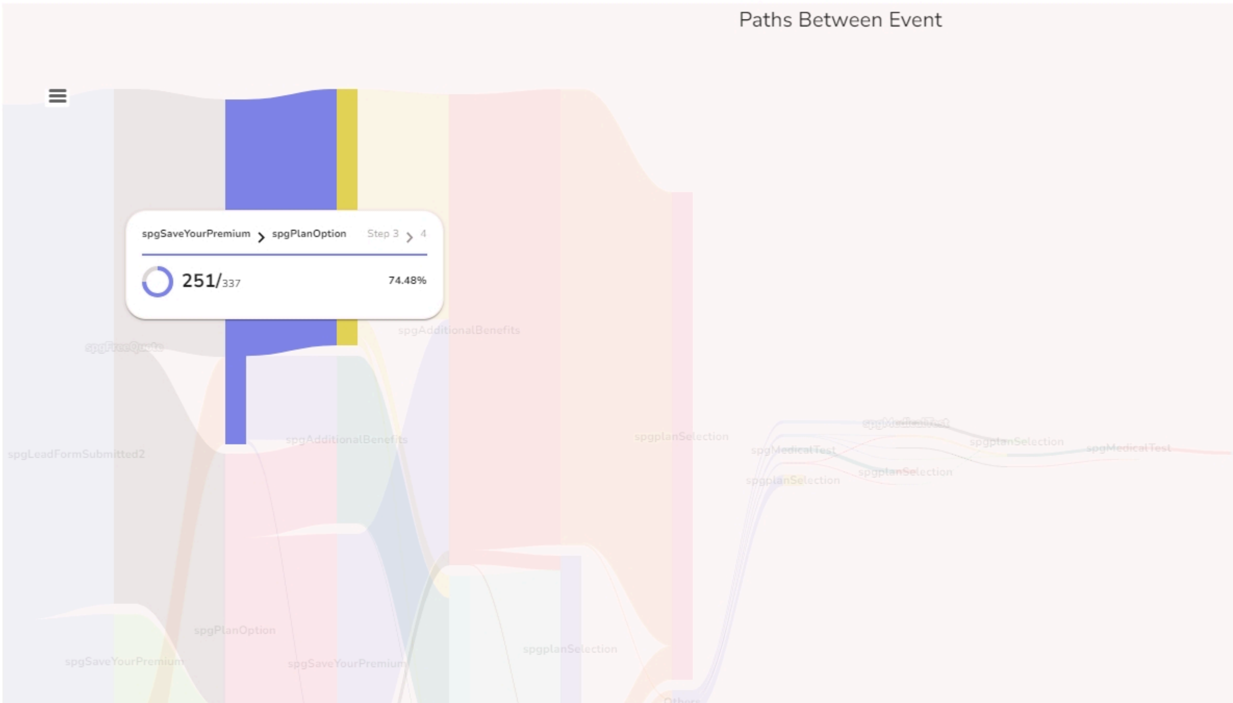


Hovering over Nodes and Paths

- **Nodes:** Hovering over a node reveals the **number of users** who proceeded to the next step from that node, and counts and percentages of users transitioning forward.



- **Paths:** Hovering over a path reveals the **steps users took** to move between nodes, and counts and percentages for each transition (excluding drop-offs).



Additionally, Adding and Removing Steps in Path Charts

Customizing Steps: Use the **"+" and "-" icons** at the top-right corner of the chart window to add or remove steps. This allows you to adjust the view for a more focused analysis or a broader overview of each step in the path, tailored to your requirements.

Limitation for Between Events: When plotting paths *Between Events*, adding or removing steps directly from the chart is not supported.

Traffic Analysis

This page explains how Traffic Analysis tracks website visitors and retention using key metrics.

Traffic analysis helps businesses track website visitors and user retention by analyzing campaign URLs with data points such as Total Hits, Total Visitors, First-Time Visitors (FTV), and Repeat Visitors.

1. Navigate to **Analytics > Traffic Analysis**.
2. Set the timeframe to determine what qualifies as a repeat visitor.
3. Choose the desired date range to view visitor data.
4. Select the FTV checkbox if you want to fetch data of First Time Visitors.
5. Select the date range for fetching the reports.

6. Click **Load Section** next to **Top 100 URLs during the date range** to view the list of users or cumulative data
7. Click the  icon to download the report.

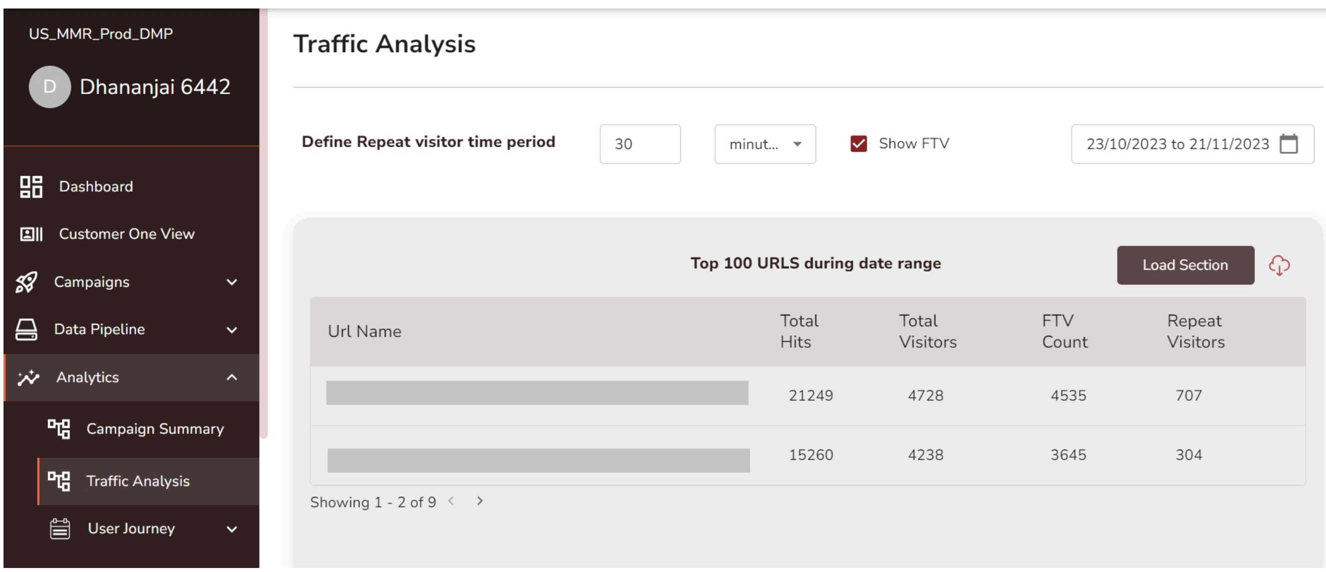
Data points

Define Repeat Visitor: This dropdown helps to defines repeat visitor for the platform. For example, if set to 3 days, any user who visits the website multiple times with a gap of over 3 days will be considered a repeat visitor.

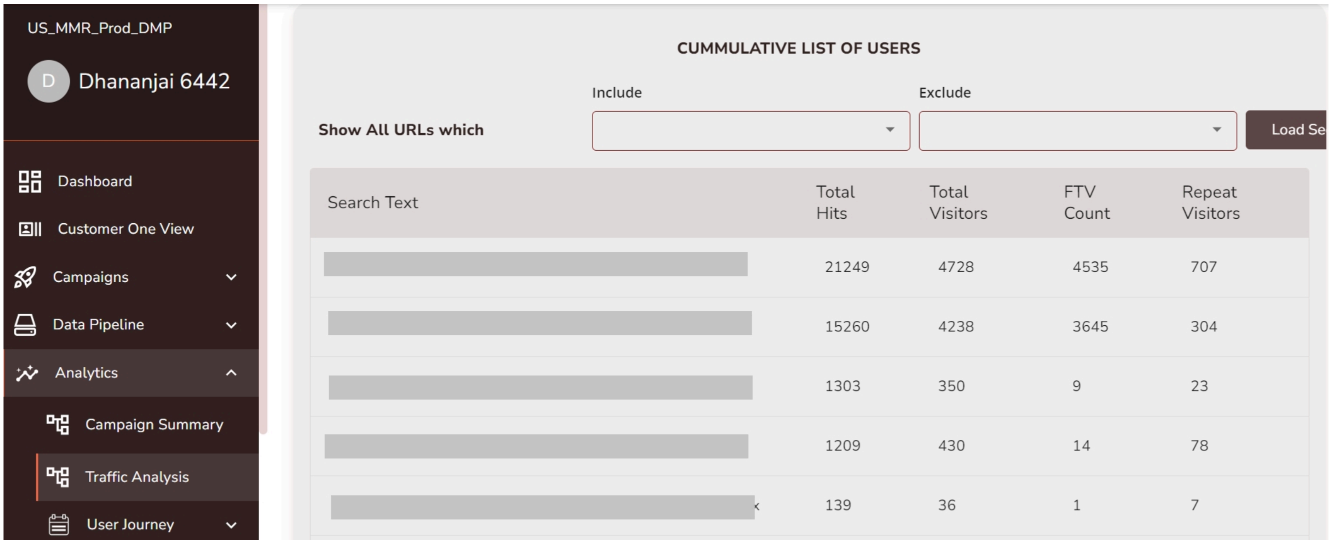
- **URL Name:** Displays the URL visited by the user.
- **Total Hits:** Shows the number of total interactions with the URL.
- **Total Visitors:** Shows the total number of unique visitors to the URL.
- **FTV count:** The number of first-time visitors within the selected timeframe.
- **Repeated visitors:** Number of repeat visitors to the URL within the chosen time period.

Report

Top 100 URLs during the date range: Displays the top 100 URLs with the most hits, showing data on total hits, total visitors, FTV count, and repeat visitors.



Cumulative list of users: Contains data on all users who visited each URL. You can customize this report by including or excluding specific URLs.



Tip: To adjust the list, simply type the URL in the dropdown and click "Add" to include or exclude it as needed.

Data Sanity: Understanding Differences Between Funnels, Paths, and Events

This page explains the differences in data between Funnels, paths, and events and the reasons behind them.

This section explores the variations in data among **Funnels**, **Paths**, and **Events** while explaining the causes of these differences. These three components are pivotal in evaluating campaign performance and understanding user journeys, but mismatches can occur due to differences in data calculation methods or scenarios. Below, we detail these components and analyze cases to clarify data mismatches.

Before delving further into data sanity, let's take a quick look at these three key components that assist in understanding your campaign's performance.

Overview of Key Components

- **Funnels:**

  Funnels provide insights into user drop-offs between events, guiding analysis down to the final event. They can be plotted based on **Unique Users** or **Total Occurrences**.

- **Paths:**

Paths reveal user journeys by examining events **Before**, **After**, or **Between** selected touchpoints. They allow for a comprehensive view of user flow and behavior.

