Manage Azure resources by using Azure Resource Manager Templates

Task 1: Create an Azure Resource Manager template

Disks:

Create a managed disk ...

Validation passed

Basics | Encryption | Networking | Advanced | Tags | **Review + create**

Basics

Subscription	Azure subscription 1
Resource group	(new) az104-rg3
Region	East US
Disk name	az104-disk1
Availability zone	No infrastructure redundancy required
Source type	None
VM architecture	x64

Size

Size	32 GiB
Storage type	Standard HDD LRS

Encryption

Encryption type	Platform-managed key

Advanced

Enable shared disk	No

Networking

Network access	AllowAll

Tags

(none)

Create | < Previous | Next > | Download a template for a

Figure 1. Created a manager disk.

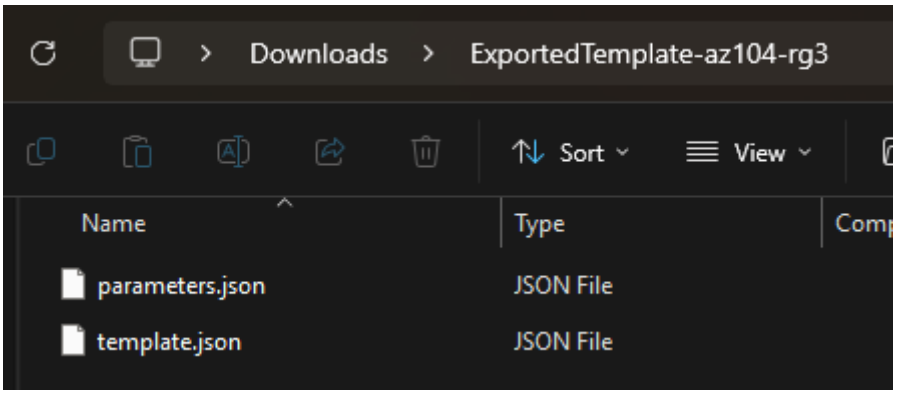

Figure 2. Exported template.

Task 2: Edit an Azure Resource Manager template and redeploy the template.

Deploy a custom template:

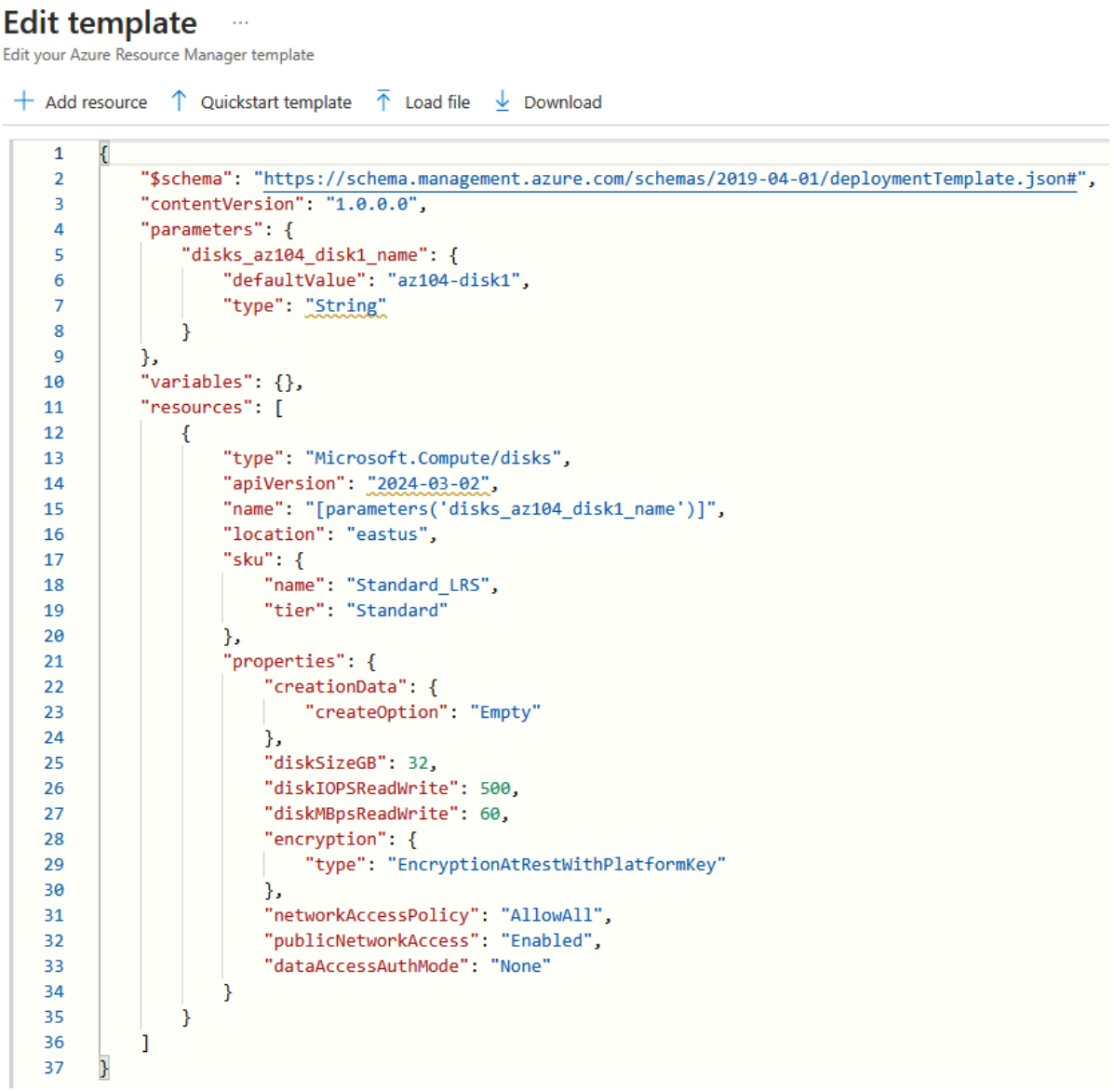

Figure 3. Deploy a custom template.

Edit template

Edit your Azure Resource Manager template

Add resource | Quickstart template | Load file | Download

```
{
    "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
    "contentVersion": "1.0.0.0",
    "parameters": {
        "disk_name": {
            "defaultValue": "az104-disk2",
            "type": "String"
        }
    },
    "variables": {},
    "resources": [
        {
            "type": "Microsoft.Compute/disks",
            "apiVersion": "2024-03-02",
            "name": "[parameters('disk_name')]",
            "location": "eastus",
            "sku": {
                "name": "Standard_LRS",
                "tier": "Standard"
            },
            "properties": {
                "creationData": {
                    "createOption": "Empty"
                },
                "diskSizeGB": 32,
                "diskIOPSReadWrite": 500,
                "diskMBpsReadWrite": 60,
                "encryption": {
                    "type": "EncryptionAtRestWithPlatformKey"
                },
                "networkAccessPolicy": "AllowAll",
                "publicNetworkAccess": "Enabled",
                "dataAccessAuthMode": "None"
            }
        }
    ]
}
```

Figure 4. Edit template.

Edit parameters

Load file | Download

```
{
    "$schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentParameters.json#",
    "contentVersion": "1.0.0.0",
    "parameters": {
        "disk_name": {
            "value": null
        }
    }
}
```

Figure 5. Edit parameters.

