B2B - Einstein Recommendations & Activity Tracking

Integration/Customization Name	Einstein Integration
Description <i>l</i> Requirements Abstract	This integration will be used to retrieve product recommendations & trigger Einstein
Status	COMPLETE
Source Code	↑ https://github.com/rajapatnaik/Einstein-salesforceb2b-lightning Connect your Github account
External References	Commerce Einstein https://help.salesforce.com/s/articleView?id=sf.comm_commerce_einstein.htm&type=5 Create Commerce Einstein Recommendations Components https://developer.salesforce.com/docs/commerce/salesforce-commerce/guide/b2b-b2c-comm-create-einstein-rec-comps.html
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Component Overview

This document provides details about a LWC custom component created by R1 for B2B web stores to

- 1. Configure Einstein Recommenders in Experience Builder
- 2. Display Einstein Product Recommendations on Storefront
- 3. Trigger Einstein Activities

Note: This LWC component is only for B2B sites (for D2C sites, there is OOTB component available).

All the following sub sections come under "Einstein Overview", moreover provide generic info which is important to know to setup prerequisites required for custom component to work properly.

Einstein Overview

Commerce Einstein provides Al-powered merchandising tools to enhance the shopper experience.

After you enable Commerce Einstein, you can turn on storefront activity tracking, and configure Einstein recommendations for your store

FEATURES	DESCRIPTION
Storefront activity tracking	Enables Commerce Einstein to gather client- and server-side customer activity on your storefront. Commerce Einstein uses these metrics as real-time input for personalizing the shopper experience. You can opt out of storefront activity tracking for each store.
Einstein recommendations	Personalizes the B2B/D2C shopping experience by automating product discovery on your storefront.

Use Cases - Commerce Einstein Recommendations

Following is list of recommendations based on the most-common and top-performing use cases across Commerce Cloud.

PAGE	HEADER TEXT	ANCHOR	USE CASE
Home	Top Sellers	No Anchor	Top Selling
	Recommendations for You	No Anchor	Personalized for Shopper
Cart	Customers Also Bought	Products in Cart	Upsell
Category	Top Selling in Category	Category Viewed	Top Selling by Category
	Most Viewed in Category	Category Viewed	Most Viewed by Category
Profile	Recently Viewed	No Anchor	Recently Viewed
Product	Similar Products	Product Viewed	Similar Products
	Complementary Products	Product Viewed	Complementary Products
Search	Recommendations for You	No Anchor	Personalized by Shopper

Setup - Enable Commerce Einstein

Enable Commerce Einstein so that merchandisers can turn on storefront activity tracking and configure Einstein recommendations.

Commerce Einstein deployment can take up to 24 hours to complete.

Prerequisites

Before you enable Commerce Einstein:

- · Assign a catalog to your store.
- · Assign categories to your products.
- In Einstein Recommendations, activate all the products that you want to use.
- Set your organization-wide sharing value for Product object default internal access to either Public Read or Public Read/Write.

Steps to Enable

- In the navigation sidebar, select a store from the **Store** dropdown.
- Click Store Settings, and then select Commerce Einstein.
- Turn on Commerce Einstein.

ERROR TYPE	RESOLUTION
Catalog error	Confirm your store catalog assignment and product activation, and then click Reindex .
Internal error	Reprocess the data by clicking Reindex .

Reindex Commerce Einstein

Changes to your store's product catalog are automatically sent to Commerce Einstein every 7 days, but you can manually reindex after making changes.

Reindexing can take up to 24 hours to complete.

These changes require rebuilding the Commerce Einstein index before they're available to shoppers:

- · Updating products in the store's catalog
- · Changing the category hierarchy structure
- · Adding or removing categories from the category hierarchy structure
- · Updating category names
- · Adding or updating the products in an entitlement policy
- Changing the geolocation of your organization
- Removing or changing the name of a custom field on the Product2 object

Steps

- 1. In the navigation sidebar, select a store from the Store dropdown.
- 2. Click Store Settings, and then select Commerce Einstein.
- 3. In the Commerce Einstein section, click Reindex. A message appears under the status bar to indicate that the reindex process has started.

Setup - Enable Storefront Activity Tracking

Storefront activity tracking captures browser-based, real-time customer activities on your storefront, unless settings are explicitly changed by the customer. Storefront activity tracking requires a Content Security Policy (CSP) trusted site for the Commerce Einstein domain and before you turn on storefront activity tracking and semantic search, add a trusted URL for the Commerce Einstein domain.

