Rightsizing Domain Joined VMs - Compute (Upsize/Downsize)

Overview

Platform:	Azure
Owner of this SOP:	Fully Managed POD A
Cloud Services:	Domain Joined Virtual Machines

Problem

- When requesters are asking for their Domain Joined Virtual Machines to have their CPU/Memory upsized.
- For cost optimization, we downscale a VM if resources aren't fully used.

After we provision a virtual machine (VM), we can scale the VM up or down by changing the VM size. Check for the available VM size that the region supports where VM is residing. The VM restarts during this process. After the restart, existing OS and data disks are remapped. Anything on the **temporary disk** is lost.

tester	Reviewer
@ Ramkumar Samudram (Deactivated)	

Process

Raise a Normal Change Request

Please open a Normal change request and get it approved before executing the resize activity. And respective stake holders and application owners should be informed prior to this activity as downtime is required for VM.

Solution

1. Shutdown the VM.

2. Logon to Gitlab and go to the respective repo.
(eg : https://gitlab.com/bhp-cloudfactory/tooling-foundations/fm-sops/winvm)

3. Clone the repo to your local machine and edit using Visual Studio code

```
851515@LTIN109280 MINGW64 ~/Desktop/bhpkt/FMPODA/winVMtesting
$ git clone git@gitlab.com:bhp-cloudfactory/tooling-foundations/fm-sops/winvm.git
Cloning into 'winvm'...
remote: Enumerating objects: 49, done.
remote: Counting objects: 100% (49/49), done.
remote: Compressing objects: 100% (45/45), done.
remote: Total 49 (delta 16), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (49/49), 263.80 KiB | 553.00 KiB/s, done.
Resolving deltas: 100% (16/16), done.
```

File   Edit   Selection   View   Go   Run   Terminal   Help   npe.auto.tfvars - winvm - Visual Studio Code [Administrator]
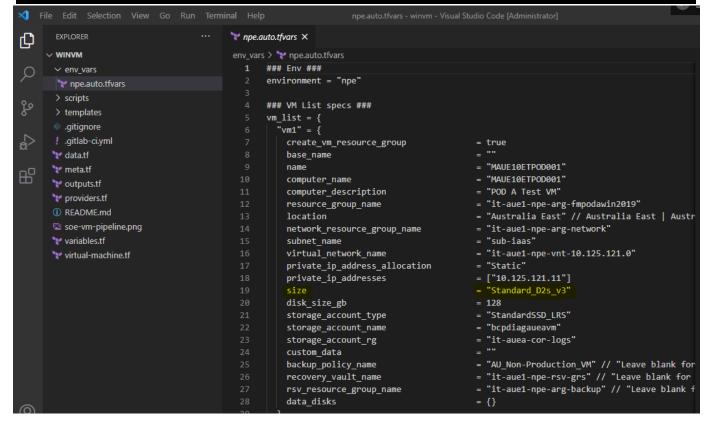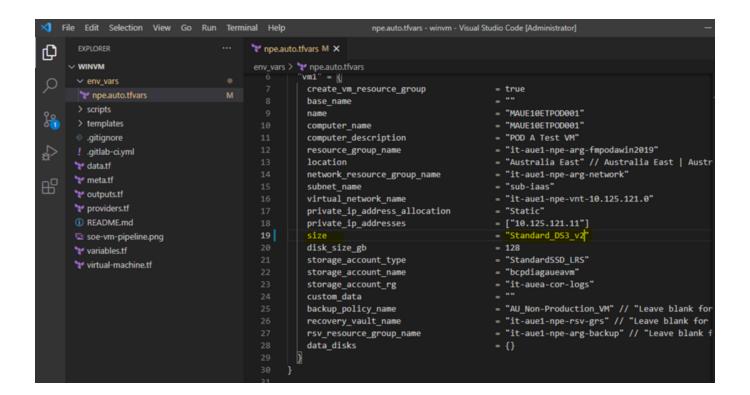
EXPLORER   ···   npe.auto.tfvars ×

∨ WINVM   env_vars > npe.auto.tfvars

∨ env_vars
    npe.auto.tfvars

> scripts
> templates
◆ .gitignore
! .gitlab-ci.yml
  data.tf
  meta.tf
  outputs.tf
  providers.tf
ⓘ README.md
  soe-vm-pipeline.png
  variables.tf
  virtual-machine.tf

```
 1    ### Env ###
 2    environment = "npe"
 3
 4    ### VM List specs ###
 5    vm_list = {
 6      "vm1" = {
 7        create_vm_resource_group          = true
 8        base_name                         = ""
 9        name                              = "MAUE10ETPOD001"
10        computer_name                     = "MAUE10ETPOD001"
11        computer_description              = "POD A Test VM"
12        resource_group_name               = "it-aue1-npe-arg-fmpodawin2019"
13        location                          = "Australia East" // Australia East | Austr
14        network_resource_group_name       = "it-aue1-npe-arg-network"
15        subnet_name                       = "sub-iaas"
16        virtual_network_name              = "it-aue1-npe-vnt-10.125.121.0"
17        private_ip_address_allocation     = "Static"
18        private_ip_addresses              = ["10.125.121.11"]
19        size                              = "Standard_D2s_v3"
20        disk_size_gb                      = 128
21        storage_account_type              = "StandardSSD_LRS"
22        storage_account_name              = "bcpdiagaueavm"
23        storage_account_rg                = "it-auea-cor-logs"
24        custom_data                       = ""
25        backup_policy_name                = "AU_Non-Production_VM" // "Leave blank for
26        recovery_vault_name               = "it-aue1-npe-rsv-grs" // "Leave blank for
27        rsv_resource_group_name           = "it-aue1-npe-arg-backup" // "Leave blank f
28        data_disks                        = {}
```

4. Change the VM size as per request and Save it. Push the code to trigger the pipeline

EXPLORER   ⋯

∨ WINVM

∨ env_vars   ●
  🐦 npe.auto.tfvars   M
  > scripts
  > templates
  ◇ .gitignore
  ! .gitlab-ci.yml
  🐦 data.tf
  🐦 meta.tf
  🐦 outputs.tf
  🐦 providers.tf
  ① README.md
  🖼 soe-vm-pipeline.png
  🐦 variables.tf
  🐦 virtual-machine.tf

