

Amazon RDS on VMware

How to Set up Microsoft SQL Server Database on a RDS on VMware Custom Availability Zone

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VMWARE VSPHERE

- Any vSphere that can accommodate the requirements listed will be able to run Amazon RDS on VMware
- vCloud Foundation and other SDDC flavors will work if requirements are met

OTHER VMWARE TECHNOLOGIES

- [NSX](#) is not required but has been properly validated with the solution
- [vSAN](#) is not required but has been properly validated with the solution
- [VxRail](#) has been validated (development occurred over VxRail)

Introduction

Amazon RDS on VMware (also referred to as RDS on VMware) is a service that will make it easy for customers to set up, operate, and scale databases in VMware-based software-defined data centers (SDDC) and hybrid environments.

RDS on VMware automates database provisioning, operating system and database patching, backup, point-in-time restore, instance scaling, instance health monitoring, and failover.

RDS on VMware has been certified to leverage most of the resiliency, durability and high availability features available on vSphere 6.5 and 6.7. We don't recommend deploying Amazon RDS on VMware atop of older vSphere editions.

This document provides information on how to set up a Microsoft SQL Server Database for a Custom AZ.

NOTE You must bring your own media and Microsoft SQL Server license to create RDS on VMware managed SQL Server database.

Managing On-Premises Databases Using RDS on VMware

RDS on VMware comprises of a set of VMs running on your vSphere infrastructure, connected through a dedicated VPN tunnel to the AWS region. This service provides a single pane of glass experience via the AWS management Console, CLI, and APIs to manage RDS databases running on-premises and in AWS.

Using RDS on VMware has many advantages:

- Easy to administer
- Performant and Scalable
- Available and durable
- Leverages existing infrastructure

RDS on VMware supports Microsoft SQL Server, PostgreSQL, and MySQL.

NOTE Importing the Windows OS and Microsoft SQL Server media may take 3-4 hours.

How to Set Up Microsoft SQL Server Database Instance for a Custom AZ for RDS on VMware

Setting up the Microsoft SQL Server database for a Custom AZ is a 2-step process. You must first import the Microsoft Windows OS 2016 and the SQL Server 2016 media before you create a database.

The following procedure provides the steps to connect the vSphere Cluster where RDS on VMware is installed, to a Microsoft SQL Server database. **Currently, only the following media is supported:**

- OS Installation Media
 - Windows Server 2016
 - Windows Server 2016 (Updated January 2017)
 - Windows Server 2016 (Updated February 2018)

For more information, see <https://my.visualstudio.com/Downloads?q=windows%20server%202016>.

- Engine Installation Media
 - SQL Server 2016 Enterprise
 - SQL Server 2016 Enterprise with Service Pack 1
 - SQL Server 2016 Enterprise with Service Pack 2

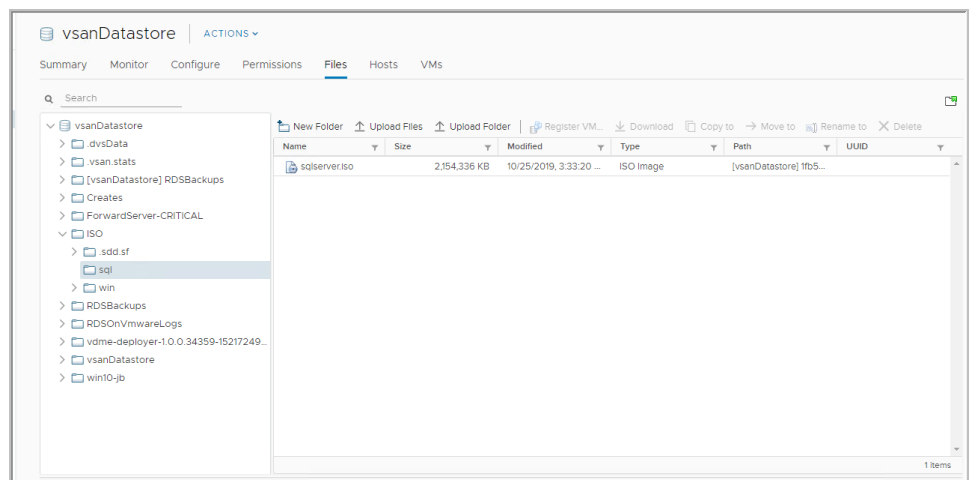
For more information, see <https://my.visualstudio.com/Downloads?q=sql%20server%202016>.

