Install CWM using OVA

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Install CWM using OVA

The Crosswork Workflow Manager 1.1 is installed as a guest virtual machine by deploying an OVA image using the VMware vSphere 6.7 (and higher) virtualization platform.

Prerequisites

- An **ed25519** SSH public and private key pair.

System requirements

Minimum system requirements	
Server	**VMware vSphere 6.7+** account with an ESXi 6.7+ host
CPU	8 cores
Memory	64 GB
Storage	100 GB

Download the CWM package

To get the CWM 1.1 software package:

Step 1 Go to the Cisco Software Download service and in the search bar, type in '**Crosswork Workflow Manager**', then select it from the search list.

Step 2 From Select a software type, select **Crosswork Workflow Manager Software**.

Step 3 Download the Crosswork Workflow Manager software package for Linux.

Step 4 In a terminal, use the `sh` command to extract the downloaded **.signed.bin** file and verify the certificate. See example output below for reference:

```
sh cwm-1.1.signed.bin
Unpacking...
Verifying signature...
Retrieving CA certificate from http://www.cisco.com/security/pki/certs/crcam2.cer ...
Successfully retrieved and verified crcam2.cer.
Retrieving SubCA certificate from http://www.cisco.com/security/pki/certs/innerspace.cer ...
Successfully retrieved and verified innerspace.cer.
Successfully verified root, subca and end-entity certificate chain.
Successfully fetched a public key from tailf.cer.
Successfully verified the signature of cwm-1.1.tar.gz using tailf.cer
```

The `cwm-1.1.tar.gz` file and other files have been extracted and validated against the signature file.

Step 5 To extract the `cwm-1.1.tar.gz` file, double click on it (Mac users) or use gzip utility (Linux and Windows users). This will extract the CWM OVA file that will be used for installation.

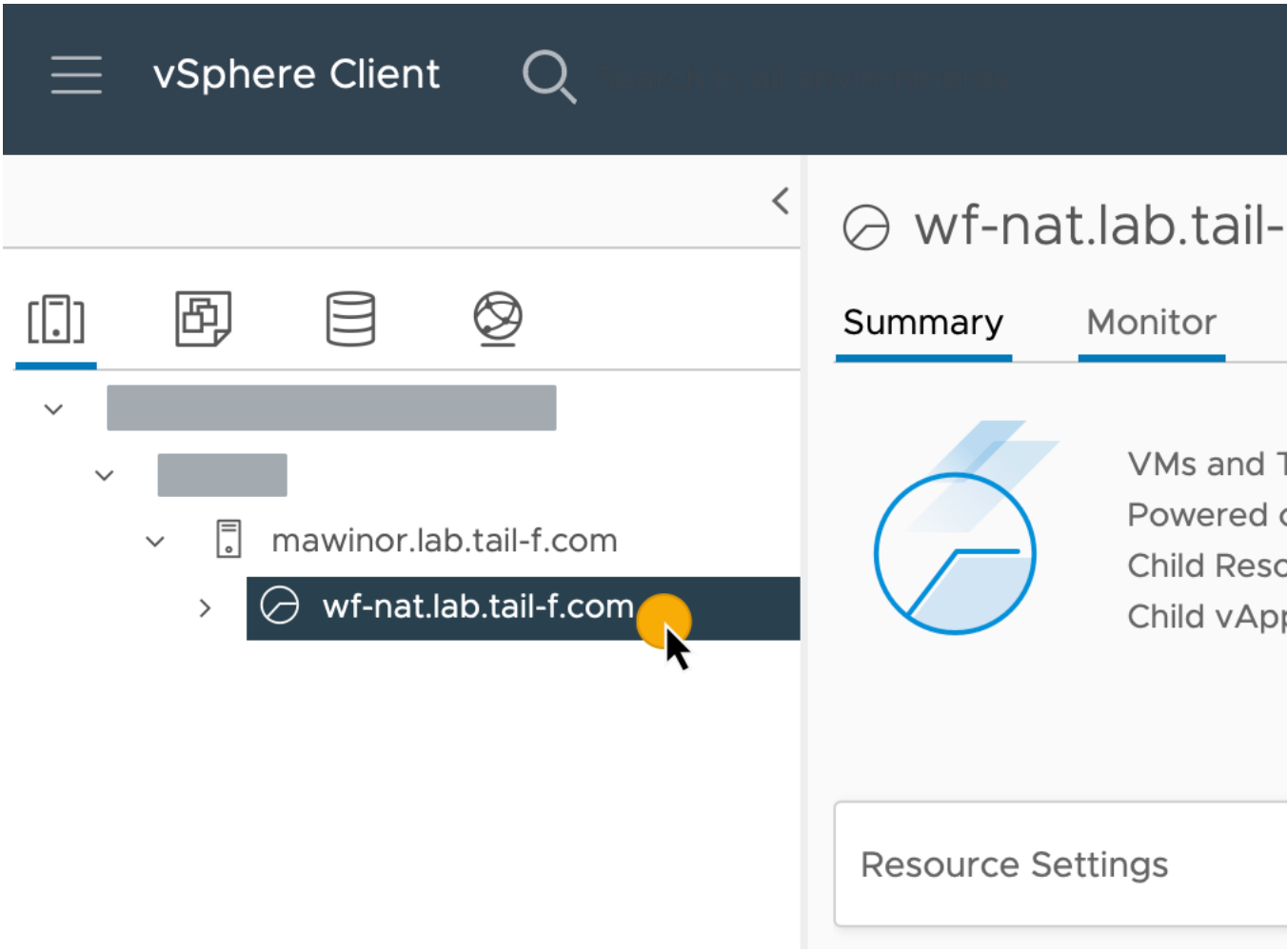
Deploy OVA and start VM

To create a virtual machine using the downloaded OVA image:

Step 1 Log in to your vSphere account.

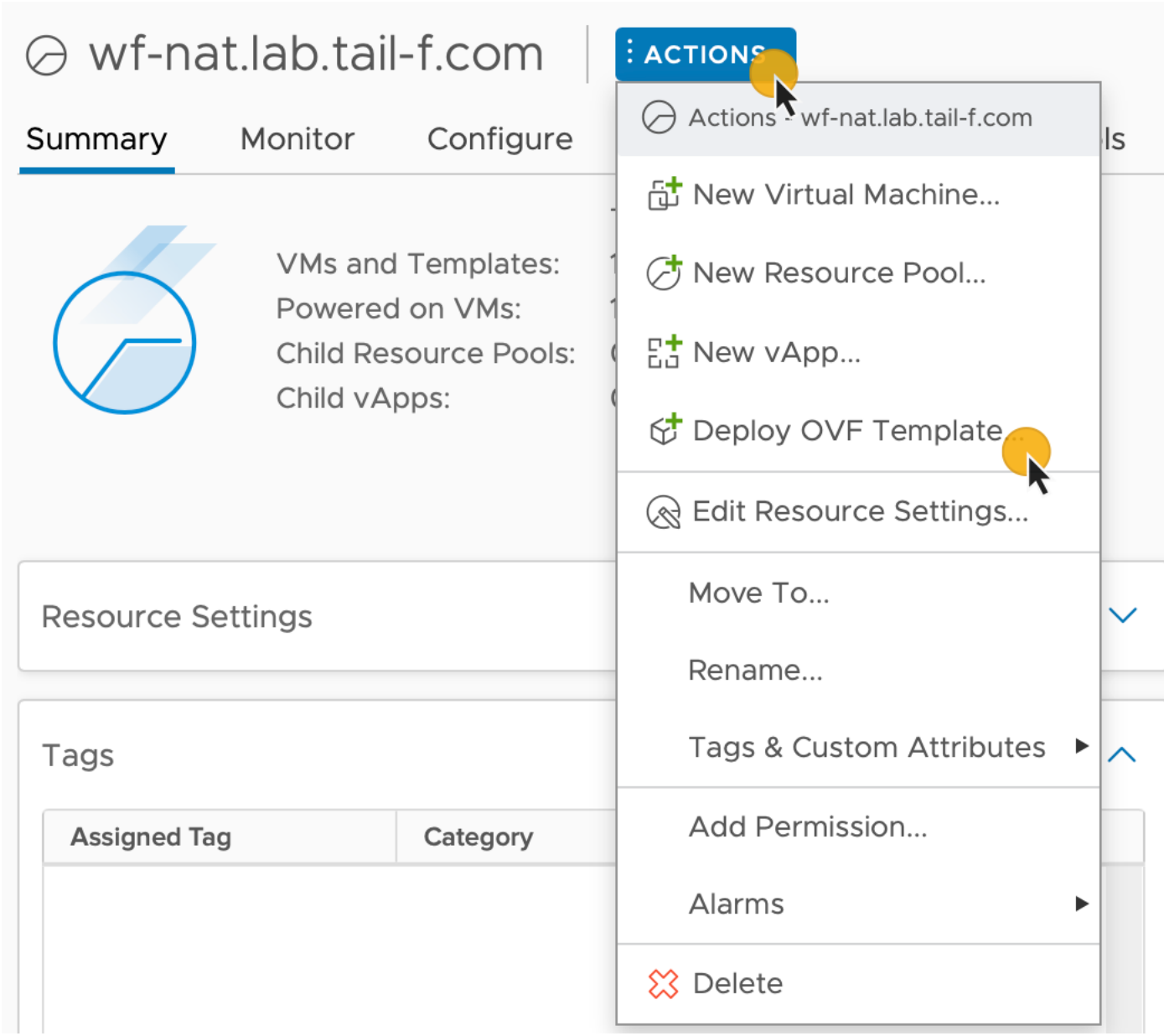
Step 2 In the **Hosts and Clusters** tab, expand your host and select your resource pool.

Figure 1:



Step 3 Click the **Actions** menu and select **Deploy OVF Template**.

Figure 2:



Step 4 In the **Select an OVF template** step, click **Local file**, **Select files**, and select the CWM OVA image. Click **Next**.

Step 5 In the **Select a name and folder** step, provide a name for your VM and select it's location. Click **Next**.

Step 6 In the **Select a compute resource** step, select your resource pool. Click **Next**.

Step 7 In the **Review details** step, click **Next**.

Step 8 In the **Select storage** step, set **Select virtual disk format** to **Thin provision** and select your storage, then click **Next**.

Step 9 In the **Select network** step, you need to select destination networks for the **Control Plane** and **Northbound**:

a) **Control Plane**: select **PrivateNetwork**. If not available, select **VM Network**.

Note Control plane settings are essential only in case of an HA cluster setup. For single-node setups, control plane settings need to be provided, but are not essential and should not conflict with any other devices connected to the control network.

b) **Northbound**: select **VM Network**.
c) Click **Next**.

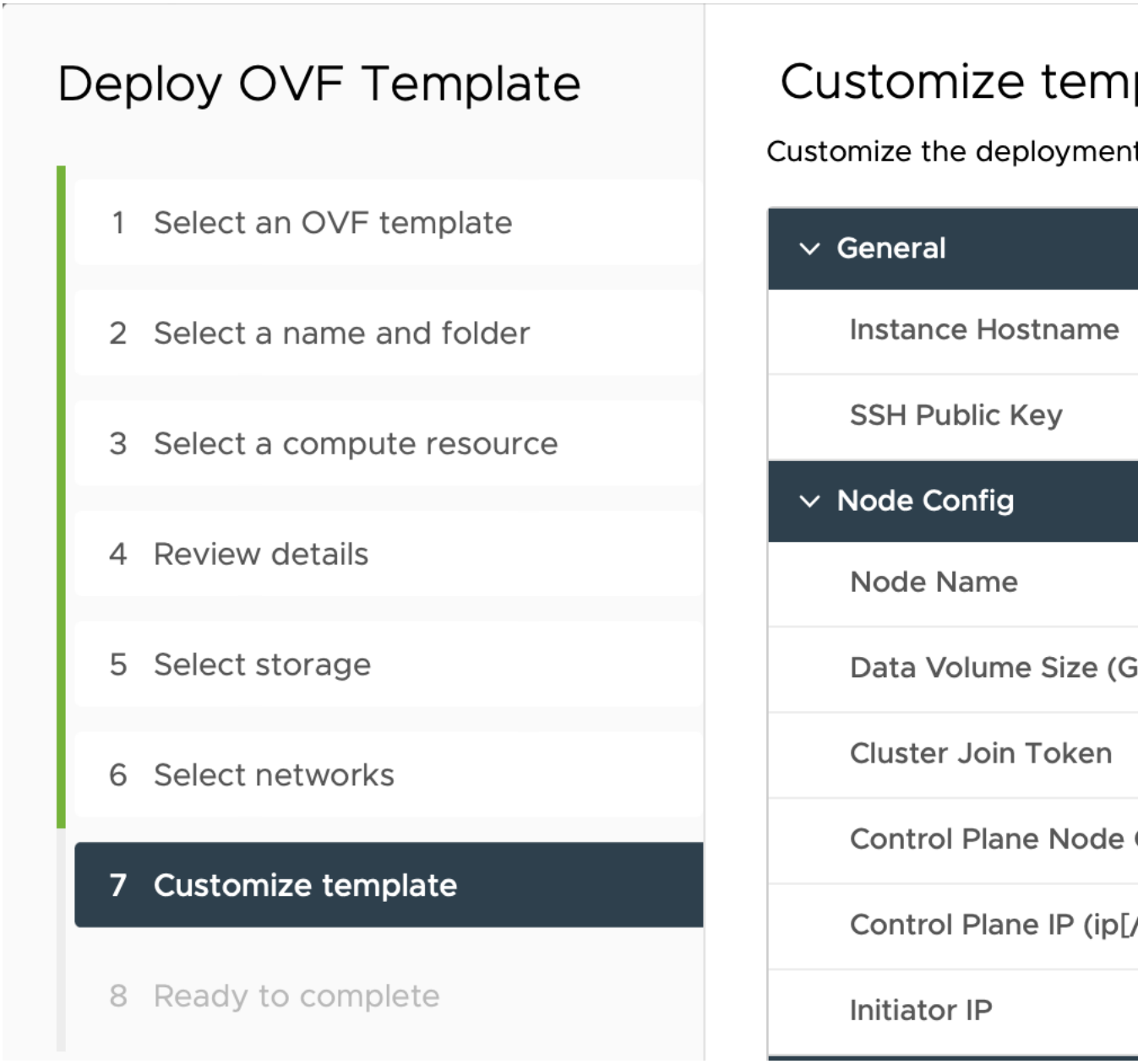
Step 10 In the **Customize template** step, provide the following selected properties:

a) **Instance Hostname**: type a name for your instance.
b) **SSH Public Key**: provide an **ed25519** SSH public key that will be used for command-line access to the VM.
c) **Node Name**: provide a name for installation node.

Note For single-node setups, it's not recommended to modify the node name. If you modify it, remember that it must match the **Zone-A Node Name** below.

d) **Control Plane Node Count**: change to more than 1 only in case of HA cluster setup. Not supported for CWM 1.1.
e) **Control Plane IP (ip subnet)**: provide a network address for the control plane. This address cannot conflict with any other devices in the control network, but is otherwise inessential in a single-node setup. Note that the default subnet mask is `/24`. You can add your custom subnet mask value if applicable for your network settings.
f) **Initiator IP**: set the initiator IP for the starter node. In a single-node setup, it is the same address as *Control Plane IP**.

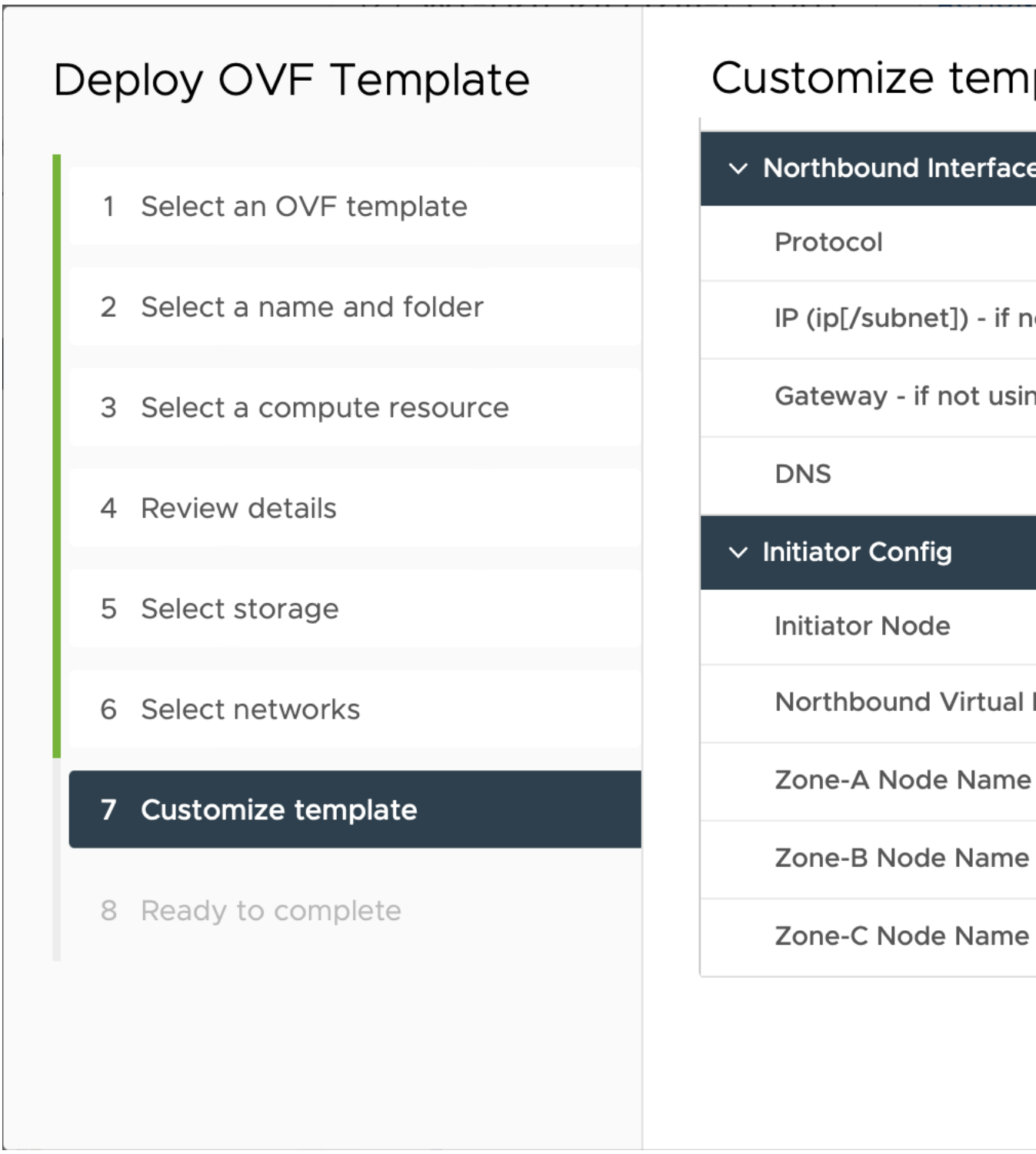
Figure 3:



g) **IP (ip subnet) - if not using DHCP**: provide the network address for the node. Note that the default subnet mask is `/24`. You can add your custom subnet mask value if applicable for your network settings.
h) **Gateway - if not using DHCP**: provide the gateway address. By default, it is `192.168.1.1`.
i) **DNS**: provide the address for the DNS. By default, it is `8.8.8.8`, or you can use your local DNS.
j) **Northbound Virtual IP**: provide the network address for the active cluster node. In a single-node setup this address is also required, as this is where the HTTP service is working.
k) **Zone-A Node Name**: provide the name of the Zone-A node. Note that it must match the **Node Name** above.
l) **Zone-B Node Name**: provide the name of the Zone-B node. For single-node setups, this is not essential and must not be modified.

m) **Zone-C Node Name (Arbitrator)**: provide the name of the Zone-C Arbitrator node. For single-node setups, this is not essential and must not be modified.
n) Click **Next**.

