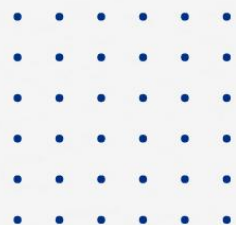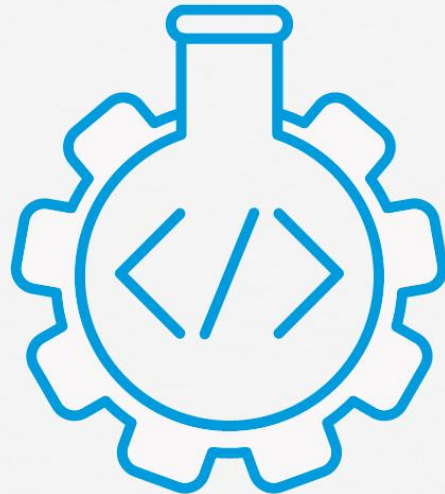# Azure Fundamentals Certification Training Lab Guide

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Azure Fundamentals Training: Lab Guide

Our learn-by-doing method enables you to build practical/coding experience that sticks. 95% of our learners say they remember more when they learn by doing hands-on.

The recommended hardware and software requirements for our training are given below:

Hardware Requirements

- 1.8 GHz or faster 64-bit processor; Intel i5 or better recommended.

- 4 GB or higher RAM; 8GB recommended.

- 40 GB of available hard disk space.

- DirectX 9-capable video card that runs at 1024 x 768 or higher display resolution.

Software Requirements

- Windows 10 or Windows 11 OS or Windows Server 2016 or Higher

- SQL Server 2019 or higher and SQL Server Management Studio

- Microsoft Azure Storage Explorer

Software Download Links

- SQL Server 2019 Express: https://go.microsoft.com/fwlink/?linkid=866658

- SQL Server Management Studio: https://aka.ms/ssmsfullsetup

- Microsoft Azure Storage Explorer: https://azure.microsoft.com/en-us/features/storage

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1. Microsoft Azure Account Setup

You can create a free Azure account. Azure allows you to create a free trial account for 30 days and also gives you some credit of 14,500 INR or 200 USD to use azure services. After completing your trial of 30 days and using your credits, you can upgrade your subscription and keep using the paid services.

You can use your personal email address or Microsoft outlook account to create an account on the Azure platform. But you cannot sign up here with your work or school account.
Now, we will see how to create a free account on Azure.

- **Step 1: Visit the Azure Home Page - https://azure.microsoft.com/en-us/**

- **Step 2: Click on the FREE ACCOUNT as shown in the below image.**
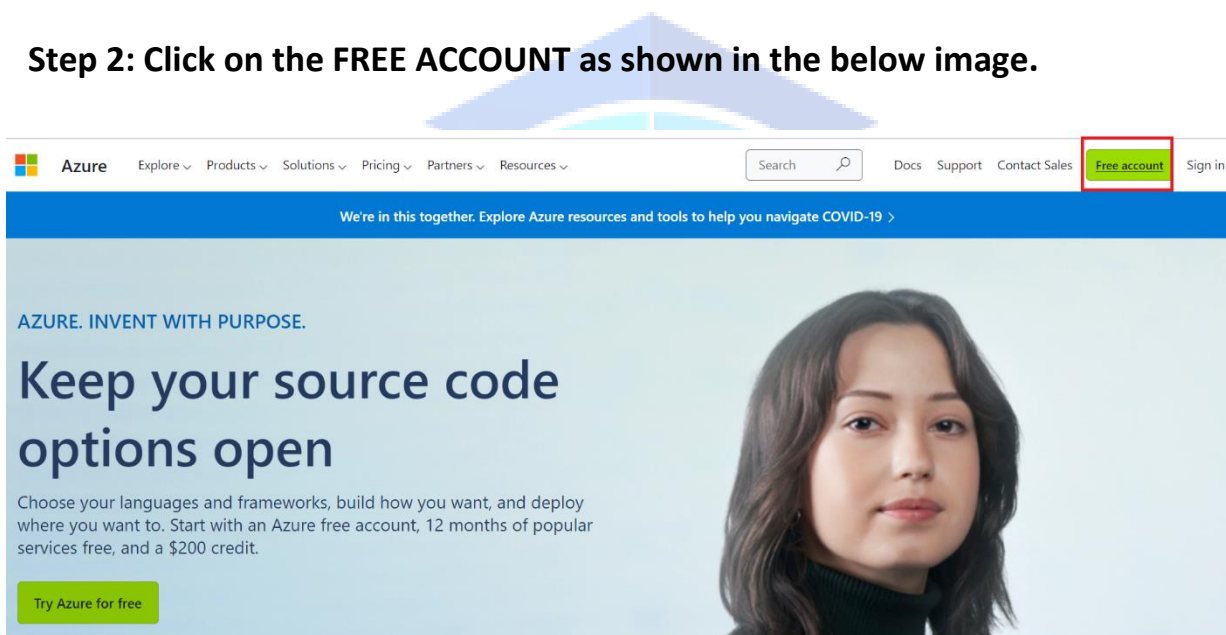
- **Step 3: Click on START FREE.**

- **Step 4: Sign in using an email address or create a new one.**

- **Step 5: Now enter the following details.**

  - Country/Region
  - Your Name
  - Email Address
  - Mobile Number
  - And verify the mobile number

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- **Step 6: Then it will ask you to provide the Phone number details, make sure to provide a valid phone number. Because you need to confirm by a text message or by a call.**

Once verification is done, click on Next.

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- **Step 7:** Now you need to provide the credit card details. Provide everything correctly here. Because it is going to deduct a little amount of money from your account.

- **Step 8:** Check the Terms and Conditions and click Sign-Up.

- **Step 9:** You have successfully created a Microsoft Azure free account.

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- **Step 10:** Click on Portal on the top right corner of the screen. You'll be redirected to the Azure Portal.

- **Step 11:** If you have exhausted your free credit then you have to move to the Pay as you go subscription policy.

if you have crossed the limit or time limit then you will get "your subscription is disabled and cannot perform operations until its re-enabled"
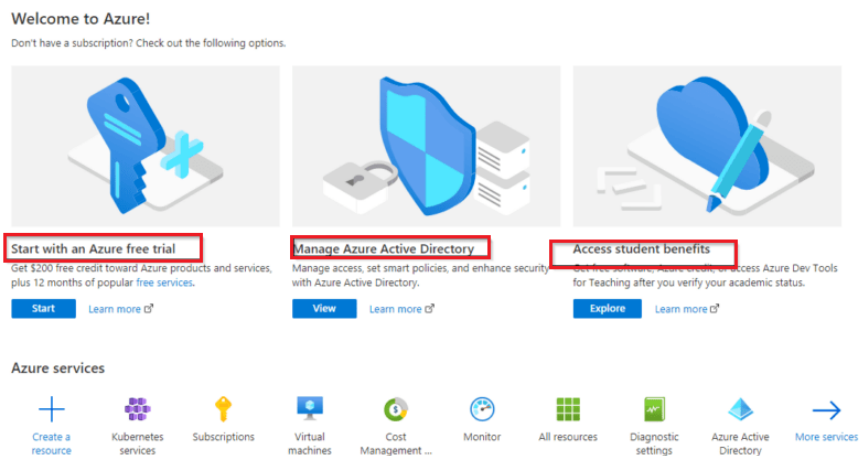
**You cannot create multiple Microsoft azure free accounts or after one account expires to another account for free credit of 200$ using a single Credit card.**

Note: *If you are a student and don't have a credit card, then you can also* register *using your student ID.*

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2. SQL Server 2019 Express Installation

MS SQL Server Express 2019 is a free version of Microsoft's SQL Server relational database management system used to develop databases and SQL queries, manipulate data, and perform database-related tasks that do not require large volumes of database storage. We are going to install SQL Server 2019 Express Edition on Windows Server 2019.