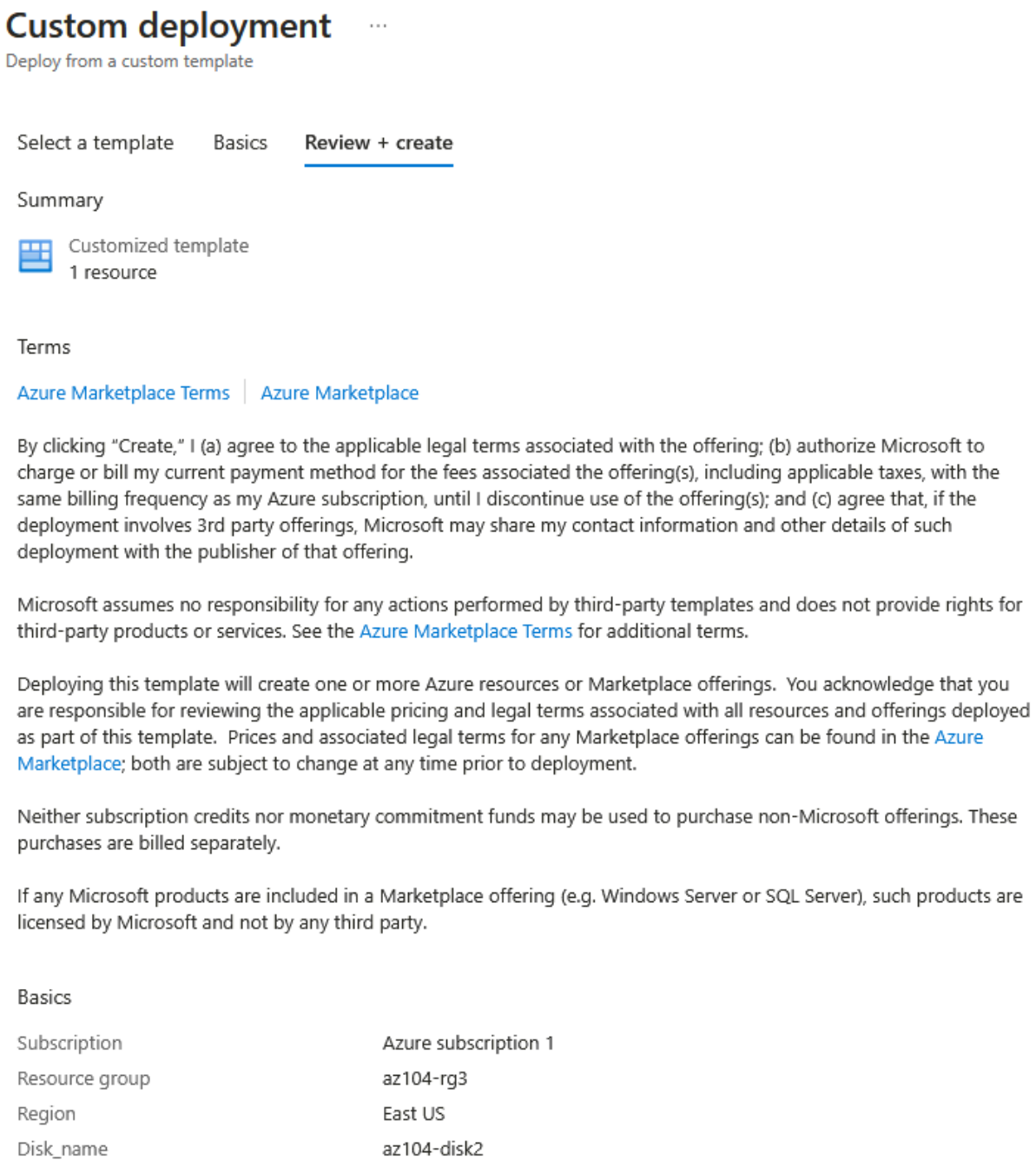

Figure 6. Creating custom deployment.

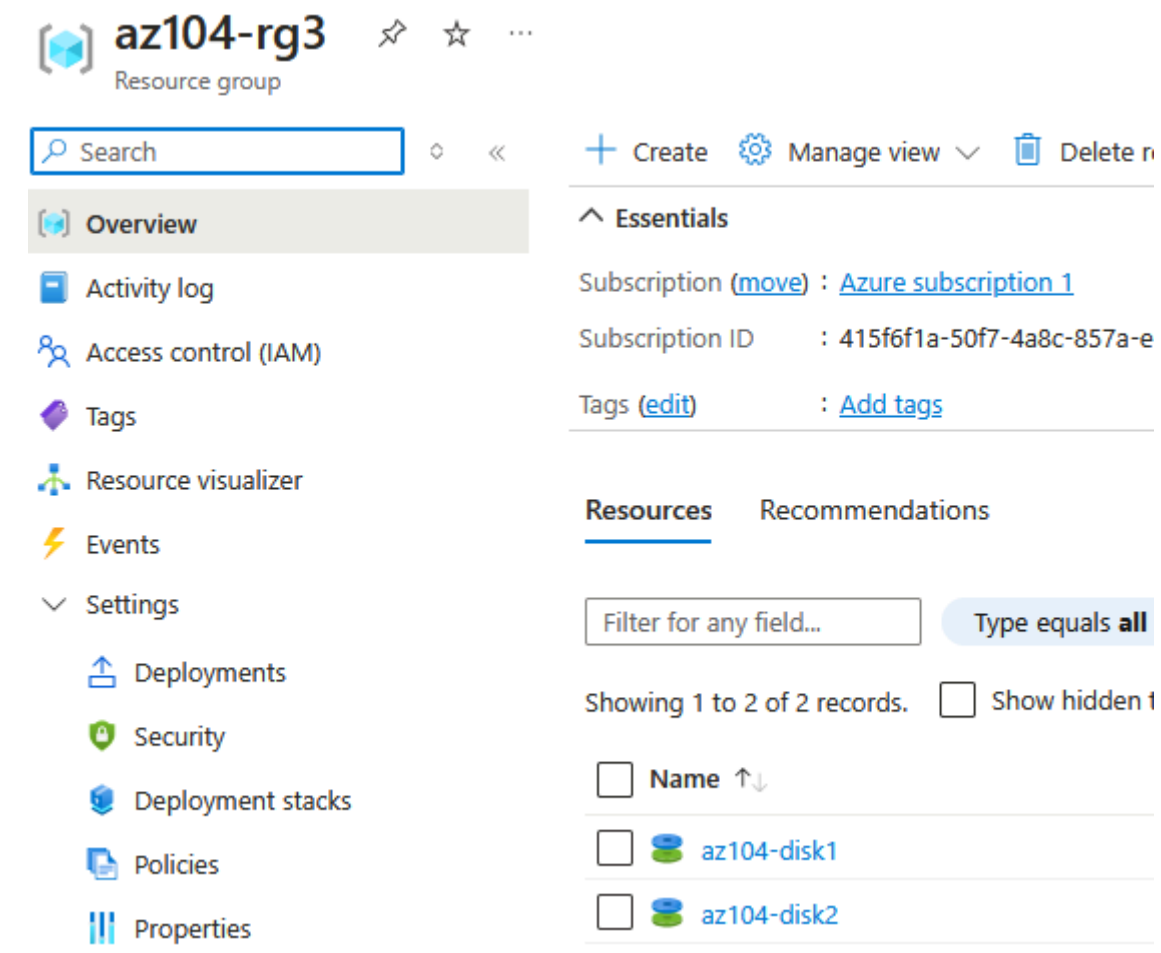

Figure 7. Created desks.

