

Installing and Configuring App Launchpad

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VMware Cloud Director App Launchpad 1.0

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

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

VMware, Inc.
3401 Hillview Ave.
Palo Alto, CA 94304
www.vmware.com

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What is App Launchpad

1

A service provider installs App Launchpad in their data center.

App Launchpad is a VMware Cloud Director service extension which service providers can use to create and publish catalogs of deployment-ready applications. Tenant users can then deploy the applications can with a single click.

App Launchpad supports the use of applications from the Bitnami applications catalog that is available in the VMware Cloud Marketplace.

You can create catalogs of your custom, in-house applications and configure App Launchpad to work with these catalogs.

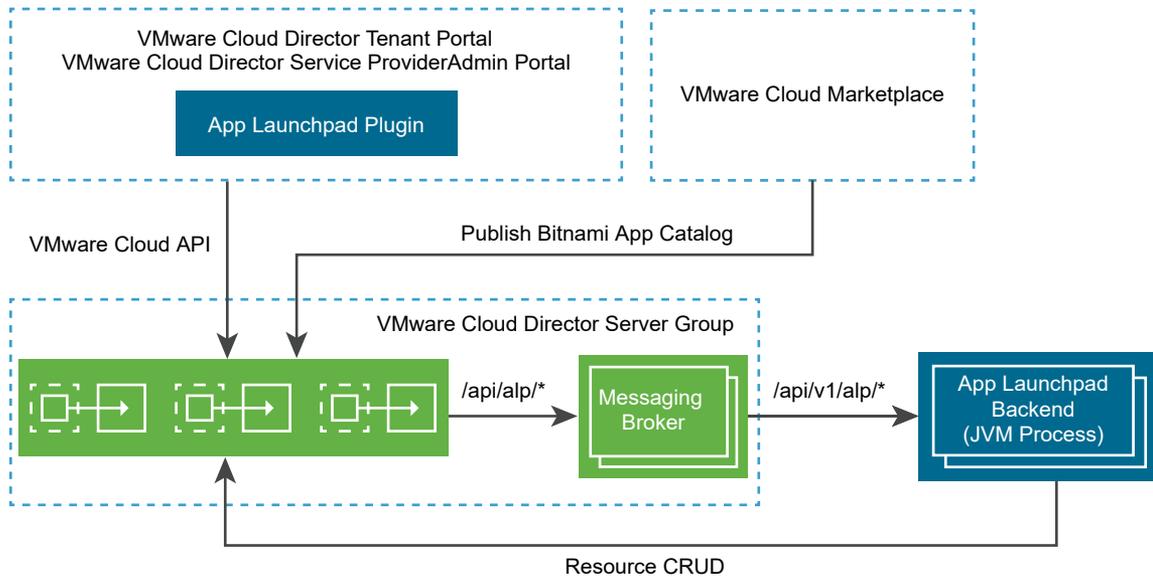
You can also use a mixture of Bitnami applications and in-house applications.

Using App Launchpad 1.0, tenant users can only run single-VM applications.

Architecture of App Launchpad

During the installation and configuration procedures, the App Launchpad user interface registers as a plug-in to VMware Cloud Director. As a result, you can access the App Launchpad user interface from the VMware Cloud Director service provider admin portal and the VMware Cloud Director tenant portal.

The following diagram illustrates the architecture of App Launchpad.



Components of App Launchpad

App Launchpad consists of three components.

Component	Description
App Launchpad Service (alp)	A Java service responsible for the App Launchpad back end and for the VMware Cloud Director extension service.
Command-Line Utility (alp)	Contains the scripts required for configuring and managing App Launchpad.
App Launchpad User Interface Plug-in for VMware Cloud Director	You use the alp command-line utility to install the user interface plug-in. The App Launchpad user interface plug-in registers as a plug-in to VMware Cloud Director and you can access the App Launchpad user interface directly from the VMware Cloud Director service provider admin portal and the VMware Cloud Director tenant portal.

Before You Begin

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Before you install and configure App Launchpad, verify that your target environment meets the specific requirements.

App Launchpad requires external components and supports specific versions that you must deploy and configure.