- **Step 1: Before we begin, head over to the https://www.microsoft.com/en-us/sql-server/sql-server-downloads and download SQL Server 2019 Express Edition.**
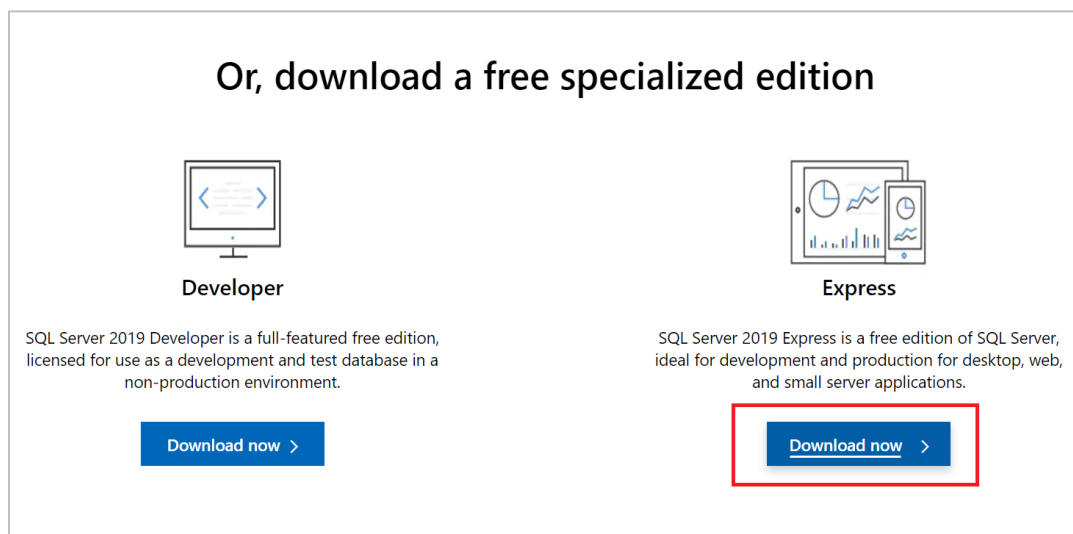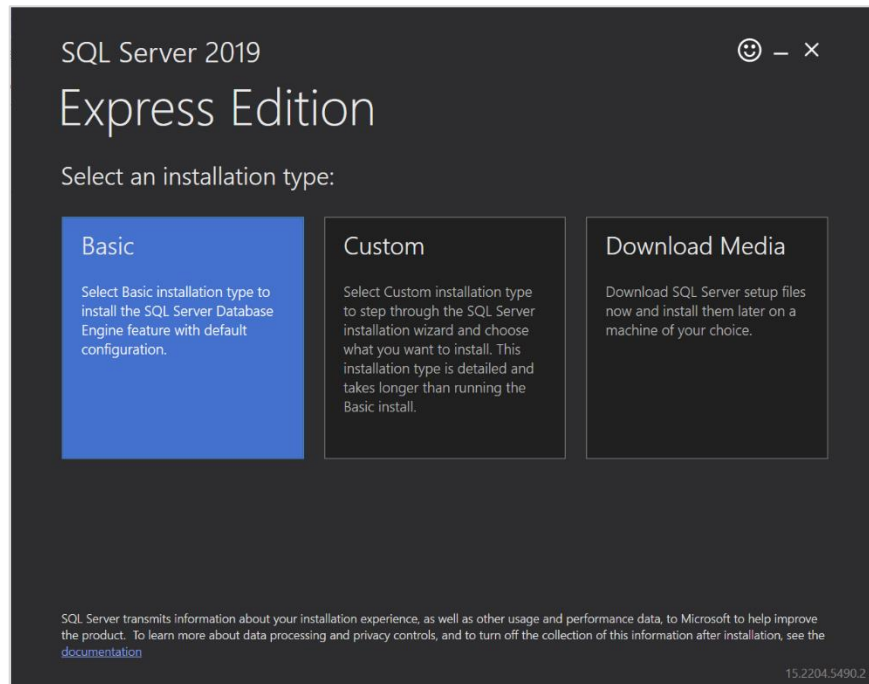

- **Step 2: An .exe file will be downloaded to your system. Double Click that file for further installation.**
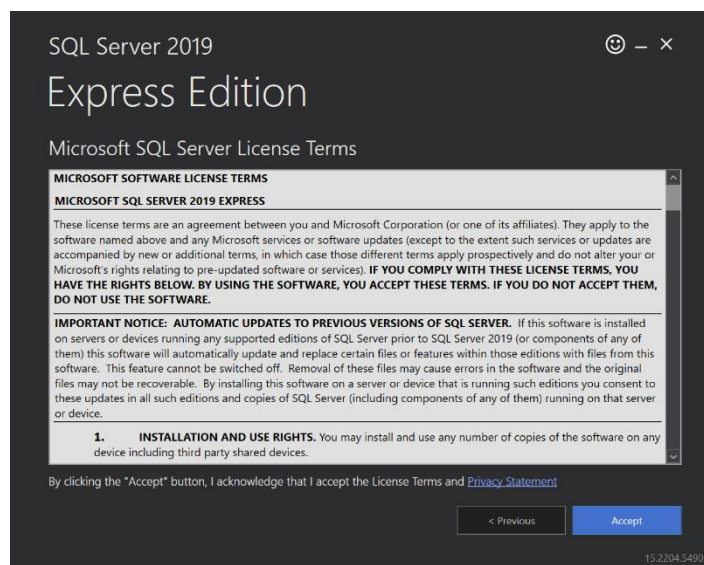
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● **Step 3: After Double Clicking that .exe file, we have to choose our installation type.**

Let's start with Basic type as it will install default packages by downloading them from the internet whereas Custom Type provides customized features of SQL Server.
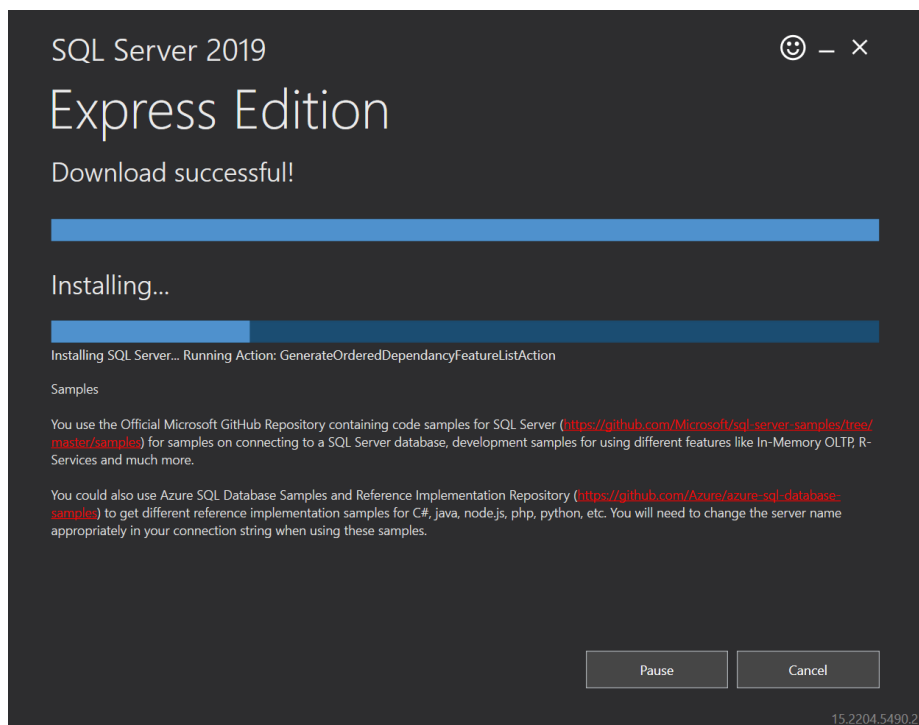

Step 4: Accept the License Agreement.