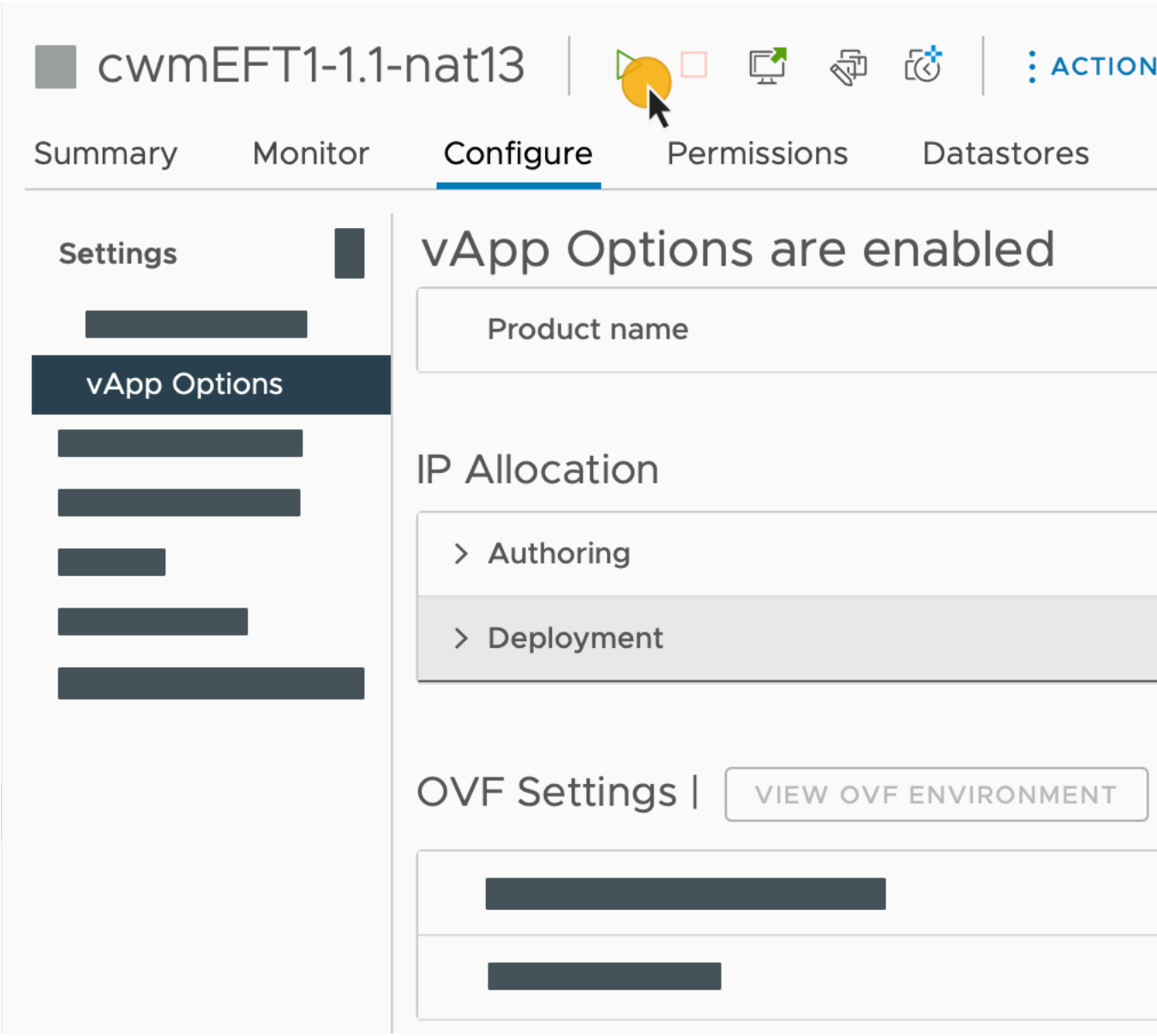
Figure 4:



Step 11 In the **Ready to complete**, click **Finish**. The deployment may take a few minutes.

Step 12 From the **Resource pool** list, select you newly created virtual machine and click the **Power on** icon.

Figure 5:



Note If the VM doesn't power on successfully, this might be due to an intermittent infrastructure error caused by NxF. As a workaround, remove the existing VM and redeploy the OVA on a new one.

Check installation and create user

Before you create a platform user account for first login to the CWM UI, check if the installation is completed successfully and the system is up:

Step 1 Using a command-line terminal, log in to the NxF in your guest OS with SSH:

```
ssh -o UserKnownHostsFile=/dev/null  -p 22  nxf@<virtual_IP_address>
```

Note By default, the virtual IP address is the one you set in **IP (ip subnet) - if not using DHCP**. Depending on how vCenter is set up, this can be the resource pool address along with a specific port. Check this with your network administrator in case of doubt

Optional: If you are logging in for the first time, provide the path name for your private key:

```
ssh -i <ed25519_ssh_private_key_name_and_location> nxf@<virtual_IP_address>
```

Note The default port for SSH is `22`, change it to your custom port if applicable.

Step 2 Check NxF boot logs:

```
sudo journalctl -u nxf-boot
```

Note Note that it may take a few minutes for the installation to complete. At the bottom of the NxF logs that appear, look for the `NXF: Done setting up machine` message. If the logs report an issue, you might consider reinstalling CWM.

