oduct is in a pre-release state and might change or have limited support. For more information, see the product laun
s (/products/#product-launch-stages).

This page describes how to import, view, update, and delete user events. For information about recording user events as they happen, see Recording user events (/recommendations-ai/docs/record-events).

When you want to create a new model, or recommendation, that model requires sufficient user event data for training. The amount of data required for training depends on the recommendation type (/recommendations-ai/docs/placements) and the optimization objective (/recommendations-ai/docs/placements#opt-obj). It can take a considerable amount of time to collect sufficient user event data; you can accelerate this process by importing user event data from past events. You can import your user events from Cloud Storage, or insert your data inline in your request.

See User event data requirements (/recommendations-ai/docs/placements#import-reqs) for the required amount of training data.

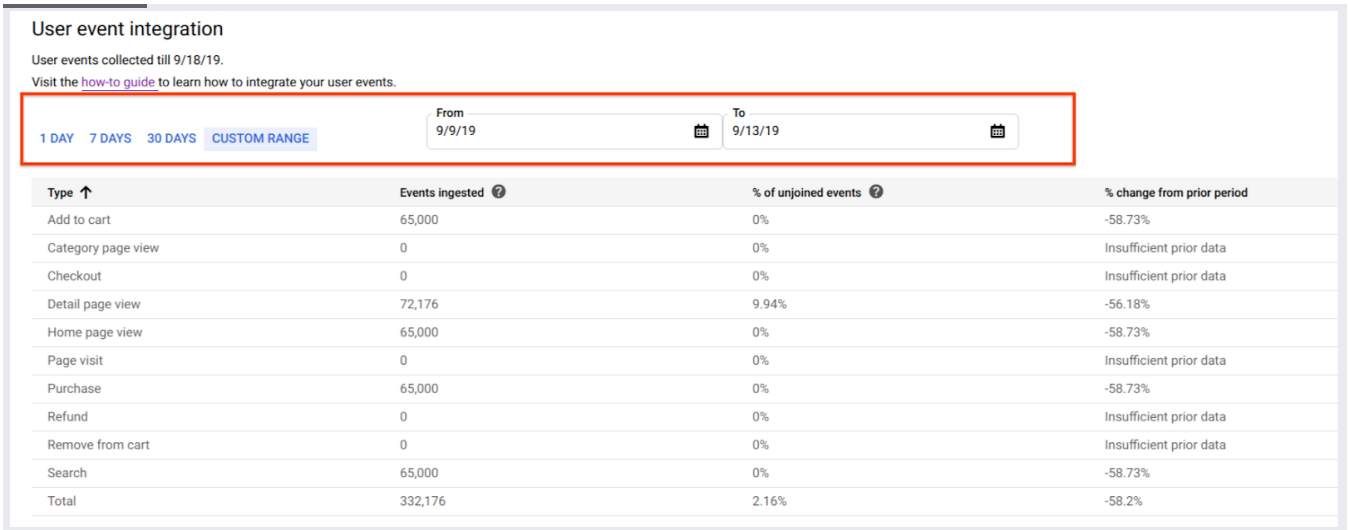
In addition, review the best practices for recording user events (/recommendations-ai/docs/record-events#bps).

To import user events from Cloud Storage, you create a file containing JSON data. Your JSON file should follow the formats shown in User events (/recommendations-ai/docs/user-events), depending on the user event type. Do not include the line breaks; provide an entire user event on a single line. Each user event should be on its own line.

You can list user events that you have previously recorded. You use a filter string (#filter) to specify which user events you want returned.

Generally, you should leave user events in place after they have been recorded. However, if you have user events that were not recorded properly, speak with your Recommendations AI contact about getting them removed. You cannot perform this operation yourself.

You can view the number of recorded user events for your project in the **DATAFEED** tab of the Recommendations AI Console (https://console.cloud.google.com/recommendation). Metrics will appear about 24 hours after you first upload events to Recommendations AI.



Type	Events ingested	% of unjoined events	% change from prior period
Add to cart	65,000	0%	-58.73%
Category page view	0	0%	Insufficient prior data
Checkout	0	0%	Insufficient prior data
Detail page view	72,176	9.94%	-56.18%
Home page view	65,000	0%	-58.73%
Page visit	0	0%	Insufficient prior data
Purchase	65,000	0%	-58.73%
Refund	0	0%	Insufficient prior data
Remove from cart	0	0%	Insufficient prior data
Search	65,000	0%	-58.73%
Total	332,176	2.16%	-58.2%

You can filter the results for listing user events.

The filter is a string that contains one or more of the following restrictions:

- ***eventTime***

  Provides a timestamp to bound the events listed or deleted. This filter can be specified once or twice, with a greater-than (>) or less-than (<) symbol. The bounded time must be a single, contiguous block.

- ***eventType***

  Restrict the events listed or deleted to a single event type.

- ***eventsMissingCatalogItems***

  By default, only events for which a catalog item was found are listed or deleted. If you specify this flag, only events for which a catalog item was *not* found are listed or deleted.

Only items that satisfy all of the restrictions are listed or deleted.

To list all user events of type `add-to-cart` that were logged on or after February 1, 2019, you would provide the following filter string:

To list all user events with catalog items that are not found in the catalog (unjoined events), you would provide the following filter string: