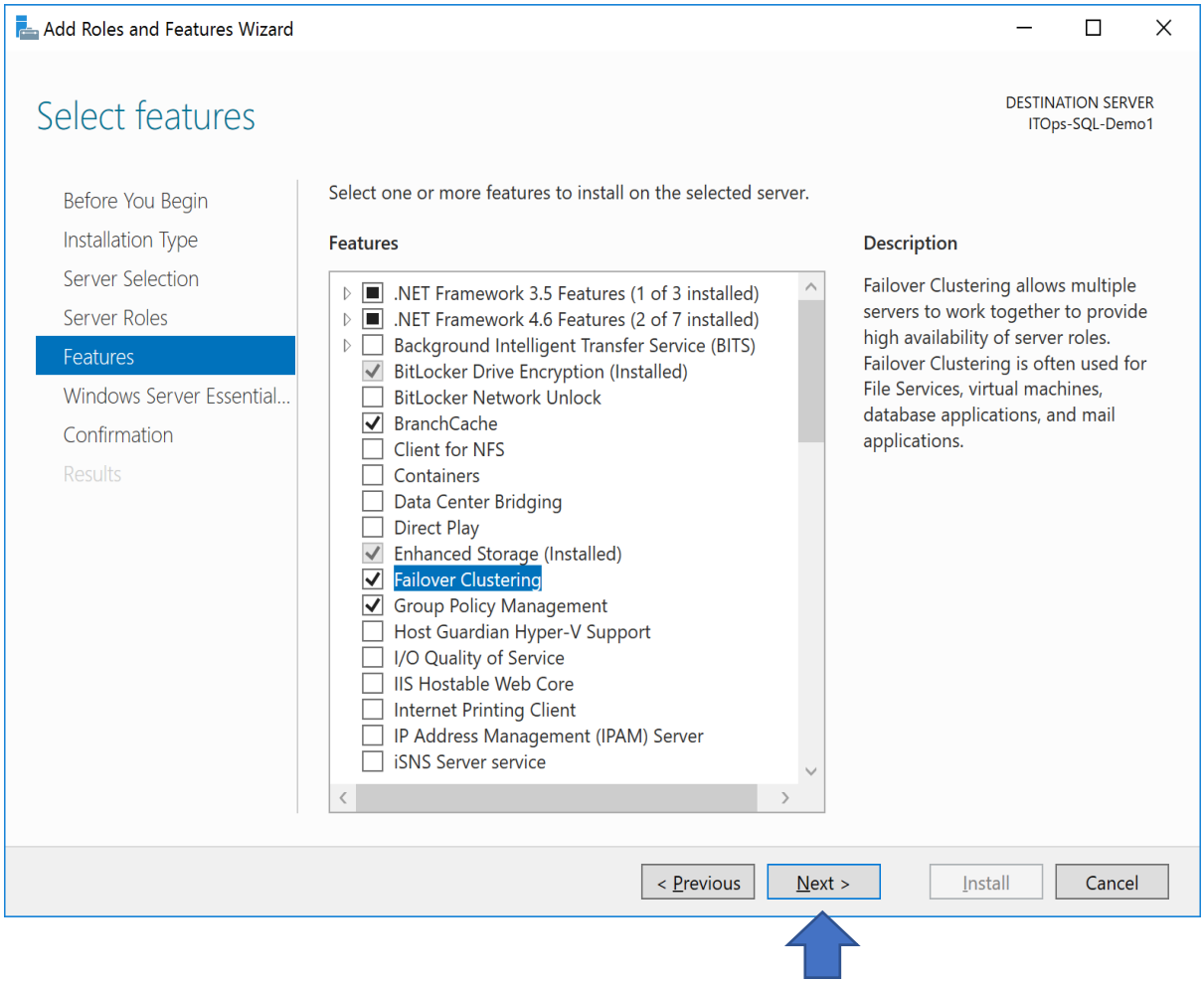
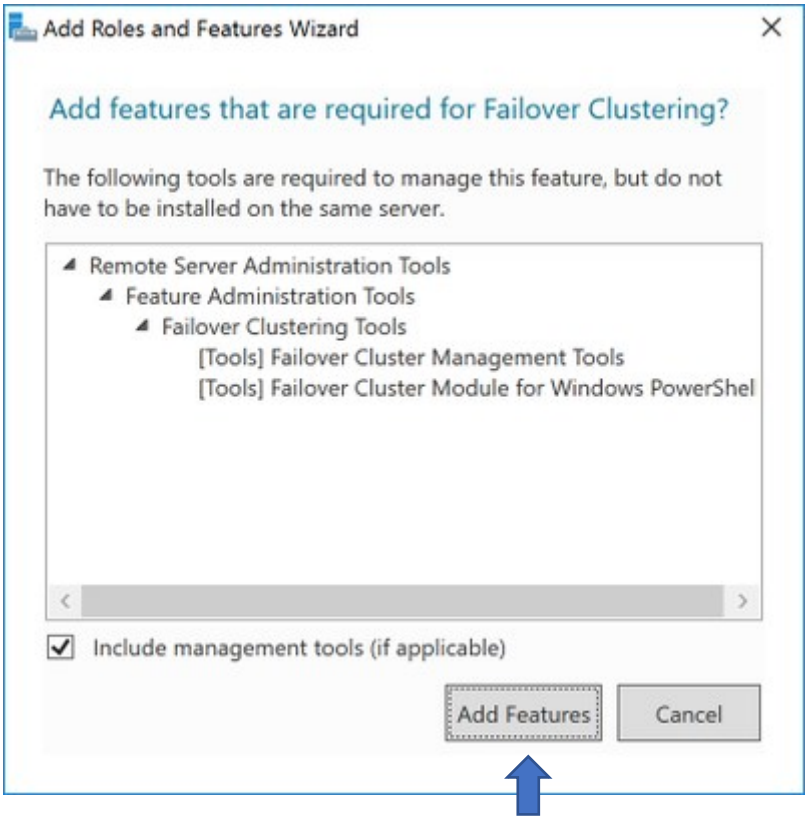
STEP BY STEP ALWAYS ON AVAILABILITY GROUP

