

Amazon Personalize for Magento 2: Installation & Configuration Instructions



There are five steps to installing and configuring Amazon Personalize on your Magento 2 site.

- 1. Install the extension on your site.
- 2. Authorize the extension to access your AWS account.
- 3. Configure the extension in your Magento admin area.
- 4. Allow the system to train and learn based on your historical data.
- 5. Add the Amazon Personalize widget to additional pages via the CMS.

Introduction: How the extension works

The Amazon Personalize extension Magento 2 sites to leverage Amazon Personalize for real-time personalization and recommendations.



Background:

How it Works:

The extension allows a merchant to be able to leverage Amazon's 20+ years of machine learning systems, and use their algorithms to power a Magento store's product recommendations. All data is self-contained and is not commingled with Amazon in any other way.

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- Product Recommendations:
 - Users to the site will see personalized product recommendations.
 - Recommendations are based on how other users interact and purchase products.

Historical Data:

- Products viewed, catalog items, customer purchasing behavior is extracted from the Magento database.
- The data is uploaded to an Al-training system to train a machine learning training solution for the data.

Real Time Event Tracking:

- Any time an anonymous or logged in user views a product page, adds an item to the cart or purchases an item, this event is sent to the AI training solution.
- The real-time event tracking data allows the machine learning solution to continuously train and learn from customers on the site.
- No edits need to be done to design files.



We also suggest...

5353 Manhattan Circle, Suite 103 Boulder, Colorado 80303



Magento Widget:

- We've created an easy to use widget that allows an admin user to be able to place the recommended products onto CMS pages or in static blocks, directly via the Magento admin.
- By default, the AI-powered recommended products are added to the product page.
- The recommended products area will load asynchronously, so that page load time will not be impacted.

A-B Split Testing:

- We've built an A-B split testing system directly into the extension.
- You can have the system display recommendations 0%, 10%, 25%, 50%, 75% or 100% of the time.
- Integrates directly with Google Analytics.

Hosting Agnostic:

The system will work with Cloud, AWS and on-premise hosted sites.

- Price:
 - Free Trial for 15 days (but requires Amazon Personalize via AWS)
 - \$249 per year after free trial.
- o Requirements: Magento 2.3
- Available Now: Visit Here to download a free trial: https://www.customerparadigm.com/amazon-personalize-magento/
- Support? Contact Customer Paradigm <u>support@customerparadigm.com</u> or call 303.473.4400

Step 1: Installing the extension on your site:

Please follow these steps to install the Amazon Personalize extension on your Magento site.

We always recommend that you do this first on a test or development site prior to installing the extension on a live transactional commerce Magento site. You will need SSH access to your Magento site. You will also need the Magento cron to be set; the system will not work without cron enabled.

Step1A. (Option 1) Install using composer

This is the preferred installation method.

cd (change directory) to your website root directory.



Add the Amazon Personalize extension to your composer. json file with the following command:

composer require customerparadigm/amazon-personalize-extension": "^1.0"

Install the module with the following command:

composer install



Step1A. (Option 2)

Alternatively, you can use a zip file of the extension, and upload the files into the /app/code/CustomerParadigm/AmazonPersonalize directory on the site.

Cd (change directory) to /app/code/CustomerParadigm/AmazonPersonalize

Run the following command to install the aws sdk that is needed to run this extension:

composer update

Step 1B. Compile / Upgrade.

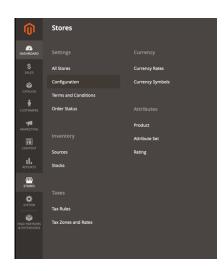
Next, you'll need to compile / upgrade the extension by running the following commands:

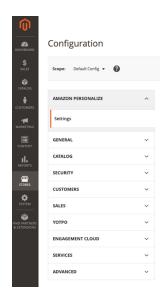
```
rm -rf pub/static/*;rm -rf var/cache/* var/page cache/*
generated/* var/di;bin/magento setup:upgrade;bin/magento
setup:di:compile;bin/magento setup:static-content:deploy -f
```

Step 1C. Check in the Magento Admin.

If this is successful, then you will see the Amazon Personalize extension in your Magento admin area under: Stores --> Configuration --> Amazon Personalize.







Please note that product recommendations will not be visible on the front end of the site until the extension is configured, trained and enabled.

Step 2. Authorize the extension to access your AWS account.



AWS Console information:

For this next section, you'll need to have an active AWS account. If you are new to AWS, you can sign up here: https://portal.aws.amazon.com/billing/signup#/start. (You'll need to add in payment information as well.)

AWS offers a free tier for many of its services, including Amazon Personalize. For the first 2 months after signing up for Amazon Personalize, you are offered up to 20GB/month in data processing & storage, up to 100 training hours/month, and up to 50 TPS-hours of real-time recommendations/month. See the Amazon Personalize <u>pricing page</u> for additional details.

Step 2A. Log into AWS console:

Log into your AWS Account here: https://console.aws.amazon.com

Step 2B. Account ID.

Next, find your AWS Account ID. This is usually found under your account name (top right of browser --> My Account

AWS account ID:

1234567890

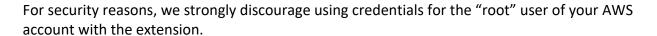
Copy this down; you'll need it during configuration in Step 3.

Step 2C. Create new user via IAM

Watch Video on YouTube >>



To use the extension, you must create an IAM User for the extension. An IAM user is a person or application under an AWS account that has permission to make API calls to AWS services.





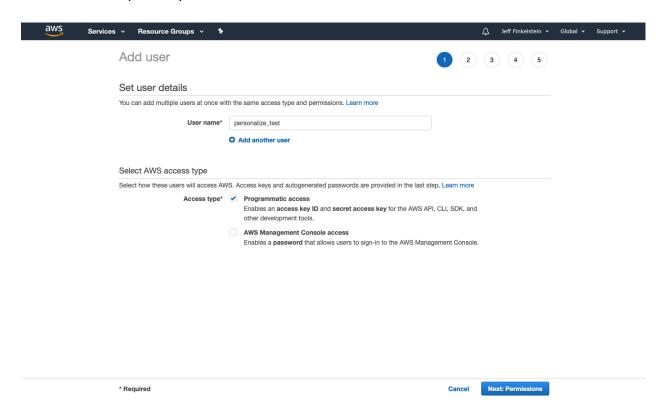
Sign in to the AWS Management Console and open the IAM console here: https://console.aws.amazon.com/iam/

This Identity and Access Management (IAM) page will allow you to create a new user.

On this case, I'll create a user name of personalize_test



I'll set the access type for programmatic access, so that the extension can make API calls to the AWS services required by the extension.



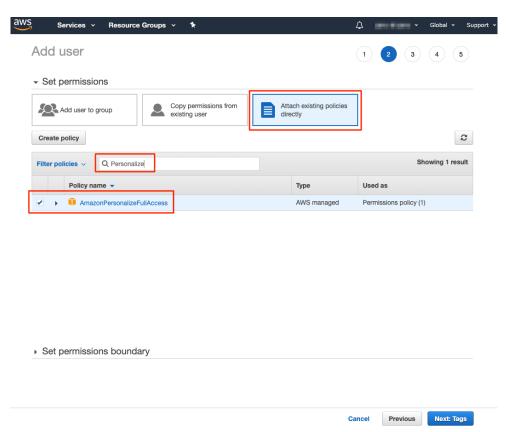
Step 2D. Add permissions to user



Second, you'll need to add the permissions to the new user to allow access to the AWS services required by the extension.

Click the "Attach existing policies directly" option below "Set permissions".

In the policy search field, enter "Personalize" to find the managed policy for Amazon Personalize.



Select the checkbox for the "AmazonPersonalizeFullAccess" managed policy.

Clear the policy search field and enter "S3".

