CREATE VM LAB GUIDE

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Contents

Lab 1: Creating Blueprint

1. Logged into Calm with the given credentials, and click on the **Blueprint** tab.
2. Select **+Create Blueprint** and select on **MultiVM/Pod Blueprint**.

Exercise 1: VM Service

This exercise allows you to create the Services required to create a VM.

1. Select on the **+ button** on **Service tab**.
2. You will be able to see a **VM1** block pop up, with configuration details shown on the right.
3. At the **Service Name**, input **"RHEL VM <YOUR_INITIALS>"** in the space

Exercise 2: Add Credentials

Credentials allows you to preset the username and password for the VM itself.

1. Click on the **+** button beside **credentials.**
2. Under **Name**, name it **root_cred .**
3. **Check** the **Static** button.
4. For **Username** input "**root**".
5. **Secret Type** check the **Password button.**
6. Lastly for **Password** input "**P@ssw0rd**" and check the **Default** button.

Exercise 3: VM Configurations

In this exercise, you will be configuring your VM before being deployed.

1. There are 3 tabs within the service, **"VM" "Package" "Service"**
2. Click on "**VM"**

Task 1: Add VM name

1. Replace VM1 with **"RHEL VM <YOUR_INITIALS>"**

Task 2: Add Account

1. Select the Account drop-down field and choose the account name that was configured previously **<Account Name>.** As this would allow you to deploy VM on Nutanix Prism Central.

Task 3: Add Operating System

1. Select Operating System drop-down field and choose **Linux**.

Task 4: Choose Cluster

1. Select on the Cluster shown here " "

Task 5: Variablized VM name

1. Under the tab **VM Name**, input the following **@@{calm_application}@@**

Task 6: Add specifications for VM

1. Add 4 **vCPU** and **1 Core per vCPU**.
2. Under the **Memory(GiB)** input the value **8**

Task 7: Add Disk

1. Select on the drop-down **Disk tab**, and under Device Type choose **DISK**.
2. Under the **Device Bus** choose **SCSI**.
3. In the Operation tab select the "**Clone from Image Service**".
4. Next, under the **Image** tab choose the **<RHEL Image>** for your VM.
5. Lastly, **check** the **Bootable button.**

Task 8: Boot configuration (UEFI Secure Boot)

1. Select the **UEFI** option for initializing boot up sequence.
2. Under the **Sheild VM Settings,** check the **Secure Boot** option

Task 9: Network Adapters

1. Select the **+** button to add a **NIC**.
2. Expand the dropdown menu and select **<Subnet>**.
3. Under the **Private IP,** select the **Dynamic** option.

Task 10: Connection

1. At the **Credential header**, select **cred_rhels_vm.**
2. Under Address select **NIC 1**.
3. At **Connection Type** choose **Windows (Powershell).**
4. **Connection Protocol** select **SSH**.
5. **Connection Port** type **22**.
6. **Delay** input **60** seconds.
7. Lastly, **Retries** to be **3.**

Exercise 4: Service Configuration

Task 11: Include Static Variable

1. Select the **+** button and name the variable **DNS_SERVER**.
2. Expand the newly added variable, set the **Data Type** to **String.**
3. Input the **<DNS IP>** into the **Value** field.
4. Click on the **Show Additional Options.**
5. Under the **Label** field, input "DNS IP"

6. (Optional) Under the **Description** field, input a meaningful description for this variable

Lab 2: Configuring VM

Exercise 5: Pre-Create

The pre-create task in the blueprint allows the developer to perform tasks required before the blueprints provisions the VM.

Task 13: Access Control

A sample task that can be in the pre-create could be an escript logic to prevent **'admin'** user to run the blueprint.

1. Select the **+ Task** button.
2. Change the **Task Name** on the right to **"Do not allow admin user to run"**
3. Expand the **Type** dropdown menu and select **Execute**
4. Expand the **Script Type** dropdown menu and select **EScript**
5. Type in the code as follow to implement the logic to ensure that admin user is not allowed to run this blueprint

```
username = '@@{calm_username}@@'
print("Current user: @@{calm_username}@@")

if 'admin' in username.lower():
    print("DO NOT LAUNCH WITH ADMIN ACCOUNT.")
    exit(1)
```

Lab 3: Configuring Package

Exercise 6: Package Install

Click the **drop-down tab** from **Package** and select **Install**. The tasks that are created here will be running through after the VM is created.

Task 14: Configure DNS Repo List

1. Click on the **+Task** and a new task will be created within Package Install.
2. On the right, rename the task to be "**Configure DNS Repo List**".
3. Type: **Execute**
4. Script Type: **Shell**
5. Input the following into the Script.

```
ip_dns_list="@@{DNS_SERVER}@@"
```

```
nic_device_name=$(nmcli -t -f Device,Type d | cut -d ':' -f 1 | head -n 1)
nic_connection_name=$(nmcli -t -f NAME,DEVICE con show --active | grep
"$device_name" | cut -d ':' -f 1)

nmcli con mod "$nic_connection_name" ipv6.ignore-auto-dns yes
nmcli con mod "$nic_connection_name" ipv4.ignore-auto-dns yes
nmcli con mod "$nic_connection_name" ipv4.dns "$ip_dns_list"
nmcli con down "$nic_connection_name" && nmcli con up "$nic_connection_name"
```

Task 15: Configure media Repo

1. Click on the **+Task** and a new task will be created within Package Install.
2. On the right, rename the task to be "**Configure media Repo**".
3. Type: **Execute**
4. Script Type: **Shell**
5. Input the following into the Script.

```
touch /etc/yum.repos.d/media.repo

cat > /etc/yum.repos.d/media.repo <<EOF
[BaseOS]
name=BaseOS
baseurl=http://@@{repo_ip}@@/BaseOS
gpgcheck=0
enabled=1

[AppStream]
name=AppStream
baseurl=http://@@{repo_ip}@@/AppStream
gpgcheck=0
enabled=1
```

Task 16: Configure NTP

Chrony is a versatile implementation of the of Network Time Protocol with faster time synchronization and accuracy.

1. Click on the **+Task** and a new task will be created within Package Install.
2. On the right, rename the task to be "**Check if Chrony is Installed**".
3. Type: **Execute**
4. Script Type: **Shell**
5. Input the following into the Script.

```
dnf install -y chrony

systemctl enable chronyd
systemctl start chronyd

echo "server time.google.com iburst" | tee -a /etc/chrony.conf

systemctl restart chronyd
```

Task 17: Patch to Latest

1. Click on the **+Task** and a new task will be created within Package Install.
2. On the right, rename the task to be "**Patch to Latest**".
3. Type: **Execute**
4. Script Type: **Shell**
5. Input the following into the Script.

```
dnf clean all
dnf update -y
```

Lab Variables	
Item Name	**Value**
Prism Central IP	x.x.x.x
Prism Central Username	admin
Prism Central Password	nutanix/4u
Image to Use	<To Be Confirmed>
Subnet	<To Be Confirmed>
Windows Username	administrator
Windows Password	P@ssw0rd
Rhel Username	root
Rhel Password	P@ssw0rdr

Reference

https://portal.nutanix.com/page/documents/details?targetId=Self-Service-Admin-Operations-Guide-v3_7_2_2:nuc-multi-vm-blueprints-configure-vm-package-service-c.html