Step 3 Check if all the Kubernetes pods are up and running:

```
kubectl get pods -A
```

This will display a list of pods accompanied by their status, which will resemble the following:

```
NAMESPACE             NAME                                      READY   STATUS             RESTARTS
      AGE
kube-flannel          kube-flannel-ds-vh4js                     1/1     Running            0
      7m35s
kube-system           coredns-9mnzv                             1/1     Running            0
      7m35s
kube-system           etcd-node1                                1/1     Running            0
      7m44s
kube-system           kube-apiserver-node1                      1/1     Running            0
      7m50s
kube-system           kube-controller-manager-node1             1/1     Running            0
      7m50s
kube-system           kube-proxy-6hwg9                          1/1     Running            0
      7m35s
kube-system           kube-scheduler-node1                      1/1     Running            0
      7m42s
local-path-storage    local-path-provisioner-54c455f95-mbhc9    1/1     Running            0
      7m34s
nxf-system            authenticator-f74c7c87f-m8p4x             2/2     Running            0
      6m25s
nxf-system            controller-76686f8f5f-gpqvc               2/2     Running            0
      6m27s
nxf-system            ingress-ports-node1-zchwz                 1/1     Running            0
      4m17s
nxf-system            ingress-proxy-bcb8c9fff-lzm9p             1/1     Running            0
      6m23s
nxf-system            kafka-0                                   1/1     Running            0
      7m34s
nxf-system            loki-0                                    3/3     Running            0
      6m33s
nxf-system            metrics-5qnzb                             2/2     Running            0
      6m30s
nxf-system            minio-0                                   2/2     Running            0
```

```
      7m34s
nxf-system           postgres-0                              2/2     Running            0
      6m59s
nxf-system           promtail-t7dp4                          1/1     Running            0
      6m33s
nxf-system           registry-5486f46b54-c6tf9               2/2     Running            0
      7m2s
nxf-system           vip-node1                               1/1     Running            0
      6m12s
zone-a               cwm-api-service-67bd9db5c7-vfszs        2/2     Running            2 (3m37s
ago)   4m16s
zone-a               cwm-dsl-service-7ffd6975ff-wlrwt        2/2     Running            4 (3m21s
ago)   4m15s
zone-a               cwm-engine-frontend-6754445fc-67t5h     2/2     Running            2 (3m52s
ago)   4m15s
zone-a               cwm-engine-history-c4dfffddd-t2fgv      2/2     Running            1 (2m35s
ago)   4m14s
zone-a               cwm-engine-history-c4dfffddd-wr5v2      2/2     Running            2 (3m51s
ago)   4m14s
zone-a               cwm-engine-history-c4dfffddd-zz74q      2/2     Running            4 (48s ago)
     4m14s
zone-a               cwm-engine-matching-78dfdf858f-q8wg2    2/2     Running            2 (3m46s
ago)   4m14s
zone-a               cwm-engine-ui-6b74755499-jwb1d          2/2     Running            0
      4m13s
zone-a               cwm-engine-worker-589b6bc88b-hs2ch      2/2     Running            0
      4m13s
zone-a               cwm-event-manager-5b95bb49db-gw6g5      2/2     Running            0
      4m12s
zone-a               cwm-plugin-manager-76f798446c-qgx27     2/2     Running            1 (2m29s
ago)   4m12s
zone-a               cwm-ui-779bdb44-98d5v                   2/2     Running            0
      4m11s
zone-a               cwm-worker-manager-7bd8795b56-f4czp     2/2     Running            1 (112s ago)
    4m10s
zone-a               logcli-5f8cc8c585-fq7wm                 2/2     Running            0
      4m10s
```

Note Note that it may take a few minutes for the system to get all the pods running. If any of the pods stays in a status other than `Running`, consider using the `kubectl delete pod <pod_name> -n <namespace>` command to restart it.

Create user for UI login

You can create CWM platform user accounts using the command-line access to the VM. Here's how to do it:

Step 1 Using a command-line terminal, log in to the NxF in your guest OS with SSH:

```
ssh -o UserKnownHostsFile=/dev/null  -p 22  nxf@<virtual_IP_address>
```

Optional: If you are logging in for the first time, provide the path name for your private key:

```
ssh -i <ed25519_ssh_private_key_name_and_location> nxf@<virtual_IP_address>
```

Note The default port for SSH is `22`, change it to your custom port if applicable.

