

Using App Launchpad as a Service Provider

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VMware Cloud Director App Launchpad 2.0

You can find the most up-to-date technical documentation on the VMware website at:

<https://docs.vmware.com/>

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Working with App Launchpad as a Service Provider

1

VMware Cloud Director® App Launchpad™ is a service extension for VMware Cloud Director™ that provides catalogs of deployment-ready applications for developers and DevOps engineers.

After you install and configure App Launchpad in your data center, you can access the App Launchpad user interface by using the VMware Cloud Director service provider admin portal. As a **service provider**, you can manage the access to App Launchpad at the VMware Cloud Director organization level. You can also add, remove, and edit applications, you can edit the default application deployment settings and the list of featured applications. You can manage the sizing templates for the deployment of applications.

Access App Launchpad


2

You access the App Launchpad admin portal by using the VMware Cloud Director service provider admin portal.

Prerequisites

- Verify that App Launchpad is installed and configured.
- Verify that your user profile in VMware Cloud Director has a **system administrator** role assigned.

Procedure

- 1 In a Web browser, navigate to the VMware Cloud Director service provider admin portal URL.
For example, `https://vcloud.example.com/provider`.
- 2 Log in with the **system administrator** user name and password.
- 3 From the main menu () , select **App Launchpad**.

Managing Applications

3

As a VMware Cloud Director **provider administrator**, you can add, remove, and edit applications. You can also manage the list of featured applications and the App Launchpad sizing templates.

This chapter includes the following topics:

- [Connect to VMware Marketplace](#)
- [Connect to a Helm Chart Repository](#)
- [Adding Applications to App Launchpad](#)
- [Editing Applications](#)
- [Remove an Application](#)
- [Working with Sizing Templates](#)


Connect to VMware Marketplace

To add applications from VMware Marketplace to App Launchpad, you must establish a connection between VMware Marketplace and App Launchpad.

Prerequisites

Verify that you have the token ID of a valid VMware Marketplace token. See [Generate API Tokens](#) in the *VMware Cloud Services Product Documentation*.

Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 On the **Settings** tab, click **Marketplace Connection**.
- 4 Paste the token ID and click **Save**.

What to do next

You can now add applications from VMware Marketplace to App Launchpad.

Connect to a Helm Chart Repository


Starting with App Launchpad 2.0, tenant users can deploy container applications to a Kubernetes cluster. A supported source of container applications is a Helm Chart repository.

You can connect multiple Helm Chart repositories to App Launchpad .

Prerequisites

Verify that you set up a Helm Chart repository. To establish a connection between App Launchpad and a Helm Chart repository, you need the URL of the repository and the credentials of a Helm Chart repository user account.

Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 On the **Settings** tab, click **Chart Repository**.
- 4 Click **Add**.
- 5 Add the required repository details.
 - a Enter the URL of the repository.
 - b Select the authentication type.
 - c Enter the user name and the password of a Helm Chart repository user.
 - d If you are using a secured connection, you can optionally select to accept the self-signed SSL certificate of the repository.
 - e Click **Save**.

What to do next

You can now add the container applications from the Helm Chart repository to App Launchpad application catalogs.

Adding Applications to App Launchpad

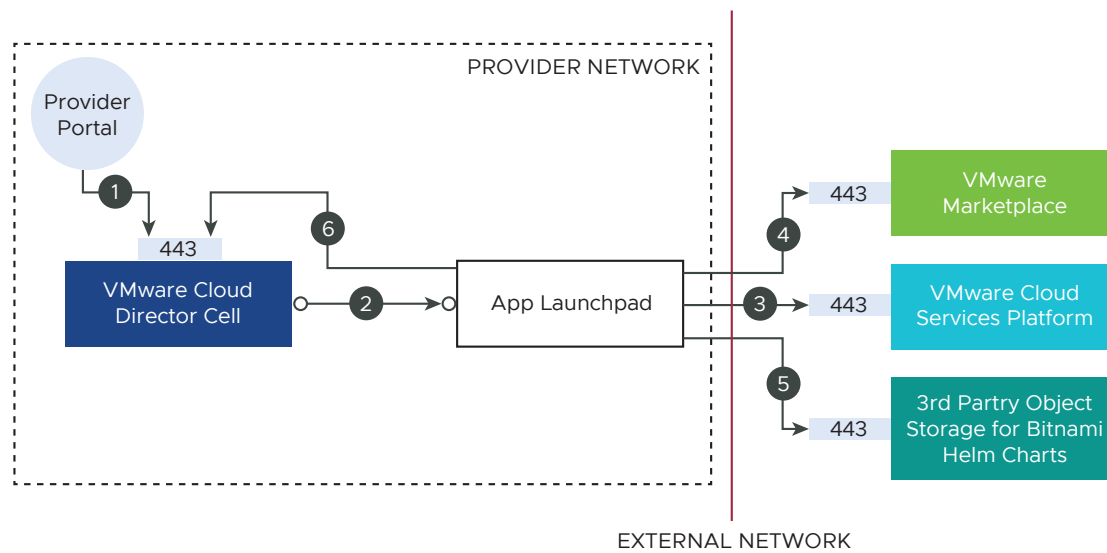
Starting with version 2.0, you can add container applications from Helm Chart repositories to App Launchpad. Using the App Launchpad user interface, you can also add your custom applications and applications from VMware Marketplace.