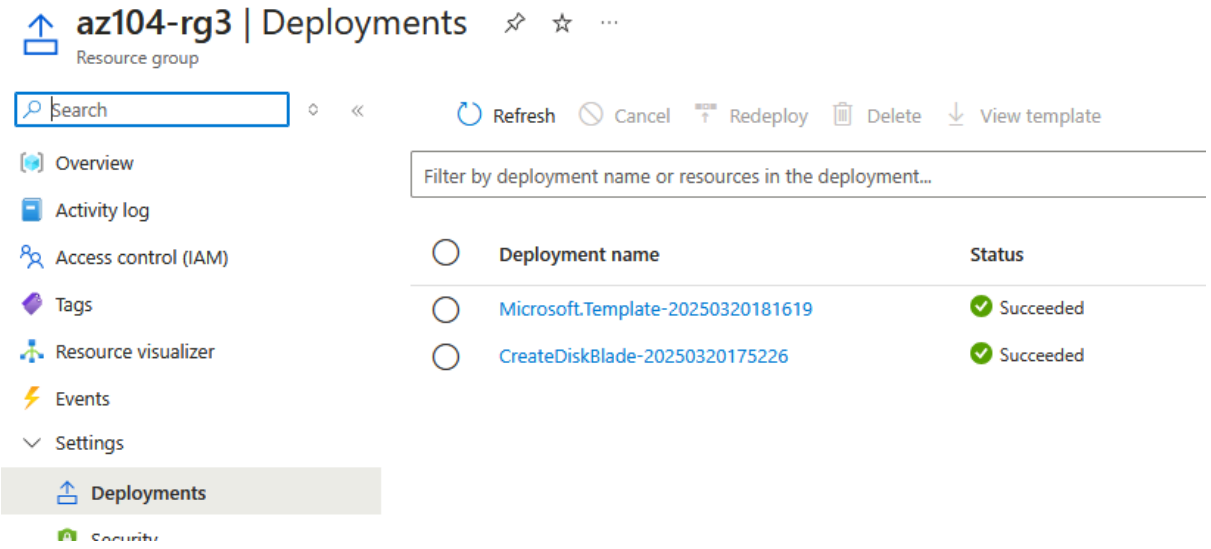

Figure 8. Deployments.

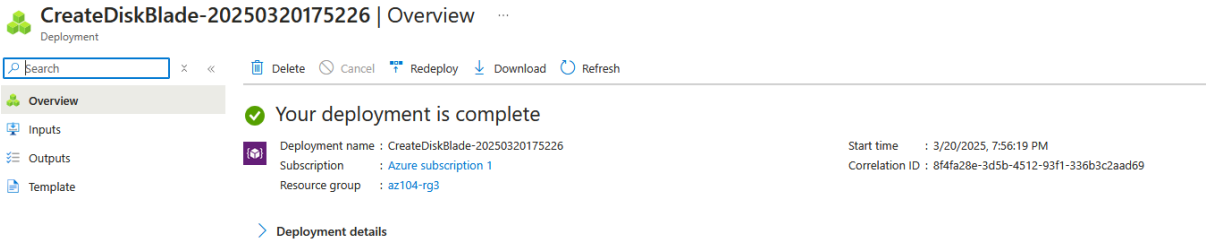

Figure 9. complete deployment.

Task 3: Configure the Cloud Shell and deploy a template with Azure PowerShell.

Cloud Shell:

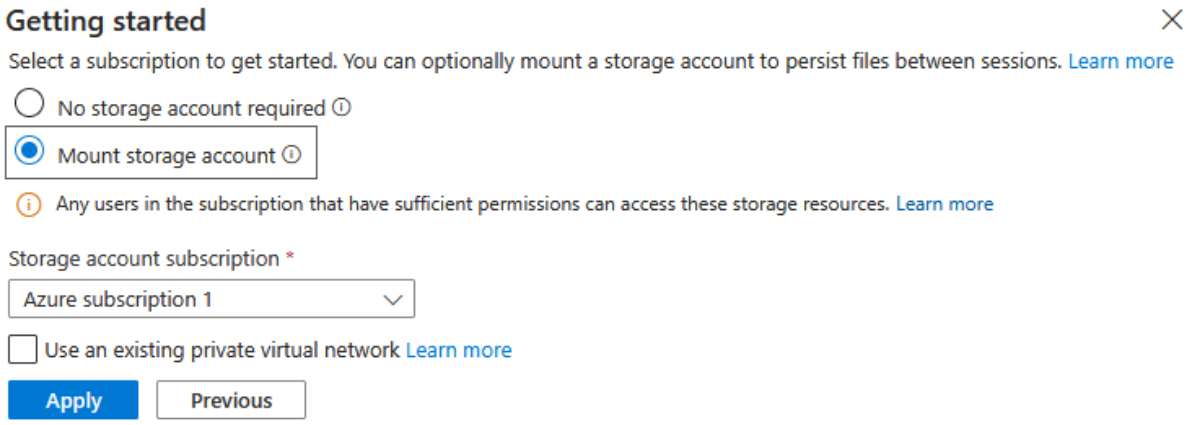

Figure 10. Setting Cloud Shell.