Table 2-1. Versions of Required External Components

Required Component	Supported Versions
VMware Cloud Director	<ul style="list-style-type: none">■ 10.1■ 10■ 9.7
AMQP Broker	Depends on the AMQP Broker that your version of VMware Cloud Director supports. For information, see the VMware Cloud Director Release Notes for the version of VMware Cloud Director that you run.

System Requirements

App Launchpad is available for an installation on CentOS Linux 7 and 8 distribution versions.

Hardware Requirements

The following table lists the hardware requirements for minimal and optimal deployments of App Launchpad.

Deployment Type	Hardware Requirements
Minimal	<ul style="list-style-type: none">■ 2 Core CPU■ 4 GB RAM■ 8 GB Free Disk Space
Optimal	<ul style="list-style-type: none">■ 4 Core CPU■ 16 GB RAM■ 120 GB Free Disk Space

Network Requirements

App Launchpad does not require inbound Internet access and does not expose network ports to the Internet. App Launchpad communicates only with VMware Cloud Director and the AMQP Broker in your environment.

AMQP Broker Requirements

Configure VMware Cloud Director extensibility before deploying App Launchpad. When configuring VMware Cloud Director extensibility, use the same virtual host that you use with App Launchpad.

Under the virtual host of the AMQP broker, create a direct type of exchange that is reserved for App Launchpad.

Create a dedicated AMQP user that has full permissions to the virtual host of the AMQP broker.

If you use an SSL port to connect to the AMQP broker, make sure that VMware Cloud Director extensibility is configured to accept all certificates.

By default, VMware Cloud Director extensibility has a short timeout setting. To avoid service availability errors, it is a best practice to increase the extensibility timeout setting using the VMware Cloud Director Cell Management Tool. See [Cell Management Tool Reference](#).

Access Control and User Roles

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Any active VMware Cloud Director user can access App Launchpad.

Service providers access the App Launchpad user interface from the VMware Cloud Director service provider admin portal. Tenant users access App Launchpad from the VMware Cloud Director tenant portal.

User Roles and Rights

The rights assigned to your user account in VMware Cloud Director define your user role in App Launchpad.

The following table lists App Launchpad roles and the associated VMware Cloud Director rights.

App Launchpad User Role	Description	VMware Cloud Director Rights and Roles
PROVIDER_ADMIN	A service provider account that accesses App Launchpad from the VMware Cloud Director service provider admin portal.	Accessing all service provider capabilities of App Launchpad, requires the VMware Cloud Director System Administrator role.
TENANT_USER	A tenant user account that accesses App Launchpad from the VMware Cloud Director tenant portal.	<p>To deploy applications, the organization user must have the VMware Cloud Director vApp User role.</p> <p>Following is a list of all VMware Cloud Director rights required to enable all capabilities of App Launchpad for tenant users:</p> <ul style="list-style-type: none"> ■ UI Plugins: View ■ Organization: View ■ Organization vDC: View ■ Organization vDC Network: View Properties ■ Organization vDC Distributed Firewall: View Rules ■ Organization vDC Resource Pool: View ■ Organization Network: View ■ vApp: Power Operations ■ vApp: VM Boot Options ■ vApp: Use Console
App-Launchpad-Service	<p>This service role is used by the App Launchpad back-end system and contains all VMware Cloud Director rights related to the App Launchpad capabilities.</p> <p>During the command-line configuration of App Launchpad with VMware Cloud Director, the <code>alp connect</code> script creates a service account user for the back end of App Launchpad if such account does not exist in VMware Cloud Director.</p> <p>Later, during the initial configuration of App Launchpad through the VMware Cloud Director service provider admin portal, App Launchpad creates the service role named App-Launchpad-Service. App Launchpad assigns the role to the service account user that is created during the configuration of App Launchpad.</p>	<p>The App-Launchpad-Service role is automatically created and assigned with the following VMware Cloud Director rights:</p> <ul style="list-style-type: none"> ■ UI Plugins: View ■ UI Plugins: Define, Upload, Modify, Delete, Associate or Disassociate ■ System Settings: View ■ System Organization: View ■ General: Administrator View ■ General: View Error Details ■ Site: View ■ Multisite: System Operations ■ vSphere Server: View ■ vCenter: View ■ Resource Pool: Open ■ Resource Pool: View ■ Adopt Resource Pool: View ■ Disk: View Properties ■ Host: View