Step 1: ***Windows Failover Cluster Feature Installation***

- Run the Server Manager console and select Add roles and features.
- Once the Add Roles Features Wizard has launched, click Next until the Select Features dialog box has been reached.
- Select the Failover Clustering checkbox.



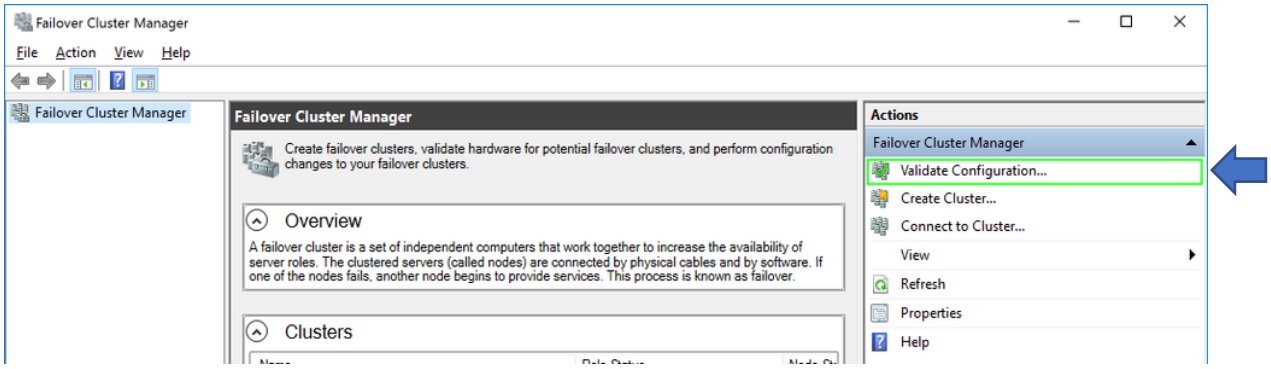
➢ Select Add Features within the Add features that are required for Failover Clustering dialog box and click Next.