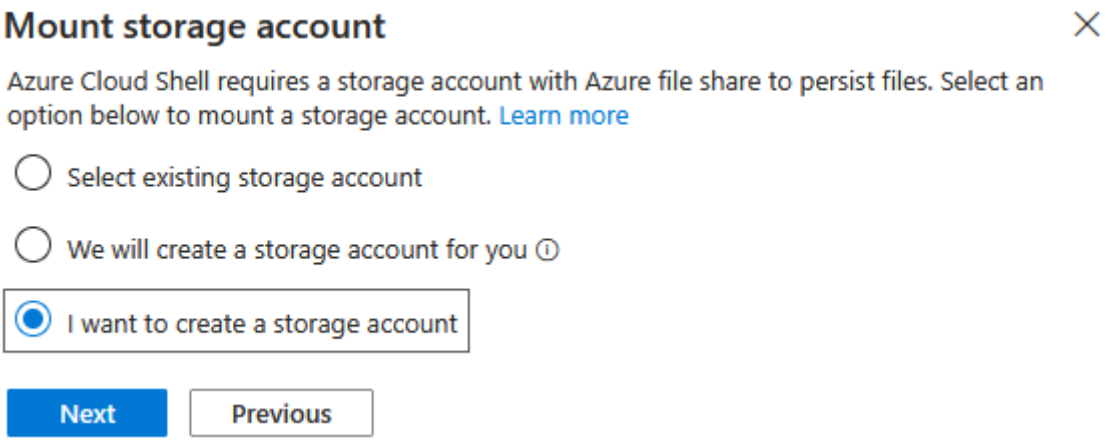

Figure 11. Setting Cloud Shell.

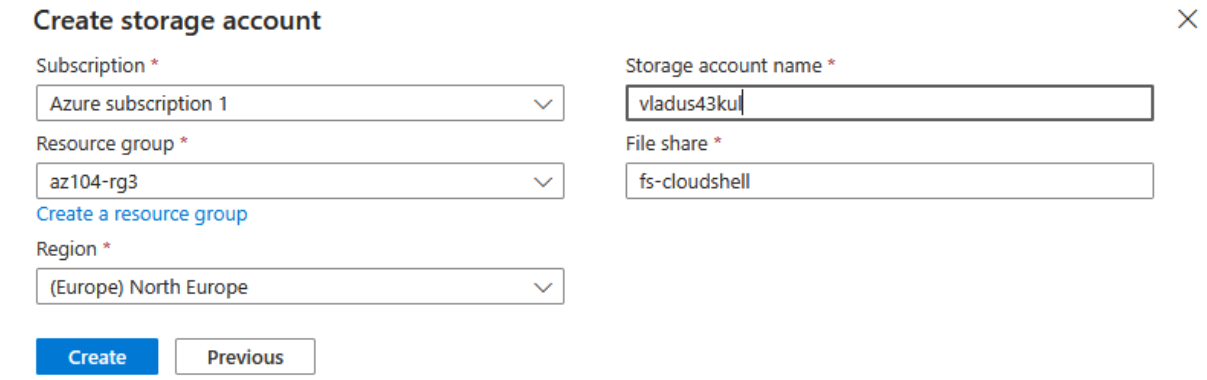

Figure 12. Creating a storage account.

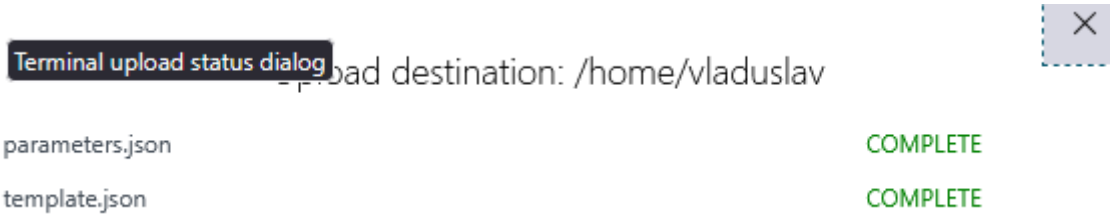

Figure 13. Uploaded template and parameters.

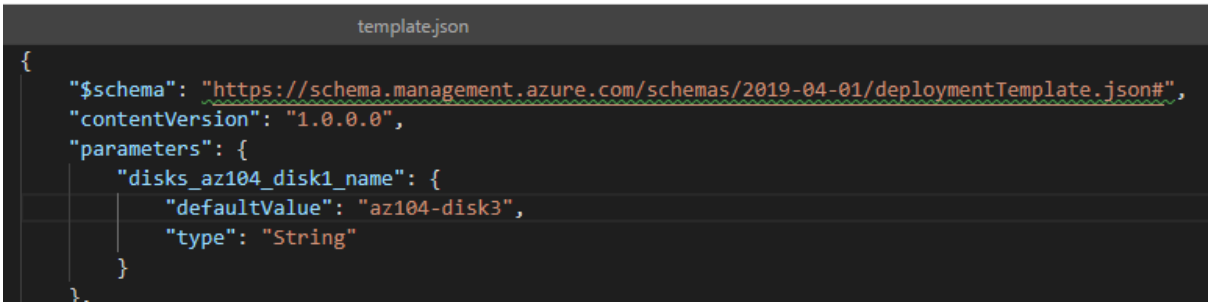

Figure 14. Template.