- **Events:**

  Events provide a detailed breakdown of all occurrences (daily, monthly, or yearly) for specific events. Data can be segregated by **Total Occurrences** or **Unique Occurrences**.

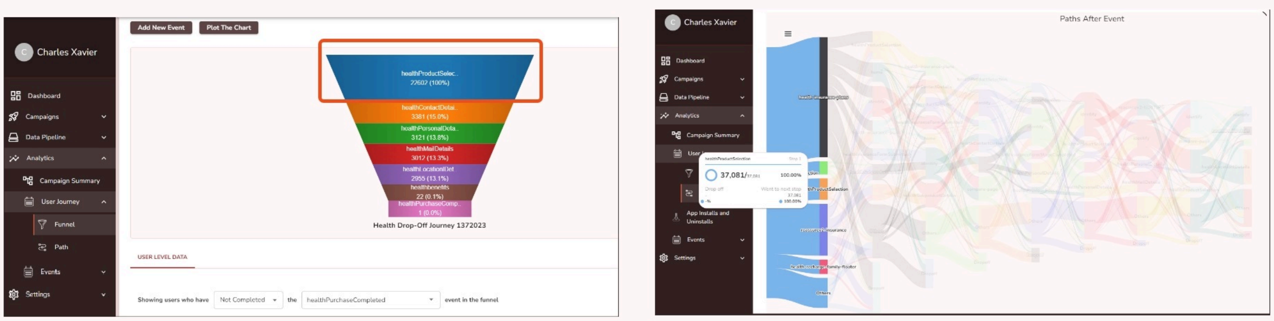
Data Comparison Between Funnels, Events and Paths

In the upcoming demonstration, we compare the **Funnel, Path, and Events** simultaneously at the same time between **July 1 and July 31** in order to interpret the differences in data in various cases.

Case 1: Funnel Data (Unique Users) vs. Path Data (After an Event)

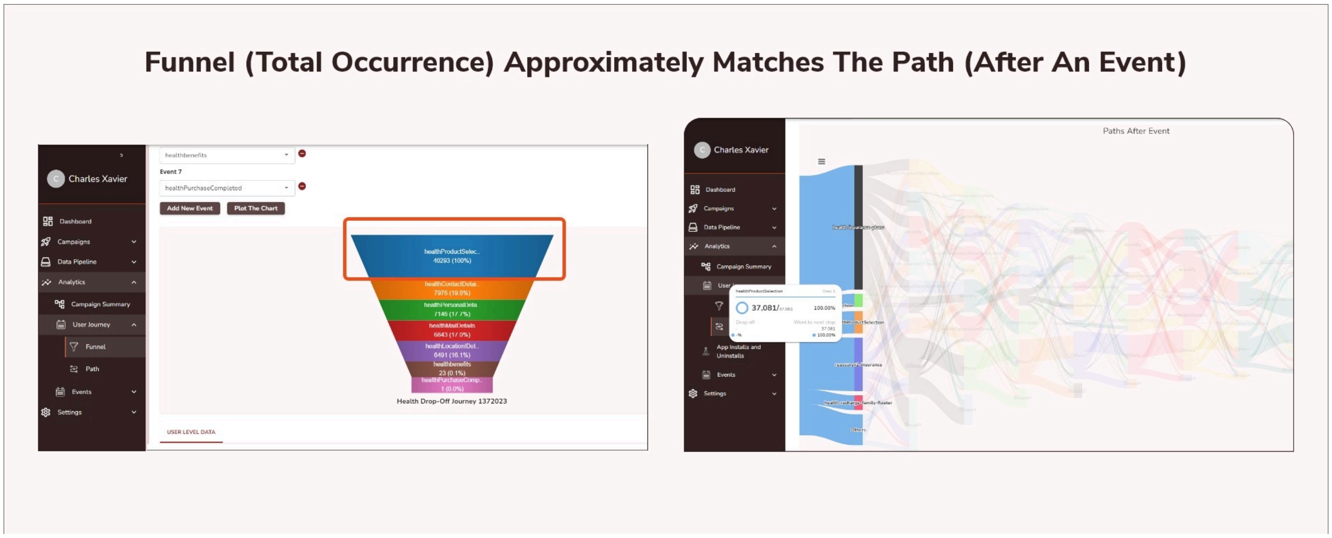
When comparing **Funnels (Unique Users)** and **Paths (After an Event)**, Funnels track unique users, while Paths consider total occurrences of the event, including multiple actions by the same user, and consider consecutive events within a **30-minute window**, while Paths use a user-defined **lookahead window** (time gap between the first and last event). In this example, the Funnel **Unique Users** count is 22,602 and Path (After an Event) count is 35,695.

Funnel (Unique Users) Matches Path (After An Event)



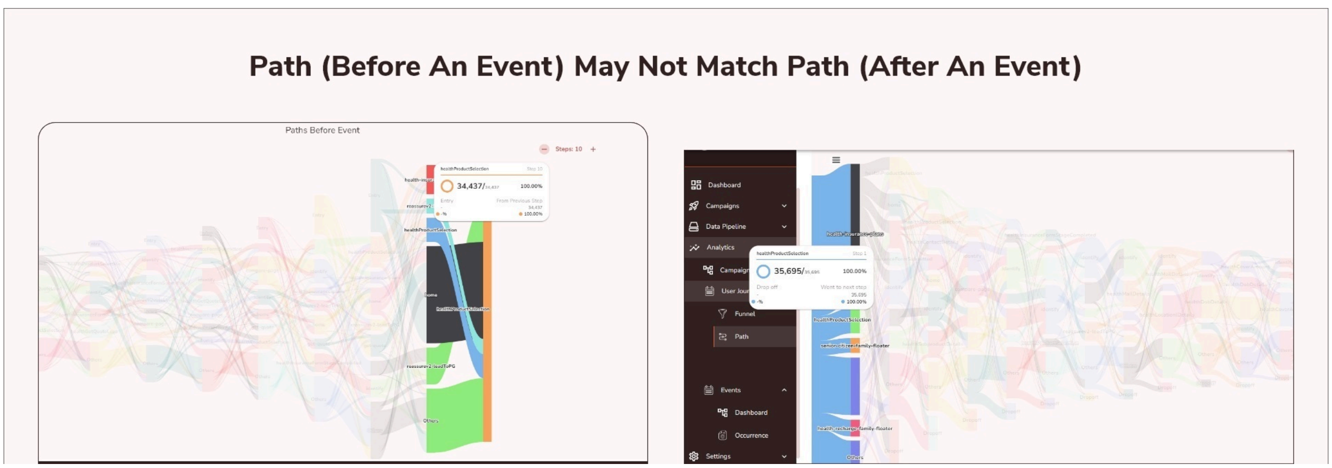
Case 2: Funnel Data (Total Occurrences) vs. Path Data (After an Event)

When comparing **Funnels (Total Occurrences)** and **Paths (After an Event)**, paths calculate events based on the **lookahead window**, while Funnels consider consecutive events within **30 minutes**. In this example, Funnel (Total Occurrences) is 40,293 and Path (After an Event) is 35,695.



Case 3: Path Data (Before an Event) vs. Path Data (After an Event)

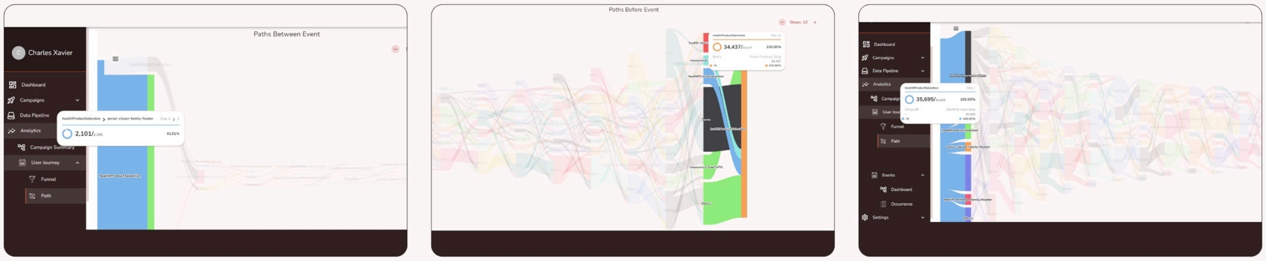
When comparing **Paths (Before an Event)** and **Paths (After an Event)**, users can enter or exit events unpredictably, causing variations. Users may access a step from multiple preceding events or proceed to various subsequent events. In this example, Path (Before an Event) is 34,437 and Path (After an Event) is 37,081.



Case 4: Path Data (Between Events) vs. Path Data (Before/After an Event)

When comparing **Paths (Between Events)** and **Paths (Before/After an Event)**, paths (Between Events) focus on a **direct connection between two events**, while Before/After Paths account for multiple possible connections and exits. In this example, Path (Between Events) are 2,101 (specific events) and Path (Before/After an Event) are higher counts (varied events).

Path (Between The Event) May Not Match Path (Before And After An Event)

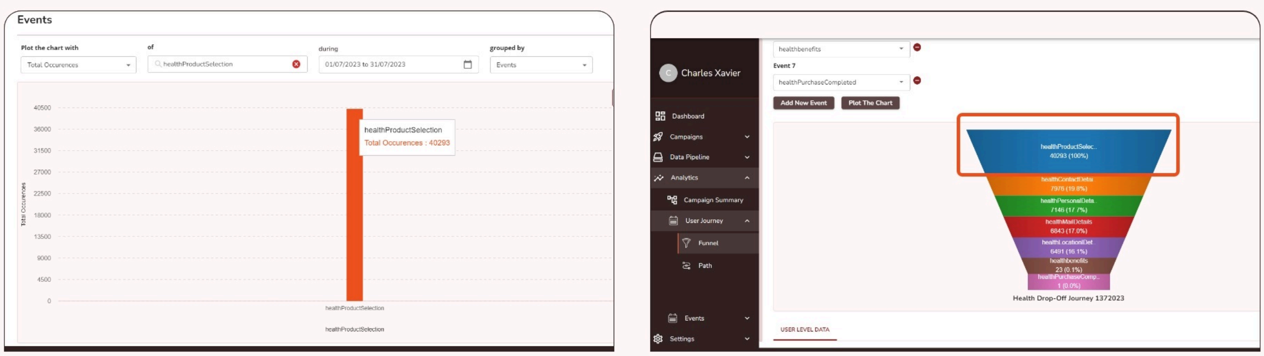


Case 5: Event Data (Total Occurrences) vs. Funnel Data (Total Occurrences)

When comparing **Events (Total Occurrences)** and **Funnels (Total Occurrences)**, both track the total number of event occurrences without considering unique users. In this example, Events (Total Occurrences) and Funnels (Total Occurrences) are 40,293.

