SQL Managed Instance

**Introduction**

This lab walks you through the steps in creating an Azure virtual network (VNet) for Azure SQL Database Managed Instance. The deployment of a VNet enables the following scenarios:

* Connecting to a Managed Instance directly from an on-premises network
* Connecting a Managed Instance to linked server or another on-premises data store
* Connecting a Managed Instance to Azure resources

For more information: <https://docs.microsoft.com/en-us/azure/sql-database/sql-database-managed-instance-vnet-configuration> **Sign in to the Azure portal**

1. In the **Email or phone** field, enter **<inject key="AzureAdUserEmail" />** and click **Next**
2. In the **Password** field, enter **<inject key="AzureAdUserPassword" />** and click **Sign in**
3. In the **Stay signed in?** window, click **Yes**
4. If a **Welcome to Microsoft Azure** popup window appears, click **Maybe Later** to skip the tour

# Configure network environment

### Create a Virtual Network

1. Click **Create a resource** in the upper left-hand corner of the Azure portal
2. In the search box type <copy>**Virtual Network**</copy> and hit enter, click **Virtual Network**
3. In the **Virtual Network** blade, click **Create**
4. On the **Create virtual network** blade, Fill out the virtual network form with the requested information:
5. **Name:** enter <copy>**SQLMI-VNET-Shared**</copy>

**Note:** You may need to slightly adjust the name if it already exists

1. **Address space:** enter <copy>**10.4.0.0/16**</copy>

**Note:** A Virtual Network will support any valid address range, such as 10.14.0.0/24

1. **Subscription:** leave the default setting
2. **Resource Group:** in the dropdown box select **<inject key="resourceGroupName" copy="false" />**
3. **Location:** choose **South Central US**
4. **Subnet name:** enter <copy>**mi\_subnet**</copy>
5. **Subnet address range:** enter <copy>**10.4.1.0/24**</copy>

**Note:** A subnet will support any valid address range, such as 10.14.0.0/28. Use a subnet address space **smaller** than the **address space** itself to allow space to create other subnets in the same virtual network, such as a subnet used for hosting a **Virtual Machine**

1. For DDoS protection, select **Basic**
2. **Service endpoints:** select **Disabled**
3. Click **Create**

**Note:** Due to the limited permissions in this lab, you will get a validation error. The Virtual network resouce has been precreated for you

**Note:** The precreated Virtual network is: **SQLMI-VNET-Shared**

1. On the **Create virtual network** blade, click the **X** to close the **Create virtual network** blade, click **OK** to the unsaved edits will be discarded dialog

### Create a new route table and a route

1. Click **Create a resource** in the upper left-hand corner of the Azure portal.
2. In the search box type <copy>**Route table**</copy> and hit enter, click **Route table**
3. In the **Route table** blade, click **Create**
4. On the **Create Route table** blade, Fill out the Route table form with the requested information:
5. **Name:** enter **<inject key="routeTables\_MIroutetable\_name" />**

**Note:** You may need to slightly adjust the name if it already exists

1. **Subscription:** leave the default setting
2. **Resource Group:** select **Use existing**, then in the dropdown box select **<inject key="resourceGroupName" copy="false" />**
3. **Location:** choose **South Central US**
4. **BCP route propogation:** select **Enabled**
5. Click **Create**.

**Note:** Due to the limited permissions in this lab, you will get a validation error. The Route table resouce has been precreated for you

**Note:** The precreated Route table is: **SQLMI-Route-Table**

1. In the left hand navigation bar, select **All resources** and click **OK** to the unsaved edits will be discarded dialog
2. In the **All resources** blade click **<inject key="routeTables\_MIroutetable\_name" copy="false" />**
3. Under **Settings** in the left-hand column, click **Routes**

**Note:** Due to the limited permissions in this lab, you are unable to add a new route. Instead the route resource has been precreated for you, which you may click on to view.

### Apply the route table to the Managed Instance subnet

1. From the **Favorites** menu on the left, select **Virtual Networks**
2. Open the Virtual Network you created previously, **<inject key="miVirtualNetworkName" copy="false" />**
3. Under the **Settings** section click **Subnets** and then click **mi\_subnet**

**Note:** Due to the limited permissions in the lab environment, the Route table has been added for you.

# Create Managed Instance

After your Preview has been approved, the following steps will show you how to create your own Managed Instance inside of your Vnet.

1. Click **Create a resource** in the upper left-hand corner of the Azure portal
2. In the search box type <copy>**Azure SQL Managed Instance**</copy> and hit enter, click **Azure SQL Managed Instance**
3. In the **Azure SQL Managed Instance** blade, click **Create**
4. Fill out the Managed Instance form with the requested information:
5. **Subscription:** leave the default setting
6. Verify that the preview terms show **Accepted**
7. **Managed Instance Name:** enter <copy>**sqlmi-scus-01**</copy>
8. **Managed Instance admin login** enter <copy>**contosoadmin**</copy>
9. **Password** enter <copy>**IAE5fAijit0w^rDM**</copy>
10. **Confirm password** enter <copy>**IAE5fAijit0w^rDM**</copy>
11. **Resource Group:** select **Use existing**, then in the dropdown box select **<inject key="resourceGroupName" copy="false" />**
12. **Location:** choose **South Central US**
13. **Virtual Network:** in the dropdown box select **SQLMI-VNET-Shared/sqlmi-subnet**
14. Click **Pricing tier** to size compute and storage resources as well as review the pricing tier options
15. Configure the sizing of your managed instance by using the sliders or text boxes under **Storage**

**Note:** By default, your instance gets 32 GB of storage space for free

1. Change the slider to **64 GB**
2. Configure your compute resources by using the sliders or text boxes under **vCores** (also known as "Virtual Cores")
3. Ensure the slider is set to **16 vCores**.
4. When finished configuring your storage and compute resources, click **Apply** to save your selections and return to the SQL Managed Instance configuration menu
5. Click **Create** to deploy the Managed Instance

**Note:** Due to the limited permissions in this lab, you will get a validation error. The SQL managed instance resouce has been precreated for you

### Create a virtual machine in the new subnet in the VNet

Since SQL Managed Instance is placed in a private Virtual Network, you need to create an Azure VM attached to that network with some installed SQL client tool like SQL Server Management Studio or SQL Operations Studio to connect to the Managed Instance and execute queries. For the purposes of this lab VM creation steps will not be covered.

For a quickstart showing how to connect to a Managed Instance from an Azure virtual machine, see [Configure an Azure virtual machine connection](https://docs.microsoft.com/en-us/azure/sql-database/sql-database-managed-instance-configure-vm) .

# Conclusion

You have successfully deployed your Managed Instance and are now ready to migrate data.