Before adding applications to App Launchpad, make sure that the default rights bundle is published to the AppLaunchpad organization in VMware Cloud Director. See [Publish or Unpublish a Rights Bundle](#) in the *VMware Cloud Director Service Provider Admin Portal Guide*.

Add Applications from VMware Marketplace

When you add applications from VMware Marketplace, you select a target VMware Cloud Director catalog. You can also optionally configure App Launchpad to update the application whenever a new version is available in VMware Marketplace.

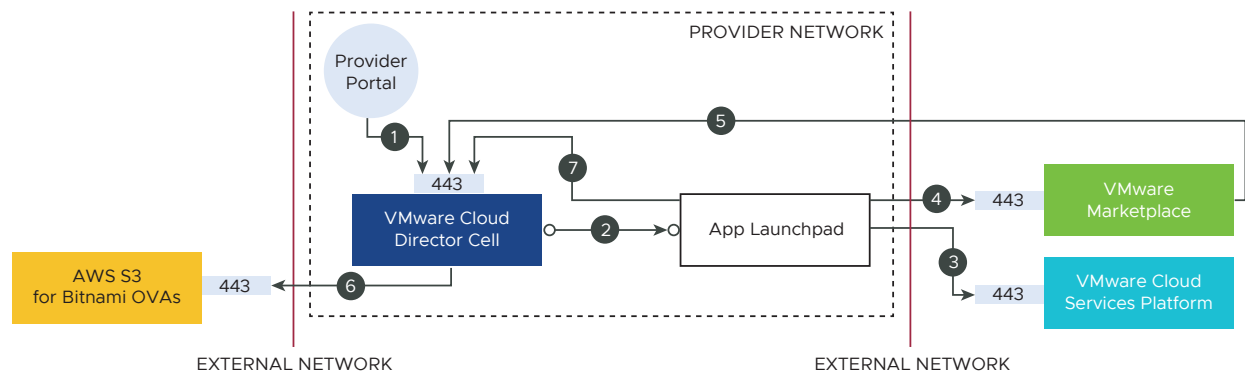
You can add both VM applications and container applications from VMware Marketplace to App Launchpad. The following diagram illustrates the workflow of adding container applications.



Legend

- 1 A provider imports Bitnami container applications to a catalog.
- 2 VMware Cloud Director dispatches the request to App Launchpad through the API extension.
- 3 App Launchpad validates the saved VMware Marketplace token.
- 4 App Launchpad loads summary information for applications from VMware Marketplace.
- 5 App Launchpad gets the Helm Chart definition from the 3rd party Bitnami Helm Chart object storage.
- 6 App Launchpad saves the Helm Chart definition to VMware Cloud Director.

The following diagram displays the workflow for adding VM applications from VMware Marketplace to App Launchpad.



- 1 A provider imports Bitnami VM applications to a catalog.
- 2 VMware Cloud Director dispatches the request to App Launchpad through the API extension.
- 3 App Launchpad validates the VMware Marketplace token.
- 4 App Launchpad creates or updates the subscription in VMware Marketplace.
- 5 VMware Marketplace creates or updates the catalog in VMware Cloud Director.
- 6 VMware Cloud Director synchronizes the catalog with virtual application templates from AWS S3.
- 7 App Launchpad checks the status of the VMware Cloud Director catalog.

Prerequisites


- Verify that you configured a connection between App Launchpad and VMware Marketplace. See [Connect to VMware Marketplace](#).
- If you are adding VM applications from VMware Marketplace, verify that the public REST API endpoint of VMware Cloud Director is accessible for VMware Marketplace.

Log in to the VMware Marketplace Web console and make sure that the VMware Marketplace Egress IP addresses allow for inbound access to VMware Cloud Director.

When adding VM applications, VMware Marketplace accesses VMware Cloud Director and creates or updates catalog settings.

If you are adding container applications, it is not required that the public REST API endpoint of VMware Cloud Director is accessible for VMware Marketplace.

Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 On the **Applications** tab, click **Add New**.
- 4 Select **VMware Marketplace** as the application source and click **Next**.
- 5 Select the type of application that you want to add.
- 6 Select an existing VMware Cloud Director catalog to which you add the application or create one, and click **Next**.
- 7 Select the application and application version that you want to add.

You can add multiple applications simultaneously.

- 8 (Optional) If you are adding a VM application, you can synchronize most recent versions of the application that is available in VMware Marketplace by selecting **Auto Sync Enabled**.

When the auto sync feature is enabled, VMware Cloud Director synchronizes applications with VMware Marketplace at a predefined synchronization interval. You can edit the synchronization interval through the VMware Cloud Director service provider admin portal. Go to **Administration > Catalog** and edit the interval as required.

To immediately access a later version of an application that is updated in VMware Marketplace, you can also manually synchronize the catalog in the AppLaunchpad provider organization.

- 9 (Optional) If you are adding a VM application, you can only get the latest version of the application by selecting **Replace Existing Version with New Version**.
- 10 Click **Next**.
- 11 Review the applications details and click **Add**.

Results

After the import task completes, if the catalog is published, tenant users can deploy and use the application.

If the import process is interrupted, App Launchpad attempts to restart the synchronization of individual applications for at most three retries and for up to 120 minutes. If the import task fails after the retries, you can manually synchronize the failed vApp templates by using the VMware Cloud Director service provider admin portal, or remove the failed vApp templates and import them again.


Add Applications from Helm Chart Repository

Starting with App Launchpad 2.0, you can add container applications from Helm chart repositories. You can configure multiple repositories as application sources.

Prerequisites

Verify that you configured a connection to a Helm Chart Repository. See [Connect to a Helm Chart Repository](#).

Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 On the **Applications** tab, click **Add New**.
- 4 Select **Chart Repository** as the application source.
- 5 Select the chart repository from which you want to import applications and click **Next**.
- 6 Select the application and application version that you want to add and click **Next**.
You can add multiple applications at once.
- 7 Select an existing VMware Cloud Director catalog to which you add the application or create one, and click **Next**.
- 8 Review the applications details and click **Add**.

Results

After the import task completes, if the catalog is published, tenant users can deploy and use the application.


Add Custom VM Applications

To add a custom VM application to App Launchpad, enter the URL to a location where the OVA file is uploaded.

Prerequisites

Verify that the OVA file for the application is stored in or uploaded to a location that is accessible for VMware Cloud Director.

Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 On the **Applications** tab, click **Add New**.
- 4 Select **VM Applications** and click **Next**.
- 5 Add the required application details.
 - a Enter a name.
 - b Enter a version.
 - c (Optional) Upload or enter a URL for a logo image.
 - d Enter the URL for the OVA file.
 - e (Optional) Enter a summary.
 - f (Optional) Select category from the drop-down menu or enter a new category.
 - g Click **Next**.
- 6 (Optional) Enter a description.
- 7 (Optional) Enter deployment instructions and click **Next**.

The text editor supports the Markdown markup language.
- 8 Select an existing VMware Cloud Director catalog to which you add the application or create one, and click **Next**.
- 9 Review the applications details and click **Add**.

Results

After the import task completes, if the catalog is published, tenant users can deploy and use the application.


Editing Applications

With the user interface of App Launchpad, you can edit the application deployment settings and application details, you can add custom information for your applications, and manage the application categories and the list of featured applications.

Edit Application Deployment Settings

You can change the default application deployment settings at the VMware Cloud Director organization and organization virtual data center (VDC) levels.


Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 On the **Settings** tab, click **Deployment Settings**.
- 4 From the **Choose an Organization** drop-down menu, select the organization for which you want to edit the default deployment settings.
- 5 To change the default deployment target VDC, from the **Default Organization VDC** drop-down menu, select a new default organization VDC.
- 6 (Optional) Edit the default deployment settings at the organization VDC level.
 - a Select the organization VDC and click **Edit**.
 - b Select a default IP address assignment method.
 - c Select a default network.
 - d Select a default storage profile.
 - e Select a default sizing template and click **Save**.

Edit Application Details

After you add an application to App Launchpad, you can edit the name, the logo, the summary, the description, the deployment instructions, and the category of the application.

Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 On the **Applications** tab, select the application that you want to edit and click **Edit**.
- 4 Edit the application details as required and click **Save**.
 - a Edit the name of the application.
 - b Remove the existing logo or upload a new one.
 - c Edit the summary.
 - d Edit the description.
 - e Edit the deployment instructions.


- f Edit the categories by selecting categories from the drop-down menu or adding new categories.
- g Click **Save**.

Add Custom Information for Applications

By adding custom information for applications, you create a field in the details page of all applications.

The custom field and additional information are displayed to the details of all applications.

Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 On the **Settings** tab, click **Custom Details Field**.
- 4 Enter a name for the custom field.
- 5 Enter the additional information and click **Save**.

The text editor supports the Markdown markup language.

Managing Categories

Starting with App Launchpad 2.0, you can create categories and add applications to the categories.

Categorizing applications helps tenant users to filter the applications that are relevant to their needs.

Adding and Removing Categories

You add and remove categories by using the App Launchpad user interface. You can add categories from the **Settings > Categories** page, or when you add an application.

To remove a category from App Launchpad, you also use the **Settings > Categories**.

Adding Applications to a Category


You can add an application to a category when you add the application to App Launchpad. See [Adding Applications to App Launchpad](#).

You can also add an application to a category by editing the application details. See [Edit Application Details](#).

Add or Remove Featured Applications

You can change the list of featured applications that is advertised to tenant users.


Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 Navigate to **Settings > Featured Applications** and click **Add**.
- 4 Use the check boxes to select the applications that you want to be included in the **Featured Applications** list and click **Add**.

Remove an Application

When tenant users no longer need an application, you can remove it from App Launchpad to save storage space.

Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 On the **Applications** tab, select the application that you want to remove and click **Remove** and confirm the operation.

Working with Sizing Templates

Sizing templates are predefined resource configurations that tenant users can select when they run applications. App Launchpad uses the sizing template to allocate the resources that you define to the vApp on which the application runs.


To ease your tenants, create multiple sizing templates. You can edit the existing sizing templates and remove the templates that your tenant users no longer need.

Create Sizing Templates

You can create multiple sizing templates which your tenant users can use when running applications. The sizing templates provide various compute resource configurations for deploying applications.

You can add multiple sizing templates at once.

Procedure


- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 Navigate to **Settings > Sizing Templates** and click **Add**.

- 4 Enter the details for the sizing template.
 - a Enter a name for the sizing template.
 - b Enter the vCPU count.
 - c Enter the memory size in GB.
 - d Enter the hard disk size in GB.
 - e (Optional) To set the sizing template that you create as the default sizing template, select the **Default** radio button .
- 5 To create another sizing template, click **Add More** and enter the details for the sizing template.
- 6 To create the sizing templates, click **Add**.

Set a Default Sizing Template

You can change the default sizing template.


Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 Navigate to **Settings > Sizing Templates**.
- 4 Select the sizing template that you want to set as default and click **Set as Default**.

Edit a Sizing Template

To meet the changing requirements of your tenant users, you can edit existing sizing templates.


Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 Navigate to **Settings > Sizing Templates**.
- 4 Select the sizing template that you want to edit and click **Edit**.
- 5 Change the details of the sizing template and click **Edit**.

Remove a Sizing Template

You can remove the sizing templates that you and your tenant users no longer use.

Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.

- 3 Navigate to **Settings > Sizing Templates**.
- 4 Select the sizing template that you want to remove, click **Remove**, and confirm the operation.

Managing Access to App Launchpad Resources

4

To make applications available to tenants, publish your application catalogs to a VMware Cloud Director organization.