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● **Step 5: After that, Specify the location for the install package and click install.**
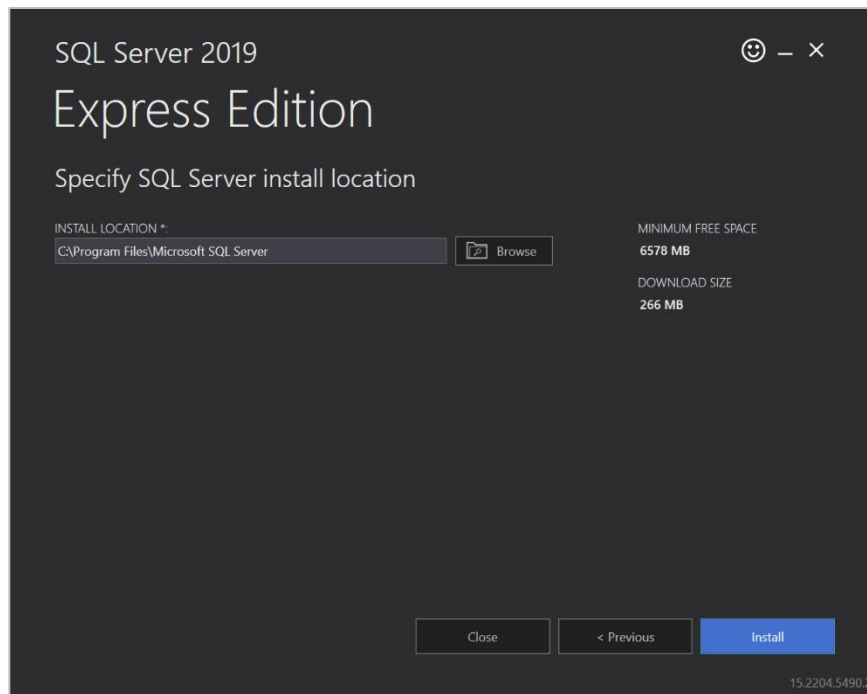
Step 6: After launching the installation process, you will see a progress bar informing that the install package is being downloaded and that SQL Server Express is being installed.
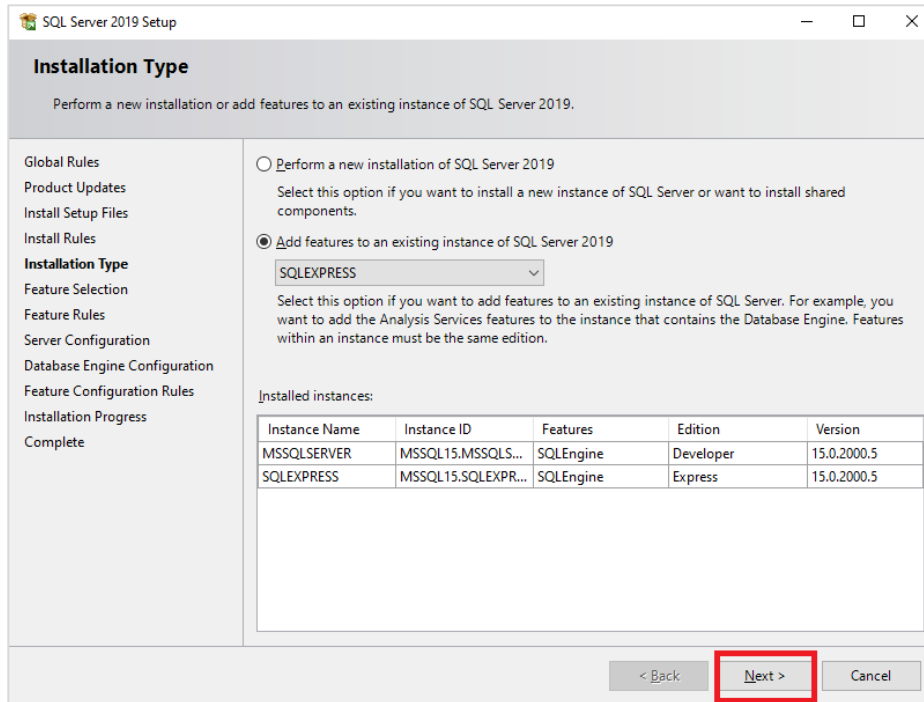
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- **Step 7: After the installation has been completed, we can do the following:**

  ➢ Connect to the SQL Server we have just installed via the sqlcmd utility.
  ➢ Launch the SQL Server setup to customize the default configuration for the installation.
  ➢ Install SQL Server Management Studio.
  ➢ Close the installer.

Let's customize or modify the configuration of the SQL Server 2019 Express Edition we have just installed.
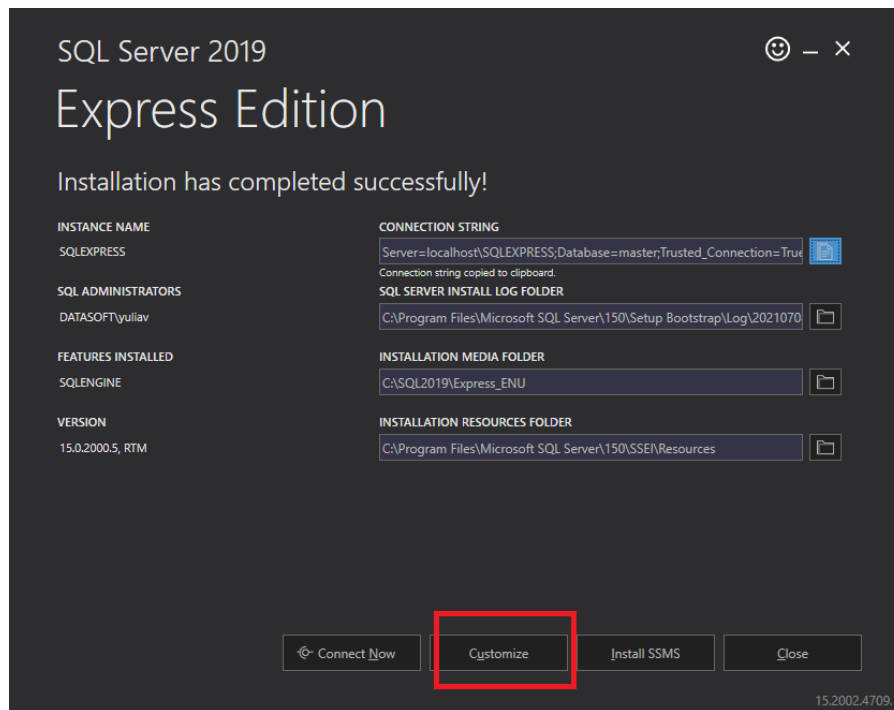
- **Step 8: The SQL Server 2019 Setup wizard open on the Installation Type tab where you choose either to install a new instance or modify the existing one.**

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Here, we are adding features to an existing instance of SQL Server 2019. Click 'Next'.
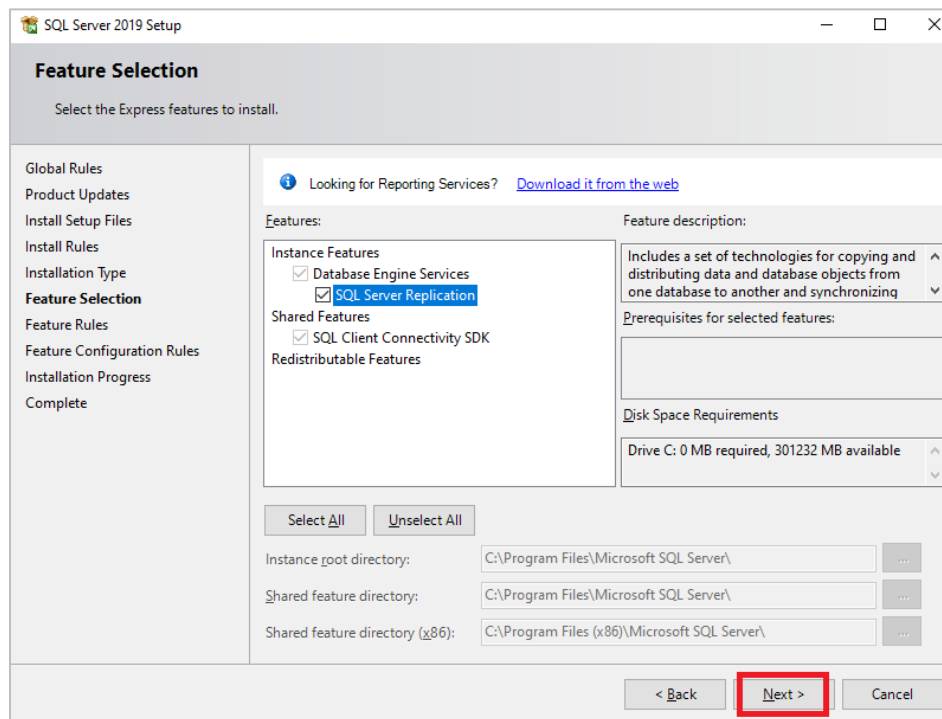
- **Step 9: On the Feature Selection tab, select the instance features to be installed. Click Next.**

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- **Step 10: Following that, the installation starts.**

After the installation is complete, the Complete tab opens displaying the features installed or failed. In addition, you can view the log file for the feature.