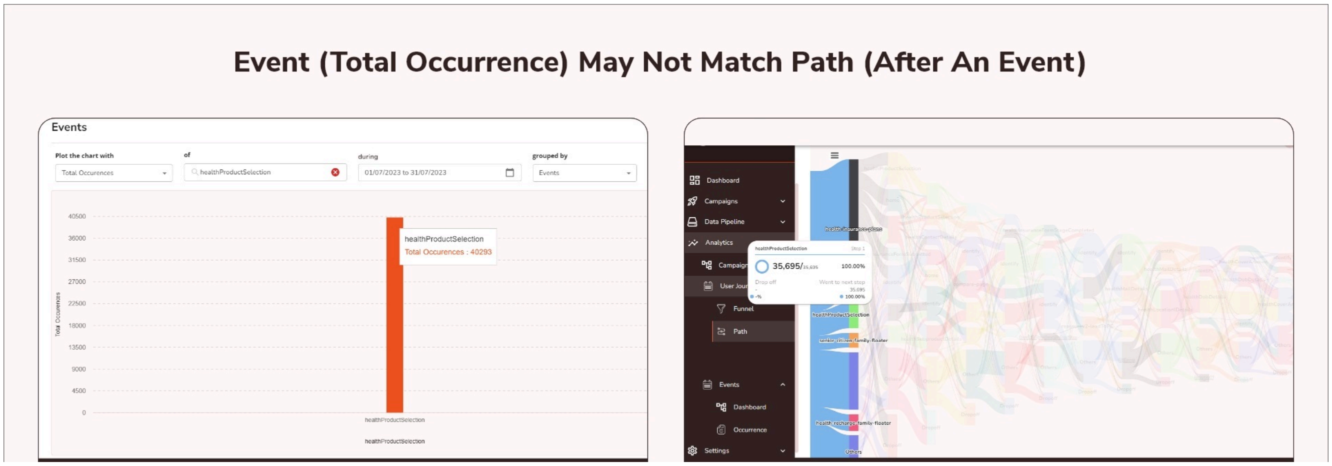
Note: Data may mismatch for dates before **November 3, 2023**, due to changes in how bot activity is handled.

Event (Total Occurrence) Matches Funnel (Total Occurrence)



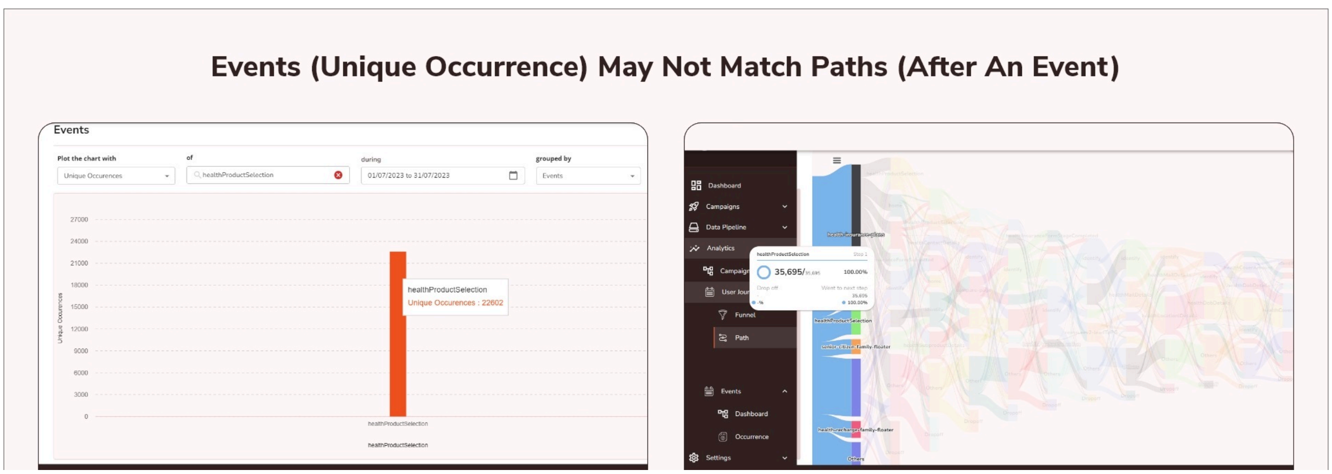
Case 6: Event Data (Total Occurrences) vs. Path Data (After an Event)

When comparing **Events (Total Occurrences)** and **Paths (After an Event)**, paths (After an Event) only count events occurring within the defined **lookahead window**, whereas Events track all occurrences regardless of timing. In this example, Events are 40,293 and Paths are 37,081.



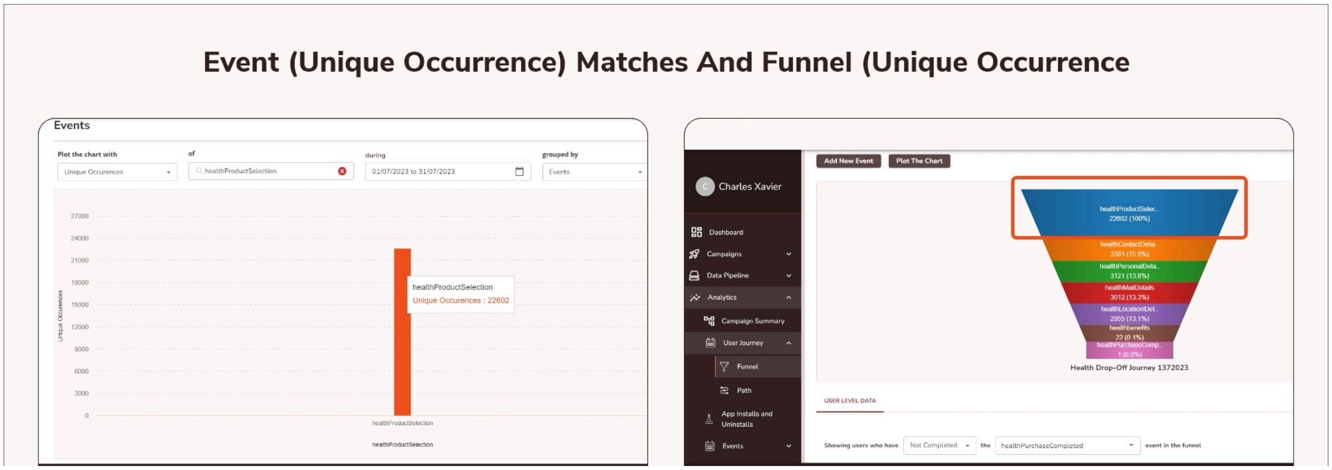
Case 7: Event Data (Unique Occurrences) vs. Path Data (After an Event)

When comparing **Events (Unique Occurrences)** and **Paths (After an Event)**, events focus on **unique users**, while Paths rely on **total occurrences**, leading to higher counts in the latter. In this example, Events (Unique Occurrences) are 22,602 and Paths are 37,081.



Case 8: Event Data (Unique Users) vs. Funnel Data (Unique Users)

When comparing **Events (Unique Users)** and **Funnels (Unique Users)**, both measure the data based on **unique users**, ensuring consistency. In this example, Events (Unique Users) and Funnels (Unique Users) are 22,602.



FAQs

Q1. Which file formats can I use to download reports?

You can download Campaign Summary charts in **SVG, PNG, and JPEG** formats, while filtered reports can be exported in **CSV** based on your chosen dimensions and filters. Funnel Reports can be downloaded in **PNG and SVG** formats. Excel-based charts support **CSV and PDF** formats. Event Occurrence reports are available in **SVG, PNG, and JPEG**, and Paths reports can be saved as **PNG, JPEG, PDF, or SVG** files.

Q2. How do I find CTR, impressions, or other data for a specific campaign?

To locate this data, go to **Reports > Channels**. Select **CTR** and **Impressions** in the comparison field and refine your results with Dimensions like **OS or device**. Pair them with Measures like CTR to view detailed statistics. You can use this method to analyze other metrics for various channels in your segments.

Q3. What insights does HCL CDP reporting provide?

HCL CDP reporting delivers actionable insights such as:

- Campaign performance and bounce rates.
- Funnel reports to track user journeys.
- Behavior analysis for each event.
- Individual channel performance.
- Segment engagement within a specific time frame.

Q4 . What does "Dimension" mean in reporting?

Dimensions track campaign performance and user actions through parameters like **Device, OS, Browser, and Location**.

Q5 . What does "Measure" mean in reporting?

Measures indicate performance, capturing metrics like **Impressions, Clicks, and Conversions**, which are tied to your campaign Dimensions.

Q6. Are there any limits to events in funnel reporting?

Yes, you can add up to **25 events** to design funnels based on your campaign's journey.

Q7. How frequently can I create reports?

You can generate reports daily, weekly, or monthly, depending on your requirements.

Q8. Can I customize reports?

Yes, HCL CDP allows you to tailor reports. You can focus on specific channel performance within a set period, choose your desired columns, and filter reports by events or segments.

Q9. How can I generate a report for a specific segment?

Select the **Segment** in the dimension field, apply the **Segment filter**, and choose one or multiple segments to create a detailed report.

Q10. Why don't report stats match dashboard stats?

Report stats may differ from dashboard stats due to applied filters, customizations, and the selected time range. Dashboard stats offer an overall view, while reports present filtered insights.

Q11. How do paths help in reporting?

Paths let you analyze user journeys, identifying drop-offs and conversions. This data helps improve campaign strategies and refine the user experience.

Q12. How can I configure steps in paths?

Marketers can manually define steps in paths, aligning them with the structure of the website or application and the campaign's end goals.

Q13. What does "Entry" in Before Events mean in paths?

The "Entry" shows where users came from before reaching a step. It could reflect direct URL access or another entry method.

Q14. What is the threshold in paths?

The threshold groups less significant events into an "Others" category. This reduces noise, allowing you to focus on meaningful data. You can set thresholds between **5% and 20%**.

Q15. How do Node and Event differ?

Nodes and Events are the same; each **Event** represents a **Node** in the user journey.

Chapter 3. Integrations

HCL CDP comes with predefined APIs like get profile and data ingestion APIs.

Developer APIs

Developer APIs provide a comprehensive suite of tools for data retrieval, submission, and processing to support seamless integration and customization.

Get Profile API

This page talks about how to use HCL CDP User Profile API to pull data from HCL CDP.

What is the Get Profile API?

The Get Profile API retrieves user profile information and associated segments based on a specified campaign and tenant ID.

Authentication

In any of the API requests, pass the mandatory parameters as below in the authentication request header.

Request headers:

Parameter	Type	Description
auth_key	String	API key for authentication. Shared by HCL CDP

Endpoints

`GET /getProfileAndSegments?campaign=%3CTenantID%3E&key=%3CKey%3E&lock_type=none&auth_key=%3CAuthKey%3E&lookup=multi`

Sample Endpoint URL:

```
GET https://<base_url>/api/v1/getProfileAndSegments?
campaign=<TenantID>&key=<KEY>&lock_type=none&auth_key=<AuthKey>&lookup=multi
```

Get the profile of the user which includes online behavioral data and third-party taxonomy data.