This chapter includes the following topics:

- [Publish an Application Catalog to a VMware Cloud Director Organization](#)
- [Remove an Application Catalog from a VMware Cloud Director Organization](#)
- [Edit Catalog Visibility](#)

Publish an Application Catalog to a VMware Cloud Director Organization

To make applications available for consumption by tenant users, publish an application catalog to a VMware Cloud Director organization.

Procedure


- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 On the **Access Management** tab, click **Publish Catalog**.
- 4 Select the catalog that you want to publish and click **Next**.
- 5 Select the organizations to which you want to publish the catalog and click **Next**.
- 6 Review the publishing task details and click **Publish**.

Remove an Application Catalog from a VMware Cloud Director Organization

When you remove an application catalog from a VMware Cloud Director organization, the users in the organization can no longer use the applications in the catalog.

Important If you published an App Launchpad catalog to all VMware Cloud Director organizations through the user interface or API of VMware Cloud Director, you cannot remove the catalog from specific organizations by using the user interface of App Launchpad.

Procedure


- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 On the **Access Management** tab, click **Unpublish Catalogs**.
- 4 Select the organization from which you want to remove the catalog and click **Next**.
- 5 Select the catalogs that you want to remove and click **Next**.
- 6 Review the unpublishing task details and click **Remove**.

Edit Catalog Visibility

Using App Launchpad, you can control the visibility of application catalogs to tenant users.

You edit the catalog visibility at the system level.

Procedure

- 1 Log in to the VMware Cloud Director service provider admin portal.
- 2 From the main menu () , select **App Launchpad**.
- 3 On the **Settings** tab, click **Catalog Visibility**.
- 4 Select the catalog visibility option and click **Save**.

Option	Description
All Available Catalogs	All available catalogs are visible for tenant users.
App Launchpad Catalogs Only	Only the App Launchpad catalogs are visible to tenant users.

Troubleshooting App Launchpad

5

You can troubleshoot App Launchpad operations to diagnose problems or change default settings.

This chapter includes the following topics:

- [Cannot Create a Connection between VMware Marketplace and App Launchpad](#)
- [Applications from VMware Marketplace Are Not Synchronizing](#)
- [Synchronizing vApp Templates from VMware Marketplace Times Out](#)
- [Edit the Runtime Environment Configuration of App Launchpad](#)
- [Generate a Support Bundle](#)

Cannot Create a Connection between VMware Marketplace and App Launchpad

If App Launchpad cannot access the API endpoints of VMware Marketplace, you cannot create the connection.

Problem

To browse applications available for importing, the App Launchpad server accesses VMware Marketplace API endpoints. App Launchpad requires outbound access to the following VMware Marketplace API endpoints:

- `https://console.cloud.vmware.com`
- `https://gtw.marketplace.cloud.vmware.com`

If App Launchpad cannot access the API endpoints, you cannot set the required VMware Marketplace token on the **Marketplace Connection** page.

To verify if the endpoints are accessible, you can run the following commands from the App Launchpad machine:

```
curl -i -k -v https://console.cloud.vmware.com
```

If the API endpoint is not reachable, the system returns a `Status 302` message.

```
curl -i -k -v https://gtw.marketplace.cloud.vmware.com
```

If the API endpoint is not reachable, the system returns a `Status 404` message.

Cause

Your firewall rules and network setup do not allow the outbound access from App Launchpad to the API endpoints of VMware Marketplace.

Solution

Reconfigure your network setup to allow outbound access from App Launchpad to the API endpoints of VMware Marketplace.

If you restrict the direct outbound access to VMware endpoints for the App Launchpad machine, you can configure an HTTP proxy. For more information about creating the HTTP proxy, see [Edit the Runtime Environment Configuration of App Launchpad](#).

Applications from VMware Marketplace Are Not Synchronizing

To create and update subscription catalogs, VMware Marketplace requires access to the API endpoints of VMware Cloud Director.

Problem

After importing applications from VMware Marketplace to App Launchpad, no catalog creation or catalog synchronization tasks appear in the task panel in VMware Cloud Director service provider admin portal.

Cause

If VMware Marketplace cannot access the required API endpoints of VMware Cloud Director, you cannot import applications from VMware Marketplace to VMware Marketplace.