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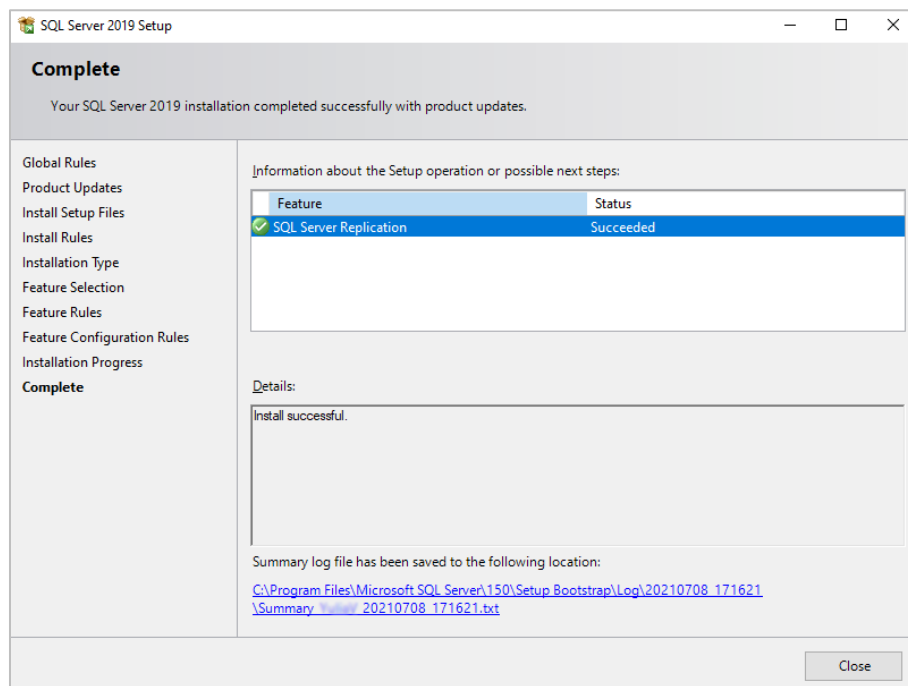
2.1 SQL Server Management Studio (SSMS) Installation

SQL Server Management Studio (SSMS) is an integrated environment for managing any SQL infrastructure. SSMS provides a single comprehensive utility that combines a broad group of graphical tools with many rich script editors to provide access to SQL Server for developers and database administrators of all skill levels.

- **Step 1: Download the SQL Server Management Studio -** https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-ver15
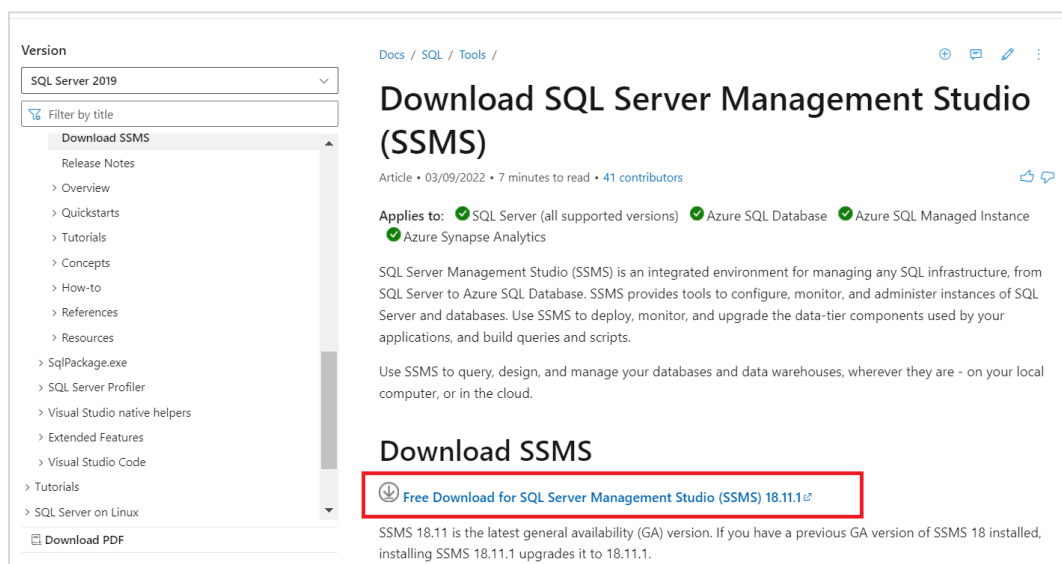
- **Step 2: Once the download is complete, go to the downloads folder in your system.** Find the **SSMS-Setup-ENU.exe** and double click to install SSMS.
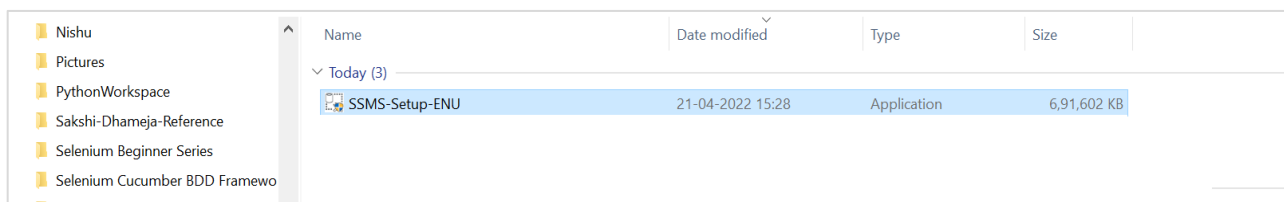
- **Step 3: An SSMS (SQL Server Management Studio) installation wizard appear.**

Click on the **Install** button to start installing SSMS. This will take a few minutes to complete installation.

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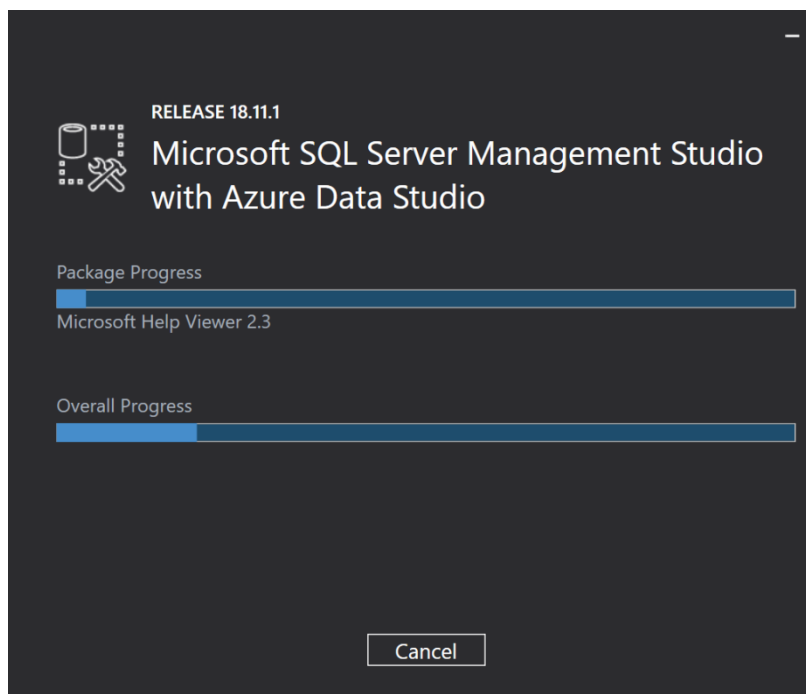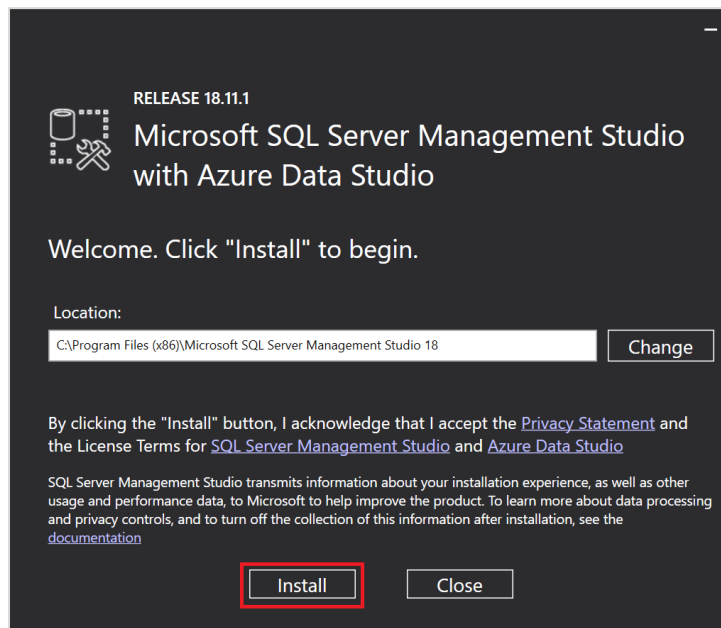
- **Step 4: After the completion of Installation, Restart the server.**