Select the checkbox for the "AmazonS3FullAccess" managed policy.

Press the "Next: Tags" button at the bottom of the page to continue.

Step 2E. Add tags (optional)

You can add IAM tags that are user-defined key-value pairs to the user. For this demo we will not be adding tags for the user.

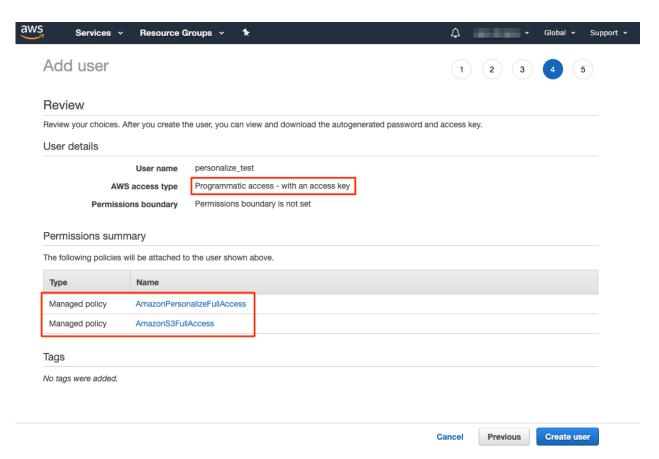
Step 2F. Review User:





On this page, you can review the user's information. Make sure that the user has programmatic access enabled and has the AmazonPersonalizeFullAccess and AmazonS3FullAccess policies attached.

Press the "Create user" button at the bottom of the page to create the user.



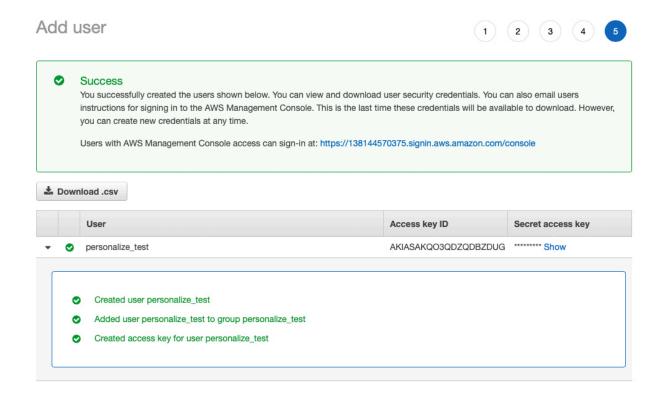
Step 2G. Add User: Success!



If you've configured everything properly, then you'll see a success page, where you have the username, access key ID and secret access key.

You can either download the CSV file with the credentials, or copy / paste the credentials to a secure area.

Please save the secret access key in a secure location – you will not be able to retrieve the secret access key once you leave this page.



Step 2H. Create personalize_full_access role

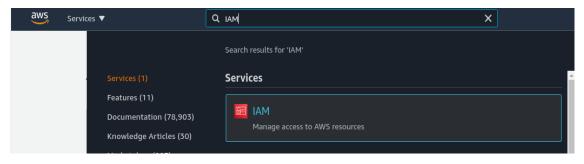
AWS Personalize needs a role that allows it to perform operations on your S3 bucket data. Let's create that now.

Go to the IAM Dashboard.

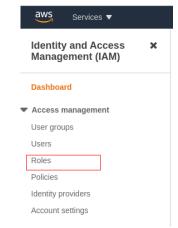








Click on 'Roles' in the left menu.



