Week-10 | Automate Azure Resources using Azure CLI | Command Line Interface

Introduction to Azure CLI

Azure Command-Line Interface (Azure CLI) is a powerful tool used to manage Azure resources from the terminal. It enables automation, scripting, and seamless resource management, making it an essential tool for DevOps engineers.

Why Use Azure CLI?

- ✅ Automate Azure resource management
- ✅ Manage infrastructure using scripts
- ✅ Cross-platform compatibility (Windows, macOS, Linux)
- ✅ Easily integrate with CI/CD pipelines
- ✅ Lightweight and fast compared to GUI-based management

Install Azure CLI

Azure CLI can be installed on different operating systems using the following official documentation:

- **Installation Overview**

https://learn.microsoft.com/en-us/cli/azure/install-azure-cli

- **Install on Windows**

https://learn.microsoft.com/en-us/cli/azure/install-azure-cli-windows?tabs=azure-cli

- **Install on Linux**

https://learn.microsoft.com/en-us/cli/azure/install-azure-cli-linux?pivots=apt

- **Install on Mac**

https://learn.microsoft.com/en-us/cli/azure/install-azure-cli-macos

After installation, verify the installation using:

az version

Azure CLI Basics

1 Sign in to Azure

To use Azure CLI, first, sign in to your Azure account:

az login

This will open a browser window for authentication. If running on a remote server without a GUI, use:

az login --use-device-code

2 List Available Azure Subscriptions

az account list --output table

To set a specific subscription as default:

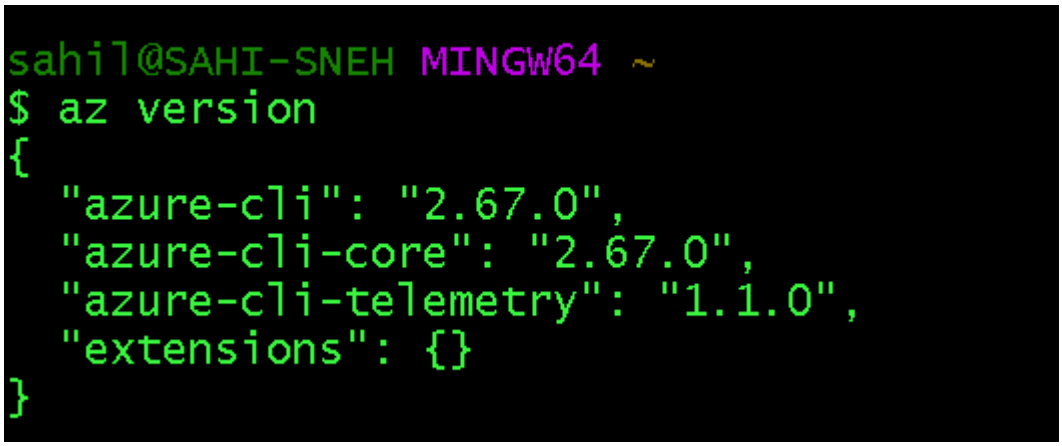
az account set --subscription "Subscription_Name"

3 Get Help on Azure CLI Commands

az --help

To get help for a specific command:

az vm create –help



Create a Virtual Machine using Azure CLI

1 Create a Resource Group

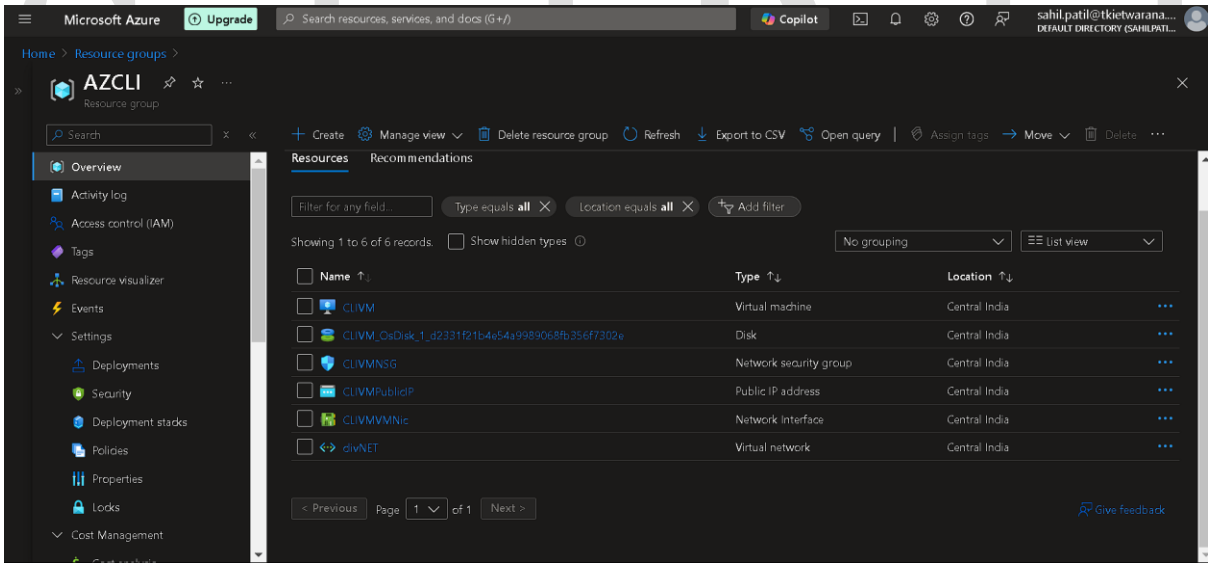
A resource group is a logical container for Azure resources.