Finally, SQL Server Management Studio (SSMS) is installed on your Server.

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RELEASE 18.11.1

Microsoft SQL Server Management Studio
with Azure Data Studio

Setup Completed

All specified components have been installed successfully.

Close
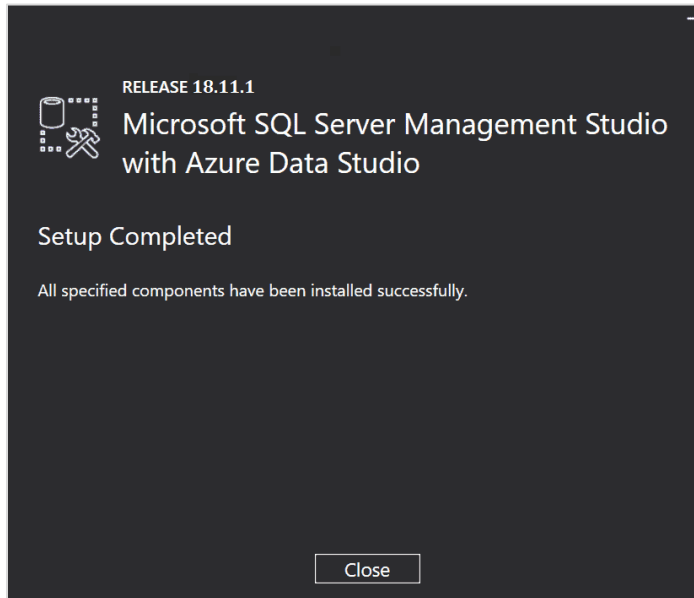
2.2 Change SQL Server to Mixed Role Authentication:

It is considered best practice to configure SQL Server instances to allow only Windows authentication. However, some situations require that SQL Server authentication be used. There are two methods to change SQL Server to mixed mode authentication after installation.

Step 1: Enable Mixed Mode Authentication in Management Studio.

As long as you can connect to SQL Server with Windows authentication, you can enable mixed-mode authentication easily using SQL Server Management Studio.

1. Login into SQL Server with SQL Server Management Studio.
2. In Object Explorer, right-click the name of the server that you wish to reconfigure and select Properties from the menu that appears.

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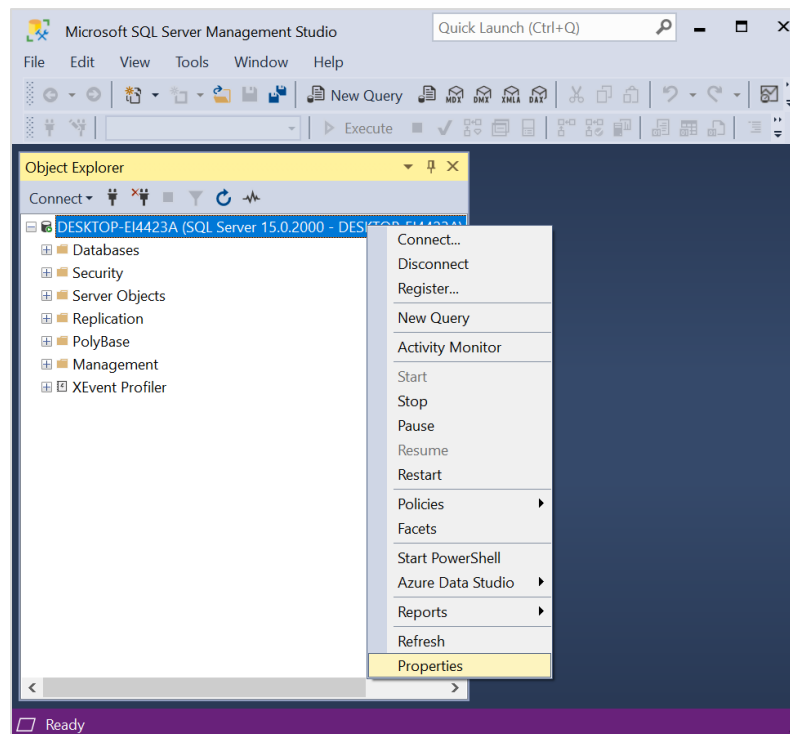
3. This displays the Server Properties dialog box. Select the Security tab and you can then choose SQL Server and Windows Authentication mode (also known as mixed mode authentication).

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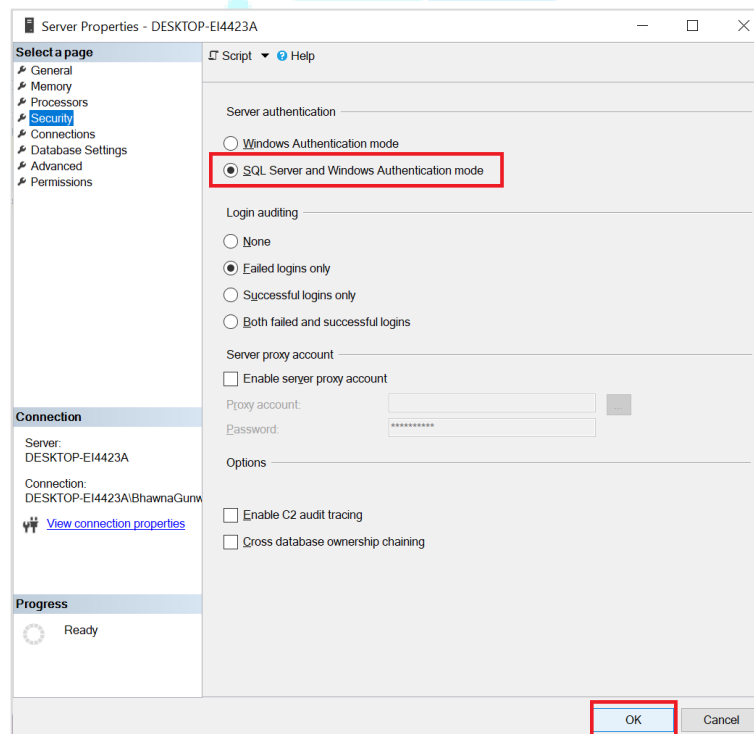
4. Click OK to save the changes and restart the SQL Server service.

Step 2: To Connect with Windows Authentication Mode:
1. Go to the File.
2. Click on "Connect Object Explorer".
3. Server name will be your System Name. If you don't get it, you can browse for more.
4. By default, Windows Authentication is selected. Then, just Click on **Connect**.