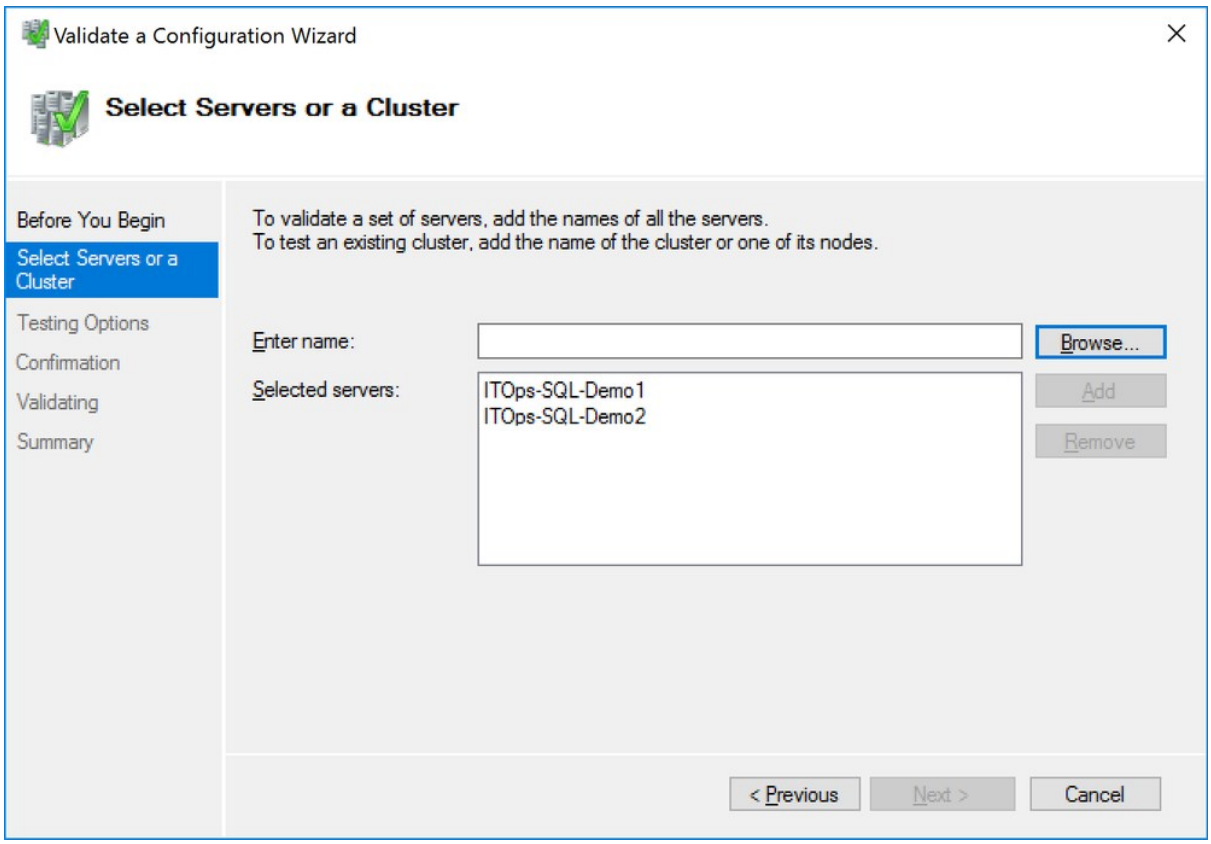
5. Click Next until the Confirm installation selections dialog box is reached and select Install.

Step 2: Enabling Windows Failover Clustering Configuration for SQL Server

- Run Failover Cluster Manager found under Tools (top right) within the Server Manager Console.
- Click Validate Configuration inside the Actions box.



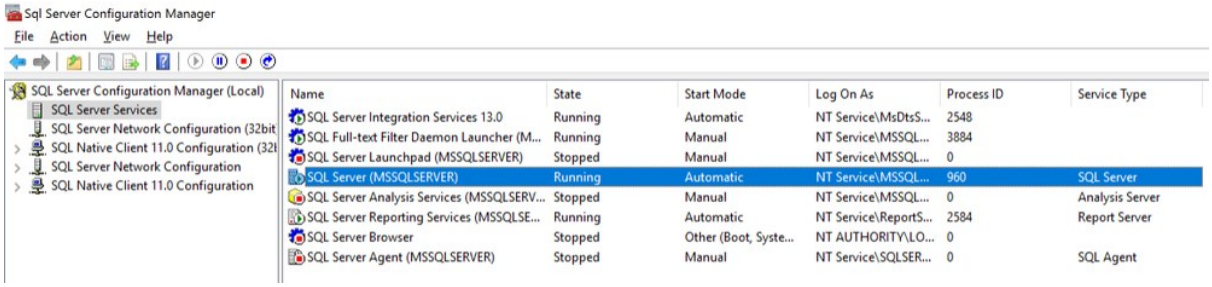
- Click Next in the Validate a Configuration Wizard: Before You Begin dialog box.
- Add the server hostnames of the SQL Server instances that you want to configure as replicas in the Availability Group and click Next