Add a Content Security Policy (CSP) Trusted Site for the Commerce Einstein Domain

Add a trusted URL with these settings:

- 1. For URL, enter https://api.cquotient.com.
- 2. In the Content Security Policy (CSP) Settings section, for context, select All.
- 3. Select the connect-src (scripts) CSP directive.
- 4. Select the img-src (images) CSP directive.

Steps to turn-on activity tracking

- In the navigation sidebar, select a store from the **Store** dropdown.
- · Click Store, and then select Commerce Einstein.
- Turn on Commerce Einstein and Storefront Activity Tracking.

Activity Tracking - Tracked Data

Commerce Einstein uses cookies and session storage objects to store and track browser activities. It uses this information to tailor customer experiences. Some cookies are essential, and some are functional. Essential cookies are necessary for a site to work correctly and can't be disabled. Commerce Einstein uses **functional cookies** and tracked API activities to personalize shopper data.

Commerce Einstein supports third-party cookie consent banner integration (for example, **CookiePro** by **OneTrust**). Depending on how consent is configured with these third-party integrations, customers must opt in to use functional cookies to personalize the shopping experience with Commerce Einstein.

If shoppers don't have a way to opt in to use functional cookies, the site doesn't personalize the consumer experience using Commerce Einstein.

Depending on the use cases applied, Commerce Einstein can continue generating recommendations for a shopper using data from other customers that have browsed or made purchases on the site.

Commerce Einstein uses the **cqcid** cookie when tracking storefront activity.

DATA OBJECT	PARTY	COOKIE TYPE	DESCRIPTION
cqcid	First	Functional	Unique value for an unregistered buyer or shopper

Commerce Einstein uses these API requests when tracking storefront activity.

DATA OBJECT	CLIENT SIDE OR SERVER SIDE	HOW COMMERCE EINSTEIN TRACKS
viewProduct	Client	When a customer views a product page
viewReco	Client	When a recommendation appears on a page
clickReco	Client	When a customer clicks an Einstein recommendation
viewSearch	Client	When a customer views a product listing page
clickSearch	Client	Client When a customer clicks a product on the product listing page
addToCart	Client	When a customer adds a product to their cart

finishCheckout	Server	A customer's purchase at time of order
		confirmation

Component Details

Einstein APIs

Creating a custom B2B Commerce Einstein recommendations component includes implementing the **Activity Tracking API** and connecting the component

to the Commerce Einstein Webstore Recommendations Connect API resource.

Using Connect APIs ensures appropriate product entitlement filtering before recommendations are delivered.

Things to consider:

Make sure to reindex after you change associations between buyer groups and products, such as when changing entitlement policies or product-to-buyer group assignments.

Component must incorporate calls to the Activity Tracking API.

When configuring the API:

- Implement both the viewReco and clickReco activities.
- If you replace the Product Detail Purchase Options component with a custom component, implement the viewProduct activity.
- If you add custom add-to-cart functionality, implement the addToCart activity.

B2B Commerce Einstein Product Recommendations API

Calls to the Product Recommendation API deliver Einstein recommendations. The API is accessed using a Connect API to provide data to a Lightning web component.

The Commerce Einstein Recommendations Connect API resource (/commerce/webstores/{webstoreld}/ai/recommendations) returns Einstein product recommendations.

Recommender Names and Anchors

Anchor Type	Anchor Value	Fields Returned
No anchor	Any value that evaluates to false.For example: null or undefined.	RecentlyViewedTopSellingPersonalizedForShopper
Product ID	A list of one or more 18-character product IDs	 RecentlyViewed SimilarProducts ComplementaryProducts CustomersWhoBoughtAlsoBought Upsell
Category ID.	A list of one or more 18-character category IDs.	RecentlyViewedMostViewedByCategoryTopSellingByCategory

Capabilities

This component, makes a B2B application capable of

1. Dynamically creating Einstein recommenders by making them configurable

- 2. Dynamically creating Einstein activities by making them configurable
- 3. Dynamically (based on context like no context, category, product) filtering & populating Einstein recommenders in Experience Builder
- 4. Configuring Product Recommenders on various types of pages
- 5. Displaying product recommendations on various pages on storefront
- 6. Triggering storefront activities

Technical Overview

B2B - Einstein Recommendations is a custom LWC component, all the artifacts it has , divided into two parts :

- Configuration
 - Einstein Configuration
 - o Einstein Recommender
 - Einstein Activity
- Source Code
 - o Apex Classes
 - · LWC UI files