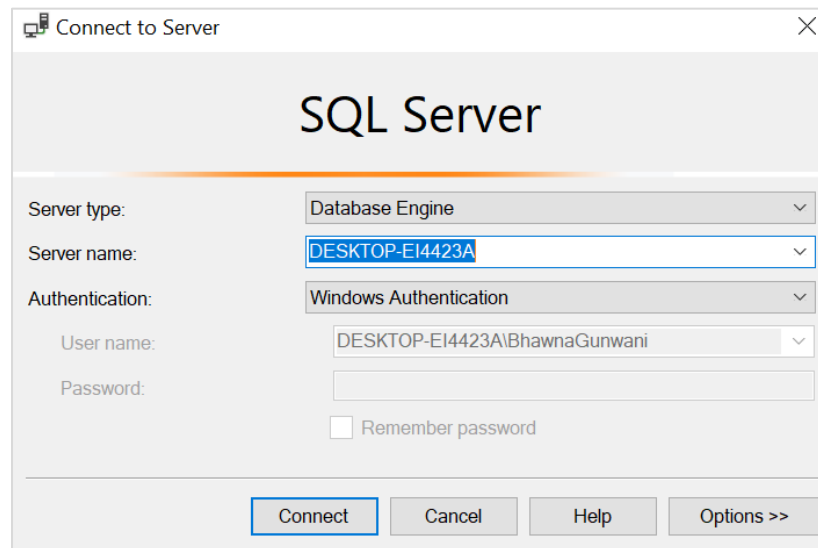**Step 3: To Connect with SQL Server Authentication Mode:**
1. Go to the File.
2. Click on 'Connect Object Explorer'.
3. From the Authentication drop-down menu, Select SQL Server Authentication.
4. By default, Login name will be **sa** (System Admin).
5. Password will remain same that you've entered while installing SQL Server.
6. Click on **Connect**.

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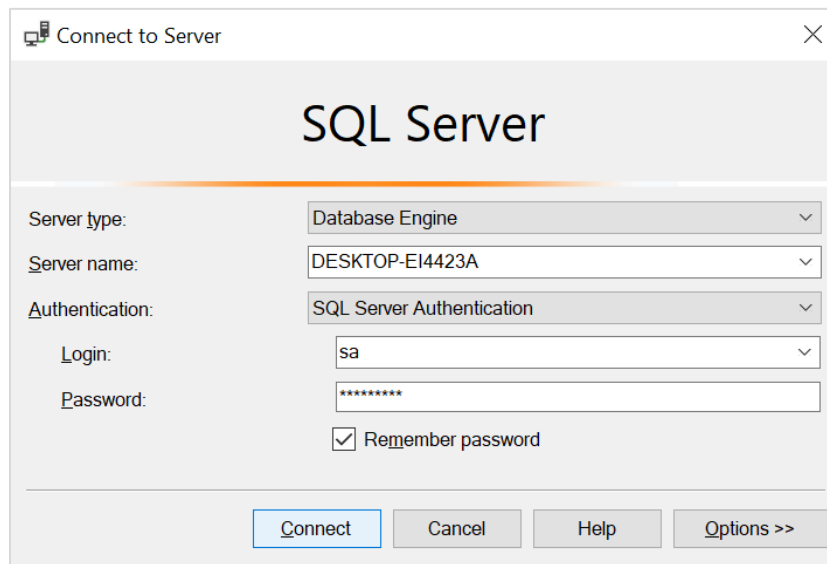
3. Azure Storage Explorer Installation

Azure Storage Explorer is a GUI-based tool IT teams can use to oversee storage operations related to the Azure public cloud. The Azure Storage Explorer interface should be familiar to anyone who has used FTP GUI-style tools.

It allows you to view storage resources such as blobs, tables, queues, and files in different Azure storage.

● **Step 1: To download the Azure Storage Explorer, visit the official Azure website - https://azure.microsoft.com/en-us/features/storage-explorer/**
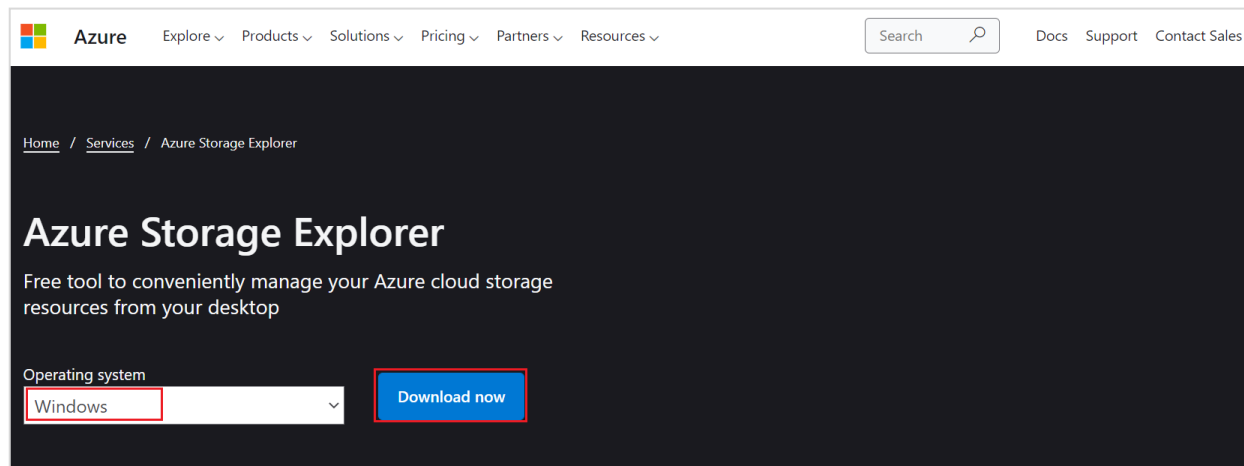
- **Step 2: Double click on the downloaded file "*StorageExplorer.exe*" to initiate its installation.**
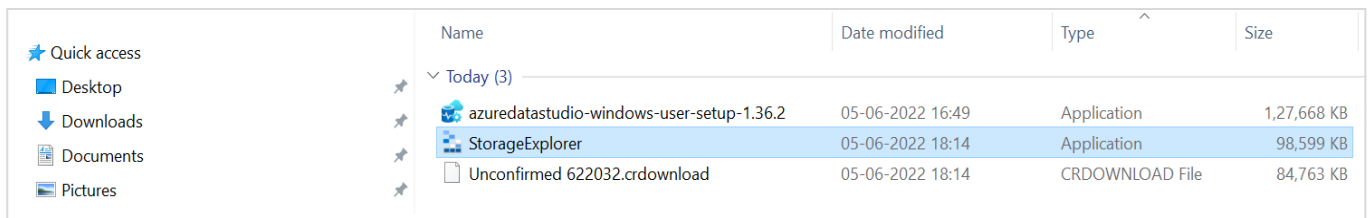
- **Step 3: The below screen will appear to select whether you want to install this application for yourself or for all users. So, select the recommended approach i.e. Install for me only.**
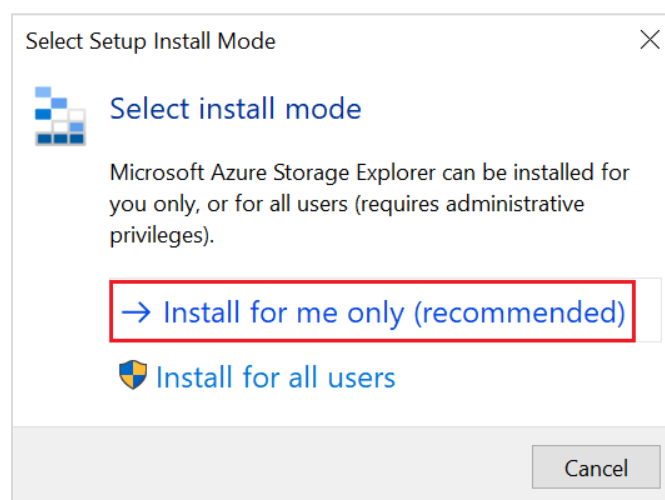
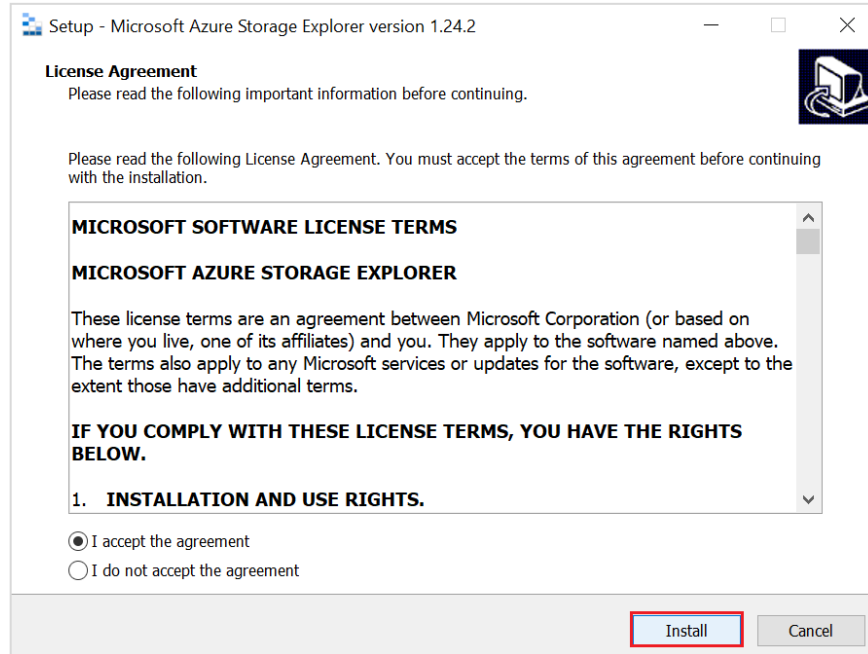- **Step 4: Accept the terms and conditions and hit the "Install" button to process the installation.**