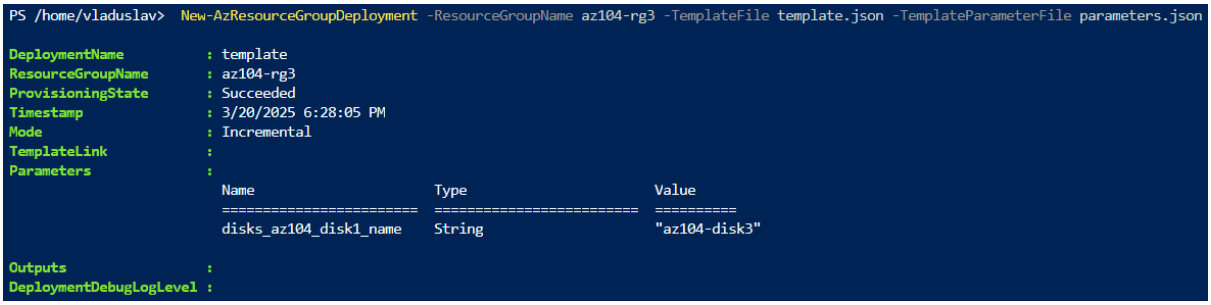

Figure 15. deployed to a resource group.

```
ResourceGroupName           : AZ104-RG3
ManagedBy                   :
ManagedByExtended           : {}
Sku                         : Microsoft.Azure.Management.Compute.Models.DiskSku
Zones                       :
TimeCreated                 : 3/20/2025 6:27:59 PM
OsType                      :
HyperVGeneration            :
CreationData                : Microsoft.Azure.Management.Compute.Models.CreationData
DiskSizeGB                  : 32
DiskSizeBytes               : 34359738368
UniqueId                    : d38742ca-fede-446f-aaf6-b6bc3ae100cc
EncryptionSettingsCollection :
ProvisioningState           : Succeeded
DiskIOPSReadWrite           : 500
DiskMBpsReadWrite           : 60
DiskIOPSReadOnly            :
DiskMBpsReadOnly            :
DiskState                   : Unattached
Encryption                  : Microsoft.Azure.Management.Compute.Models.Encryption
MaxShares                   :
ShareInfo                   : {}
Id                          : /subscriptions/415f6f1a-50f7-4a8c-857a-eaa331f34e4d/resourceGroups/AZ104-RG3/providers/Microsoft.Compute/disks/az104-disk3
Name                        : az104-disk3
Type                        : Microsoft.Compute/disks
Location                    : eastus
ExtendedLocation            :
Tags                        : {}
NetworkAccessPolicy         : AllowAll
DiskAccessId                :
Tier                        :
BurstingEnabled             :
PurchasePlan                :
SupportsHibernation         :
SecurityProfile             :
PublicNetworkAccess         : Enabled
SupportedCapabilities       :
DataAccessAuthMode          : None
CompletionPercent           :
OptimizedForFrequentAttach  :
```

Figure 16. Created disk.

Task 4: Deploy a template with the CLI.

Bash:

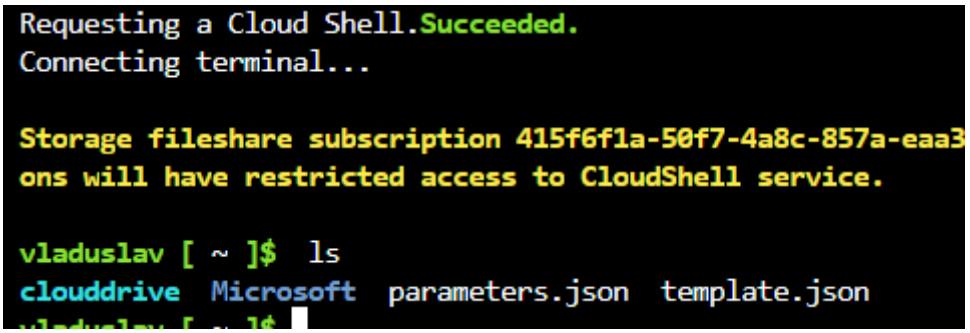

Figure 17. Switch to Bash.

Figure 18. Template.