Query String parameters:

Parameter	Type	Description
key	String	The identifier for the user. It can be either of HCL CDP Cookie or hashed crmid or hashed email-id or hashed phone number.
campaign	String	The ID of the campaign (Tenant ID).
lock_type	String	The type of lock (default is "none").
auth_key	String	The authentication key Shared by HCL CDP.

lookup	String	Type of lookup, e.g., "multi"

Response Content-Type: application/json

Response body parameters:

Parameter	Type	Description
message	String	The status of the request. “Success” in case of 200 OK response.
data	JSON	The profile data in JSON format. The attributes of data mentioned below

Example Request:

```
GET
 https://<base_url>/api/v1/getProfileAndSegments?campaign=ABCVFM6325&key=959465553364&lock_type=none&auth_key=L
8sgGeRcnfjf1BDTFNyT6Ej8NvE&lookup=multi
```

Response:


```
{
  "data": {
    "seg": {
            "segList": [
                {
                    "94698": "testSegment"
                },
                {
                    "94697": "citySegment"
                }
            ]
        },
    "pf": {
      "key_type": "crmid",
      "city": "Nashik,India",
      "ls": "2024-09-17-08:45:19",
      "dtyp": "DESKTOP",
      "mid": "b3b52310-c297-4e6a-9253-cd7eca8637b2",
      "cont_uaov": "Windows 11",
      "typ": "track",
      "oid": [
        {
          "id": "viz_66682a576100335",
          "type": "vizid",
          "ts": 1726562719544
        }
      ],
      "sourcets": "2024-09-17-08:45:19",
      "fs": "2024-09-17-08:33:06",
      "crmid": "85748556955",
      "cont_libnm": "javascript",
      "actts": 1726562619518,
      "cont_libv": "0.02",
      "evnt": [
        "ccSubmit"
      ],
```

```
      "wosvs": {
        "Windows 11": {
          "ts": "2024-09-17-08:45:19.541"
        }
      },
      "key": "85748569955",
      "cont_ip": "103.182.196.1",
      "apid": "b3b52319-c287-4e6a-9253-cd7eca8637b2",
      "cont_servts": 1726562519518,
      "cont_uabrv": "Chrome",
      "lastname": "Sunil R",
      "zipcode": "422009",
      "vizid": "viz_66683a476100335",
      "wotyp": {
        "Windows": {
          "ts": "2024-09-17-08:45:19.542"
        }
      },
      "cont_uaot": "Windows",
      "lsts": "2024-09-17-08:45:19",
      "name": "Yes1",
      "tpv": "5.0",
      "cont_srcid": "1223",
      "nm": []
    }
  },
  "id": "20osya3LIJ3hvXWROKzy",
  "key": "85748556955"
}
```


Note: The key should be URL-encoded.

Data Ingestion REST API

This page talks about how to use HCL CDP Data Ingestion (DI) REST API to submit data for processing, specifying various parameters and event types.

What is the DI REST API?

The DI REST API ingests the event data into CDP for SST enhancement and profile creation. Real-time and batch segments use the CT events ingested via DI REST API for data segmentation. The live events are visible only for SST events, which are ingested via DI API. Further, these SST events will be displayed in the Funnel, Path and Activity tab.

Authentication

In any of the API requests, pass the mandatory parameters as below in the authentication request header.

Request headers:

Parameter	Type	Description

x-api-key	String	API key for authentication. Shared by HCL CDP
x-api-passkey	String	Passkey for additional authentication

Endpoints

`Post https://<base_url>/v3/data`

Submit data for processing, specifying various parameters and the event type.

Query String parameters:

Parameter	Type	Description
properties	Object	Additional properties of the event in the form of param:value. For example, "param1": "data1".
CUSTOMER_ID	String	User ID or anonymous ID for this event.
eventname	String	Name of the event.
type	String	Accepts any one of the value: "identify" or "track".

Response Content-Type: application/json

Response body parameters:

Parameter	Type	Description
message	String	The status of the request. "Success" in case of 200 OK response.
id	String	Unique identifier for the processed data entry.

Example Request:

```
POST https://<base_url>/v3/data
Headers:
  x-api-key: your_api_key
  x-api-passkey: your_passkey
  Content-Type: application/json

Body:
{
  "properties": {
    "param1": "value1",
    "param2": "value2",
    "param3": "value3",
    "paramX": "valueX",
    "CUSTOMER_ID": "000123111"
```

```
  },
  "eventname": "user_signup",
  "type": "track"
}
```

Response:

```
{
  "message": "Data Processed successfully",
  "id": "14e02sa1-8agg-48e6-a720-20cf4c1bf66f"
}
```

SST Enhancement API

SST Enhancement APIs provide endpoints for managing **User properties** and **Data Source Mappings**. It supports operations such as creating, updating, retrieving, and deleting tenant User properties and mappings.

User Property CRUD API

Use these APIs to manage user properties for a tenant.

Create User property

Request

- **Method:**`POST`
- **URL:** `https://<base_url>/api/campaign-data-dictionary`
- **Headers:** `authKey` (Required)
- **Description:** Creates a new user property for a tenant.

Payload

```
{
  "campaignId": 6335,
  "dmpDataPointCode": "DMP123",
  "dataType": "STRING",
  "preference": "none",
  "priority": 1,
  "mergeFunction": "UPDATE"
}
```

Success Response

```
{
  "message": "User property 'DMP123' has been successfully created for Tenant 6525."
}
```

Error Responses

```
{
  "error": "Bad Request",
  "message": "User property 'DMP123' already exists for Tenant 6525."
}
```

Update User property

Request

- **Method:**`PUT`
- **URL:** `https://<base_url>/api/campaign-data-dictionary`
- **Headers:** `authKey` (Required)
- **Description:** Updates an existing user property for a tenant.

Payload

```
{
  "campaignId": 6335,
  "dmpDataPointCode": "DMP123",
  "dataType": "STRING",
  "preference": "none",
  "priority": 1,
  "mergeFunction": "UPDATE"
}
```

Success Response

```
{
  "message": "User property 'DMP123' for Tenant 6525 has been updated successfully."
}
```

Error Responses

```
{
  "error": "Not Found",
  "message": "User property 'DMP123' not found for Tenant 6525."
}
```

Get All User properties for a tenant

Request

- **Method:**`GET`
- **URL:** `https://<base_url>/api/campaign-data-dictionary/campaignId/{campaignId}`
- **Headers:** `authKey` (Required)
- **Description:** Retrieves all user properties for the specified tenant.

Success Response

```
[
  {
    "id": 13354,
    "campaignId": 6335,
    "dmpDataPointCode": "aadhar",
    "dataType": "STRING",
    "preference": "sec",
    "priority": 3,
    "mergeFunction": "UPDATE",
```

```
    "isProfileField": 1,
    "metadata": "{}"
  },
  {
    "id": 13329,
    "campaignId": 6335,
    "dmpDataPointCode": "actts",
    "dataType": "STRING",
    "preference": "none",
    "priority": 1,
    "mergeFunction": "UPDATE",
    "isProfileField": 1,
    "metadata": "{}"
  }
]
```

Error Response

```
{
  "error": "Not Found",
  "message": "No user properties found for Tenant 6525."
}
```

Delete User property

Request

- **Method:**`DELETE`
- **URL:** `https://<base_url>/api/campaign-data-dictionary/campaignId/{campaignId}/dataPoint/{dmpDataPointCode}`
- **Headers:** `authKey` (Required)
- **Description:** Deletes a user property for the specified tenant.

Success Response

```
{
  "message": "User property 'DMP123' for Tenant 6525 has been removed successfully."
}
```

Error Responses

```
{
  "error": "Not Found",
  "message": "User property 'DMP123' not found for Tenant 6525."
}
```

```
{
  "error": "Bad Request",
  "message": "User property 'DMP123' for Tenant 6525 is mapped to existing data sources. Please remove the
 respective data source mappings before deleting the user property."
}
```

Data Source Mapping API

Use these APIs to manage mappings between data sources and user properties for a tenant. All requests must include the `authKey` header for authentication.

Create Data Source Mapping

Request

- **Method:**`POST`
- **URL:** `https://<base_url>/api/mapping`
- **Headers:** `authKey` (Required)
- **Description:** Creates a new mapping between a data source and a user property. You can also define metadata, such as the input column from the data source.

Payload

```
{
  "campaignId": 6335,
  "dmpDataPointCode": "DMP123",
  "dataSourceName": "analyze_post",
  "metadata": "{\"input_col\": \"properties__testprop\"}"
}
```

Success Response

```
{
  "message": "Mapping created successfully for User property 'DMP123' and Data source 'analyze_post' under
 Tenant 6335."
}
```

Error Responses

```
{
  "error": "Bad Request",
  "message": "Mapping already exists for User property 'DMP123' and Data source 'analyze_post' under Tenant
 6335."
}
```

```
{
  "dataSourceName": "dataSourceName must be either 'analyze_post' or 'dataingestionapi'."
}
```

Update Data Source Mapping

Request

- **Method:**`PUT`
- **URL:** `https://<base_url>/api/mapping`
- **Headers:** `authKey` (Required)
- **Description:** Updates an existing mapping between a data source and a user property. Useful for modifying metadata, such as input column mappings.

Payload

```
{
  "campaignId": 6335,
  "dmpDataPointCode": "DMP123",
```

```
  "dataSourceName": "analyze_post",
  "metadata": "{\"input_col\": \"properties__testprop\"}"
}
```

Success Response

```
{
  "message": "Mapping updated successfully for User property 'DMP123' and Data source 'analyze_post' under
 Tenant 6335."
}
```

Error Response

```
{
  "error": "Not Found",
  "message": "User property 'DMP123' not found for Tenant 6335."
}
```

Get Mapping for a Specific User Property

Request

- **Method:**`GET`
- **URL:** `https://<base_url>/api/mapping/campaignId/{campaignId}/dataSource/{dataSourceName}/dataPoint/{dmpDataPointCode}`
- **Headers:** `authKey` (Required)
- **Description:** Retrieves mapping information for a specific user property within a tenant and data source.

Success Response

```
{
  "id": 25609,
  "dmpCampaignDataSourceId": 1432,
  "dmpCampaignDataDictionaryId": 14439,
  "profileUpdateFunction": "UPDATE",
  "metadata": "{\"input_col\": \"properties__DMP123\"}",
  "isMandatory": 0
}
```

Error Response

```
{
  "error": "Not Found",
  "message": "User property 'DMP123' not found for Tenant 6335."
}
```

Get All Mappings for a Tenant and Data Source

Request

- **Method:**`GET`
- **URL:** `https://<base_url>/api/mapping/campaignId/{campaignId}/dataSource/{dataSourceName}`

- **Headers**: `authKey` (Required)
- **Description:** Returns all mappings between the specified data source and user properties for a tenant.

