Virtual Machines

1. Why you need a VM?. Why not use the services?
   1. Azure offers almost all the services that you require through PaaS.
      1. You’ll have a web App for hosting Wed Applications/APIs
      2. You’ll have Azure Functions, Azure Batch Jobs for Backend Jobs
      3. You’ll have storage accounts for storing and retrieving data
      4. You’ll have Redis Cache as a service for caching data
   2. Why you need a VM?
      1. PaaS is slightly costly as Microsoft is managing it
      2. You’ll have control over Patching the VM that’s used for your Storage Account
      3. May be that might comply with your company’s security policy
2. Components in a VM
   1. Image – There are some Images that you can select from while creating a VM. Ex: Windows Datacenter 2016 R2, Windows with VisualStudio etc.,
   2. CPU and Memory – you can Select from the options available
   3. Network - Networking components
   4. Storage – you can select the storage from the options provided. SSD/HDD
3. Creating a VM
   1. We’ll see how to create a VM in azure portal
      1. Create a Windows VM
      2. Create a Linux VM
      3. Connect to both VMs from remote

**To do: 1. Document steps to connect to Linux VM**

**2. Learn what’s a VNet and subnet**

Now, we’ve seen how to create a VM a from portal.

1. What should we do when we need 20 VMs?
2. You think we have to create them using azure portal as a good practice?
3. To solve this issue, we have to create VM using code.
   1. Azure CLI
   2. Powershell
   3. Cloudshell

**Azure CLI -** Azure CLI is cross platform

More at [***https://docs.microsoft.com/en-us/cli/azure/install-azure-cli***](https://docs.microsoft.com/en-us/cli/azure/install-azure-cli)

**PowerShell –** Windows only. Now we have PowerShell Core available for linux, mac os and as a docker container image.You’ll have to install a new module to manage azure resources. The command is **Install-Module Az**

More at ***https://docs.microsoft.com/en-us/powershell/azure/install-az-ps***

**CloudShell –** Azure CLI on the cloud. Just open Azure portal on a browser and start using cloud shell. We need a storage account to store all the scripts that we run on Cloud shell

Note: Cloudshell data has a 20 mins timeout for inactivity

**Demo: Create VM using Azure CLI, Powershell and CloudShell**

**To do: Document all the CLI, Powershell and CloudShell commands with comments**

Now, we’ve learnt how to provision VMs using Azure CLI, PowerShell and CloudShell. Now, We’ll see how to create custom images for a VM. Instead of using “Windows 2016 R2 Datacenter” Image, we can use a custom image while creating a new VM.

Now we’ll see

1. Create custom images
2. Deploying VMs from a Custom Image
3. Managing Custom Images