CREATE SUBNET LAB GUIDE

Manfred Chong Boon Poh

[COMPANY NAME] [Company address]

Contents

Exercise 1: Creating a Runbook

1. Logged into Calm with the given credentials, and click on the **Runbook** tab.
2. Click on **+ Create Runbook**
3. For the **Name** field input "**CREATE SUBNET <YOUR_INITIALS>**"
4. (Optional) Provide a description for the runbook
5. Select your respective project "**studentX_project**"

Exercise 2: Adding a Task

This exercise allows you to add one or many task inside a runbook to execute scripts.

1. Click on the **+ Add Task**
2. Input the name **"Print Hello World"** under the **Task Name** field
3. Expand the **Type** dropdown field and select **Execute**
4. Expand the **Script Type** and select **Escript**
5. Click on **Save**

Exercise 3: Running a Runbook

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

1. Under the script field, write a simple print Hello World code

```
print("Hello World")
```

2. Click on **Save**
3. Click on **Execute**
4. You will see the "Hello World" text under the task output

Exercise 4: Runbook Configuration

Task 1: Adding Credential

1. Click on the Configuration tab, and click on **"Add/Edit Credentials"**
2. Click on **+ Add Credential**
3. Under the **Name** field, name it **pc_cred**
4. Under **Username** and **Password** field, key in the username provided in the lab sheet variable table
5. Click **Done**

Task 2: Adding Prism Central IP Variable

1. Click on the configuration tab, and click on "**Add/Edit Variables**"
2. Click on **+ Add Variable**
3. Under the **Name** field, name the variable **ip_pc**
4. Under the Value field, key in the provided Prism Central IP provided in the lab sheet variable table
5. Click **Done**
6. Click **Save**

Task 3: Adding VPC UUID Variable

1. Click on **+ Add Variable**
2. Under the **Name** field, name the variable **vpc_uuid**
3. Under the **Value** field, key in the provided vpc uuid provided the lab sheet variable table
4. Click **Done**
5. Click **Save**

Task 4: Adding Subnet Name Variable

1. Click on **+ Add Variable**
2. Under the **Name** field, name the variable **subnet_name**
3. Click on "**Show Additional Options**"
4. Under "**Label"** field, name it "**Name Of Subnet"**
5. Click on the **Running Man Logo** to enable runtime prompt for the variable
6. Click **Done**
7. Click **Save**

Task 5: Adding Subnet Name Variable

1. Click on **+ Add Variable**
2. Under the **Name** field, name the variable **subnet_name**
3. Click on "**Show Additional Options**"
4. Under "**Label"** field, name it "**Name Of Subnet"**
5. Click on the **Running Man Logo** to enable runtime prompt for the variable
6. Click **Done**
7. Click **Save**

Task 6: Adding IP Prefix Length Variable

1. Click on **+ Add Variable**
2. Under the **Name** field, name the variable **ip_prefix_length**
3. Click on "**Show Additional Options**"
4. Under "**Label"** field, name it "**IP CIDR Prefix Length"**
5. Click on the **Running Man Logo** to enable runtime prompt for the variable
6. Click **Done**
7. Click **Save**

Task 7: Adding Starting IP Variable

1. Click on **+ Add Variable**
2. Under the **Name** field, name the variable **ip_subnet**
3. Click on "**Show Additional Options**"
4. Under "**Label"** field, name it "**Start IP"**
5. Click on the **Running Man Logo** to enable runtime prompt for the variable
6. Click **Done**
7. Click **Save**

Task 8: Adding Gateway IP Variable

1. Click on **+ Add Variable**
2. Under the **Name** field, name the variable **ip_gateway**
3. Click on "**Show Additional Options**"
4. Under "**Label"** field, name it "**IP Gateway"**
5. Click on the **Running Man Logo** to enable runtime prompt for the variable
6. Click **Done**
7. Click **Save**

Task 9: Adding IP Pool Range Variable

1. Click on **+ Add Variable**
2. Under the **Name** field, name the variable **ip_pool_range**
3. Click on "**Show Additional Options**"
4. Under "**Label"** field, name it "**IP Pool Range"**
5. Click on the **Running Man Logo** to enable runtime prompt for the variable
6. Click **Done**
7. Click **Save**

Exercise 5: Writing the Add Subnet Task

Task 1: Adding a New Task

1. Click on the **+ Add Task**
2. Input the name **"Create Subnet"** under the **Task Name** field
3. Expand the **Type** dropdown field and select **Execute**
4. Expand the **Script Type** and select **Escript**
5. Click on **Save**

Task 2: Variable Declaration

1. Click on the newly created "**Create Subnet**" task in the editor
2. Under the **Script** field type in the following code

```
import requests

# Credential and IP for making API Calls
IP_PC = "@@{ip_pc}@@"
USER_PC = "@@{pc_cred.username}@@"
PASS_PC = "@@{pc_cred.secret}@@"

# Network variables for creating subnet
UUID_VPC = "@@{vpc_uuid}@@"
OVERLAY_NAME = "@@{subnet_name}@@"
OVERLAY_PREFIX_LEN = "@@{prefix_length}@@"
OVERLAY_IP = "@@{ip_subnet}@@"
OVERLAY_GATEWAY = "@@{ip_gateway}@@"
```

```
OVERLAY_POOL = "@@{ip_pool_range}@@"
```

Task 3: Define Subnet Configuration Payload Method

1. Under the **Script** field, type in the following code after the variable declarations

```
def define_ip_config(ip_prefix_length, ip_subnet, ip_gateway, ip_pool_range):
    return {
        "subnet_ip": ip_subnet,
        "prefix_length": int(ip_prefix_length),
        "default_gateway_ip": ip_gateway,
        "pool_list": [{
            "range": ip_pool_range
        }]
    }
```

Task 4: Create Subnet Method

1. Under the **Script** field, type in the following code after the define_ip_config() method

```
def create_subnet(ip_pc, user_pc, pass_pc, vpc_uuid, subnet_name, ip_config):
    url = "https://{}:9440/api/nutanix/v3/subnets".format(ip_pc)
    headers = {
        "Accept": "application/json",
        "Content-Type": "application/json"
    }
    payload = {
        "spec": {
            "name": subnet_name,
            "resources": {
                "subnet_type": "OVERLAY"
                "vpc_reference": {
                    "kind": "vpc",
                    "uuid": vpc_uuid
                },
                "ip_config": ip_config
            }
        },
        "metadata": {
            "kind": "subnet"
        },
        "api_version": "3.1.0"
    }

    response = requests.request("POST", url, auth=(user_pc, pass_pc),
headers=headers, data=json.dumps(payload), verify=False)
```

```
    print(response.text)
```

Task 5: Execute Methods

```
user_subnet_config = define_ip_config(OVERLAY_PREFIX_LEN, OVERLAY_IP,
OVERLAY_GATEWAY, OVERLAY_POOL)
create_subnet(IP_PC, USER_PC, PASS_PC, UUID_VPC, OVERLAY_NAME,
user_subnet_config)
```

<Table of variables to be updated>

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@ssw0rd