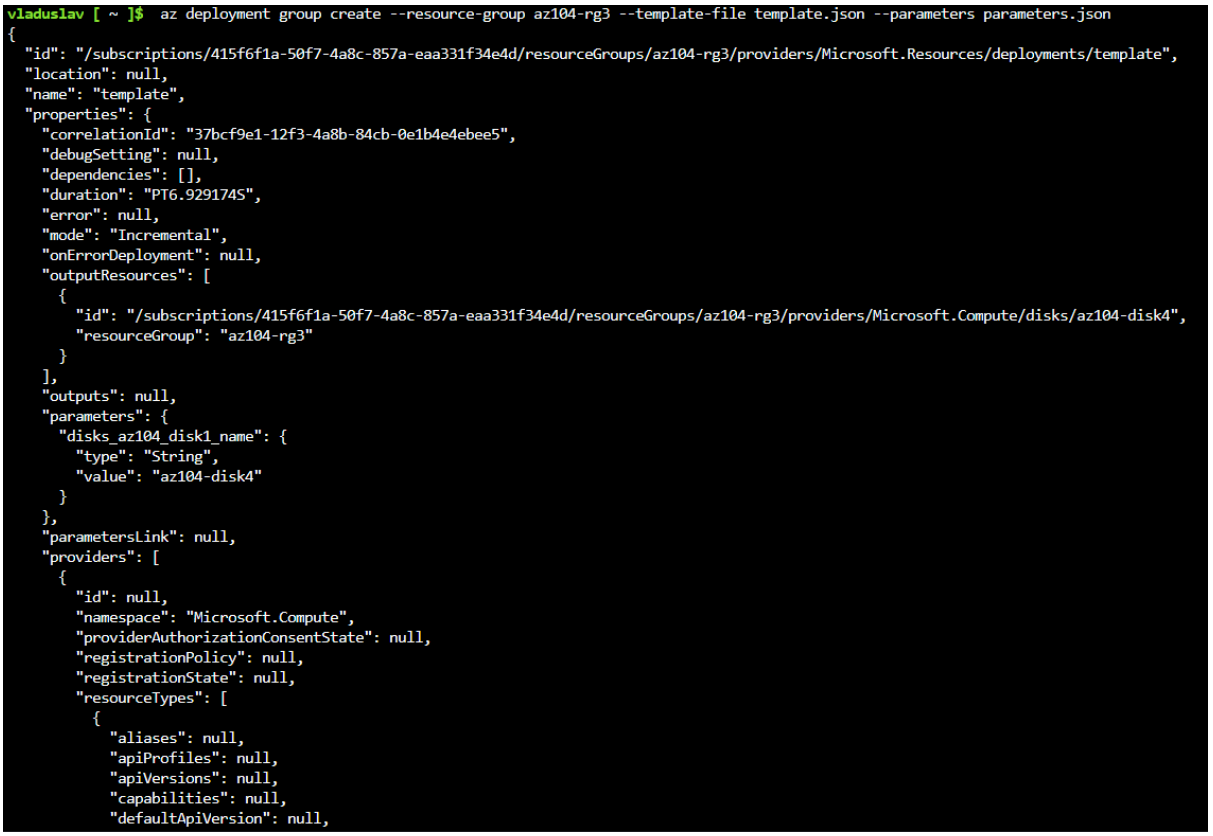

Figure 19. deployed to a resource group.

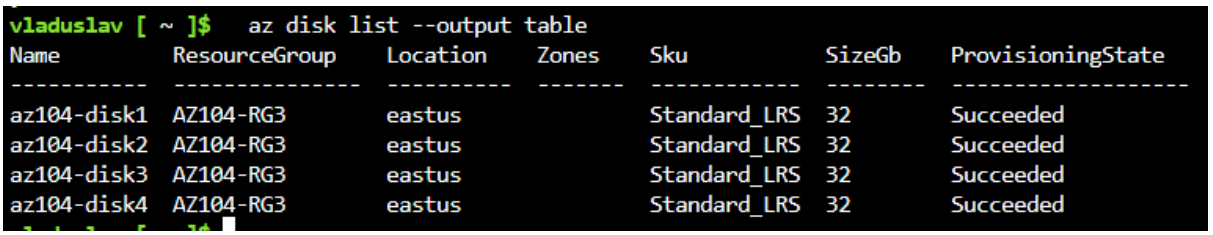

Figure 20. Disk.

Task 5: Deploy a resource by using Azure Bicep.