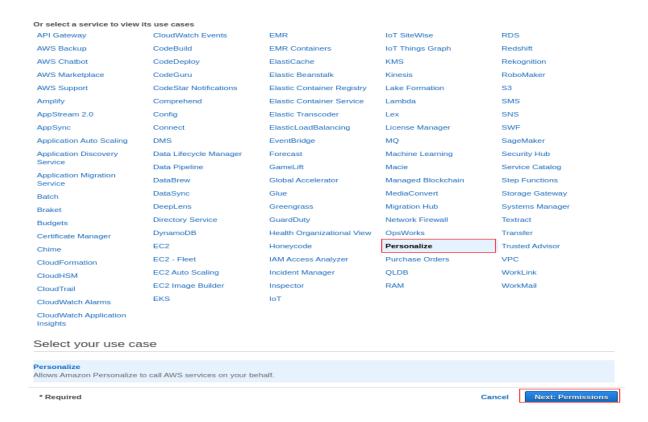
Click on the 'Create Role' button.





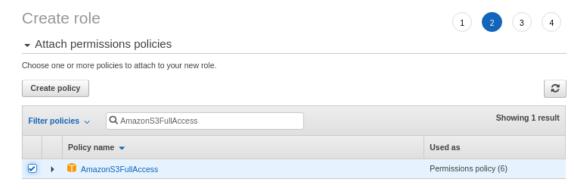
This takes you to a guided setup where you can create the role that AWS Personalize needs to access saved S3 bucket data.

Scroll to the bottom of the page, click 'Personalize' in the list of services, and then click the 'Next: Permissions' button:

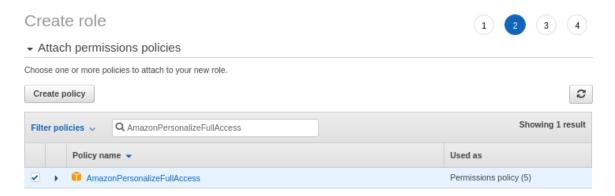


In the 'Attach Permission Policies' section, type AmazonS3FullAccess into the 'Filter Policies' search field. Check the box next to AmazonS3FullAccess in the results.





Next, type AmazonPersonalizeFullAccess into the 'Filter Policies' search field. Check the box next to AmazonPersonalizeFullAccess in the results.



At the bottom of the section page, click the 'Next: Tags' button.

The next section is the 'Add Tags' section. You don't need to do anything here. Just click 'Next:Review' at the bottom of the page.



In the Review section, type 'personalize_full_access' into the 'Role Name' field. It's important that you use this name because the module looks for this role name when creating your Personalize data.



Click the 'Create Role' button at the bottom of the page.

The role is created and ready for Amazon Personalize to create your campaign!

Step 3. Extension Configuration:

Once the extension installation process is complete, you'll be able to see the Amazon Personalize extension in your Magento admin area.

It will be under: Stores --> Configuration --> Amazon Personalize

Watch Configuration Video on YouTube >>







Step 3A. Enter Configuration Details:

On the configuration page, you will be able to add in all of the options that tie your Magento site into the Amazon Personalize system.

License Key:

This is the license key that you received for the extension. If you do not have one, please contact Customer Paradigm at keys@customerparadigm.com or visit here: https://customerparadigm.com/keys/

You can request a 15 day free trial, but if you need more time for a test or staging server, please let us know.

License Active:

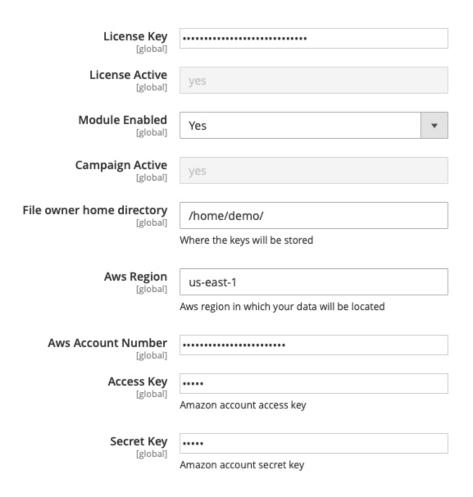
If your license is active, then this will display in the field. If the license is not activated, please add in a valid access key.

Module Enabled:

You can enable or disable the module from the admin area. This is helpful if you need to troubleshoot a site, or if you have a copy of the site on a test server. If you wish to disable it, select "No. Otherwise, set this to "Yes."