Success Response

```
[
  {
    "id": 25609,
    "dmpCampaignDataSourceId": 1332,
    "dmpCampaignDataDictionaryId": 14349,
    "profileUpdateFunction": "UPDATE",
    "metadata": "{\"input_col\": \"properties__testmerge123\"}",
    "isMandatory": 0
  },
  {
    "id": 25810,
    "dmpCampaignDataSourceId": 1532,
    "dmpCampaignDataDictionaryId": 14350,
    "profileUpdateFunction": "UPDATE",
    "metadata": "{\"input_col\": \"properties__DMP456\"}",
    "isMandatory": 1
  }
]
```

Error Response

```
{
  "error": "Not Found",
  "message": "Data source 'analyze_post' not found for Tenant 6335."
}
```

Get All Data Source Mappings

Request

- **Method:**`GET`
- **URL:** `https://<base_url>/api/mapping/campaign/{vizVrmId}/dataSource/{dataSourceName}`
- **Headers:** `authKey` (Required)
- **Description:** Retrieves all mappings (tenant, vertical, and global) between user properties and the specified data source.

Success Response

```
[
  {
    "ProfileUpdateFunction": "UPDATE",
    "IsMandatory": false,
    "CampaignId": "VIZVRM6335",
    "Preference": "none",
    "DMPDataPointCode": "firstname",
    "Priority": 1,
    "IsProfileField": true,
    "Metadata": "{\"input_col\":\"properties__FIRST_NAME\"}",
    "DataType": "STRING",
```

```
    "Name": "dataingestionapi"
  },
  {
    "ProfileUpdateFunction": "UPDATE",
    "IsMandatory": false,
    "CampaignId": "VIZVRM6335",
    "Preference": "none",
    "DMPDataPointCode": "lastname",
    "Priority": 1,
    "IsProfileField": true,
    "Metadata": "{\"input_col\":\"properties__LAST_NAME\"}",
    "DataType": "STRING",
    "Name": "dataingestionapi"
  }
]
```

Error Response

```
{
  "error": "Not Found",
  "message": "No mappings found for tenant 'VIZVRM6335' and Data source 'analyze_post'."
}
```

Delete Data Source Mapping

Request

- **Method:**`DELETE`
- **URL:** `https://<base_url>/api/mapping/campaignId/{campaignId}/dataSource/{dataSourceName}/dataPoint/{dmpDataPointCode}`
- **Headers:** `authKey` (Required)
- **Description:** Deletes the mapping between a user property and data source for the specified tenant.

Success Response

```
{
  "message": "Mapping for User property 'DMP123' and Data source 'analyze_post' under Tenant 6335 has been
 removed successfully."
}
```

Error Response

```
{
  "error": "Not Found",
  "message": "User property 'DMP123' not found for Tenant 6335."
}
```

Journey API

This page explains how to configure Journey API in HCL CDP to transfer the user profile to Unica Journey account.

Integrating HCL CDP with the Unica Journey allows seamless transfer of detailed user profile information to Unica Journey for personalized customer engagement. By using the HCL CDPJourney API, user profile data collected in the HCL CDP can be transferred to the journey in real-time. This integration ensures that personalized customer journeys can be initiated based on updated user information.

In this process, create a journey ID with an entry source that defines how users enter the journey, triggered by specific events. Data definitions are established in the Unica Journey to ensure that the user profile data is correctly mapped and processed. Using the HCL CDP Journey API, the user profile details are sent in the payload, along with the entry source code, allowing for the initiation of a personalized customer experience based on the specific profile attributes.

Prerequisite

Make sure that the following things are in place:

- Create a journey, entry source and data definition in the Unica Journey. For more information, refer Getting started with Unica Journey.
- Create Journey Rest integration. For more information, refer Creating a new REST integration.
- Create Journey API Channel in the HCL CDP, only if Journey API is not listed in Channels. For more information about create the Journey API table, refer Create Trigger API channel as Journey API on page 295.
- Configure the Journey API refresh token to authenticate the Journey API. For more information about refresh token configuration, refer Configure Journey refresh token API on page 296.

Create Trigger API channel as Journey API

Before you create the channel, make sure the Journey API feature is not available in the application. To create a new trigger api channel for Journey API, follow the steps below:

1. In the **DMPChannel** table, add a new entry for JOURNEY Channel using the following query.

```
INSERT INTO DMPChannel
            (Name,
             Description,
             DisplayName,
             ECDisplayName,
             Preference,
             Config,
             Type)
VALUES      ('JOURNEY API',
             'JOURNEY API',
             'Journey API',
             'Trigger API',
             21,
             '{"isSegChannelCap":1}',
             'trapi');
```

2. After inserting the Journey channel, in the **DMPCampaignChannelMapping** table, insert the journey ChannelMapping using the following query.

```
INSERT INTO DMPCampaignChannelMapping
    (CampaignId,
     DMPChannelId,
     Status,
     ImpressionCap,
     ImpressionEnabled,
```

```
     FrequencyCaps,
     EmailScheduleTimeInMins,
     IcDisabled,
     DMPCampaignChannelMapping)
VALUES
    (6525,
     31,
     1,
     500,
     0,

 '{"monthly":{"value":1500},"weekly":{"value":1350},"daily":{"value":200,"isPersistent":0},"lifetime":20
0}',
     10,
     1,
     5);
```

3. On successful update, the journey api will be listed under the Channels.

Configure Journey refresh token API

Unica Journey uses thirdpartylogin api to generate authentication token to send the data from HCL CDP. To generate authentication token, follow the steps below:

1. Before generating the tokens, encrypt the clientSecret using KMS encrypt api. Use the following curl commands to encrypt the clientSecret.

```
curl --location 'https://<base_url>/kms-service/kms/encrypt' \
--header 'Content-Type: application/json' \
--data '{
    "kmsKey": "arn:aws:kms:ap-south-1:654654226610:key/8595ade8-8f55-4487-92da-b42183a2b455",
    "data": "8eInFG2JqfLCkYl9o7.GjpmVZlA4.JkW",
    "campaignId": "6335",
    "region": "aps1"
}'
```

Response:

```
{
    "val": "+la4fQPzcUtxjl9t+sekbvGnIjUflBHJjmBuvxCDbzwczhiSdjCV/hp9R2XYmhdK",
    "key":
 "AQIDAHi1hwJPT6CZTmDECgxOuTdLNdmiQDB2pRjyszBH67kWkQFwJukJOvuPFkYdvF7/2K06AAAAfjB8BgkqhkiG9w0BBwagbzBtAg
EAMGgGCSqGSIb3DQEHATAeBglghkgBZQMEAS4wEQQM8NyLH08Qj6TdjZ97AgEQgDte70kBTjq9vE1Z4igQAbLh5noiwcPlZSAPbtEM6T
DTPQeyt4o4wVBizTQoykaED/0rhXvtbHcZGQmMFA=="
}
```

2. Use the Journey's third party login API to generate tokens.
   a. **Endpoint**: https://unicabeta.hcltechsw.com/journey/api/thirdpartylogin
   b. **RequestType**: POST
   c. **ContentType**: application/json
   d. **EncPassword**: Include the encrypted clientSecret val generated from the above step.
   e. **EncKey**: Include the encrypted clientSecret key generated from the above step.
   f. **Config**: JSON corresponding to the request parameters and also the response parsing for ThirdParty token.

```
{
    "accessTokenParam": "tokenId", //Response parameter key for the Refresh token"
```

```
    "p": { // Request Parameters for JSON body as per the request payload that you need,
        "clientId": "cliendID", //replace with client ID
        "clientSecret": "@PASSWORD@", //PASSWORD macro is decrypted and replaced from EncPassword while
 generating a fresh token.
    },
    "h": {}, // Request Headers
    "qp": {} // Query Parameters that you want to send if it is a GET request
}
```

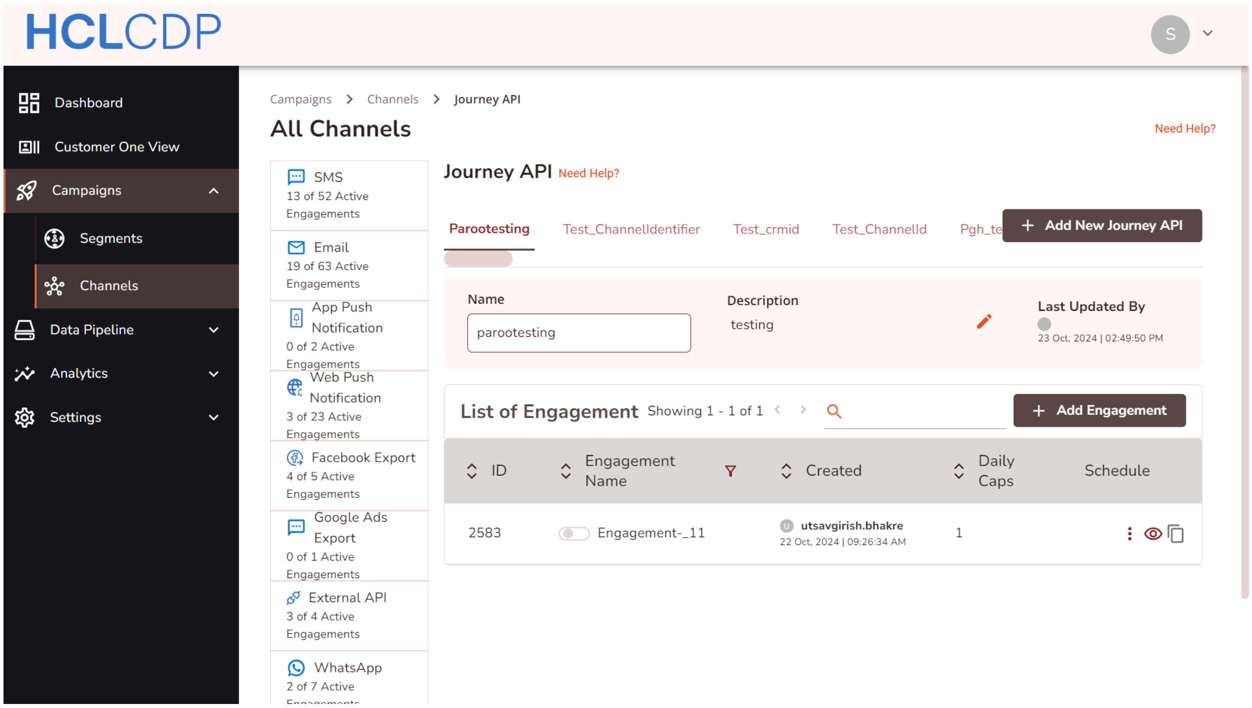
3. In the **DMPTriggerApiAuthDetails** table, add above prepared refresh token entry. Use the following SQL query.

```
INSERT INTO DMPTriggerApiAuthDetails
            (id,
             Name,
             CampaignId,
             Endpoint,
             RequestType,
             ContentType,
             EncPassword,
             EncKey,
             Config)
VALUES      (51,
             ‘journeyThirdpartyToken’,
             6335,
             https://unicabeta.hcltechsw.com/journey/api/thirdpartylogin ',
             POST,
             application/json ',
             iYTY0M0srD82xP9E7oNeBSRMn8GK9EyFbOjPFnnbf+WR6isz4dCz64n1wyH2e/A7',
‘bmotc2FtcGxlOnZhdWx0OnYxOjZtbGhab0NlbGJrYThpcjJacHJ0NEs0VXN1WEVqNGYvN1orUzM1MkVyN05WYjZjMEZrT0xQNURXSm1
COXg4STF1TDZvRnhqMEF5MnU2UVc1’
             ,
'{"accessTokenParam":"tokenId","p":{"clientId":"yAzVN1zDl4RhTeaEge42Ipbw30Mp.oO8","clientSecret":"@PASSW
ORD@"},"h":{},"qp":{}}'
);
```

Configure Journey API

To configure journey API, follow the steps below:

1. Navigate to **Campaigns** > **Channels** > **Journey API**. Or Navigate to **Campaigns** > **Segments** > **ALL SEGMENTS** > select a segment and click **Journey API**.



