



Getting Started with I/O Events for Adobe Commerce

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Overview

In this lab, you will learn how subscribe to I/O Events originating in Adobe Commerce to build event driven integrations with 3rd party systems.

Introduction to the I/O Events for Commerce

With Adobe I/O events, over 700 events originating from Adobe Commerce can be used to build event driven integrations and applications. These events cover things like updates to the product catalog, customer accounts, and order status. Events can then be used in a push mode to webhooks, runtime actions, and Amazon EventBridge, or they can be used in pull mode through a journaling API.

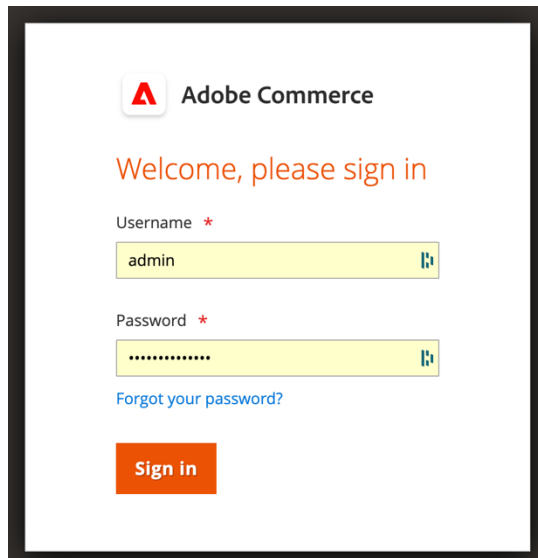
Key Takeaways

Learn how to subscribe to events and build events driven applications.

Getting familiar with the Adobe Developer App Builder and the developer console

Lesson 1 – Explore Events in Admin Console

1. Sign-in to the Adobe Commerce Admin Console –



Adobe Commerce

Welcome, please sign in

Username *

admin

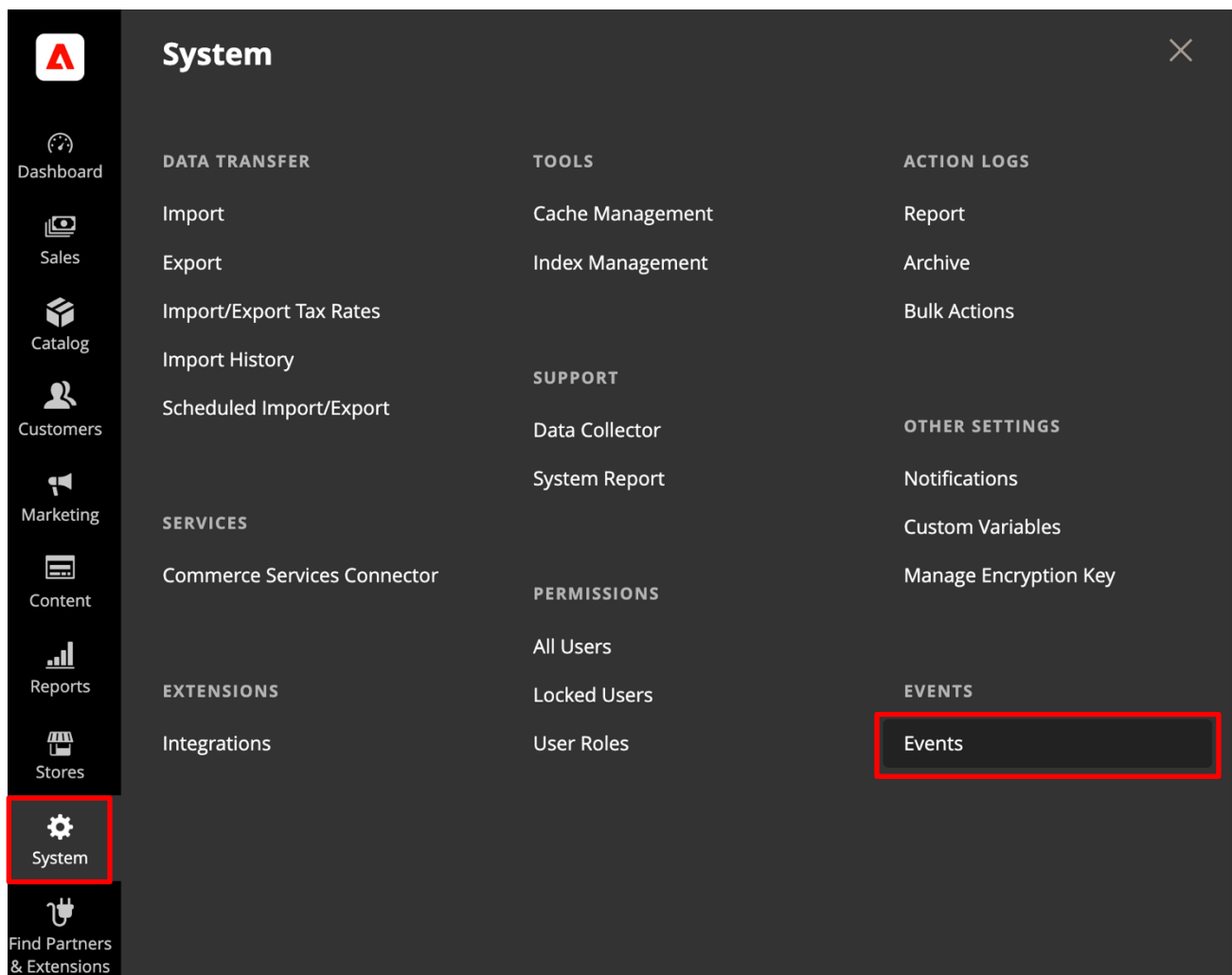
Password *

.....