App Launchpad User Role	Description	VMware Cloud Director Rights and Roles
		<ul style="list-style-type: none"> ■ Datastore: View ■ Provider Network: View ■ Access All Organization VDCs ■ Adopt Resource Pool: View ■ Organization: View ■ Organization: view metrics ■ Organization: Perform Administrator Queries ■ Organization vDC: View ■ Organization vDC Network: View Properties ■ Organization vDC Gateway: View NAT ■ Organization vDC Distributed Firewall: View Rules ■ Organization vDC Compute Policy: View ■ Organization vDC Compute Policy: Admin View ■ Organization vDC Resource Pool: View ■ Organization vDC: Extended View ■ Organization Network: View ■ Catalog: Add vApp from My Cloud ■ Catalog: Shadow VM View ■ Catalog: View ACL ■ Catalog: View Published Catalogs ■ Catalog: View Private and Shared Catalogs ■ Stranded Item: View ■ vApp Template: Open in vSphere ■ vApp Template: Checkout ■ vApp Template: Import ■ vApp Template: Download ■ vApp Template / Media: View ■ vApp Template / Media: Copy ■ vApp Template / Media: Edit ■ vApp: Open in vSphere ■ vApp: Change Owner ■ vApp: Download ■ vApp: Upload ■ vApp: Copy ■ vApp: Import Options

App Launchpad User Role	Description	VMware Cloud Director Rights and Roles
		<ul style="list-style-type: none"> ■ vApp: Create / Reconfigure ■ vApp: Edit Properties ■ vApp: Edit VM CPU ■ vApp: Edit VM Memory ■ vApp: Edit VM Network ■ vApp: Edit VM Compute Policy ■ vApp: Edit VM Hard Disk ■ vApp: Edit VM CPU and Memory reservation settings in all VDC types ■ vApp: View ACL ■ vApp: Power Operations ■ vApp: VM Boot Options ■ vApp: View VM metrics ■ vApp: Shadow VM View ■ vApp: Sharing ■ vApp: Use Console ■ vApp: Delete ■ Task: View Tasks

Installing and Configuring App Launchpad

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Deploy App Launchpad by installing an RPM package on a dedicated Linux virtual machine. Then use the `alp` command-line utility to configure App Launchpad services to work with a VMware Cloud Director instance.

During the configuration of App Launchpad with VMware Cloud Director, the `alp` scripts create a dedicated service account named **App-Launchpad-Service** and pull the required AMQP broker configuration.

When you configure App Launchpad with VMware Cloud Director, you can optionally select one of the existing organization administrator accounts to be assigned with the **App-Launchpad-Service** role. If you do not select an existing user account, App Launchpad creates a VMware Cloud Director user account and assigns the **App-Launchpad-Service** role to it. This user account becomes the service account. A best practice is to name a dedicated service account user.

Later, when you go through the initial configuration, App Launchpad creates a VMware Cloud Director organization named **AppLaunchpad** that is reserved for the App Launchpad services. Do not delete the **AppLaunchpad** organization.

Use this organization to host Bitnami and your in-house application catalogs. You cannot edit the Bitnami application catalog but you can customize your in-house application catalogs.

You can change the name of the service account and the VMware Cloud Director organization.

The applications that users deploy belong to a dedicated VMware Cloud Director organization that is different from the organization to which users belong. Whenever a user performs an operation within App Launchpad, for example deploy an application or search for an application, the service account is used to authorize the operation. For more information about the **App-Launchpad-Service** role, see [Chapter 3 Access Control and User Roles](#).

This chapter includes the following topics:

- [Install App Launchpad](#)
- [Configure App Launchpad](#)

Install App Launchpad

App Launchpad is distributed as an RPM installation file with a name in the format `vmware-vcd-alp-v.v.v-nnnnnnnn.el7.x86_64.rpm`, where *v.v.v* is the product version and *nnnnnnnn* is the build number. For example, `vmware-vcd-alp-1.0.0-24012158.el7.x86_64.rpm`.