- Click Next in the Confirmation dialog box to create the Windows Failover Cluster using the servers as nodes of the cluster. Be sure to include the required DNS and Active Directory entries for the cluster hostname.
- Verify that the configuration is successful within the Summery dialog box.
- Select More Actions > Configure Cluster Quorum Settings... to configure the cluster quorum configuration to use a file share. The wizard will configure the cluster to use Node Majority by default.
- Click Next.
- Select Add or change the quorum witness option in the Select Quorum Configuration page and click Next
- Select Configure a file share witness option in the Select Quorum Witness page and Next
- Type the path of the file share needed to use in the File Share Path: text box within the Configure File Share Witness page and click Next.
- Click Next in the Confirmation page
- Click Finish in the Summary page.

Step 3: Enabling the SQL Server 2016 Always On Availability Groups Feature

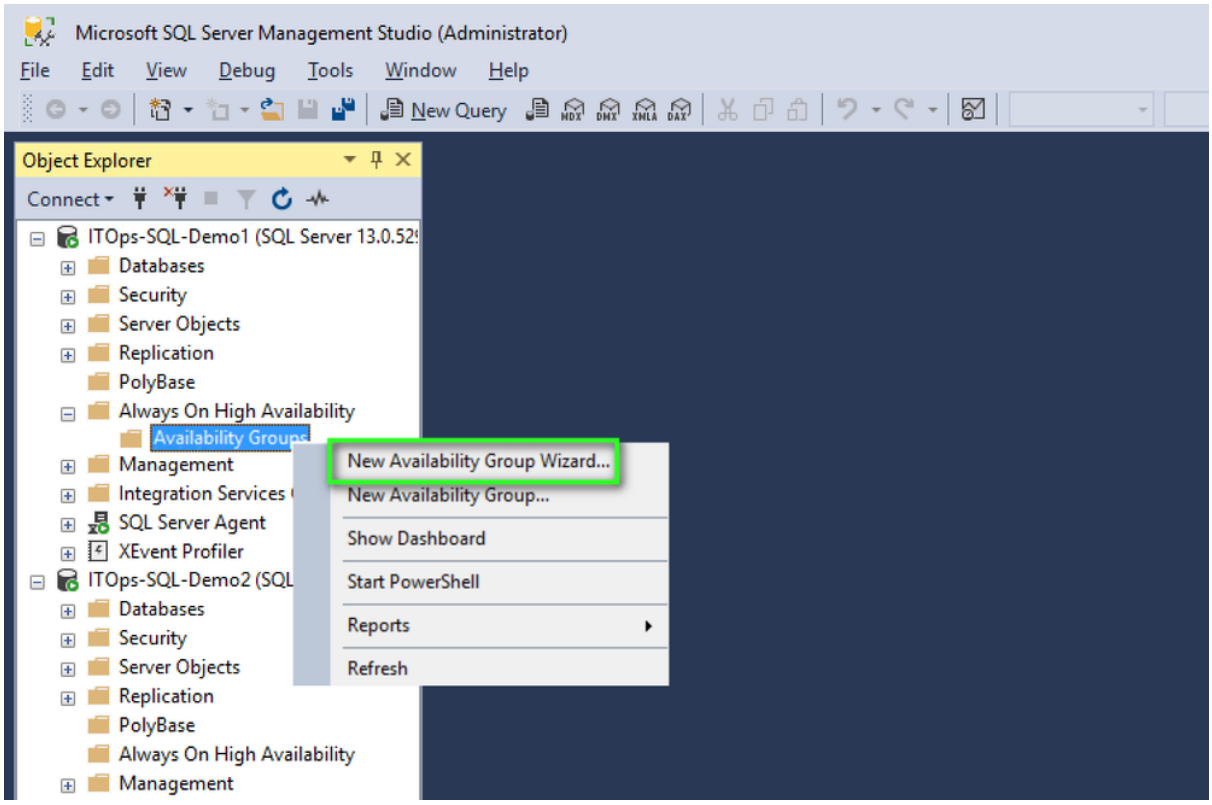
- Run the SQL Server Configuration Manager and double-click the SQLServer (MSSQLSERVER) service to open the Properties dialog box.



- Select the Always On High Availability tab in the Properties dialog box and check off the Enable Always On Availability Groups checkbox.
- Click OK when prompted to restart the Server service.