[Forgot your password?](#)

Sign in

2. Navigate to System > Events.



System

Dashboard

Sales

Catalog

Customers

Marketing

Content

Reports

Stores

System

Find Partners & Extensions

DATA TRANSFER

Import

Export

Import/Export Tax Rates

Import History

Scheduled Import/Export

SERVICES

Commerce Services Connector

EXTENSIONS

Integrations

TOOLS

Cache Management

Index Management

SUPPORT

Data Collector

System Report

PERMISSIONS

All Users

Locked Users

User Roles

ACTION LOGS

Report

Archive

Bulk Actions

OTHER SETTINGS

Notifications

Custom Variables

Manage Encryption Key

EVENTS

Events

3. Explore the events available and their configurations.

Event list

Event: observer.catalog_product_save_after

MAGENTO_ADVANCEDCATALOG	▼
MAGENTO_CATALOG	▲
observer.adminhtml_catalog_category_tree_can_add_root_category	
observer.adminhtml_catalog_category_tree_can_add_sub_category	
observer.adminhtml_catalog_category_tree_is_moveable	
observer.adminhtml_catalog_product_attribute_edit_frontend_prepare_form	
observer.adminhtml_catalog_product_edit_element_types	

```

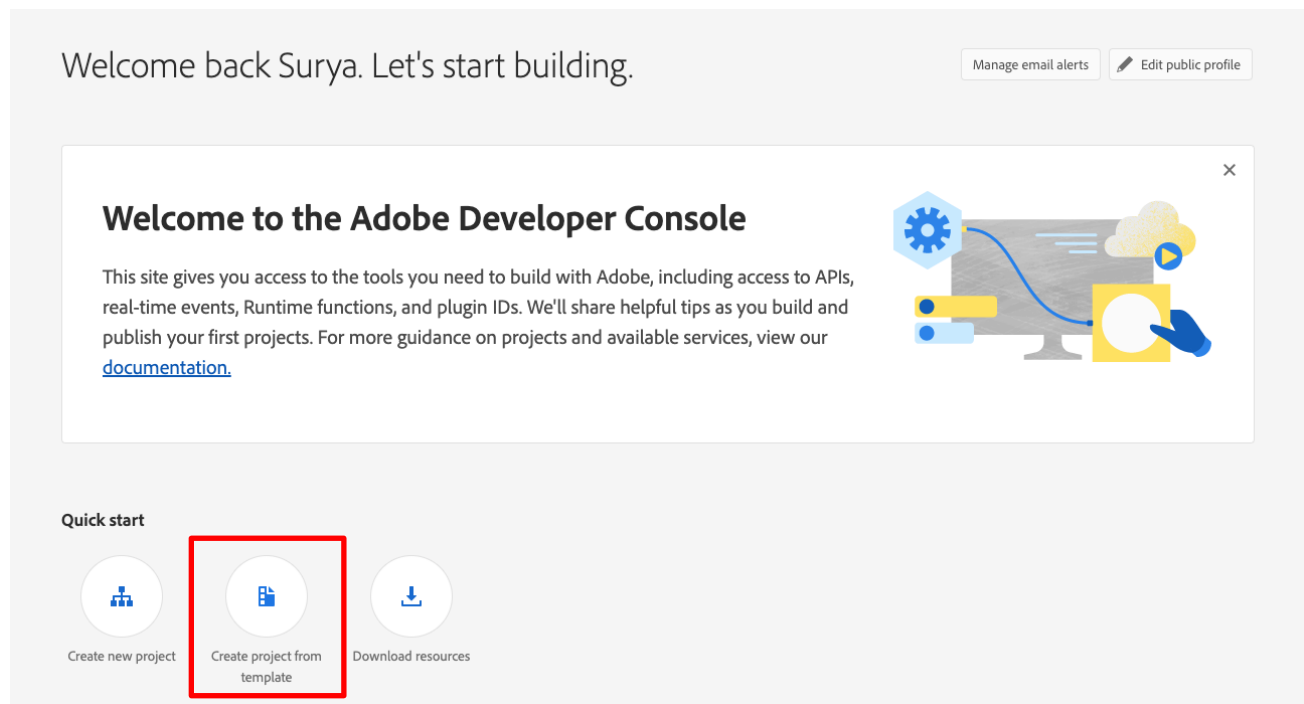
{
  "store_id": "int",
  "name": "string",
  "price": "float",
  "visibility": "int",
  "attribute_set_id": "int",
  "created_at": "string",
  "updated_at": "string",
  "type_id": "array",
  "status": "int",
  "category_id": "int",
  "category": {
    "products_position": "array",
    "store_ids": "array",
    "store_id": "int",
    "url": "string",
    "parent_category": "\\Magento\\Catalog\\Model\\Category",
    "parent_id": "int",
    "custom_design_date": "array",
    "path_ids": "array",
    "level": "int",
    "request_path": "string",
    "name": "string",
    "product_count": "int",
    "available_sort_by": "array",
    "default_sort_by": "string",
  }
}

```

Lesson 2 – Creating a project.