General Configuration





Campaign Active:

If your campaign is active in Amazon Personalize, you will see a "Yes". This is a read-only display; this is not something you can change to turn on or off the campaign.

File owner home directory:

Amazon's security requirements mandate that your AWS credentials not be stored in the Magento database. Instead, your keys need to be stored in a file directory outside the web root. This is usually up a level or two from where your Magento site is stored in your file system.

AWS Region:

Please enter the region code for the AWS Region where you would like the extension to access Amazon Personalize. Since Amazon Personalize may not be available in all regions, be sure to

enter a region code for a region where <u>Amazon Personalize is available</u> and that is located geographically closest to your Magento server's physical location.



AWS Account Number:

Please enter in your AWS account # (from step 2B, above)

Access Key:

This is the access key ID for the user that you created in Step 2G (above).



Secret Key:

This is the secret key ID for the user that you created in Step 2G (above).

Step 3B. Save Config.

Once the credentials have been entered, click "Save Config" at the top of the page. This will save the access information, and write the Access Key and Secret key to a file outside the web root.

Step 3C. Start Process.

Click "Start Process" to begin the process of training. Please make sure that your Magento cron is running. If it's not running, it is highly likely that the process will not move from one step to the next.

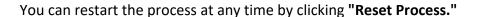
Export data and train campaign



This process will begin by:

- Exporting historical data from your Magento site into files.
- Creating a private S3 bucket in your AWS account to CSV files.
- Uploading the CSV files to the S3 bucket in your AWS account.
- Instructing Amazon Personalize to create a custom solution and campaign based on your data. The result be a private machine learning model hosted in your account.

In Progress	CSV
Create Csv FilesCreate S3 BucketUpload Csv Files	stage
Create SchemasCreate Dataset GroupCreate Datasets	
Create Import Jobs (long process)Create SolutionCreate Solution Version (long process)	will AWS
Create CampaignCreate Event Tracker	





This process will start at the beginning, and may incur additional data upload and training costs.

Step 3D. A/B Split Testing.

In order to evaluate the effectiveness of the Amazon Personalize campaign created above on your Magento store, we built in an A/B split testing system. A/B testing allows you to expose two subsets of your users to two variations of a user experience on your site and measure which variation results in the highest conversion rate.

Control is default Magento; Test is personalized recommendations from your Amazon Personalize campaign.

In order for the system to be active, please make sure that Enabled is set to "Yes."

A/B Split Testing		0	
In order to evaluate the effectiveness of the Amazon Personalize System on your Magento store, we've built in an A/B split testing system.			
Control is default Magento; Test is the A	mazon Personalize system.		
Please select from the following A/B Split test options:			
Enabled [global]	Yes	•	
Set Percentage [global]	0% Control / 100% test (Amazon Personali	•	

If enabled is set to "No" then Magento will not use the extension.

Next, select from the following A/B Split test options:

```
- 0% Control / 100% test (Amazon Personalize is used 100% of the time)
- 10% Control / 90% test (Amazon Personalize is used 90% of the time)
- 25% Control / 75% test (Amazon Personalize is used 75% of the time)
- 50% Control / 50% test (Amazon Personalize is used 50% of the time)
- 75% Control / 25% test (Amazon Personalize is used 25% of the time)
- 100% Control / 0% test (Amazon Personalize is NOT used at all)
```



Please select from the following A/B Split test options:

100% Control / 0% test (Default Magento is used 100% of the time)

75% Control / 25% test Enabled -

50% Control / 50% test (50% of users will see Amazon Personalize / 50% will see default Magento) [global]

25% Control / 75% test

10% Control / 90% test

Set Percentage [global]

10% Control / 90% test

0% Control / 100% test (Amazon Personalize is used 100% of the time)

Click "Save Config" to save the settings:

Save Config







Depending on the amount of historical data in your Magento system, this process can take a few hours to complete. Once you've completed this process the first time, you can retrain new versions of the model while continuing to use the active campaign to provide product recommendations.

