

1. Objective - Create and configure a virtual network

1. In the top-left hand corner of the Azure portal, select the pop-out menu (three horizontal lines / the hamburger icon), then choose **Create a resource**
2. Search for and select “*virtual network*”, then choose **Create**. Enter the following configuration information. If not noted below, use the defaults:

Name: *vnet-westus*

Address space: *10.10.0.0/20*

Resource group: **Create new**, then provide a name, such as *oreilly-az104*

Location: *West US*

Subnet name: *frontend-subnet*

Address range: *10.10.1.0/24*

Leave defaults for DDoS protection, service endpoints, firewall, but note how they can be configured here

3. When ready, select **Create**
4. If needed, select the notification bell in the top right-hand corner to view deployment progress as virtual network is created. It takes a minute or two to create the virtual network and subnet.
5. When ready, select **Go to resource**

2. Objective – Create and configure a subnet

1. From the virtual network resource created in the previous exercise, select **Subnets** from the menu on the left-hand side, then **+ Subnet**. Enter the following configuration information. If not noted below, use the defaults:

Name: *backend-subnet*

Address range: *10.10.2.0/24*

Leave default options for route tables and then subnet delegation, but note how they can be configured here.

2. When ready, select **Create**

3. Objective – Create and configure virtual network peering

1. Select **Home > Resource groups**, then choose your resource group, such as *oreilly-az104*
2. At the top of the resource group window select **+ Add**, search for and select “*virtual network*”, then choose **Create**. Enter the following configuration information. If not noted below, use the defaults:

Name: *vnet-eastus*

Address space: *10.20.0.0/20*

Resource group: *oreilly-az104*

Location: *East US*

Subnet name: *frontend-subnet*

Address range: *10.20.1.0/24*

3. Leave other default options, then select **Create**
6. If needed, select the notification bell in the top right-hand corner to view deployment progress as virtual network is created. It takes a minute or two to create the virtual network and subnet.
4. When ready, select **Go to resource**
5. Select **Peerings** from the menu on the left-hand side, then choose **+ Add**. Enter the following configuration information. If not noted below, use the defaults:

Name: *eastus-westus*

Virtual network: *vnet-westus*

Additional peering name: *westus-eastus*

Look at info text for virtual network access and forwarded traffic, but leave defaults.

6. When ready, select **OK**
7. Once the peering is complete, select the peering, such as **eastus-westus**, and note the status and configuration options for network access or forwarded traffic.

4. Objective – Create and configure public IP addresses

1. Select **Home > Resource groups**, then choose your resource group, such as *oreilly-az104*
2. At the top of the resource group window select **+ Add**, search for and select “*public ip address*”, then choose **Create**. Enter the following configuration information. If not noted below, use the defaults:

If not noted below, leave default values for IP version, SKU, assignment, etc.

Name: *gateway-publicip*

DNS name label: *az104-<yourinitials-or-random-value>*

Location: *West US*

3. When ready, select **OK**
4. If needed, select the notification bell in the top right-hand corner to view deployment progress as public IP address is created. It takes a minute or two to create the resource. Wait until the resource is ready before moving on to the next exercise.

5. Objective – Create and configure gateways

1. Select **Home > Resource groups**, then choose your resource group, such as *oreilly-az104*
2. At the top of the resource group window select **+ Add**, search for and select “*virtual network gateway*”, then choose **Create**. Enter the following configuration information. If not noted below, use the defaults:

Name: *gateway-westus*

Region: *West US*

Gateway type: *VPN*

VPN type: *Route-based*

SKU: *VpnGw1*

Generation: *Generation1*

Virtual network: *vnet-westus*

Gateway subnet address range: *10.10.3.0/24*

Public IP address: *Use existing, select previous gateway-publicip*

Leave default options for active-active mode and BGP ASN

3. When ready, select **Review + create**, then **Create**
4. Select **Home > Resource groups**, then choose your resource group, such as *oreilly-az104*
5. Choose the *vnet-westus*

It can take 30-40 minutes to create the VPN gateway. We won't create a hybrid connection using this gateway in this course today due to time constraints, but in your own time, you could create an additional gateway using the same steps but in East US. You can then practice connecting to the two gateways to simulate connecting to an on-premises location.