In this lesson you will learn how to create and configure an App Builder project

1. Sign-in to the Adobe Developer Console - <https://developer.adobe.com/console/>
2. Select "Create project from template."



Welcome back Surya. Let's start building. Manage email alerts Edit public profile

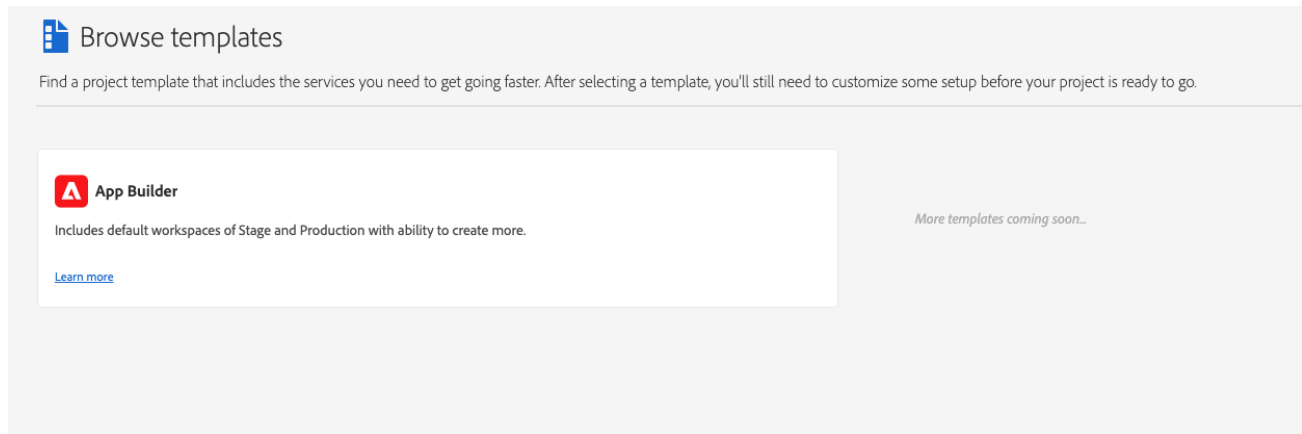
Welcome to the Adobe Developer Console

This site gives you access to the tools you need to build with Adobe, including access to APIs, real-time events, Runtime functions, and plugin IDs. We'll share helpful tips as you build and publish your first projects. For more guidance on projects and available services, view our [documentation](#).

Quick start

- Create new project
- Create project from template**
- Download resources

3. Choose the App Builder tile.



Browse templates

Find a project template that includes the services you need to get going faster. After selecting a template, you'll still need to customize some setup before your project is ready to go.

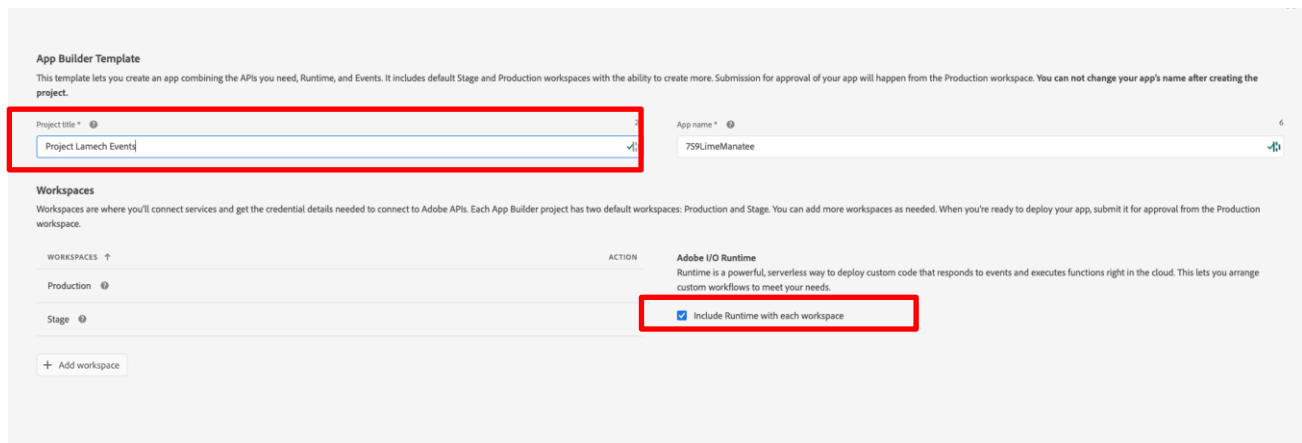
App Builder

Includes default workspaces of Stage and Production with ability to create more.

[Learn more](#)

More templates coming soon...

4. Provide a unique / meaningful name for your project. By default, there are two workspaces created that are sufficient for this exercise. Also, note that Runtime has been included for your workspace. Click save when done.



App Builder Template

This template lets you create an app combining the APIs you need, Runtime, and Events. It includes default Stage and Production workspaces with the ability to create more. Submission for approval of your app will happen from the Production workspace. You can not change your app's name after creating the project.