Step 2 To create a user with a password, run the following commands:

a) First, set minimum password complexity (default is `3`, `0` is complexity disabled):

```
sedo security password-policy set --min-complexity-score 1
```

b) Then create user account and a password:

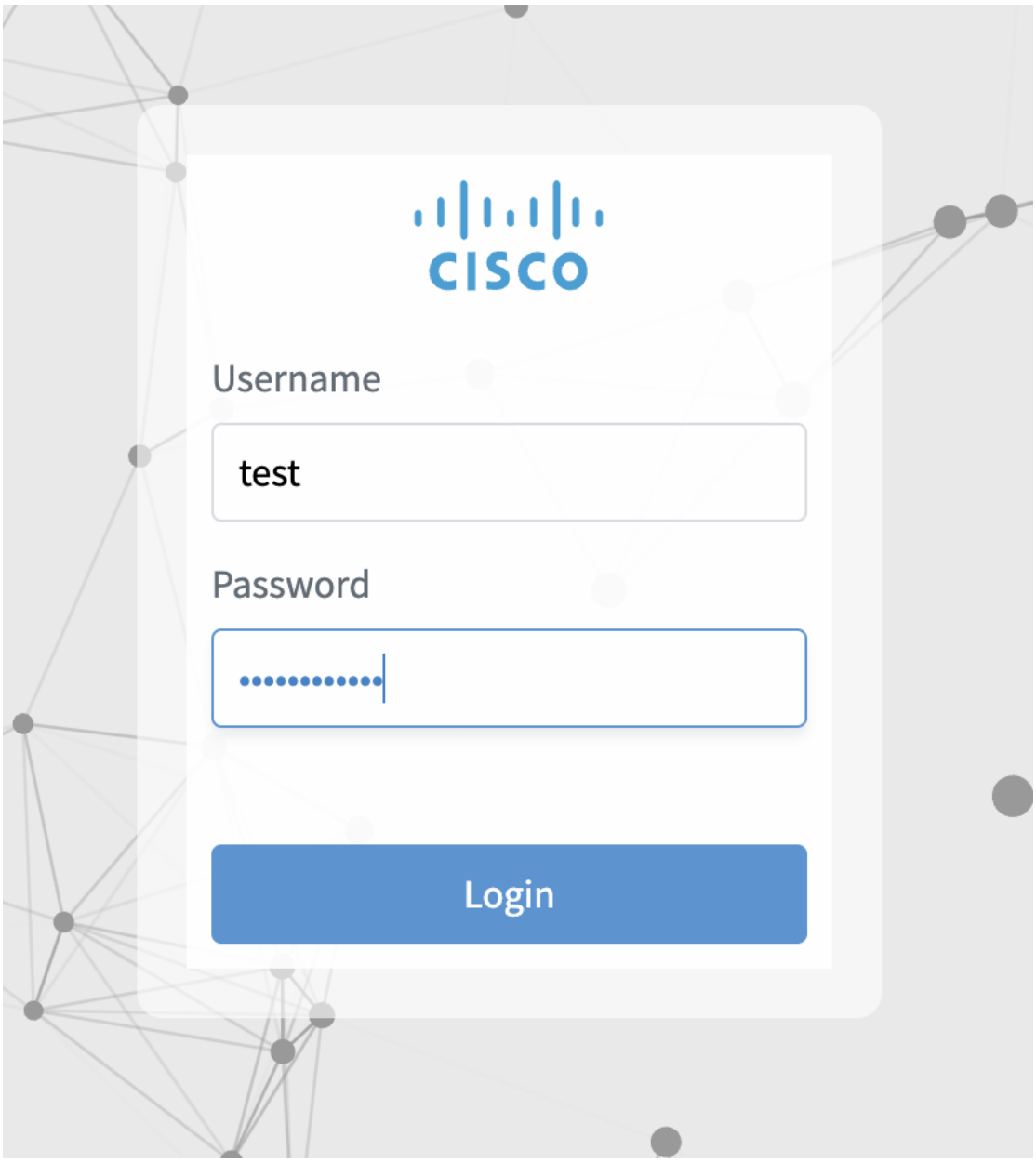
```
echo -en 'Password123!' | sedo security user add --password-stdin \
--access permission/admin --access permission/super-admin \
--access permission/user --display-name Tester test
```

c) Optionally, disable the password change requirement for the test user:

```
sedo security user set test  --must-change-password=false
```

Step 3 To see the CWM UI, go to the address that you selected for Northbound IP and default port `8443`. For example, https://192.168.1.233:8443/.

Step 4 Log in using the `test` username and password.


CISCO
Username
test
Password
Login