2. Click **+Add New Journey API**, and add **BASIC DETAILS**.
    a. **Name**: Name your journey API. This name cannot be editable once it is saved.
    b. **Description**: Enter the description of your API.
    c. **Journey API Details**:
        i. **URL**: Enter the unica journey rest api url.

            Adding dynamic path parameters in the URL:

            If you have a path parameter that will change each time you trigger an engagement, you can configure it dynamically by defining the variable in {{variable}}.

        ii. **Payload**: Select either the Global Level or Engagement Level option to define the user profile payload details. For more information, refer Payload on page 299.
        iii. In the **Optional Field** drop-down, select **Yes** or **No**. For more information, refer Optional Field on page 300.
3. Click **Save Details** to create Journey API.
4. Enter the payload, and click **Test Configuration** to verify the journey api connectivity. Before testing the configuration, make sure to run the following queries in VRM database.
    a. Get the API ID from the database using the following query. In the below query, replace "JourneyApiname" with the created journey api name. The result of this query returns the API ID.

```
SELECT Id FROM DMPTriggerApiDetails WHERE NAME='JourneyApiname'
```

b. For the newly created Journey API, update the DMPTriggerApiAuthDetailsId and AuthType from `DMPTriggerApiDetails` to get a dynamic refresh token by providing API ID. Use the below query to update the authentication for the Journey API. In the below query, replace <ID> with the API ID obtained in the previous step.

```
UPDATE DMPTriggerApiDetails
SET DMPTriggerApiAuthDetailsId=51, AuthType='ACCESSKEY'
WHERE Id= <ID>
```

5. On successful testing of API, create an engagement. For more information, refer Create Engagement on page 137.

Payload

User can define the payload either at global level or engagement level.

Global Level

In the global level, you define the payload for the API by entering the JSON payload in the code block. Ensure the JSON is valid, as any invalid JSON will trigger an error in the UI. If the payload is correct, a tree view will be displayed. In this view, you can add static or dynamic fields, create variables, and flexibly assign display terms. The tree structure allows you to organize parameters based on parent and child objects, making it easy to assign values.

Engagement Level

In the engagement level, you can set a custom payload for each engagement, and helps for campaigns that need different payloads. You can send personalized data for each engagement, making it flexible for different needs.

In the **Payload** textbox, enter the payload parameters. The payload you entered will be displayed as tree view. A sample payload is provided below.

```
{
"entrySourceCode": "ES-00000815",
"data": [
{
"Name": "parvati",
"Email": "parvati.hanagandi@hcl-software.com",
"Mobile": "9398357962",
"Age": "35",
"City": "Pune",
"productName": "Term Life Insurance"
}
]
}
```

Expand the data tree and select a variable name to include a static or dynamic value. Use macros to insert dynamic values. Enter @ in the text box to view the list of macros available. Enter the default value that assigns value to the variable by default, if the value is not provided by the user, or in the case of Macro when the system fails to replace it with a value. For example, to use a user's email address, type @ and select the EMAIL macro from the list.

Optional Field

1. If you wish the field to be mandatory, select No.
2. Select Yes, if the field needs to be optional. In such a case, you have to define how to handle the payload when that particular key (param1 in the example) is not provided with a value.

Option 1:Send Empty Value (do nothing).

The parameters will be empty, and the default value will be shown here in all the engagements.

The payload will be:

```
{
"details": {
"data": {
"param1": " ",
"param2": "Sample Value 2"
}
},
"token": "abc123"
}
```

Option 2:Drop data $#$0

On Choosing drop data, the parent node (Data) will be dropped. The grandparent node (details) and (Token) will be considered as objects.

The payload will be:

```
{
"details": {},
"token": "abc123"
}
```

Option 3: Drop data (Grandparent Node)

On Choosing drop details, the grandparent parent node (Data) will be dropped along with its child (Data). Only (Token) will be considered as objects.

```
{
"token": "abc123"
}
```

Option 4: Drop the whole Object

On choosing to drop the whole object, the entire payload will be dropped and the API won't get triggered.

MaxAI Integration

This page outlines the MaxAI integration, featuring AI-powered components to enhance customer targeting, optimize communication channels and timing for improved marketing performance.

MaxAI is an advanced machine learning engine that optimizes decision-making, automates customer interactions, and enhances personalization across digital platforms. Built with scalable AI models and real-time data processing capabilities, MaxAI enables organizations to unlock the full potential of customer insights and behavior patterns.

Key Features of MaxAI

- **Predictive Analytics**: Leverage historical and real-time data to anticipate customer behavior and forecast outcomes with high accuracy.
- **Real-Time Decisioning**: Process data streams instantly to support dynamic, in-the-moment personalization and automated action triggers.
- **Machine Learning Model Management**: Build, deploy, and monitor custom ML models within a centralized, scalable infrastructure.
- **Seamless API Integration**: Connect MaxAI easily with external systems via RESTful APIs, ensuring smooth interoperability with customer data platforms (CDPs), CRMs, and marketing automation tools.
- **Privacy and Compliance Controls**: Built-in governance frameworks ensure that AI decisioning adheres to privacy regulations and data usage policies.

Understanding the Components

The cycle begins with data ingestion, where MaxAI collects and integrates information from various internal and external sources. Once the data is ingested, it undergoes pre-processing, where it is cleaned, structured, and prepared for analysis for ensuring quality and consistency for accurate modeling.

The next phase involves identifying the relevant variables from the dataset to improve model performance and efficiency. MaxAI then moves into model training, where it applies advanced machine learning algorithms to generate predictive models. After training, MaxAI supports visualization and explanation of model behavior, offering insights into how predictions are made and the factors influencing them. This enhances transparency and trust in the AI outcomes. Following this, the models are tested against unseen data in the model testing phase to validate their real-world effectiveness.

Once validated, models are prepared for production through model conversion and deployment, where they are transformed into formats suitable for operational use. Finally, MaxAI continuously manages model monitoring and observation, tracking performance metrics and detecting issues such as data drift, ensuring that deployed models remain reliable and up to date over time.

HCL MaxAI support use cases like:

- **Next Best Channel**: Recommends the most effective communication channel for each customer.
- **Send Time Optimization**: Predicts the optimal time to send messages to maximize engagement.

Integration Steps

Max AI integration with HCL CDP enables marketers to leverage AI-driven decisioning within their customer engagement strategies. MAX AI delivers predictive insights and intelligent recommendations, such as Next Best Channel and Send Time Optimization.

By embedding MAX AI models directly into CDP campaigns, marketers can automate and personalize customer interactions at scale. This integration bridges customer intelligence with campaign execution, ensuring data-driven decisions that enhance engagement and improve marketing ROI.

1. **Access AION Models**: Ensure that the MaxAI models like Next Best Channel, Send Time Optimization are trained and published. For more information about training the model, refer **Training the Model**.
2. Configure CDP to use MaxAI Models. For more information, reach out the support team.

Next Best Channel (NBC)

This page outlines the MaxAI's Next Best Channel to enhance customer targeting for improved marketing performance.

The Next Best Channel (NBC) model identifies the most effective communication channel for each customer based on demographics, banking behavior, device preferences, and previous marketing interactions. It helps optimize customer engagement and improve conversion rates across channels like WhatsApp, Email, SMS, IVR, Push Notifications, and more.

MaxAI helps interpret the model's predictions. This includes:

- SHAP (SHapley Additive exPlanations): To identify how each feature contributed to the predicted channel.
- Force and Waterfall Plots: For individual predictions – showing positive and negative feature impact.
- Bar Charts of Feature Importance: To understand which features globally influence channel selection across customers.
- These visualizations are available via Single Prediction Explanation Report (HTML) and Batch Prediction Explanation Report (PDF).

Key Features

- **Channel Affinity Prediction:** AI-driven model analyzes demographics, banking behavior, device preferences, and campaign history.
- **Dynamic Channel Selection:** Automatically selects from Email, SMS, WhatsApp, ATM-CP, and more.
- **Personalized Engagement:** Tailors outreach strategy per customer.

Key Output

The model predicts a single best-fit channel per customer and provides a confidence score (probability) along with alternative ranked channels. For more information about channel recommendation output, refer MAX AI predictions.

API Overview

Each endpoint allows interaction with different parts of the NBC system — including fetching features, uploading data, retraining the model, making predictions, and monitoring model health

Get Model Features

Retrieve a list of features used for training.

- **URL**: /AION/AI0226_1/get_features.
- **Method**: GET
- **Input**: None
- **Output Example**:

```
{ "feature1": "Value", "feature2": "Value", "feature3": "Value" }
```

Upload File for Retraining

Upload a new dataset for retraining the NBC model to provide updated data if customer behaviors or market dynamics change.

- **URL**: /AION/AI0226_1/file_upload.
- **Method**: POST
- **Input**: File (CSV)
- **Output Example**:

```
{ "trainingDataLocation": "/server/path/to/file.csv", "currentDataLocation":
"/app/AION/data/preprocesseddata.csv" }
```

Retrain the Model

Retrain the NBC model using a newly uploaded dataset to improve model accuracy with updated customer data.

- **URL**: /AION/AI0226_1/retrain
- **Method**: POST
- Input: File (CSV)
- Output Example:

```
{
"status": "SUCCESS",
"model_information": { ... },
"evaluation_metrics": { ... },
"classification_report": { ... },
"confusion_matrix": [ ... ]
}
```

Batch Prediction with Explainable AI

Perform batch predictions and generate a PDF report explaining feature contributions to predict for large customer groups with explainable results.

- **URL**: /AION/AI0226_1/xplain_batch_prediction
- **Method**: POST
- **Input**: File (CSV)
- **Output Example**:

```
{
"Batch_Xplain_Path": "/path/to/report.pdf",
```

```
"Shap_values": [...]
}
```

Model Explainability Report (HTML)

Generate an HTML visual report explaining model behavior to understand internal model decision logic.