- **Step 5: Here, you can browse the location where you want to install Azure Storage Explorer. Click on "Next" button once you are done with it.**
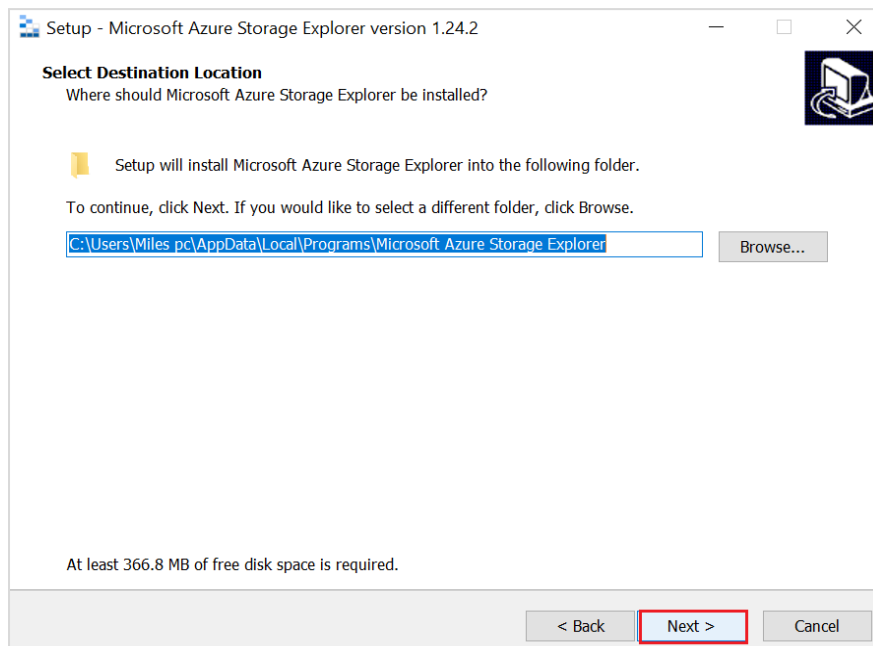
- **Step 6: Change your shortcut in the below screen if needed otherwise, you can keep it as default. Click on "Next" button to process further.**
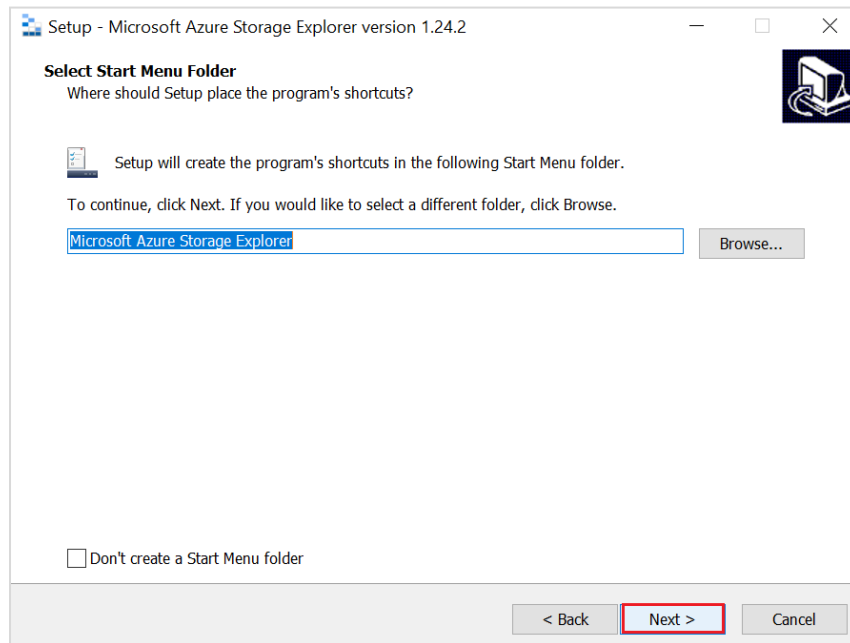
- **Step 7: The Installation of Azure Storage Explorer has started.**

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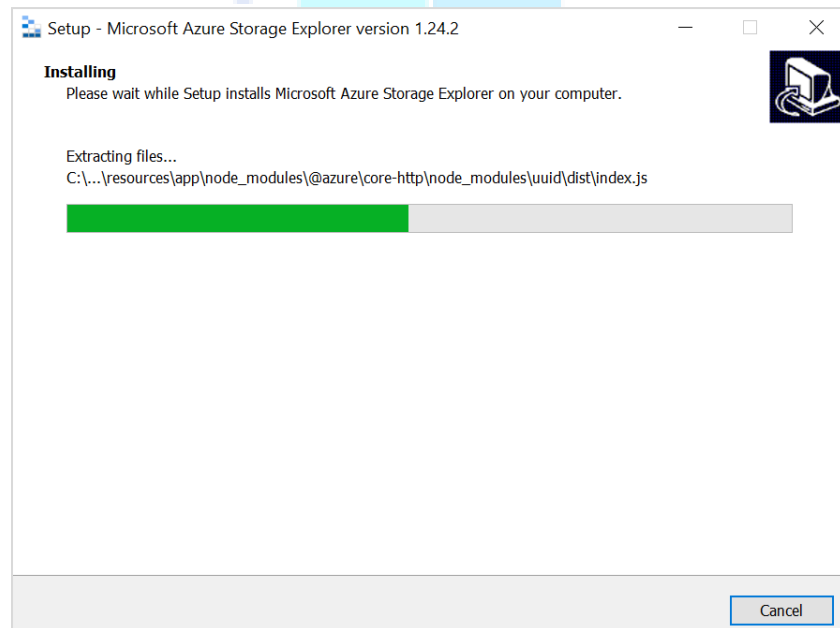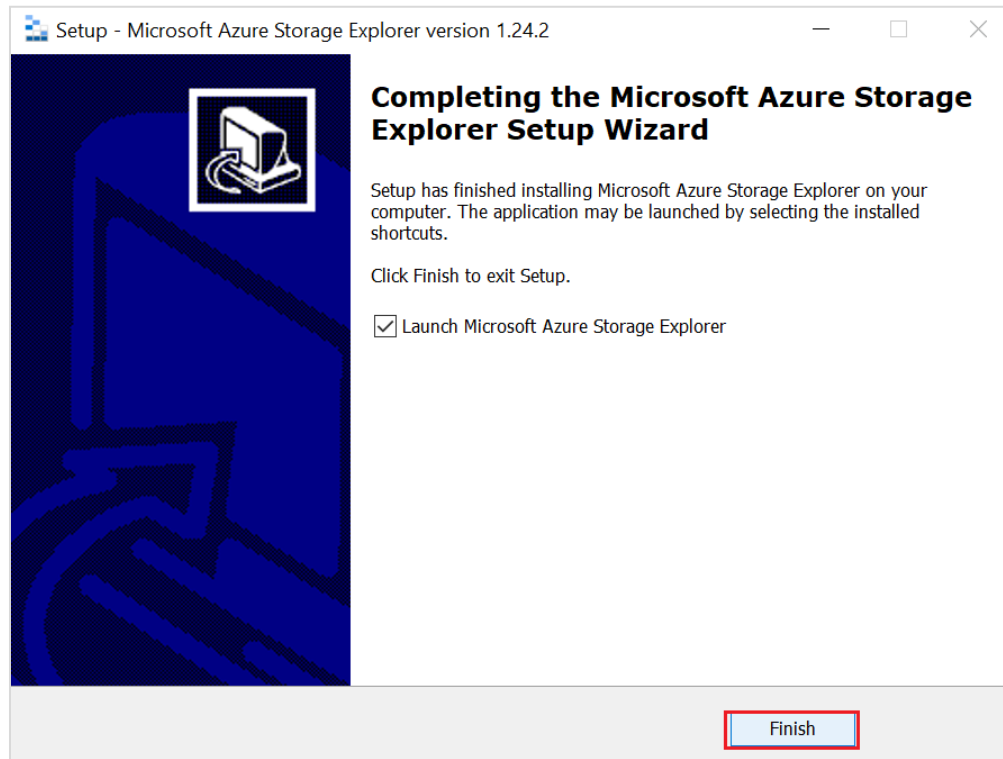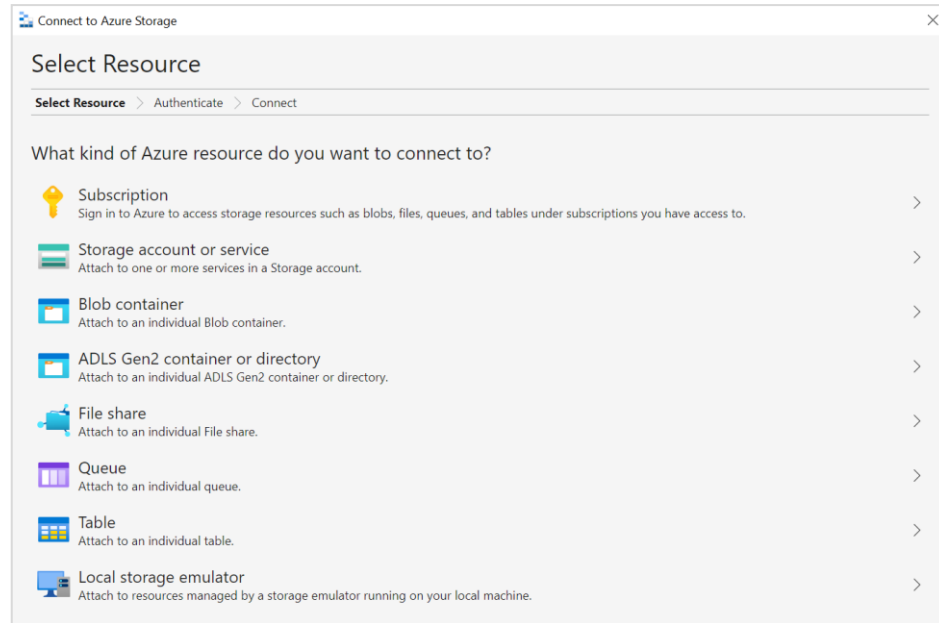- **Step 8: Once the installation will be completed, Click on "Finish".**