Project title * 5
Project Lamech Event

App name * 6
759LimeManatee

Workspaces

Workspaces are where you'll connect services and get the credential details needed to connect to Adobe APIs. Each App Builder project has two default workspaces: Production and Stage. You can add more workspaces as needed. When you're ready to deploy your app, submit it for approval from the Production workspace.

WORKSPACES ↑	ACTION
Production ⓘ	
Stage ⓘ	<input checked="" type="checkbox"/> Include Runtime with each workspace

+ Add workspace

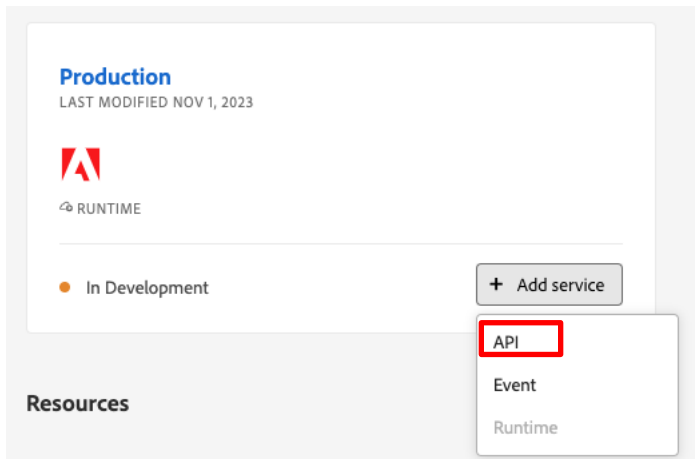
Adobe I/O Runtime

Runtime is a powerful, serverless way to deploy custom code that responds to events and executes functions right in the cloud. This lets you arrange custom workflows to meet your needs.