- **URL**: /AION/AI0226_1/xplain_model.
- **Method**: POST
- **Input**: None
- **Output**: HTML File (xplainmodel.html).

Data Drift Monitoring

Detect data drift between training and production data to ensure prediction reliability over time.

- **URL**: /AION/AI0226_1/monitoring.
- **Method**: POST
- **Input**: JSON Payload (MonitoringSchema).
- **Output**: HTML Report (my_report.html) and JSON Summary.

Model Performance Monitoring

Compare model performance across datasets and generate an HTML report to continuous evaluation of model effectiveness.

- **URL**: /AION/AI0226_1/performance
- **Method**: POST
- **Input**: JSON payload
- **Output**: HTML performance report

Prediction Example

Prediction Input Example:

```
{
  "UN_ENC_CUST_ID": "encstyp1003893548oh",
  "AGE": "55",
  "GENDER": "Male",
  "COMU_CITY": "Bhubaneswar",
  "COMU_STATE": "Odisha",
  "COMU_COUNTRY": "India",
  "NUM_DEVICES_USED": "2",
  "NUM_PRODUCTS_HELD": "2",
  "HAS_CREDIT_CARD": "0",
  "HAS_DEBIT_CARD": "0",
  "ACTIVE_ACCOUNT_TYPES": "2",
  "DEVICE_PREFERENCE": "Tablet",
  "OS_PREFERENCE": "iOS",
  "DEVICE_BRANDS": {
```

```
    "Apple": "0",
    "Motorola": "0",
    "OnePlus": "0",
    "Oppo": "0",
    "Other": "1",
    "Realme": "0",
    "Samsung": "0",
    "Vivo": "0",
    "Xiaomi": "1",
    "nan": "0"
  },
  "CARD_TYPES": {
    "Credit Cards": "0",
    "Debit Cards": "0",
    "nan": "2"
  },
  "CARD_VARIANTS": {
    "Amazon": "0",
    "E_Bay": "0",
    "Flipkart": "0",
    "Myntra": "0",
    "Paytm": "0",
    "nan": "2"
  },
  "total_campaigns_sent": "16",
  "total_conversions": "5",
  "total_cost": "0.21",
  "total_revenue": "1576912",
  "avg_conversion_rate": "0.31",
  "avg_response_time": "318600",
  "avg_recency": "171",
  "avg_cost_per_campaign": "0.01",
  "avg_revenue_per_campaign": "98557",
  "avg_campaign_success_rate": "0.31",
  "first_response_time": "2024-08-10",
  "last_response_time": "2024-08-18",
  "avg_product_engagement_rate": "0.31",
  "most_successful_channel": "CRB",
  "channel_revenue": {
    "ATM-CP": "0",
    "CRB": "0",
    "CRM": "0",
    "Email_Deliver": "0",
    "Email_Netcore": "0",
    "Fallback_SMS_Karix": "542517",
    "IVR": "439195",
    "PUSH": "160921",
    "RCS_Karix": "0",
    "SMS_Deliver": "434279",
    "SMS_Karix": "0",
    "WhatsApp": "0"
  },
  "channel_counts": {
    "ATM-CP": "0",
    "CRB": "1",
    "CRM": "2",
    "Email_Deliver": "1",
    "Email_Netcore": "0",
```

```
    "Fallback_SMS_Karix": "2",
    "IVR": "1",
    "PUSH": "2",
    "RCS_Karix": "1",
    "SMS_Deliver": "5",
    "SMS_Karix": "0",
    "WhatsApp": "1"
  },
  "product_counts_by_channel": {
    "ATM-CP": "0",
    "CRB": "1",
    "CRM": "2",
    "Email_Deliver": "1",
    "Email_Netcore": "0",
    "Fallback_SMS_Karix": "2",
    "IVR": "1",
    "PUSH": "2",
    "RCS_Karix": "1",
    "SMS_Deliver": "5",
    "SMS_Karix": "0",
    "WhatsApp": "1"
  },
  "prediction": "ATM-CP",
  "probability": "0.51",
  "remarks": {
    "ATM-CP": 0.51,
    "CRB": 0.25,
    "CRM": 0.13,
    "Email_Deliver": 0.08,
    "Email_Netcore": 0.03,
    "Fallback_SMS_Karix": 0.01,
    "IVR": 0.0,
    "PUSH": 0.0,
    "RCS_Karix": 0.0,
    "SMS_Deliver": 0.0
  }
}
```


Prediction Output Example:


```
{
  "predicted_best_channel": "ATM-CP",
  "confidence_score": 0.51,
  "alternative_channels": {
    "ATM-CP": 0.51,
    "CRB": 0.25,
    "CRM": 0.13,
    "Email_Deliver": 0.08,
    "Email_Netcore": 0.03,
    "Fallback_SMS_Karix": 0.01,
    "IVR": 0.0,
    "PUSH": 0.0,
    "RCS_Karix": 0.0,
    "SMS_Deliver": 0.0
  }
}
```

Model Fairness and Ethics:

- The model uses synthetic data to avoid bias and protect real customer identities during training.
- No personally identifiable information (PII) is used in decision-making.
- Features like Gender and Age are monitored for fairness and non-discriminatory behavior.

Send Time Optimization (STO)

This page outlines the MaxAI's Send Time Optimization to enhance optimize communication channels and timing for improved marketing performance.

The Send Time Optimization (STO) Model enhances customer engagement and boost conversion rates by predicting the optimal time and channel to send marketing communications for each customer. By analyzing customer demographics, behaviors, device preferences, and historical engagement patterns, the model personalizes marketing strategies for improving open rates, click-through rates, conversions, and marketing ROI.

Key Features

- **Time-Based Personalization:** Predicts the optimal send time for each user based on historical engagement.
- **Performance-Driven:** Improves open rates, click-throughs, and conversions.
- **Automated Scheduling:** Outbound messages are sent at the time users are most likely to engage.

Key Output

The model predicts the preferred contact time and preferred contact time probability to send communications to individual users. For more information about channel recommendation output, refer MAX AI predictions on page 13.

API Overview

Get Model Features

Fetch the list of input features used by the model (excluding the target feature).

- **Endpoint:** /AION/AI0261_1/get_features
- **Method:** GET
- **Input:** None
- **Output:**

```
{
  "feature1": "Value",
  "feature2": "Value",
  "feature3": "Value"
}
```

Retrain Model

Retrain the machine learning model with a new dataset.

- **Endpoint:**: /AION/AI0261_1/retrain
- **Method**: POST
- **Input:** Upload a CSV file with the new training data.
- **Output:**

```
{
  "status": "SUCCESS",
  "model_info": {
    "features_used": ["feature1", "feature2"],
    "problem_type": "classification",
    "model_name": "AI0261_1",
    "target_feature": "Best_conversion_Time"
  },
  "evaluation_metrics": {
    "Accuracy": 0.92,
    "Precision": 0.90,
    "Recall": 0.91,
    "F1": 0.905,
    "ROC_AUC": 0.94
  },
  "classification_report": {...},
  "confusion_matrix": [...]
}
```

Batch Prediction with Explainability

Perform batch predictions and return a PDF report with SHAP explainability values.

- **Endpoint:** /AION/AI0261_1/xplain_batch_prediction
- **Method**: POST
- **Input:** Upload a CSV file containing customer records.
- **Output:**

```
{
  "Batch_Xplain_Path": "/path/to/report.pdf",
  "Shap_values": [...]
}
```

Explain Model (HTML Report)

Generate an HTML visualization of model explainability.

- **Endpoint:** /AION/AI0261_1/xplain_model
- **Method:** POST
- **Input:** No direct input; uses configuration and model files internally.
- **Output:** Returns an HTML file (xplainmodel.html) containing feature importance visualizations.

Drift Monitoring

Detect data drift between historical and incoming datasets.

- **Endpoint:** /AION/AI0261_1/monitoring
- **Method:** POST
- **Input:** JSON payload as per MonitoringSchema.
- **Output:**

```
{
  "status": "SUCCESS",
  "html_report_path": "/path/to/my_report.html"
}
```

Model Performance Monitoring

Generate a performance report based on current vs. production data.

- **Endpoint:** /AION/AI0261_1/performance
- **Method:** POST
- **Input:** JSON payload specifying currentDataLocation and trainingDataLocation.
- **Output:**

```
{
  "status": "SUCCESS",
  "html_report_path": "/path/to/performance.html"
}
```

Prediction Example

Prediction Input Example

```
{
  "UN_ENC_CUST_ID": "encstyp1000129421pr",
  "Age": 45,
  "Gender": "Female",
  "City": "Jaipur",
  "State": "Rajasthan",
  "NUM_DEVICES_USED": 4,
  "HAS_CREDIT_CARD": 0,
  "HAS_DEBIT_CARD": 0,
  "ACTIVE_ACCOUNT_TYPES": 2,
  "DEVICE_PREFERENCE": "Tablet",
  "OS_PREFERENCE": "iOS",
  "Total_Campaigns_Received": 6,
  "Total_Conversions": 6,
  "Distinct_Channels_Used": 5,
  "Total_Revenue": 243070,
  "Overall_Response_Rate": 1.0,
  "Overall_Conversion_Rate": 1.0,
  "Most_Frequent_Response_Channel": "CRM",
  "Most_Frequent_Conversion_Channel": "CRM",
  "Mean_Channel_Campaigns": 1.2,
  "Max_Channel_Campaigns": 2,
  "Min_Channel_Campaigns": 1,
  "Mean_Channel_Conversion_Rate": 1.0,
  "Max_Channel_Conversion_Rate": 1.0,
  "Min_Channel_Conversion_Rate": 1.0,
```

```
  "Mean_Channel_Revenue": 48614.0,
  "Max_Channel_Revenue": 106564,
  "Min_Channel_Revenue": 4445,
  "most_engaged_hour_day": 2,
  "most_engaged_day": "Sunday",
  "time_since_last_conversion": "196 days 17:52:02.560855",
  "ATM-CP_best_time": 0,
  "CRB_best_time": 0,
  "CRM_best_time": 2,
  "Email_Deliver_best_time": 2,
  "SMS_Deliver_best_time": 18,
  "SMS_Karix_best_time": 16,
  "WhatsApp_best_time": 16,
  "ATM-CP_best_day": "Unknown",
  "CRM_best_day": "Monday",
  "Email_Deliver_best_day": "Monday",
  "SMS_Deliver_best_day": "Monday",
  "SMS_Karix_best_day": "Monday",
  "WhatsApp_best_day": "Monday",
  "Best_conversion_Channel": "CRM",
  "Best_conversion_Time": 2
}
```


Prediction Output Example


```
{
  "predicted_best_channel": "ATM-CP",
  "predicted_best_time": 2,
  "confidence_score": 0.91,
  "alternative_times": {
    "3": 0.06,
    "16": 0.01,
    "0": 0.0,
    "1": 0.0,
    "4": 0.0,
    "15": 0.0,
    "17": 0.0,
    "18": 0.0,
    "19": 0.0,
    "20": 0.0,
    "21": 0.0,
    "22": 0.0,
    "23": 0.0
  }
}
```

Chapter 4. Settings

This section allows configuring product label, setting frequency caps, and so on.