In order to contain costs and create the most relevant data set for your site, we've limited historical data to the previous six months of time. (Interaction data older than six months provides less value in making relevant product recommendations.)





Step 5. Adding Widget to Site

Once the Amazon Personalize system is enabled, the system will automatigically:

- Add in a "We also suggest" list of recommended products to your product page
- Add in a Google Analytics tag for any order that was placed on the site when Amazon Personalize was active. This will use the existing Google Analytics system.
- Add in a field to the Magento database that indicates if an order was placed when Amazon Personalize was active.
- Adds in real-time data interaction indicators allowing the Amazon Personalize system to learn from users when they add a product to their cart, wishlist or complete a purchase.

Step 5a. Adding Amazon Personalize to Additional Pages.

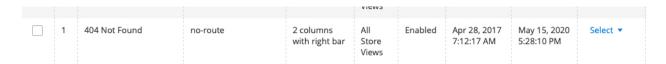
If you'd like to add the widget to a CMS page, it's quick, fast and easy.

Watch Video - Adding Widget to CMS Page >>



Go to Content --> Pages --> Select a Page

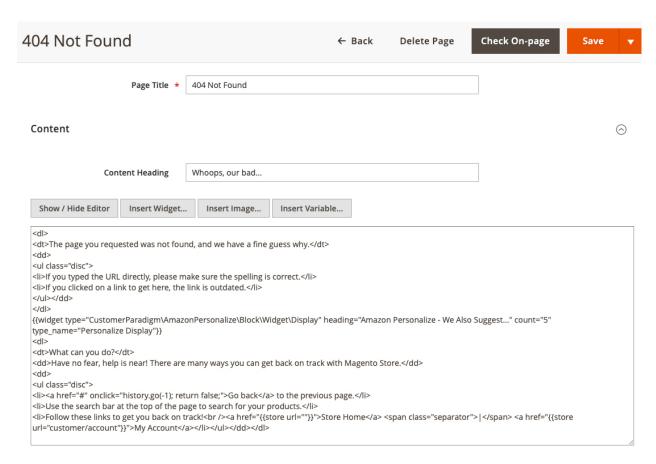
In this case, we'll add the widget to the 404 page. Because why not give users a set of personalized recommendations when they visit an error page?



Click Select --> Edit

On the next page, select Content





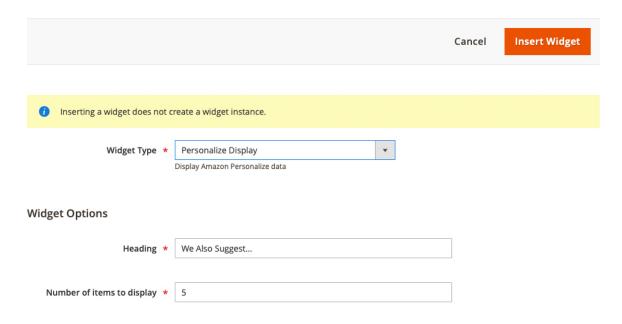
Place the mouse in the editor where you want the widget to be located

Click "Insert Widget".



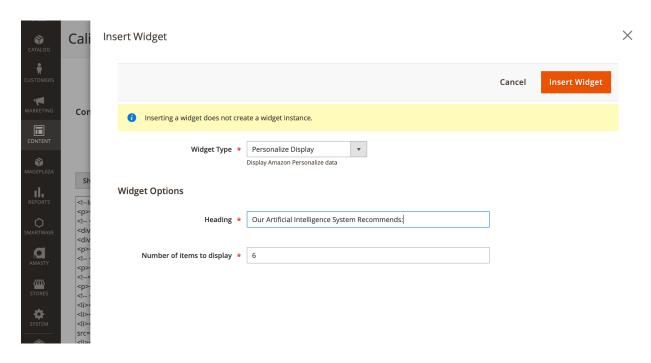
Insert Widget

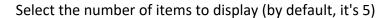




Select "Personalize Display" from the menu for Widget Type.