Step 4: Creating and Configuring SQL Server Always On Availability Groups

- Open SQL Server Management Studio and connect to the SQL Server instance.
- Expand the Always On High Availability folder in the Object Explorer.
- Right-click on the Availability Groups folder and select the New Availability Group Wizard... option launching the New Availability Group Wizard.



- Click Next on the Introduction page.
- Enter the name of the Availability Group in the Availability group name: field and click Next.
- Select the checkbox beside the database to be included in the Availability Group within the Select Databases page.

- Click Next.
- Under the Replicas tab within the Specify Replicas page, click Add Replicas and connect to the other SQL Server instances previously joined as nodes with the Windows Server Failover Cluster and configure the following options:

  - Automatic Failover (Up to 2): Checked
  - Synchronous Commit (Up to 3): Checked
  - Readable Secondary: No

- Verify that the port number value is 5022 in the Endpoints tab.

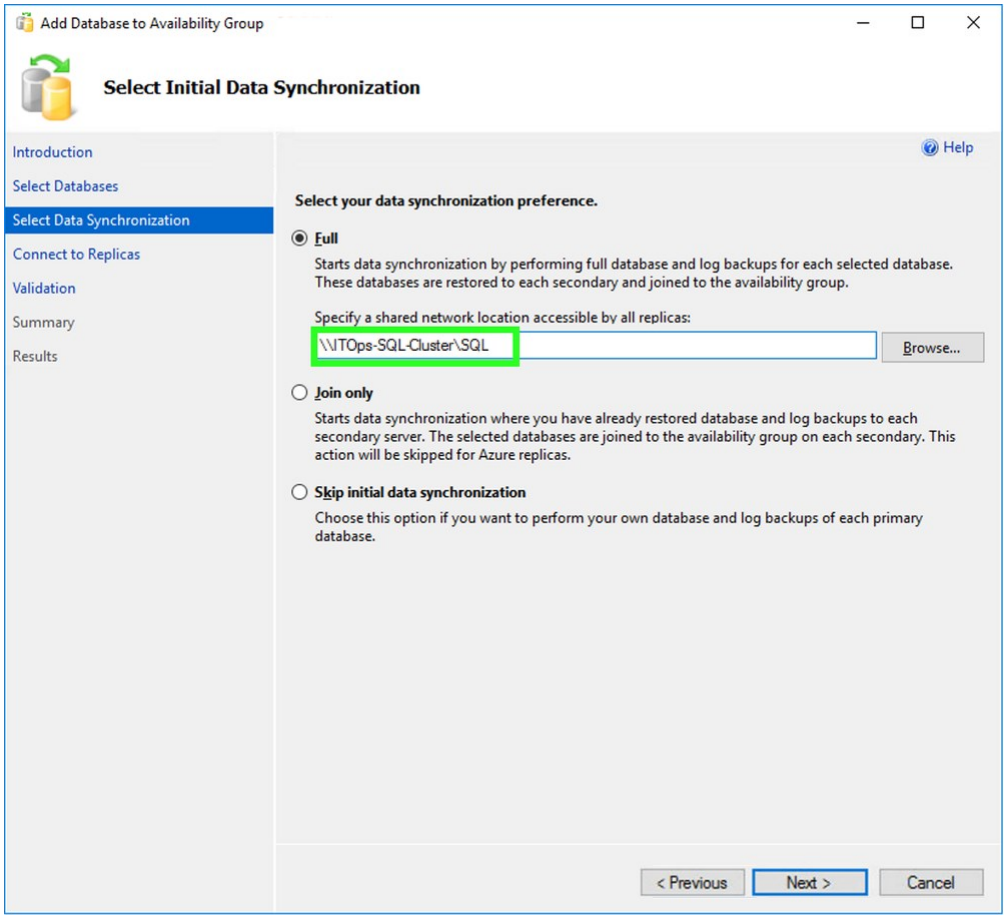
- Select the Create an availability group listener option within the Listener tab and enter the following details:

  - Listener DNS name: Name that will be used in the application connection string
  - Port: 1433

  Click Add... once completed and provide the required IP Address.

- Enter the preferred virtual IP address in the IPv4 Address field within the Add IP Address dialog box and click OK > Next.

- Select the Full option within the Select Initial Data Synchronization page.



- Click Next.
- Verify all validation checks are successful in the Validation page and click Next.
- Verify all configuration settings and click Finish in the Summary page.
- Verify all task have been completed successfully in the Results page.

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