Deploying in Microsoft Azure

Prerequisites and Guidelines

Cloud deployments are supported starting with Nexus Dashboard, Release 2.0.2b. Earlier releases support only the physical form factor described in Deploying as Physical Appliance.

Before you proceed with deploying the Nexus Dashboard cluster in Microsoft Azure, you must:

- Review and complete the general prerequisites described in the Deployment Overview.

- Ensure that the Azure form factor supports your scale and application requirements.

  Scale and application co-hosting vary based on the cluster form factor. You can use the Nexus Dashboard Capacity Planning tool to verify that the cloud form factor satisfies your deployment requirements.

- Have appropriate access privileges for your Azure account and subscription.

- Create an SSH key pair.

  A key pair consists of a private key and a public key, which are used as security credentials to verify your identity when connecting to Nexus Dashboard VMs. You will be asked to provide the public key when creating the Nexus Dashboard nodes.

  You can use an external utility, such as `putty`, to generate a key pair for your cluster.

Deploying the Cisco Nexus Dashboard in Azure

This section describes how to deploy Cisco Nexus Dashboard cluster in Microsoft Azure.

Before you begin

- Ensure that you meet the requirements and guidelines described in Prerequisites and Guidelines, on page 1.

Step 1   Subscribe to Cisco Nexus Dashboard product in Azure Marketplace.

a) Log into your Azure account and browse to https://azuremarketplace.microsoft.com

b) In the search field, type `Cisco Nexus Dashboard` and select the option that is presented.

You will be re-directed to the Nexus Dashboard Azure Marketplace page.

c) Click **Get it now**.

d) In the **Select a plan** dropdown, select the version and click **Create**.

Step 2 In the **Basics** tab, provide the subscription details, region, and password.

Home > Marketplace > Cisco Nexus Dashboard (preview) >

Create Cisco Nexus Dashboard ⋯

Basics   ND Settings   Review + create

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ   **a**   ACI-AZURE-QA107   ⌄

  Resource group * ⓘ   **b**   ⌄

    Create new

Instance details

Region * ⓘ   **c**   West US   ⌄

Password * ⓘ   **d**

Confirm password * ⓘ

SSH public key * ⓘ   **e**

ⓘ Learn more about creating and using SSH keys in Azure

Review + create   < Previous   **Next : ND Settings >**

a) From the **Subscription** dropdown, select the subscription you want to use for this.

b) From the **Resource group** dropdown, select an existing resource group for the cluster or click **Create new** to create one.

c) From the **Region** dropdown, select the regions where the template will be deployed.

This must be the same region where you created your resource group and VNET.

d) Provide and confirm the node password.

This is the same password that will be used for the `rescue-user` on each node.

e) In the **SSH public key** field, paste the public key from the key pair you generate as part of the Prerequisites and Guidelines, on page 1 section.

Step 3   Provide **ND Settings** cluster details.

Home > Marketplace > Cisco Nexus Dashboard (preview) >

Create Cisco Nexus Dashboard ⋯

Basics	**ND Settings**	Review + create

Node Name * ⓘ   **a**   Node

Cluster Name * ⓘ   **b**   Cluster

Virtual machine size * ⓘ
1x Standard D16s v3
16 vcpus, 64 GB memory
Change size

Image Version ⓘ   **c**   2.0(2)   ⌄

Virtual Network Name * ⓘ   **d**

Subnet Address Prefix * ⓘ

External Subnets * ⓘ   **e**

⚠ Configuring external subnet with 0/0 is a security risk and it is advisible to use specific subnet(s) or IP Address(es).

NTP Server * ⓘ   **f**

DNS Server * ⓘ   **g**

Search Domain * ⓘ

App Network * ⓘ   172.17.0.0/16

Service Network * ⓘ   **h**   100.80.0.0/16

i   w + create   < Previous   Next : Review + create >

a) Provide the **Node Name**.

The template will deploy a 3-node cluster with each node using the **Node Name** prefix and appending 1, 2, and 3 to create unique host names for each node.

b) Provide the **Cluster Name**.

The cluster name must be the same across all nodes you deploy.

c) In the **Image Version** dropdown, ensure the latest release is selected.

d) In the **Virtual Network Name** and **Subnet Address Prefix** fields, provide the name of the VNET and choose a subnet within that VNET.

If the VNET with the name you enter does not exist, it will be created for you.

e) In the **External Subnets** field, provide the external network allowed to access the cluster.

For example, `0.0.0.0/0` to be able to access the cluster from anywhere.

f) Provide the **NTP Servers** information.
g) Provide the **DNS Servers** and **Search Domains** information.
h) Provide the **Application Network** and **Service Network**.

These are internal networks used by the Nexus Dashboard and its processes.

For example, `172.17.0.1/16` and `100.80.0.0/16`.

i) Click **Review + create**.

The product page appears, which shows a summary of your configuration and enables you to launch the cloud formation template.

Step 4 Wait for the VMs deployment to complete, then start the VMs.

Step 5 (Optional) Enable password-based SSH login.

By default only key-based SSH login is enabled for each node. If you'd like to be able to SSH into the nodes using a password, you will need to explicitly enable password-based logins. You can do that by connecting to the VM console of each node from Azure, logging in as `rescue-user` using the password you provided during cluster deployment, and then executing the following command:

```
# acs login-prompt enable
```

Step 6 Verify that the cluster is healthy.

It may take up to 30 minutes for the cluster to form and all the services to start.

a) Login in to one of the nodes.

```
$ ssh rescue-user@<node-ip-address>
```

b) Verify that the cluster is up and running.

You can check the current status of cluster deployment by logging in to any of the nodes and running the `acs health` command.

While the cluster is converging, you may see the following outputs:

```
$ acs health
k8s install is in-progress
```

```
$ acs health
k8s services not in desired state - [...]
```

```
$ acs health
k8s: Etcd cluster is not ready
```

When the cluster is up and running, the following output will be displayed:

```
$ acs health
All components are healthy
```

c) Log in to the Nexus Dashboard GUI.

After the cluster becomes available, you can access it by browsing to any one of your nodes' management IP addresses. The default password for the `admin` user is the same as the `rescue-user` password you chose for the first node of the Nexus Dashboard cluster.

When you first log in, you will be prompted to change the password.