🐦 npe.auto.tfvars M ✕

env_vars > 🐦 npe.auto.tfvars

```terraform
 6      "vm1" = {
 7        create_vm_resource_group        = true
 8        base_name                       = ""
 9        name                            = "MAUE10ETPOD001"
10        computer_name                   = "MAUE10ETPOD001"
11        computer_description            = "POD A Test VM"
12        resource_group_name             = "it-aue1-npe-arg-fmpodawin2019"
13        location                        = "Australia East" // Australia East | Austr
14        network_resource_group_name     = "it-aue1-npe-arg-network"
15        subnet_name                     = "sub-iaas"
16        virtual_network_name            = "it-aue1-npe-vnt-10.125.121.0"
17        private_ip_address_allocation   = "Static"
18        private_ip_addresses            = ["10.125.121.11"]
19        size                            = "Standard_DS3_v2"
20        disk_size_gb                    = 128
21        storage_account_type            = "StandardSSD_LRS"
22        storage_account_name            = "bcpdiagaueavm"
23        storage_account_rg              = "it-auea-cor-logs"
24        custom_data                     = ""
25        backup_policy_name              = "AU_Non-Production_VM" // "Leave blank for
26        recovery_vault_name             = "it-aue1-npe-rsv-grs" // "Leave blank for
27        rsv_resource_group_name         = "it-aue1-npe-arg-backup" // "Leave blank f
28        data_disks                      = {}
29      }
30    }
31
```

```
351515@LTIN109280 MINGW64 ~/Desktop/bhpkt/FMPODA/winVMtesting/winvm (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   env_vars/npe.auto.tfvars

no changes added to commit (use "git add" and/or "git commit -a")

351515@LTIN109280 MINGW64 ~/Desktop/bhpkt/FMPODA/winVMtesting/winvm (main)
$ git add .

351515@LTIN109280 MINGW64 ~/Desktop/bhpkt/FMPODA/winVMtesting/winvm (main)
$ git commit -m "upsize the vm"
[main 87eb982] upsize the vm
 Committer: Samudram <351515@cognizant.com>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

 1 file changed, 1 insertion(+), 1 deletion(-)

351515@LTIN109280 MINGW64 ~/Desktop/bhpkt/FMPODA/winVMtesting/winvm (main)
$ git push
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 351 bytes | 351.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0
To gitlab.com:bhp-cloudfactory/tooling-foundations/fm-sops/winvm.git
   69501c8..87eb982  main -> main

351515@LTIN109280 MINGW64 ~/Desktop/bhpkt/FMPODA/winVMtesting/winvm (main)
$
```
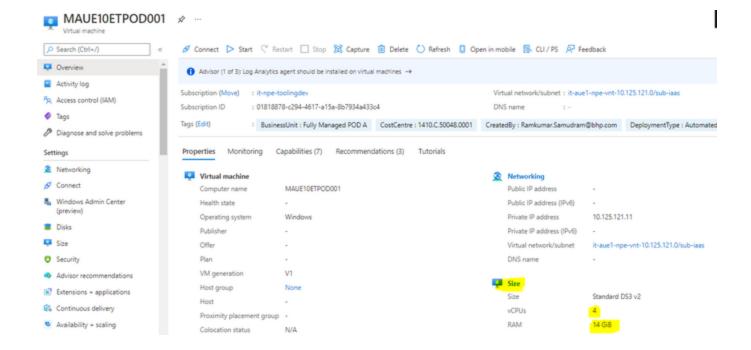
5. Check the respective terraform workspace once the plan stage completed in git pipeline. Check the terraform plan and confirm that NO RESOURCE IS DESTROYED and VM size is changing as per request

⚡ GitLab ☰ Menu ➕ ⌄ Search GitLab

W WinVM

📁 Project information
📄 Repository
🗇 Issues 0
⇅ Merge requests 0
⚙ CI/CD
Pipelines
Editor

bhp-cloudfactory > ••• > FM-Sops > WinVM > Pipelines

All 6   Finished   Branches   Tags

Filter pipelines

Status	Pipeline ID	Triggerer	Commit	Stages
⊘ blocked	#429102512 latest		⌥ main ⊶ 87eb9821 🌐 upsize the vm	✓✓✓ plan: passed ⚙ ●

▼ BHPEG-Dev ⌄   **Workspaces**   Registry   Settings   HashiCorp Cloud Platform ↗

BHPEG-Dev / Workspaces

Workspaces   Matching 1 of 589 total   ❎ Clear filters

All **589**   ⚠ Needs Attention 27   ⊗ Errored 117   ⟳ Running 1   ⊙ On Hold 0   ✓ Success 273   ⌄ ⌄ ⇅

WORKSPACE NAME	RUN STATUS	REPO
🔒 a_azr_toolingdev_npe_fmpodawin2019_01818878-c29...	❗ Policy checked	

❗ Policy checked **Queued from GitLab CI/CD Pipeline**   `CURRENT`

👤 **API Integration** triggered a **run** from API 13 minutes ago   Run Details ⌄

✓ **Plan finished** 13 minutes ago   Resources: **0** to add, **6** to change, **0** to destroy ⌃

❗ Policy checked **Queued from GitLab CI/CD Pipeline**   `CURRENT`

👤 **API Integration** triggered a **run** from API 13 minutes ago   Run Details ⌄

✓ **Plan finished** 13 minutes ago   Resources: **0** to add, **6** to change, **0 to destroy** ⌃

> ～ 🅰 module.virtual_machine["vm1"].azurerm_virtual_machine_extension.dia...