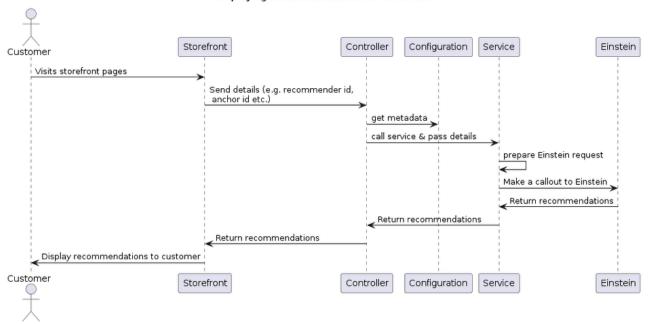
Technical Flows

Experience Builder - Displaying Recommenders

Expereince builder - Displaying recommnders Expereince Builder Dynamic Picklist Configuration Merchandiser Go to expereince builder & place the einstein custom component on pages Fetch recommenders (for configured webstore) get metadata prepare recommender list using page context Return recommender list Display recommender list Choose & set one of the recommenders Merchandiser Expereince Builder Dynamic Picklist Configuration

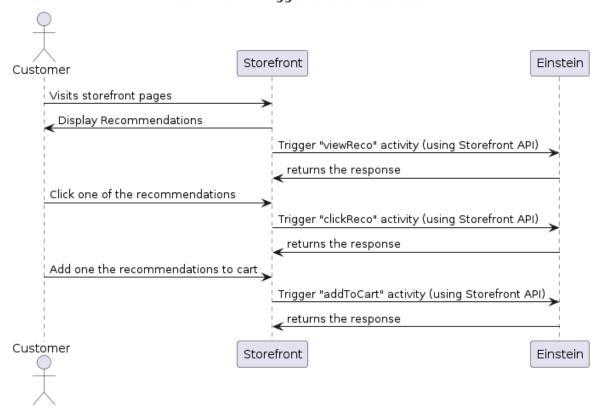
Storefront - Displaying Recommendations

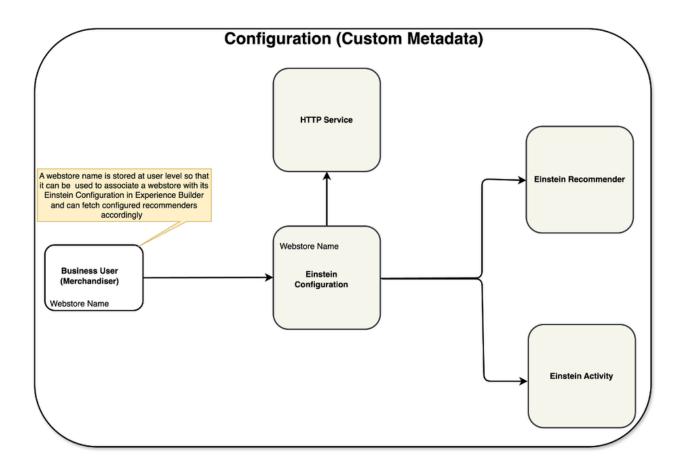
Displaying recommendations on storefront