Product Label

This page talks about how to configure product labels.

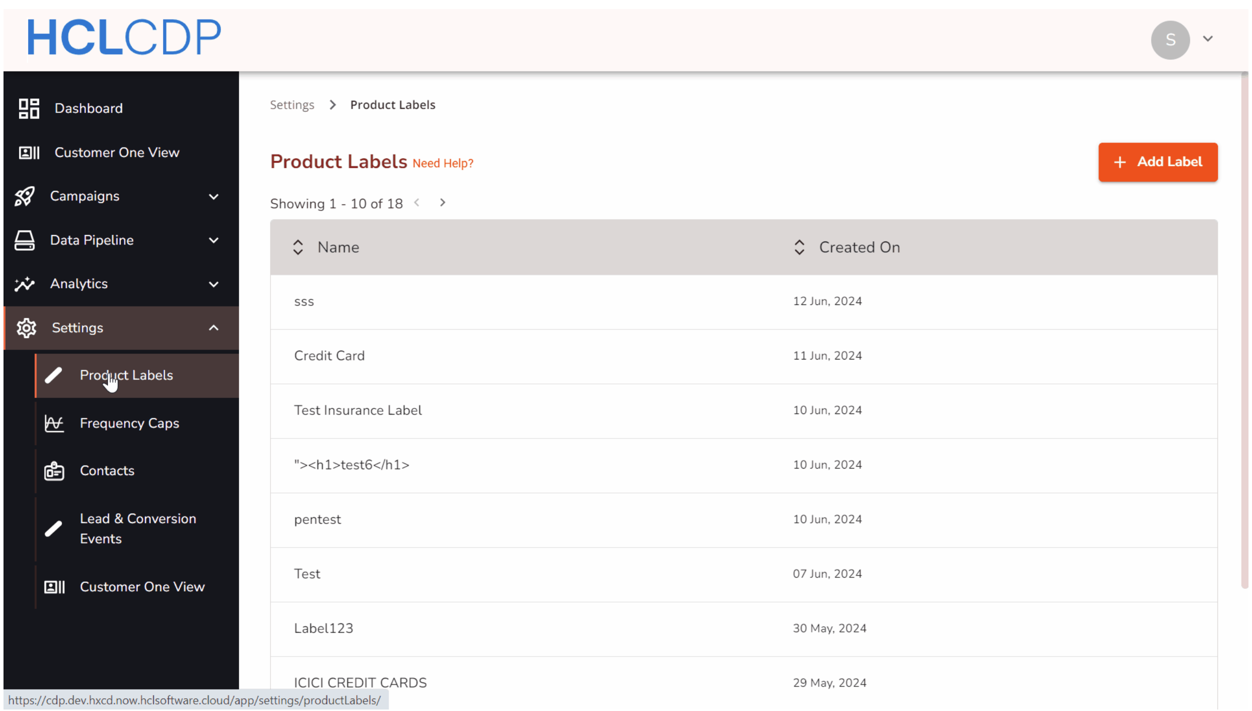
Configure **Product Labels** in settings to tag an engagement with a specific product or service.

Use cases for Product Labels

1. Assign a product label when setting up an engagement to link it to a particular product.
2. Use product labels in reporting to analyze the product's performance across segments and campaigns.

Create a Product Label

1. Navigate to **Settings > Product Labels**.
2. Select **+ Add Label** Button present on the right corner of the screen.
3. Provide the Label Name and click on **Save**.



Frequency Caps

This page explains how to configure Frequency Caps to limit user communications and prevent message overload.

Configure **Frequency Caps** in settings to control the number of communications sent to users, preventing excessive messages. When the cap is reached, further communications are halted, even if all conditions are met.

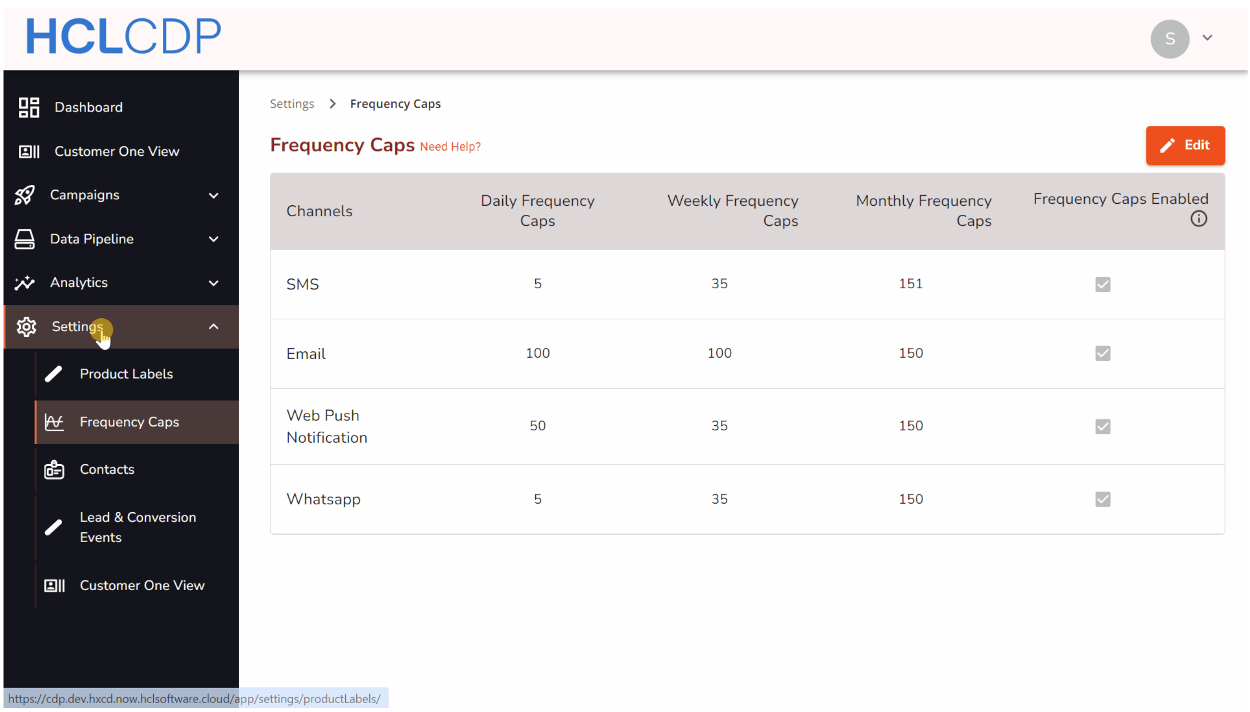
Use Case for Frequency Caps

Set frequency caps for each channel to limit the number of communications per campaign. In settings, you can also set global-level frequency caps for each channel.

Add Global Level Frequency Caps

1. Navigate to **Settings > Frequency Caps**.
2. Click **Edit**.
3. Define the frequency cap for every channel globally and click on **Save**.

Figure 2. *Frequency caps*



For more details on Frequency Caps, refer to this guide on page 21.

Contacts

This page explains how to configure contacts.

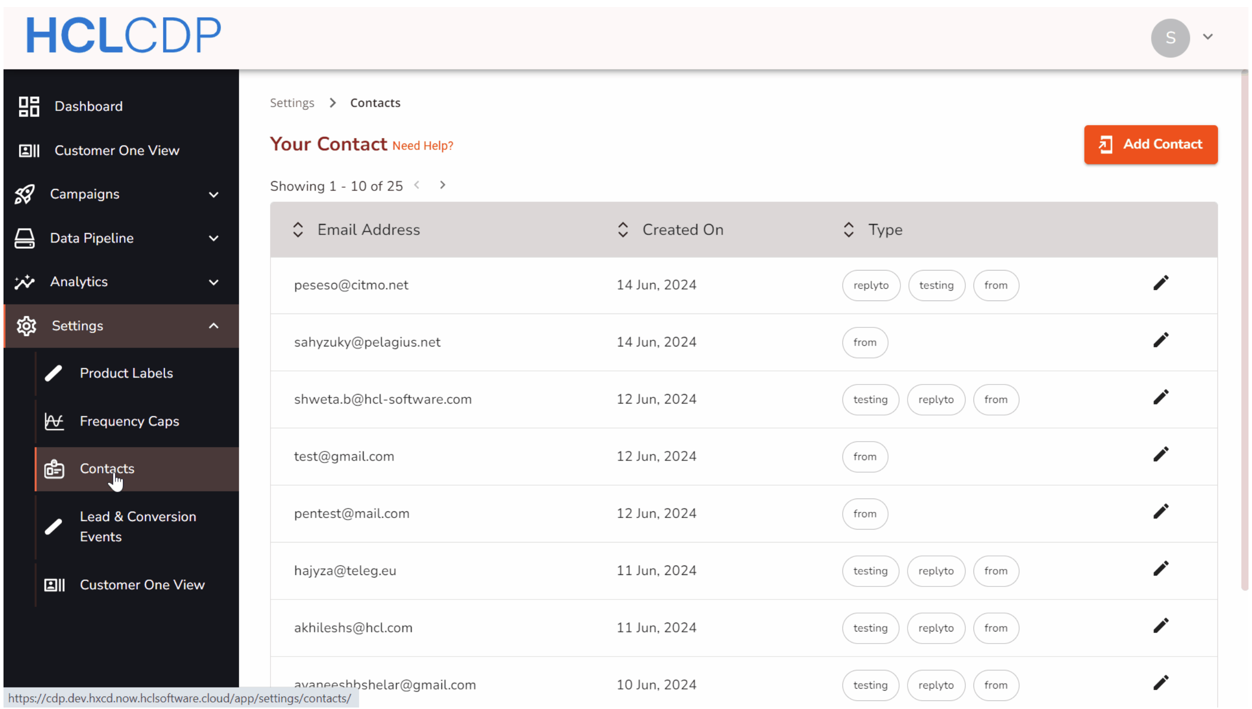
Configuring contacts in settings allows you to add **Name** and **Email Address** details for communication and engagement purposes.

Use Case for Contacts

Add contacts to use as the From, Reply-To, or test emails when sending email communications.

Add a Contact

1. Navigate to **Settings > Contacts**.
2. Click on **Add Contact**.
3. In the given placeholders enter **Name** and **Email Address** .
4. Click on the purpose of the Contact.
5. Select **Add Contact**.



Purpose of Contacts

- **From:** Selecting the **From** checkbox enables this email address to appear in the dropdown of field *From* when setting up an email engagement.
- **Reply-To:** Selecting the **Reply-To** checkbox enables this email address to appear in the dropdown of field*Reply-To* during email engagement setup.
- **Testing:** Selecting the **Testing** checkbox allows this email address to be used for sending test emails.

For more details on how these contacts are used in email engagement setup, follow this guide on page 74.