5. Inspect your project.

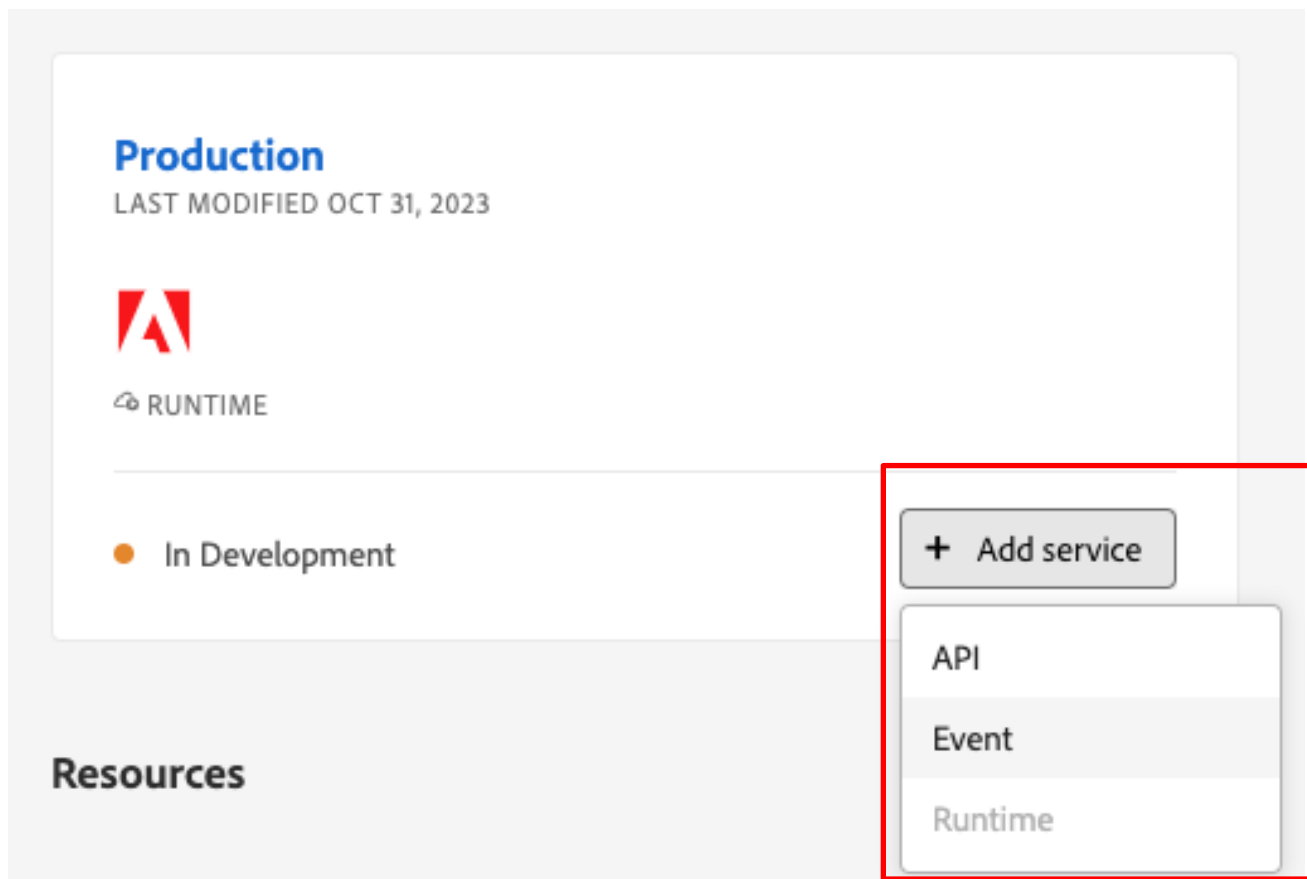
Lesson 3 – Add an event to your project

1. Select either workspace (stage or production) > Add Service > API.



2. Select and add 1 at a time.
 - a. I/O Event Management API
 - b. I/O Events
 - c. Adobe I/O Events for Adobe Commerce

3. Select same workspace as before > Add Service > Event.



4. Select Commerce Events and click Next.

Add events
Subscribe to events to get near real-time updates on content and data from Adobe services and products.

Filter by product

- Creative Cloud
- Experience Cloud
- Experience Platform

3rd Party Custom Events
A custom events provider, registered by your organization.

Adobe Express Docs
Receive notifications and respond to changes made to Adobe Express Documents.

AEM Guides Provider
AEM Guides Event Provider for Publishing Events

Asset Compute
Asset Compute Events

Commerce Events
Commerce Eventing Framework

Creative Cloud Assets
Creative Cloud Asset Events Provider

5. Select your Adobe Commerce instance << to be filled based on partner >> and click Next

Configure event registration

Event Providers

- Commerce Events**

Instances

- ASC Cloud
DX_COMMERCE_EVENTS

Choose your instance
Select the Commerce Events instance from which you want to receive notifications. In the next step, you can choose which events you'd like to receive notifications about.

SUBSCRIBE	INSTANCE ID	NAME ↑
<input type="checkbox"/>	amsfabiotwofoarfivestage	amsfabio245 stage
<input type="checkbox"/>	asc-master	ASC Cloud
<input checked="" type="checkbox"/>	asc-staging	ASC Cloud
<input type="checkbox"/>	CEXT1230-testing	CEXT_1230_provider
<input type="checkbox"/>	cloud-perf-test	cloud-perf-test
<input type="checkbox"/>	amuvitag-eventing-demo-example	L2 Eventing Demo
<input type="checkbox"/>	avk3ee6pe36v4-test	My_server_provider
<input type="checkbox"/>	bauqcebookhpw_master	My_server_provider_marketplace_test
<input type="checkbox"/>	bauqcebookhpw_test	My_server_provider_testing
<input type="checkbox"/>	azimuth_3eetbdrya3boi	Zuora_stg_master

< 1 of 8 pages >

6. Select the event **Observer event catalog_product_save_after**

Configure event registration

- Event Providers
 - Commerce Events
- Instances
 - ASC Cloud
 - DX_COMMERCE_EVENTS
- Subscribed Events
 - Observer event catalog_product_save_after
 - ASC CLOUD

Choose event subscriptions

Select which events you'd like to receive notifications about from your chosen event providers. In the next steps, you can decide how to receive these, how to create multiple events registrations, and more.

SUBSCRIBE	NAME	PROVIDER	INSTANCE	DESCRIPTION
<input type="checkbox"/>	Observer event adminhtml_cust...	Commerce Events	ASC Cloud	Observer event adminhtml_customer_save_after
<input checked="" type="checkbox"/>	Observer event catalog_product...	Commerce Events	ASC Cloud	Observer event catalog_product_save_after
<input type="checkbox"/>	Observer event customer_save_...	Commerce Events	ASC Cloud	Observer event customer_save_after

7. Select OAuth Server-to-Server authentication type


Choose type of authentication you need

Server-to-Server authentication allows your application to call Adobe services on behalf of the application or your enterprise organization. User authentication

SERVER-TO-SERVER AUTHENTICATION

OAuth Server-to-Server

This credential allows you to use industry standard OAuth2.0 libraries to generate access tokens using the OAuth 2.0 client credentials grant type. [Learn more](#)


[OAUTH2.0 CLIENT CREDENTIALS](#) 

SERVER-TO-SERVER AUTHENTICATION DEPRECATED

Service Account (JWT)

This credential involves creating a JSON Web Token (JWT) and exchanging that JWT for an access token. [Learn more](#)

Credential name *

Credential in Project Lamech Events - Production 

Name your credential to identify it easily on the Admin Console under *Users > API Credentials*. The credential name must be unique to your organization. You can modify it later on the credential details screen.

8. Enter a meaningful name for your Event and click Save configured events.

Configure event registration

- Event Providers
 - Commerce Events
- Instances
 - ASC Cloud
 - DX_COMMERCE_EVENTS
- Subscribed Events
- Credentials
- Event registration details

Event registration details

Add a custom name and description to help differentiate this event registration from others in the project. After the registration is saved, it will have an auto-generated Journaling URL. You also have the option to add a webhook URL or Runtime action to receive notifications about events.

Event registration name * Product Save Event Surya

Event registration description Describe what this event registration is about to help differentiate it from others

How to receive events

Journaling
 Adobe's Journaling API collects all events for a specific time period. A unique endpoint will be generated after this registration is saved. [Learn more](#)

Add an optional way to receive events
 After the registration is saved, it will have an auto-generated Journaling URL. You also have the option to add a webhook URL or Runtime action to receive notifications about events.