Solution

Make sure that VMware Marketplace can access the following API endpoints of VMware Cloud Director:

- `/api/admin/org/%s/catalogs`
- `/api/catalog/%s`
- `/api/admin/catalog/%s`
- `/action/sync`

If you implemented inbound access control for your VMware Cloud Director API server, define SNAT rules that allow inbound requests from VMware Marketplace. To find the egress IP addresses of VMware Marketplace, go to **Settings > Egress IPs**.

Synchronizing vApp Templates from VMware Marketplace Times Out

If VMware Cloud Director cells restrict outbound access to AWS S3, subscribing to the Bitnami applications catalog in VMware Marketplace fails with the vApp template synchronization tasks timing out.

Problem

Attempting to import Bitnami applications from VMware Marketplace times out at 1% of the task completed.

Also, VMware Cloud Director logs report that the hostname `*.s3.us-west-2.amazonaws.com` is not reachable.

To verify that outbound access is restricted, run the following command from the VMware Cloud Director cell machine:

```
curl -i -k -v https://s3.us-west-2.amazonaws.com
```

If outbound access is restricted, the system returns a `Status 307` message.

Cause

The Bitnami applications are stored in AWS S3. If VMware Cloud Director cannot access the Bitnami catalogs, importing and synchronizing applications is not possible.

Solution

To work around such issues, allow outbound access to AWS S3 from the VMware Cloud Director cell. If VMware Cloud Director cells allow outbound access through an HTTP proxy, make sure that the proxy host is configured on the cell machine.

Edit the Runtime Environment Configuration of App Launchpad

To add a system proxy for accessing resources, or to increase the Java Virtual Memory, you can edit the Java Runtime configuration of App Launchpad.

To edit the runtime environment, you edit the `/opt/vmware/alp/ALPJavaEnvironments` file.

Caution Edit the runtime configuration cautiously, as incorrect values can lead to a failure to start App Launchpad services.

Procedure

- 1 Open an SSH connection to the App Launchpad machine.
- 2 Using a text editor, open the `/opt/vmware/alp/ALPJavaEnvironments` file.
- 3 To create a system proxy, append the following parameters and save the file.

```
-Dhttp.proxySet=true
-Dhttp.proxyHost=${proxy_host_fqdn_or_ip}
-Dhttp.proxyPort=${proxy_port}
-Dhttps.proxySet=true
-Dhttps.proxyHost=${proxy_host_fqdn_or_ip}
-Dhttps.proxyPort=${proxy_port}
```

- 4 Restart App Launchpad services by running the `systemctl restart alp` command.
- 5 Verify that the runtime environment is successfully updated by running the `ps -elf | grep java` command.

The system returns the following command history, which includes your parameters:

```
java
-Dhttp.proxySet=true
-Dhttp.proxyHost=... -jar /opt/vmware/alp/alp.jar --logging.path=log
```

Generate a Support Bundle

To help diagnose problems, you might need to generate system and runtime information, and support bundle collections of log files.

The App Launchpad support bundle contains the following information:

- Text file with details about the support bundle. Contains start date, end date, and target directory for the support bundle, as defined during generation.
- All App Launchpad configuration details. Sensitive data, such as user names and passwords, is excluded.
- App Launchpad service logs

Procedure

- 1 Open an SSH connection to the App Launchpad machine, log in, and use `su` to obtain root privileges or the privileges of a user that belongs to the **vmware-alp** user group.
- 2 To generate the support bundle, run the following command:

```
support --log-startdate start-date --log-enddate end-date --log-path /opt/vmware/alp/log
--out-dir target-directory
```

You can optionally append the `--log-startdate`, `--log-enddate`, `--log-path`, and `--out-dir` arguments.

The `--log-startdate` argument defines the start time for the logs to be collected. The default value is 2018-01-01.

The `--log-enddate` argument defines the end time for the logs to be collected. If not specified, the end date is the current date.

For the `--log-startdate` and the `--log-enddate` arguments values, enter the date in the YYYY-MM-DD format.

The `--log-path` argument defines the directory from which the logs are collected. If not specified, the directory is `/opt/vmware/alp/log`.

The `--out-dir` argument defines the target directory for the support bundle to be generated. If not specified, the support bundle is saved to the current directory.

```
support --log-startdate 2020-03-12 --log-enddate 2020-05-24 --out-dir /tmp
```

Results

The support bundle is generated and saved to the specified directory.