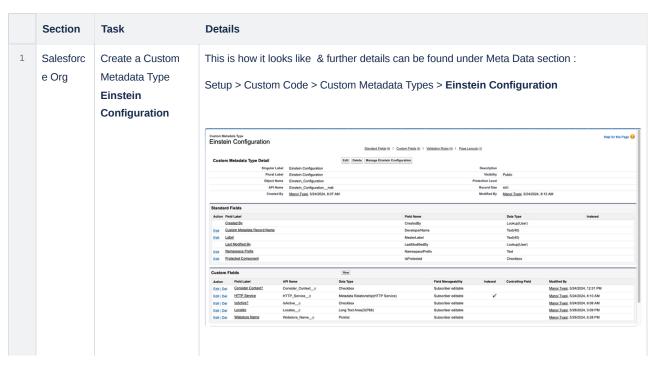
Storefront - Einstein Activities

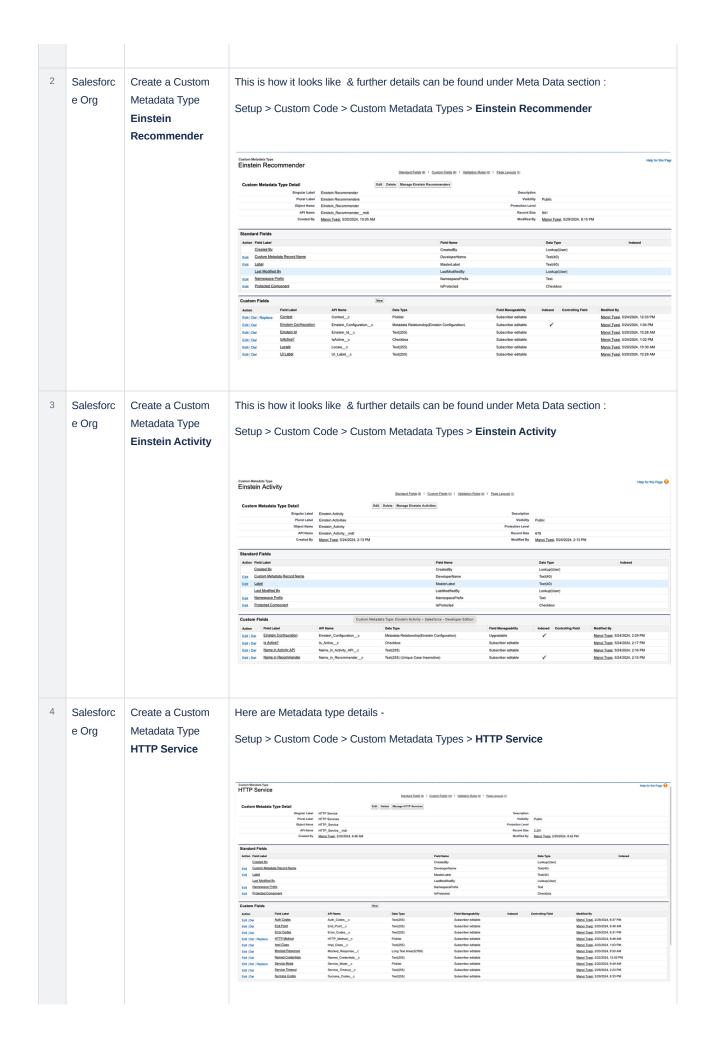
Storefront - Trigger Einstein activities





Configuration Details





Custom Metadata Type - Einstein Configuration

Field Label	API Name	Data Type	Notes
Consider Context?	Consider_Contextc	Checkbox	
HTTP Service	HTTP_Servicec	Metadata Relationship(HTTP Service)	
IsActive?	IsActivec	Checkbox	
Locales	Localesc	Long Text Area(32768)	
Webstore Name	Webstore_Namec	Picklist	

Custom Metadata Type - Einstein Recommender

Field Label	API Name	Data Type	Notes
Context	Contextc	Picklist	
Einstein Configuration	Einstein_Configurationc	Metadata Relationship(Einstein Configuration)	
Einstein Id	Einstein_Idc	Text(255)	
IsActive?	IsActivec	Checkbox	
Locale	Localec	Text(255)	
UI Label	UI_Labelc	Text(255)	

Custom Metadata Type - Einstein Activity

Field Label	API Name	Data Type	Notes
Einstein Configuration	Einstein_Configurationc	Metadata Relationship(Einstein Configuration)	
Is Active?	Is_Activec	Checkbox	
Name in Activity API	Name_in_Activity_APIc	Text(255)	
Name in Recommender	Name_in_Recommender_ _c	Text(255) (Unique Case Insensitive)	

Custom Metadata Type - HTTP Service

Field Label	API Name	Data Type
Auth Codes	Auth_Codesc	Text(255)
End Point	End_Pointc	Text(255)

Error Codes	Error_Codesc	Text(255)
HTTP Method	HTTP_Methodc	Picklist
Impl Class	Impl_Classc	Text(255)
Mocked Response	Mocked_Responsec	Long Text Area(32768)
Named Credentials	Named_Credentialsc	Text(255)
Service Mode	Service_Modec	Picklist
Service Timeout	Service_Timeoutc	Text(255)
Success Codes	Success_Codesc	Text(255)

Source Code

Class	Details	Code
R1_RecommendationsCon troller	This class as a controller has methods annotated with & called from UI	Methods: getRecommendations getCategoryRecommenders getActivities
R1_Recommender_Config uration	This class fetches custom meta data and stores in a map so that can be used further down in the execution flow	Methods : getRecommendersConfig
R1_RecommenderPickList	This class prepares recommenders list dynamically based on context passed from Experience Builder.	Methods: getValues
R1_EinsteinRecommender Service	This class prepare Einstein request to get recommendations from Einstein.	Methods : getRecommendations
HTTPService	This class is used to make a REST based external callouts, in this case calls Einstein.	As per need, you can extend this class and override following methods : createHttpRequest setRequestHeaders makeExternalCallout