az group create --name learn-azure-cli --location eastus

(Optional) Set the resource group as default to avoid specifying it in every command:

az config set defaults.group=learn-azure-cli

```
sahil@SAHI-SNEH MINGW64 ~
$ az vm create   --resource-group AZCLI   --name CLIVM   --image Ubuntu2204   --vnet-name clivNET   --subnet CLIsubnet   --generate-ssh-keys   --
output json   --verbose
Use existing SSH public key file: C:\Users\sahil\.ssh\id_rsa.pub
{
  "fqdns": "",
  "id": "/subscriptions/8809e93f-1006-482f-9f2d-f3b60a303da5/resourceGroups/AZCLI/providers/Microsoft.Compute/virtualMachines/CLIVM",
  "location": "centralindia",
  "macAddress": "60-45-BD-AC-FE-8B",
  "powerState": "VM running",
  "privateIpAddress": "10.0.0.4",
  "publicIpAddress": "4.247.165.193",
  "resourceGroup": "AZCLI",
  "zones": ""
}
Command ran in 68.445 seconds (init: 0.491, invoke: 67.954)
```



2 Create a Virtual Machine

The following command creates an Ubuntu 22.04 VM with SSH keys:

```
az vm create \
  --resource-group learn-azure-cli \
  --name MyVM \
  --image Ubuntu2204 \
  --vnet-name default \
  --subnet default \
  --generate-ssh-keys \
  --output json \
  --verbose
```

This command does the following:

✅ Creates a VM named **MyVM**
✅ Uses Ubuntu 22.04 as the OS image
✅ Uses the default Virtual Network and Subnet
✅ Generates SSH keys for secure access
✅ Outputs detailed information in JSON format

3 Check the Status of the VM

```
az vm show --resource-group learn-azure-cli --name MyVM --show-details --output table
```

4 List All Virtual Machines

```
az vm list --output table
```

5 Start or Stop the Virtual Machine

```
az vm start --resource-group learn-azure-cli --name MyVM
```

```
az vm stop --resource-group learn-azure-cli --name MyVM
```

6 Delete the Virtual Machine

```
az vm delete --resource-group learn-azure-cli --name MyVM --yes
```

7 Delete the Entire Resource Group (Deletes all associated resources)

```
az group delete --name learn-azure-cli --yes --no-wait
```

```
sahil@SAHI-SNEH MINGW64 ~
$ az group delete --name AZCLI
Are you sure you want to perform this operation? (y/n): y
```

More Azure CLI Commands

Create a Storage Account

```
az storage account create \
  --name mystorageaccount \
  --resource-group learn-azure-cli \
  --location eastus \
  --sku Standard_LRS
```

Create a Virtual Network

```
az network vnet create \
  --name MyVNet \
  --resource-group learn-azure-cli \
  --subnet-name MySubnet
```

Create a Managed Disk for VM

```
az disk create \
  --resource-group learn-azure-cli \
  --name MyDisk \
  --size-gb 50 \
  --sku Premium_LRS
```


Create a Public IP for a VM

```
az network public-ip create \
  --resource-group learn-azure-cli \
  --name MyPublicIP
```

Conclusion

Azure CLI is a powerful tool that simplifies infrastructure management and automates resource deployment. With scripting and automation, DevOps engineers can efficiently manage Azure resources, integrate with CI/CD pipelines, and reduce manual work.

- Automate infrastructure
- Scale deployments
- Reduce manual errors
- Improve DevOps workflows