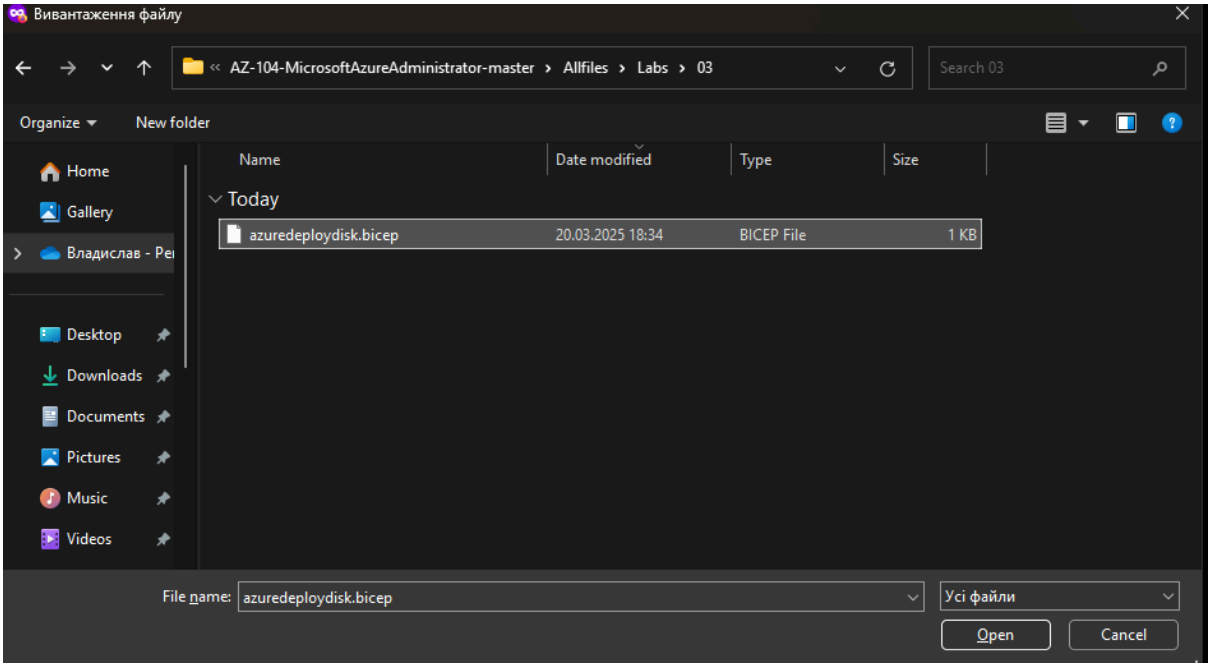

Figure 21. Upload the bicep file.

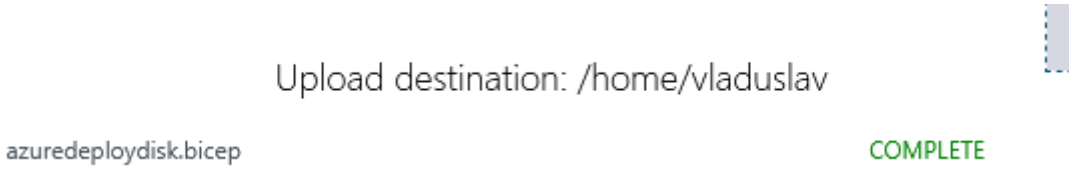

Figure 22. Uploaded the bicep file.

azuredeployddisk.bicep

```
@description('Name of the managed disk to be copied')
param managedDiskName string = 'Disk4'

@description('Disk size in GiB')
@minValue(4)
@maxValue(65536)
param diskSizeinGiB int = 32

@description('Disk IOPS value')
@minValue(100)
@maxValue(160000)
param diskIopsReadWrite int = 100

@description('Disk throughput value in MBps')
@minValue(1)
@maxValue(2000)
param diskMbpsReadWrite int = 10

@description('Location for all resources.')
param location string = resourceGroup().location

resource managedDisk 'Microsoft.Compute/disks@2020-09-30' = {
  name: managedDiskName
  location: location
  sku: {
    name: 'StandardSSD_LRS'
  }
  properties: {
    creationData: {
      createOption: 'Empty'
    }
    diskSizeGB: diskSizeinGiB
    diskIOPSReadWrite: diskIopsReadWrite
    diskMBpsReadWrite: diskMbpsReadWrite
  }
}
```

Figure 23. Azuredeployddisk.bicep.

```
vladuslav [ ~ ]$  az deployment group create --resource-group az104-rg3 --template-file azuredeploydisk.bicep
The configuration value of bicep.use_binary_from_path has been set to 'false'.
{
  "id": "/subscriptions/415f6f1a-50f7-4a8c-857a-eaa331f34e4d/resourceGroups/az104-rg3/providers/Microsoft.Resources/deployments/azuredeploydisk",
  "location": null,
  "name": "azuredeploydisk",
  "properties": {
    "correlationId": "0b4dfb54-27f5-4f5c-b334-50c0fd254832",
    "debugSetting": null,
    "dependencies": [],
    "duration": "PT7.5540524S",
    "error": null,
    "mode": "Incremental",
    "onErrorDeployment": null,
    "outputResources": [
      {
        "id": "/subscriptions/415f6f1a-50f7-4a8c-857a-eaa331f34e4d/resourceGroups/az104-rg3/providers/Microsoft.Compute/disks/Disk4",
        "resourceGroup": "az104-rg3"
      }
    ],
    "outputs": null,
    "parameters": {
      "diskIopsReadWrite": {
        "type": "Int",
        "value": 100
      },
      "diskMbpsReadWrite": {
        "type": "Int",
        "value": 10
      },
      "diskSizeinGiB": {
        "type": "Int",
        "value": 32
      },
      "location": {
        "type": "String",
        "value": "eastus"
```

Figure 24. deployed to a resource group.

```
vladuslav [ ~ ]$  az disk list --output table
Name         ResourceGroup    Location    Zones    Sku              SizeGb    ProvisioningState
-----------  ---------------  ----------  -------  ---------------  --------  -------------------
az104-disk1  AZ104-RG3        eastus               Standard_LRS     32        Succeeded
az104-disk2  AZ104-RG3        eastus               Standard_LRS     32        Succeeded
az104-disk3  AZ104-RG3        eastus               Standard_LRS     32        Succeeded
az104-disk4  AZ104-RG3        eastus               Standard_LRS     32        Succeeded
Disk4        AZ104-RG3        eastus               StandardSSD_LRS  32        Succeeded
vladuslav [ ~ ]$
```

Figure 25. Disk.