> ～ 🅰 module.virtual_machine["vm1"].azurerm_virtual_machine_extension.po...

∨ ～ 🅰 module.virtual_machine["vm1"].azurerm_windows_virtual_machine.this ⧉

```
    id :                        "/subscriptions/01818878-c294-4617-a15a-8b7934a433c4/resourceGroups/it-aue1-npe-arg-fmpodawin2019/provider
                                s/Microsoft.Compute/virtualMachines/MAUE10ETPOD001"
    name :                      "MAUE10ETPOD001"
  ~ size :                      "Standard_D2s_v3"  →  "Standard_DS3_v2"
    tags :                      {
        ... 12 unchanged attributes hidden

    }
```

6. Manually run the terraform apply stage after size verification.

bhp-cloudfactory > ••• > FM-Sops > WinVM > **Pipelines**

| **All** 6 | **Finished** | **Branches** | **Tags** |

Filter pipelines

Status	Pipeline ID	Triggerer	Commit	Stages
⊙ blocked	#429102512 latest	🌸	⌥ main ⟜ 87eb9821 🌐 upsize the vm	✓–✓–✓–⚙–◯ Play

⚙ apply ▶

✓ Applied **Queued from GitLab CI/CD Pipeline**   CURRENT

👤 **API Integration** triggered a **run** from API 13 minutes ago   Run Details ∨

✓ **Plan finished**   18 minutes ago   Resources: **0** to add, **6** to change, **0** to destroy ∨

✓ **Cost estimation finished**   18 minutes ago   Resources: **1** of **9** estimated · **$418.13**/mo · +**$256.68** ∨

✓ **Policy check passed**   18 minutes ago   Policies: **13** passed, **0** failed ∨

✓ **Apply finished**   a few seconds ago   Resources: **0** added, **6** changed, **0** destroyed ∨

Need to verify the VM size in Azure portal once terraform apply is finished. Start the VM.

MAUE10ETPOD001
Virtual machine

Search (Ctrl+/)

- Overview
- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems

Settings

- Networking
- Connect
- Windows Admin Center (preview)
- Disks
- Size
- Security
- Advisor recommendations
- Extensions + applications
- Continuous delivery
- Availability + scaling

Connect Start Restart Stop Capture Delete Refresh Open in mobile CLI / PS Feedback

ⓘ Advisor (1 of 3): Log Analytics agent should be installed on virtual machines →

| Subscription (Move) | : it-npe-toolingdev | Virtual network/subnet : it-aue1-npe-vnt-10.125.121.0/sub-iaas |
| Subscription ID | : 01818878-c294-4617-a15a-8b7934a433c4 | DNS name : - |

Tags (Edit) : BusinessUnit : Fully Managed POD A   CostCentre : 1410.C.50048.0001   CreatedBy : Ramkumar.Samudram@bhp.com   DeploymentType : Automated

Properties   Monitoring   Capabilities (7)   Recommendations (3)   Tutorials

🖥 Virtual machine
Computer name	MAUE10ETPOD001
Health state	-
Operating system	Windows
Publisher	-
Offer	-
Plan	-
VM generation	V1
Host group	None
Host	-
Proximity placement group	-
Colocation status	N/A

🖧 Networking
Public IP address	-
Public IP address (IPv6)	-
Private IP address	10.125.121.11
Private IP address (IPv6)	-
Virtual network/subnet	it-aue1-npe-vnt-10.125.121.0/sub-iaas
DNS name	-

🖥 Size
Size	Standard DS3 v2
vCPUs	4
RAM	14 GiB

Related articles

- [AWS VPC Endpoints configuration change](#)
- [Monitoring GitLab Access Audit Report](#)
- [Renewal / Upload SSL certificate for existing Application](#)
- [Update the Task memory unit](#)
- [Update the Task CPU limit](#)