9. Update an attribute on a product in your Adobe Commerce catalog and save.

Enable Product Yes

Attribute Set: Default

Product Name: Nike Air Max 90 Futura

SKU: D0821-100

Price: \$ 161.00

Tax Class: Taxable Goods

Quantity: 10000

Stock Status: In Stock

Weight: 1 lbs

Categories: Default Category

Visibility: Catalog, Search

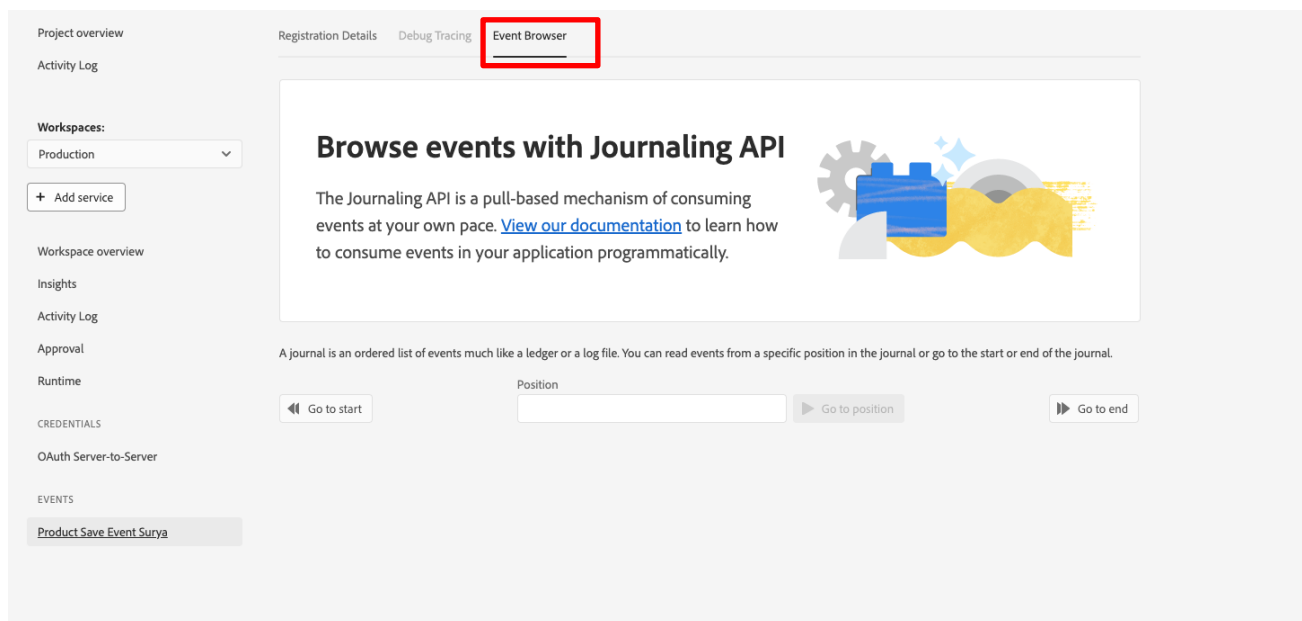
Set Product as New: No

Country of Manufacture: United States

Enable RMA: No Use Config Settings

configurable variations: option 1

10. Navigate back to your configure event in the Developer Console and inspect the event browser. Click "Go to start" to see the events



Project overview | Registration Details | Debug Tracing | **Event Browser**

Activity Log

Workspaces: Production

Workspace overview

Insights

Activity Log

Approval

Runtime

CREDENTIALS

OAuth Server-to-Server

EVENTS

Product Save Event Surya

Browse events with Journaling API

The Journaling API is a pull-based mechanism of consuming events at your own pace. [View our documentation](#) to learn how to consume events in your application programmatically.

A journal is an ordered list of events much like a ledger or a log file. You can read events from a specific position in the journal or go to the start or end of the journal.

Position:

Go to start | Go to position | Go to end

Lesson 4 – Retrieving Events using the Journaling API

1. Open Postman or similar API client
2. Retrieve the necessary parameters from your event –



3. API Endpoint – Navigate to your event and select Registration Details. Copy the "Journaling Unique Endpoint"

adobe-james-delorey's projects > Lamech Avengers > Stage > **Product Save Event** Edit Events Registration

Project overview
Activity Log
Workspaces: Stage
+ Add service
Workspace overview
Insights
Activity Log
Runtime
CREDENTIALS
OAuth Server-to-Server
APIS

Registration Details Debug Tracing Event Browser

EVENT REGISTRATION DESCRIPTION
No description

Event Delivery Method

JOURNALING UNIQUE API ENDPOINT
<https://events-va6.adobe.io/events/organizations/283976/integration> Copy

Event Providers + Add event providers

Commerce events avengers

Subscribed Events

EVENT NAME ↓	EVENT PROVIDER
Observer event catalog_product_save_after	Commerce events avengers

