DAT243x

Securing SQL Server

Lab 02 | Authorizing Users to Access Resources

Estimated time to complete this lab is 45 minutes

Overview

In this lab, you are implementing user-level security on your SQL Server database.

The labs in this course are accumulative. You cannot complete the following labs if this lab has not been successfully completed.

What You'll Need

To complete this lab, you will need the following:

- High-speed and reliable internet connectivity (for remote connections to the VM)
- A second monitor is recommended (for the Remote Desktop connection)
- A Microsoft account (such as one used for outlook.com, Hotmail, or other Microsoft services)
- A Microsoft Azure subscription
- To have completed the previous labs in this course.

Exercise 1: Create Database Users

In this exercise, you will create database users and mapped to the logins you created in the previous exercise.

Start the virtual machine

In this task, you will start the virtual machine for the lab.

- If the virtual machine that you created in Lab 00 is not already running, open the Azure Portal, sign in, select the virtual machine, and click **Start**.

Create a User Using Transact-SQL

In this task, you will create a user with Transact-SQL.

1. On your client machine. in SQL Operations Studio, right-click your server and click **New Query**.

2. In the query window, type the following Transact-SQL statement:

```
USE AdventureWorks2016;
GO
CREATE USER [ITSupport] FOR LOGIN [ITSupport] WITH
DEFAULT_SCHEMA=[dbo]
GO
```

3. Click **Run**.

4. In **Servers** panel, in the **AdventureWorks2016** database, under **Security**, right-click **Users** then click **Refresh**, verify that the **ITSupport** user appears.

Exercise 2: Grant Permissions

In this exercise, you will grant users permissions to objects.

Add Role Memberships

In this task, you grant permissions using Management Studio using role membership.

1. In SQL Operations Studio, right-click your server and click **New Query**.

2. In the query window, type the following Transact-SQL statement:

```
USE [AdventureWorks2016]
GO
ALTER ROLE [db_datareader] ADD MEMBER [ITSupport]
GO
ALTER ROLE [db_datawriter] ADD MEMBER [ITSupport]
GO
```

3. Click **Run**.

Grant Permissions

In this task, you grant permissions using Transact-SQL.

1. In SQL Operations Studio, right-click your server and click **New Query**.

2. In the query window, type the following Transact-SQL statement:

```
USE AdventureWorks2016;
GO
GRANT SELECT, INSERT, UPDATE, DELETE ON Production.Product
TO ITSupport;
GO
```

3. Click **Run**.

Review Permissions

In this task, you will review permissions on an object.

1. In SQL Operations Studio, right-click your server and click **New Query**.

2. In the query window, type the following Transact-SQL statement:

```
USE AdventureWorks2016;
EXECUTE AS USER = 'ITSupport'
SELECT * FROM fn_my_permissions('Production.Product', 'OBJECT');
GO
```

3. Click **Run**.

Lab Check – *You will need these answers for the module quiz – write them down!*

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What is the result of the query? _____

You have now completed the lab.

If you are not immediately continuing with the next lab, you should complete the **Finishing Up** *exercise to shut down and stop the VM.*

Finishing Up

In this exercise, you will shut down and stop the VMs.

1. Deallocate the Linux VM by clicking **Stop**.

   Deallocation will take some minutes to complete, and also extends the time required to restart the VM. Consider deallocating the VM if you want to reduce costs, or if you choose to complete the next lab after an extended period.
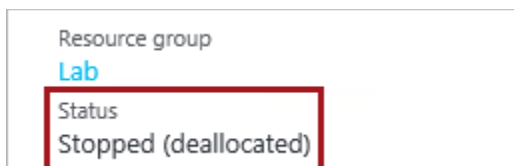

1. When prompted to stop the VM, click **Yes**.
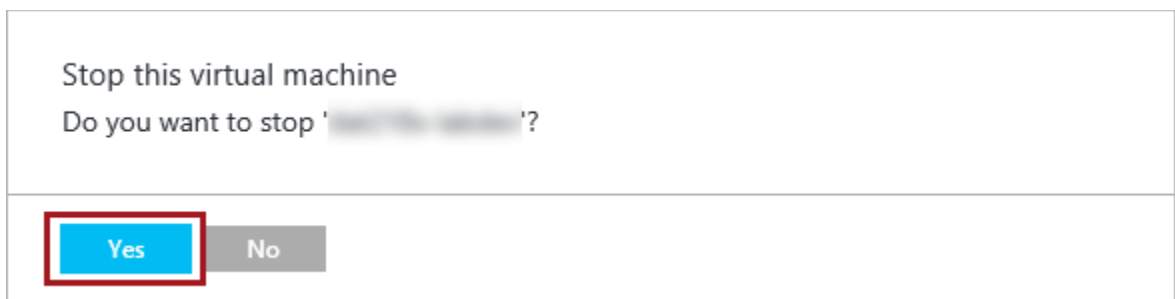
   The deallocation can take several minutes to complete.

2. Verify that the VM status updates to **Stopped (Deallocated)**.

   In this state, the VM is now not billable—except for a relatively smaller storage cost.

   Note that a deallocated VM will likely acquire a different IP address the next time it is started.

3. Sign out of the **Azure Portal**.