Prerequisites

- Verify that your target environment meets the deployment requirements of App Launchpad. For more information, see [Chapter 2 Before You Begin](#).
- Verify that you have the credentials of a VMware Cloud Director system administrator account. You need the credentials of a system administrator to create the **App-Launchpad-Service** account.
- Verify that the installation RPM package is uploaded to the `/temp` directory of the target machine.

Procedure

- 1 Open an SSH connection to the installation target Linux virtual machine and log in by using a user account with sufficient privileges to install an RPM package.
- 2 Install the RPM package by running the installation command.

```
yum install -y vmware-vcd-alp-v.v.v-nnnnnnnn.el7.x86_64.rpm
```

3 Configure App Launchpad with VMware Cloud Director.

To configure App Launchpad with VMware Cloud Director, use the `alp connect` script. By using this script, you establish a connection between App Launchpad and VMware Cloud Director, define or create the **App-Launchpad-Service** account, and install the App Launchpad user interface plug-in for VMware Cloud Director. The `alp connect` script also configures App Launchpad with your AMQP broker.

- a To configure App Launchpad with VMware Cloud Director, run the `alp connect` script.

```
alp connect --sa-user account-to-become-alp-service-account --sa-pass 'service-account-pass' --url Cloud-Director-URL --admin-user Cloud-Director-system-administrator@system --admin-pass 'Cloud-Director-system-administrator-pass' --amqp-exchange dedicated-exchange-name --amqp-user dedicated-amqp-user --amqp-pass 'dedicated-amqp-user-password'
```

The following table describes the argument values that you must enter.

Argument	Description
<code>--sa-user</code>	The user name of the VMware Cloud Director user account that becomes the App-Launchpad-Service account. Later, during the initial configuration of the App Launchpad services, App Launchpad assigns the App-Launchpad-Service role to it. This account is dedicated to App Launchpad and cannot be the same as the <code>--admin-user</code> account. Enter the user name using only lowercase and do not add the VMware Cloud Director organization suffix. If a user account for the user name that you enter does not exist in VMware Cloud Director, the <code>alp connect</code> script creates it.
<code>--sa-password</code>	The password for the VMware Cloud Director user account that becomes the App-Launchpad-Service account.
<code>--admin-user</code>	The user name of a VMware Cloud Director system administrator.
<code>--admin-pass</code>	The password for the VMware Cloud Director system administrator user account.
<code>--amqp-user</code>	The user name of the dedicated AMQP broker user account that you created for App Launchpad.
<code>--amqp-pass</code>	The password for the dedicated AMQP broker user account that you created for App Launchpad.
<code>--amqp-exchange</code>	The name of the dedicated AMQP broker exchange that is reserved for App Launchpad. Make sure that VMware Cloud Director and App Launchpad use the same virtual host of the AMQP broker.

For example:

```
alp connect --sa-user alpadmin --sa-pass 'Change!7' --url https://cloud.example.com
--admin-user administrator@system --admin-pass 'Change!7' --amqp-exchange alpext
--amqp-user alp-user --amqp-pass 'Change!7'
```

The system returns information about the VMware Cloud Director certificate and the End User License Agreement (EULA) for App Launchpad.

- b (Optional) To get help about the script, you can run the `alp connect -h` command.
 - c Accept the EULA.
 - d Accept the certificate of VMware Cloud Director.
- 4 Verify that the configurations of VMware Cloud Director and the AMQP broker are successful by running the `alp show` command.

The system returns all VMware Cloud Director and AMQP broker configuration details.

- 5 (Optional) To retrieve the service account and of the AMQP broker user, append the `--show-password` argument to the `alp show` command.
- 6 Start the App Launchpad service by running the `systemctl start alp` command.
- 7 Verify the status of the App Launchpad service by running the `systemctl status alp` command.

If the system does not return errors, proceed to configuring App Launchpad. See [Configure App Launchpad](#). If the system returns an error, proceed to [Step 8](#).

- 8 Diagnose deployment errors by running the `/opt/vmware/alp/bin/diagnose` executable file.

