



Creating a Virtual Network

In this exercise, we're using Azure Resource Manager (ARM) templates to deploy a Virtual Network (VNet) in Azure. The end goal is to automate the creation of networking infrastructure, including subnets, within Azure. By defining the network configuration in a template, we streamline the deployment process, ensure consistency across environments, and facilitate easy reproducibility. This approach enhances efficiency, reduces manual errors, and enables scalability in managing network resources within Azure.

1. In this lab we are going to create a Virtual Network using template deployment in Azure.
2. For that, first in your VS Code you are going to create a new file or template.
3. Below you can see the code that we are going to use in this lab.
4. Here you can see that we are creating a Virtual network. Then we have 2 subnets.

The screenshot shows a dark-themed VS Code interface with a sidebar titled 'FOLDERS: TEMPLATES' containing three files: 'Temp01.json', 'Temp02.json', and 'Temp03.json'. The main editor area is titled 'Temp03.json' and displays the following ARM template code:

```
1 {  
2     "parameters": {},  
3     "functions": [],  
4     "variables": {},  
5     "resources": [  
6         {  
7             "name": "Demo-Vnet",  
8             "type": "Microsoft.Network/virtualNetworks",  
9             "apiVersion": "2023-04-01",  
10            "location": "[resourceGroup().location]",  
11            "properties": {  
12                "addressSpace": {  
13                    "addressPrefixes": [  
14                        "10.0.0.0/16"  
15                    ]  
16                },  
17                "subnets": [  
18                    {  
19                        "name": "Subnet-1",  
20                        "properties": {  
21                            "addressPrefix": "10.0.0.0/24"  
22                        }  
23                    },  
24                    {  
25                        "name": "Subnet-2",  
26                        "properties": {  
27                            "addressPrefix": "10.0.1.0/24"  
28                        }  
29                    }  
30                ]  
31            }  
32        }  
33    ]  
34}
```

The code defines a virtual network named 'Demo-Vnet' with two subnets: 'Subnet-1' and 'Subnet-2'. Each subnet has a specific IP address range assigned.

5. Now in your Azure Portal open Template Deployment and paste this code there.
6. The process is the same as before.
7. Here you can see that we can see our resource while creating it.

Edit template ...

Edit your Azure Resource Manager template

+ Add resource ↑ Quickstart template ⏪ Load file ⏴ Download

```
1  "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
2  "contentVersion": "1.0.0.0",
3  "parameters": {},
4  "functions": [],
5  "variables": {},
6  "resources": [
7    {
8      "name": "Demo-Vnet",
9      "type": "Microsoft.Network/virtualNetworks",
10     "apiVersion": "2023-04-01",
11     "location": "[resourceGroup().location]",
12     "properties": {
13       "addressSpace": {
14         "addressPrefixes": [
15           "10.0.0.0/16"
16         ]
17       },
18       "subnets": [
19         {
20           "name": "Subnet-1",
21           "properties": {
22             "addressPrefix": "10.0.0.0/24"
23           }
24         },
25         {
26           "name": "Subnet-2",
27           "properties": {
28             "addressPrefix": "10.0.1.0/24"
29           }
29     }
29   }
29 }
```

8. Then select your resource group and region and then just click on create.

Select a template Basics Review + create

Template

Customized template ↗
1 resource

Edit template Visualize

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ Azure Pass - Sponsorship (9e3f0cae-8274-4931-b16b-95242092e301) ↘

Resource group * ⓘ demo-template-group ↘
Create new

Instance details

Region * ⓘ (Asia Pacific) Central India

9. Then wait for some time until the deployment is complete.

10. Once the deployment is completed you can see that your virtual network has been created.

✓ Your deployment is complete

Deployment name : Microsoft.Template-20240405212644
Subscription : Azure Pass - Sponsorship (9e3f0cae-8274-4931-b16b-95242092e301)
Resource group : demo-template-group

Deployment details

Resource	Type	Status	Operation details
Demo-Vnet	Virtual network	OK	Operation details

11. And here you can see your virtual network and subnets.

Demo-Vnet | Subnets

Virtual network

Subnet Subnet Gateway subnet Refresh Manage users Delete

Search subnets

Name	IPv4	IPv6	Available IPs
Subnet-1	10.0.0.0/24	-	251
Subnet-2	10.0.1.0/24	-	251

12. Now we are going to create a public IP address for this Virtual Network.

13. This is the template for your public IP address.

```
Temp4.json
{
  "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
  "contentVersion": "1.0.0.0",
  "parameters": {},
  "functions": [],
  "variables": {},
  "resources": [
    {
      "name": "demo-public-ip",
      "type": "Microsoft.Network/publicIPAddresses",
      "apiVersion": "2023-04-01",
      "location": "[resourceGroup().location]",
      "sku": {
        "name": "Basic"
      },
      "properties": {
        "publicIPAllocationMethod": "Dynamic"
      }
    }
  ],
  "outputs": {}
}
```

14. Now the same thing go to template deployment and paste this code there and create your template.

Edit template

Edit your Azure Resource Manager template

[+ Add resource](#) [↑ Quickstart template](#) [↑ Load file](#) [Download](#)

```
1  {
2      "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
3      "contentVersion": "1.0.0.0",
4      "parameters": {},
5      "functions": [],
6      "variables": {},
7      "resources": [
8          {
9              "name": "demo-public-ip",
10             "type": "Microsoft.Network/publicIPAddresses",
11             "apiVersion": "2023-04-01",
12             "location": "[resourceGroup().location]",
13             "sku": {
14                 "name": "Basic"
15             },
16             "properties": {
17                 "publicIPAllocationMethod": "Dynamic"
18             }
19         },
20     ],
21     "outputs": {}
22 }
```

15. Now choose your resource group and create your template.

Select a template [Basics](#) [Review + create](#)

Template



Customized template [↗](#)

1 resource



Edit template



Visualize

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * [ⓘ](#)

Azure Pass - Sponsorship (9e3f0cae-8274-4931-b16b-95242092e301) [▼](#)

Resource group * [ⓘ](#)

demo-template-group

[Create new](#)

Instance details

Region * [ⓘ](#)

(Asia Pacific) Central India

16. In the deployment status you can see that your public IP has been created.

 Delete  Cancel  Redeploy  Download  Refresh

✓ Your deployment is complete

 Deployment name : Microsoft.Template-20240405225412 Start time : 4/5/2024, 10:54:12 PM
Subscription : Azure Pass - Sponsorship (9e3f0cae-8274-4931-b16...) Correlation ID : 7c772817-6e38-49d4-823f-3595ca177081
Resource group : demo-template-group

✓ Deployment details

Resource	Type	Status	Operation details
 demo-public-ip	 Public IP address	OK	Operation details

✓ Next steps

[Go to resource](#)