- **Step 9: Azure Storage Explorer Application will be launched as shown in the below image.**

● **Step 10: Here is the final image of this application, where you have got the Connect to Azure Storage pop-up window to select the type of Azure storage and connection you want to make.**

● **Step 11: Click on "Subscription" option shown in the above popup window. The below screen will appear to choose the Azure environment. Click on "Next" button.**

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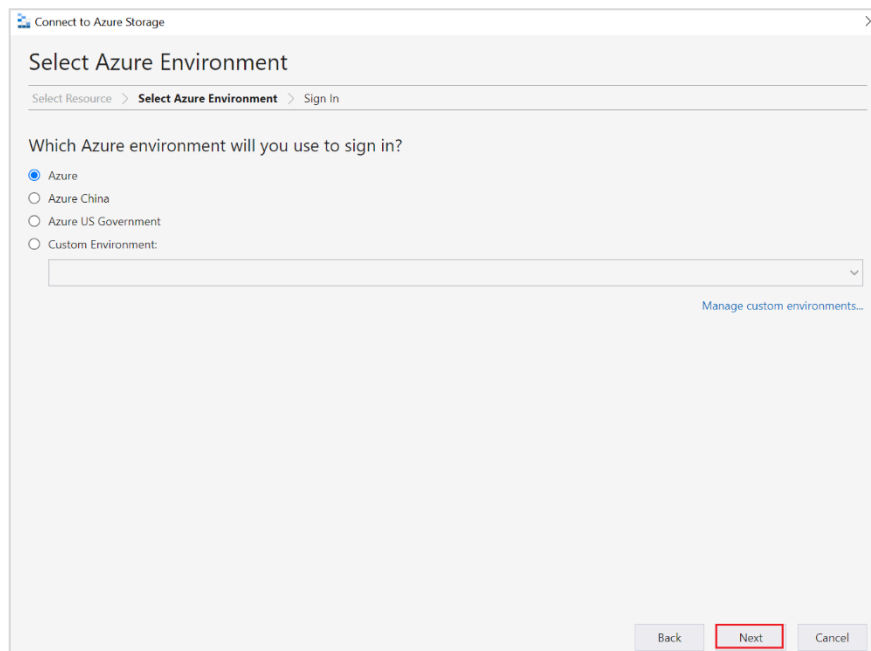
- **Step 12:** Once you click on the "Next" button, it will redirect you to the Azure portal URL to enter your login and password to establish a connection to your Azure account. Once your Azure account will be successfully authenticated, you will get the message in your web browser.

Authenticated. You can return to Storage Explorer. You might need to authenticate again if you close this browser tab.

Now, close the webpage and go back to Azure Storage Explorer. Here, you will see all subscriptions are reflected in storage explorer as shown in the below image. You can click on each respective checkbox given beside each tenant to load its resources.
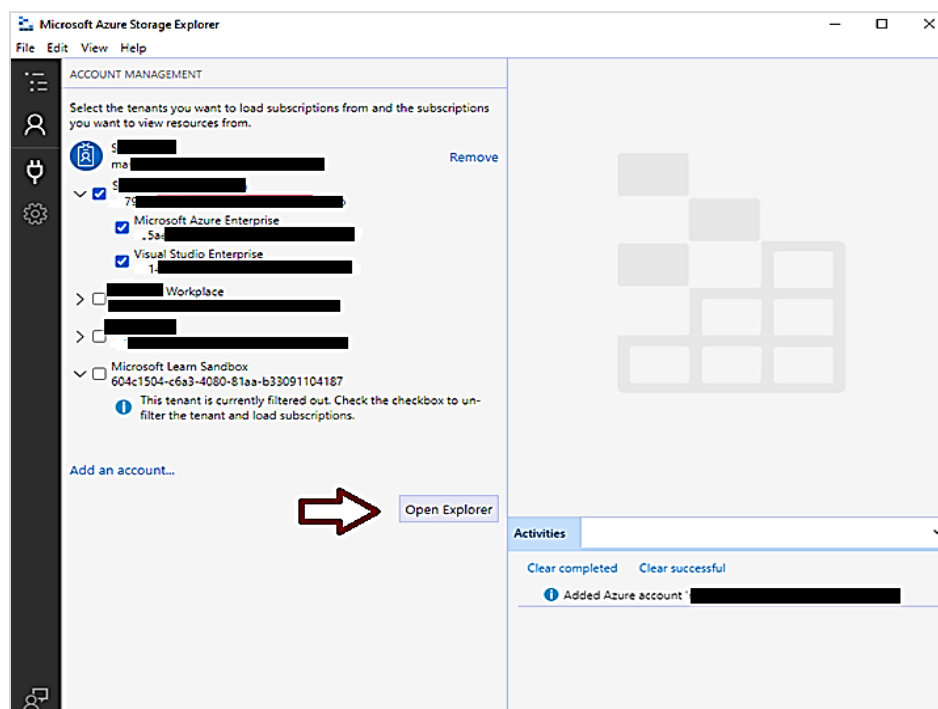
Contact Us

If you are still facing any issues while installing the software and configuring the system, please free to reach out to us at **+91 9999 123 502/503** or email us at hello@scholarhat.com

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