For the Heading, you can enter in "We Also Suggest..." Or "Other people were also interested in these products" or "Our AI overlords think you might like these products"







Click "Insert Widget"

And then "Save" the page.

This is a code snipet of the widget:

{{widget type="CustomerParadigm\AmazonPersonalize\Block\Widget\Display" heading="Our Artificial Intelligence System Recommends:" count="6"}}

You will likely need to rebuild the cache on the site

System --> Cache Management

Refresh any caches that are invalid.

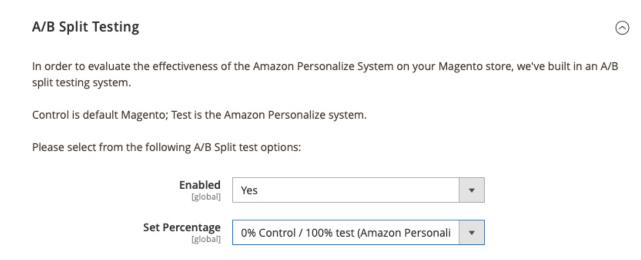
Troubleshooting



1. I've installed the extension, but it's not showing up on the site.

The most common issue is that the system has been installed, but it's not enabled.

In the A/B Split testing system, please make sure that the extension is both enabled, and that the system is set to display 100% of the time:



If you have the extension only displaying 50% of the time (50% Control / 50% test), then you may need to load the site in multiple browsers in order for you to see the personalized recommendations.

For troubleshooting and tracking purposes, the system will display a Google Analytics tag in the HTML code for each page. (Note: you must have Google Analytics installed on the site for this to work).

A search on "personalize" will bring up a GA tag that will either be "personalize" or "control."

2. Export/training process seems stuck

If the export and/or training process seems stuck, first, ensure the Magento cron is configured. Most likely you'll receive a warning in your Magento admin that the cron is not set properly.

If the cron isn't set (such as on a development site), you can manually hit the cron, and if the system is ready, it will proceed to the next step.



Export data and train campaign

In Progress

- Create Csv Files
- Create S3 Bucket
- Upload Csv Files
- Create Schemas
- Create Dataset Group
- Create Datasets
- Create Import Jobs (long process)
- Create Solution
- Create Solution Version (long process)
- Create Campaign
- Create Event Tracker

Reset Process

A spinning wheel will indicate that the system is still working on the current step.

Please note that these items can take a long time to process within the Amazon system. Sometimes in excess of 4-6 hours:

- Create Import Jobs (long process)
- Create Solution
- Create Solution Version (long process)

Finally, if you need to resest the process, press the "Reset Process" button. This will start at the beginning of the process and will export CSV files and create a new solution.

Reset Process

3. Error in CSV File File Creation:

If you see an error during the training process, error in Step Create CSV files, the most common error is that the directory is not writeable. Please ensure that the web user (www-data, for example), has the ability to create and write to a directory like this:

/var/export/amazonpersonalize/





Error in step Create Csv Files

Directory "/dev-

home/scott/public_html/installtest/var/export/amazonpersonalize"

- Create Csv Files
- Create S3 Bucket
- Upload Csv Files
- Create Schemas
- Create Dataset Group
- Create Datasets
- Create Import Jobs (long process)
- Create Solution
- Create Solution Version (long process)
- Create Campaign
- Create Event Tracker

Reset Process

4. The system worked great for a while, but now is not as helpful for end customers.

It might be time to retrain the system.

If you're adding and removing a lot of items to your catalog, but the system was trained on older products, then it's probably time to retrain.

Click on "Reset Process":

Reset Process

Note: retraining will involve additional Amazon Personalize processing costs.

5. Can I hire someone to help?

Yes, contact Customer Paradigm for project based or hourly support. If you need the system installed, configured or customized, we're here to help. Call 303.473.4400 or visit https://www.CustomerParadigm.com/