The diagnose tool verifies that the services are up and running and that all configuration requirements are met. The list of diagnostics includes:

- Initialization of the App Launchpad service
- Assignment of the **App-Launchpad-Service** account
- AMQP broker configuration
- App Launchpad API endpoint configuration
- App Launchpad service listening port

If there are no deployment errors, the system returns the following message:

```
Step 1: System diagnose
-----
- App Launchpad service is initialized.

Step 2: Cloud Director diagnose
-----
- Service Account for App Launchpad is good.
- App Launchpad's extension is ready.
```

```
Step 3: AMQP diagnose
```

```
-----  
- Cloud Director AMQP for extensibility is ready.
```

```
Step 4: Integration diagnose
```

```
-----  
- App Launchpad API is up, and version is 1.0.0-34386167.
```

```
Step 5: App Launchpad diagnose
```

```
-----  
- App Launchpad service is listening on port 8086
```

Configure App Launchpad

Configuring App Launchpad consists of setting a target provider organization for onboarding catalogs of applications and completing the initial configuration wizard.

Prerequisites

Verify that you installed the App Launchpad RPM and configured the connections from App Launchpad to VMware Cloud Director and to an AMQP Broker. See [Install App Launchpad](#).

Procedure

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

The **Welcome to App Launchpad** page displays.

- 2 To start the initial configuration wizard, click **Launch Setup**.

3 Set up the App Launchpad infrastructure, and click **Next**.

Option	Description
Option	Action
Automatic	If you want to configure the infrastructure for App Launchpad automatically, select Yes, set it up .
Manual	<p>If you want to configure the infrastructure for App Launchpad manually, select No, I will set it up on my own and create the following entities:</p> <ul style="list-style-type: none"> ■ A new VMware Cloud Director organization named AppLaunchpad that stores all data related to App Launchpad services. ■ A new Pay-As-You-Go organization virtual data center predefined with storage policy and disk sizes. ■ A global service role named App-Launchpad-Service. ■ A system administrator user account to which the App-Launchpad-Service role is assigned. <p>Leave the current browser window open, because App Launchpad tracks your progress.</p>

- a Select a provider virtual data center to use for App Launchpad services. The dedicated organization is created in this provider virtual data center.
- b Select a storage policy.
- c Select a disk size (in GB).

4 Select the kind of applications to use with App Launchpad and click **Next**.

App Launchpad supports the use of applications from the Bitnami applications catalog that is available in the VMware Cloud Marketplace.

You can also create catalogs of your custom, in-house applications and configure App Launchpad to work with these catalogs.

You can use both Bitnami applications and in-house applications simultaneously.

- a To configure App Launchpad with the Bitnami applications catalog, select the **Bitnami Applications from VMware Cloud Marketplace** check box.
- b To configure App Launchpad with in-house applications, select the **In-house Applications** check box.

5 Create sizing templates for the applications.

- a Enter a name for the sizing template.
- b Enter a vCPU count, a memory size (in GB), and a disk size (in GB).
- c (Optional) Select the current template as the default sizing template.
- d (Optional) Add more sizing templates by clicking **Add More** and completing steps [5a](#) to [5c](#).

6 To complete the initial configuration of App Launchpad, click **Finish**.

Results

You are redirected to the App Launchpad home page and the **Next Steps** card displays.

What to do next

Provide single-click application deployment capabilities to your tenants.

- 1 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*.
- 2 Set featured applications. See [Add or Remove Featured Applications](#).
- 3 Edit application deployment settings. See [Edit Application Deployment Settings](#).
- 4 To make applications available for deployment, publish catalogs. See [Publish an Application catalog to a VMware Cloud Director Organization](#).

Onboarding Applications to App Launchpad

5

To onboard applications to App Launchpad, you can import applications from the Bitnami applications catalog that is available in the VMware Cloud Marketplace. You can also add your own in-house applications to the content library of the **AppLaunchpad** provider organization.

With App Launchpad 1.0, tenant users can only run single-VM applications.

Onboarding Bitnami Applications

To onboard Bitnami applications to App Launchpad, go to <https://cloud.vmware.com/> and import the applications to the newly created Launchpad provider organization.

Onboarding In-House Applications

To onboard custom, in-house applications, go to the content library of the newly created Launchpad provider organization and create catalog items.