< 1 of 1 pages >

4. Navigate to OAuth Server-to-Server in the left nav and copy the Client ID & Organization ID

OAuth Server-to-Server

APIS

- I/O Management API
- I/O Events
- Adobe I/O Events for Adobe Commerce

EVENTS

- oshmyheliuk test product
- Product Save Event
- Test event1

CLIENT ID
c2d [REDACTED] Copy

CLIENT SECRET
Retrieve client secret

SCOPES
AdobeID, openid, read_organizations, additional_info.projectedProductContext, additional_info.roles, adobeio_api, read_client_secret, manage_client_secrets, event_receiver_api
[View scopes per service](#) Copy

CREDENTIAL NAME
Credential in Lamech Infosys - Stage Copy

TECHNICAL ACCOUNT ID
9988 [REDACTED] Copy

TECHNICAL ACCOUNT EMAIL
117ed [REDACTED] Copy

ORGANIZATION ID
0809 [REDACTED] Copy

5. On the same page, click on Generate access token and copy the token

adobe-james-delorey's projects > Lamech Avengers > Stage > OAuth Server-to-Server [Documentation](#) [Download JS](#)

Project overview
Activity Log

Workspaces:
Stage

+ Add service

Workspace overview
Insights
Runtime

CREDENTIALS

Credential details **Scopes**

LAST ACCESS TOKEN GENERATED AT

Oct 31, 2023 5:28 PM EDT

Generate access token

Generate an access token for quick experimentation, or view the cURL command to learn how to generate access tokens programmatically. [Learn more](#)

Generate access token View cURL command

6. Add these values to your postman headers

Key	Value	Bulk Edit
<input checked="" type="checkbox"/> x-ims-org-id	080936685/...	
<input checked="" type="checkbox"/> x-api-key	c2df99630c/...	
<input checked="" type="checkbox"/> Authorization	Bearer eyJhbGciOiJSUzI1NiIsIng1dSI6Imltc19uYTEta2V5LWF0LFEuY2Vyli...	
Key	Value	

Journaling Unique Endpoint = the URL field

x-ims-org-id = Organization ID

x-api-key = Client ID

Authorization = "Bearer " + access token

7. Send the request to get the first batch of events in JSON


```

slamech-macOS:commerce-io-slack slamech$ aio console project select
? Select Project: Adobe Commerce Events Slack
Project selected 976TurquoiseAardwolf
You are currently in:
1. Org: Adobe Commerce Extensibility
2. Project: 976TurquoiseAardwolf
3. Workspace: <no workspace selected>
slamech-macOS:commerce-io-slack slamech$ aio console workspace select
? Select Workspace: Stage
Workspace selected Stage
You are currently in:
1. Org: Adobe Commerce Extensibility
2. Project: 976TurquoiseAardwolf
3. Workspace: Stage

```

3. Initialize your app in your cli

- aio app init
- Select org and project
- Select "all templates"
- Select "@adobe/commerce-events-ext-tpl *"

```

? Select Org: Adobe Commerce Extensibility
? Select a Project, or press + to create new: Adobe Commerce Events Slack
? What templates do you want to search for? All Templates
✓ Downloaded the list of templates
? Choose the template(s) to install:
Pressing <enter> without selection will skip templates and install a standalone application.

```

	Template	Description	Extension Point	Categories
<input type="radio"/>	@adobe/generator-app-events-generic *	Adds event registrations and a generic action	N/A	action, events
<input type="radio"/>	@adobe/aem-cf-editor-ui-ext-tpl *	Extensibility template for AEM Content Fragment Editor	aem/cf-editor/1	action, ui
<input checked="" type="radio"/>	@adobe/commerce-events-ext-tpl *	Extensibility template for handling Commerce events	N/A	action, events
<input type="radio"/>	@adobe/generator-app-aem-react *	Template for AEM React SPA based on WKND content.	N/A	ui
<input type="radio"/>	@adobe/aem-cf-admin-ui-ext-tpl *	Extensibility template for AEM Content Fragment Admin Console	aem/cf-console-admin/1	action, ui

- Provide a name for the sample action
- Provide a name for the "Adobe I/O Events" action

```

? Which Adobe I/O App features do you want to enable for this project?
Select components to include Actions: Deploy Runtime actions, Events: Publish to Adobe I/O Events, Web Assets: Deploy hosted static assets
? Which type of sample actions do you want to create?
Select type of actions to generate Generic
? Which type of UI do you want to add to your project?
select template to generate React Spectrum 3
? We are about to create a new sample action that showcases how to access an external API.
How would you like to name this action? sample-action
? We are about to create a new sample action that creates messages in cloud events format and publishes to Adobe I/O Events.
How would you like to name this action? slack-events
force package.json
create app.config.yaml
create actions/sample-action/index.js

```

4. Update the action to send events to a slack channel

- Under your project folder, navigate to actions/<<Adobe IO Events action folder>>
- Open index.js
- Replace all the code in this file with the code here – <https://gist.github.com/suryalamech/11bab924746f1b8072810c3ffi987c48>
- Update line 47 <<YOUR SLACK CHANNEL> with the name of your destination Slack Channel
- Update line 53 <<YOUR SLACK WEBHOOK>> with Slack webhook URL

