CSE 415 Fundamentals of Cloud Computing
Lab Exercise 05

Navigate through Azure Portal and select Cloud Shell.

Resource Group Management

az group: manage resource groups and template deployments.

Detailed information: *az group -h*

```
taha [ ~ ]$ az group -h

Group
    az group : Manage resource groups and template deployments.

Subgroups:
    lock   : Manage Azure resource group locks.

Commands:
    create : Create a new resource group.
    delete : Delete a resource group.
    exists : Check if a resource group exists.
    export : Captures a resource group as a template.
    list   : List resource groups.
    show   : Gets a resource group.
    update : Update a resource group.
    wait   : Place the CLI in a waiting state until a condition of the resource group is met.

To search AI knowledge base for examples, use: az find "az group"
```

Figure 1. az group -h output

To create a new resource group, use *az group create* command. To see arguments and examples execute *az group create -h*

```
taha [ ~ ]$ az group create -h

Command
    az group create : Create a new resource group.

Arguments
    --location -l                [Required] : Location. Values from: `az account list-locations`.
                                              You can configure the default location using `az
                                              configure --defaults location=<location>`.
    --name --resource-group -g -n [Required] : Name of the new resource group.
    --managed-by                             : The ID of the resource that manages this resource
                                              group.
    --tags                                   : Space-separated tags: key[=value] [key[=value] ...].
                                              Use '' to clear existing tags.

Global Arguments
    --debug                                  : Increase logging verbosity to show all debug logs.
    --help -h                                : Show this help message and exit.
    --only-show-errors                       : Only show errors, suppressing warnings.
    --output -o                              : Output format.  Allowed values: json, jsonc, none,
                                              table, tsv, yaml, yamlc.  Default: json.
    --query                                  : JMESPath query string. See http://jmespath.org/ for
                                              more information and examples.
    --subscription                           : Name or ID of subscription. You can configure the
                                              default subscription using `az account set -s
                                              NAME_OR_ID`.
    --verbose                                : Increase logging verbosity. Use --debug for full
                                              debug logs.

Examples
    Create a new resource group in the West US region.
        az group create -l westus -n MyResourceGroup


To search AI knowledge base for examples, use: az find "az group create"
```

Figure 2. az group create -h output

To create a new resource group, provide parameters name and location: az group create --name {{resourceGroup}} --location {{location}}

```
taha [ ~ ]$ az group create --name cse415week6 --location eastus
{
  "id": "/subscriptions/629743ed-8a0d-4521-9ca6-afe44ee1460b/resourceGroups/cse415week6",
  "location": "eastus",
  "managedBy": null,
  "name": "cse415week6",
  "properties": {
    "provisioningState": "Succeeded"
  },
  "tags": null,
  "type": "Microsoft.Resources/resourceGroups"
}
```

Figure 3. az group create –name cse415week6 –location eastus output

In order to manage virtual machines, use *az vm* command.

```
taha [ ~ ]$ az vm  -h

Group
    az vm : Manage Linux or Windows virtual machines.

Subgroups:
    application            : Manage applications for VM.
    availability-set       : Group resources into availability sets.
    boot-diagnostics       : Troubleshoot the startup of an Azure Virtual Machine.
    diagnostics            : Configure the Azure Virtual Machine diagnostics extension.
    disk                   : Manage the managed data disks attached to a VM.
    encryption             : Manage encryption of VM disks.
    extension              : Manage extensions on VMs.
    host                   : Manage Dedicated Hosts for Virtual Machines.
    identity               : Manage service identities of a VM.
    image                  : Information on available virtual machine images.
    monitor                : Manage monitor aspect for a vm.
    nic                    : Manage network interfaces. See also `az network nic`.
    run-command            : Manage run commands on a Virtual Machine.
    secret                 : Manage VM secrets.
    unmanaged-disk         : Manage the unmanaged data disks attached to a VM.
    user                   : Manage user accounts for a VM.

Commands:
    assess-patches         : Assess patches on a VM.
    auto-shutdown          : Manage auto-shutdown for VM.
    capture                : Capture information for a stopped VM.
    convert                : Convert a VM with unmanaged disks to use managed disks.
    create                 : Create an Azure Virtual Machine.
    deallocate             : Deallocate a VM so that computing resources are no longer allocated
                             (charges no longer apply). The status will change from 'Stopped' to
                             'Stopped (Deallocated)'.
    delete                 : Delete a VM.
    generalize             : Mark a VM as generalized, allowing it to be imaged for multiple
                             deployments.
    get-instance-view      : Get instance information about a VM.
    install-patches        : Install patches on a VM.
    list                   : List details of Virtual Machines.
    list-ip-addresses      : List IP addresses associated with a VM.
```

Figure 4. az vm -h output

Provide resource group, name and vm image and create a new virtual machine *az vm create --resource-group {{resourceGroup}} --name {{vmName}} --image {{imageName}} --public-ip-sku Standard --admin-username {{username}}*

```
taha [ ~ ]$ az vm create --resource-group cse415week6 --name vmexampleweek6 --image Win2019Datacenter --public-ip-sku Standard --admin-username tahaalkan
Admin Password:
Confirm Admin Password:
Ignite (November) 2023 onwards "az vm/vmss create" command will deploy Gen2-Trusted Launch VM by default. To know more about the default change and Trusted Launch, please visit https://aka.ms/TLaD
{
  "fqdns": "",
  "id": "/subscriptions/629743ed-8a0d-4521-9ca6-afe44ee1460b/resourceGroups/cse415week6/providers/Microsoft.Compute/virtualMachines/vmexampleweek6",
  "location": "eastus",
  "macAddress": "60-45-BD-EC-5B-A0",
  "powerState": "VM running",
  "privateIpAddress": "10.0.0.4",
  "publicIpAddress": "52.146.34.170",
  "resourceGroup": "cse415week6",
  "zones": ""
}
```

Figure 5. az vm creation output

Do not forget to delete resources you've created!

Az group delete –name {{resourceGroupName}}