5. Navigate back to your project folder and Deploy your app

- aio app deploy

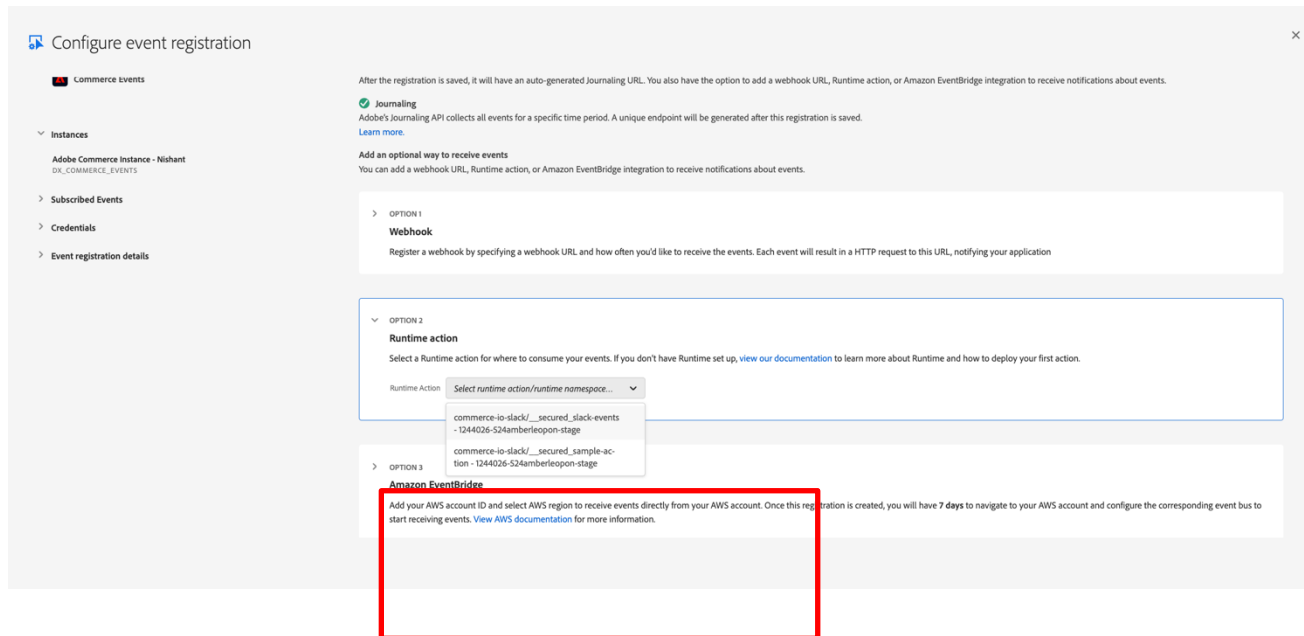
```

slamech-macOS:commerce-io-slack slamech$ aio app deploy
✓ Built 2 action(s) for 'application'
✓ Building web assets for 'application'
✓ Deployed 4 action(s) for 'application'
✓ Deploying web assets for 'application'
Your deployed actions:
web actions:
-> https://1244026-976turquoiseardwolf-stage.adobeio-static.net/api/v1/web/commerce-io-slack/sample-action
-> https://1244026-976turquoiseardwolf-stage.adobeio-static.net/api/v1/web/commerce-io-slack/slack-events
non-web actions:
-> commerce-io-slack/__secured_sample-action
-> commerce-io-slack/__secured_slack-events
To view your deployed application:
-> https://1244026-976turquoiseardwolf-stage.adobeio-static.net/index.html
To view your deployed application in the Experience Cloud shell:
-> https://experience.adobe.com/?devMode=true#/custom-apps/?localDevUrl=https://1244026-976turquoiseardwolf-stage.adobeio-static.net/index.html
skipping publish phase...
Successful deployment 🎉

```

6. Create Event Registration

- Follow steps from Lesson 3
- At step 8, after providing a unique name, select Option 2 Runtime Action
- Select the Events Action and Save



Configure event registration

Commerce Events

Instances

Adobe Commerce Instance - Nishant
DX_COMMERCE_EVENTS

Subscribed Events

Credentials

Event registration details

After the registration is saved, it will have an auto-generated Journaling URL. You also have the option to add a webhook URL, Runtime action, or Amazon EventBridge integration to receive notifications about events.

Journaling
Adobe's Journaling API collects all events for a specific time period. A unique endpoint will be generated after this registration is saved.
[Learn more](#)

Add an optional way to receive events
You can add a webhook URL, Runtime action, or Amazon EventBridge integration to receive notifications about events.

OPTION 1
Webhook
Register a webhook by specifying a webhook URL and how often you'd like to receive the events. Each event will result in a HTTP request to this URL, notifying your application

OPTION 2
Runtime action
Select a Runtime action for where to consume your events. If you don't have Runtime set up, [view our documentation](#) to learn more about Runtime and how to deploy your first action.

Runtime Action: Select runtime action/runtime namespace...
commerce-io-slack/___secured_slack-events-1244026-524amberleopon-stage
commerce-io-slack/___secured_sample-action-1244026-524amberleopon-stage

OPTION 3
Amazon EventBridge
Add your AWS account ID and select AWS region to receive events directly from your AWS account. Once this registration is created, you will have **7 days** to navigate to your AWS account and configure the corresponding event bus to start receiving events. [View AWS documentation](#) for more information.

7. Update a product in the Adobe Commerce product catalog
8. Verify slack channel for event data