Prerequisites

1. You must have completed setting up RDS on VMware.
2. The status of the custom AZ must be Active.
3. You must have downloaded the Installation media (ISOs) for Windows Server and Microsoft SQL Server from *microsoft.com* and imported it to the same datastore that you specified during the installation of the RDS on VMware installer.

Procedure

1. Log into the AWS console.
2. Select RDS under Database Services.
3. Click Custom Availability Zones on the left sidebar.
4. Select the custom AZ you had created earlier.
5. Under Install Media, click Import.
6. Provide the **absolute path** for the media. Do not provide the name of the datastore in the path. Start the path with the subfolder where the ISOs are located. For example:
 - a. OS Installation Path – ISO/win/<filename>.iso
 - b. Engine Installation Path – ISO/sql/<filename>.iso



NOTE Importing the Windows OS and Microsoft SQL Server media is a one-time activity. After a successful import, you can create multiple databases using the same media.

7. Click Import Media.

The screenshot shows the 'Import media' configuration page in the AWS RDS console. The breadcrumb trail is 'RDS > Custom AZs > rdsOnVmware > Import media'. The page is titled 'Import media' and contains two main sections: 'Engine options' and 'Importation settings'. In the 'Engine options' section, 'Microsoft SQL Server' is selected as the engine type. Under 'Edition', 'SQL Server Enterprise Edition' is selected. The 'Version' dropdown is set to 'SQL Server 2016 13.00.5292.0.v1'. In the 'Importation settings' section, the 'OS installation path' is 'ISO/win/win.iso' and the 'Engine installation path' is 'ISO/sql/sqlserver.iso'. At the bottom right, there are 'Cancel' and 'Import media' buttons.

RDS > Custom AZs > rdsOnVmware > Import media

Import media

Engine options
Choose the DB engine, edition, and version that corresponds to your on-premises media.

Engine type

- Microsoft SQL Server

Microsoft SQL Server

Edition

- SQL Server Enterprise Edition
Comprehensive high-end capabilities for mission-critical applications with demanding database workloads and business intelligence requirements.

Version

SQL Server 2016 13.00.5292.0.v1

Importation settings
Input the paths to your OS and installation media from your on-premises datastore. If no media exists, upload the media to a directory in your datastore before proceeding.

OS installation path [Info](#)

ISO/win/win.iso

The absolute path of the OS media uploaded to your on-premises datastore.

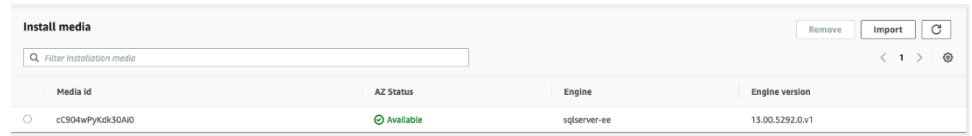
Engine installation path [Info](#)

ISO/sql/sqlserver.iso

The absolute path of the DB engine media uploaded to your on-premises datastore. The version of the engine media must match the engine version you selected above.

Cancel **Import media**

- From the AWS console, go to the custom AZ you created earlier and check under Install Media. If the media is imported successfully, the status is set to Available.



The screenshot shows the 'Install media' section of the AWS console. It features a search bar labeled 'Filter installation media' and buttons for 'Remove', 'Import', and a refresh icon. Below is a table with the following data:

Media Id	AZ Status	Engine	Engine version
cc904wPyK6k30A10	Available	sqlserver-ee	13.00.5292.0.v1

Note

- After the media is imported successfully and is shown as Available, you must create the database and select the Microsoft SQL Server version you just imported. See the AWS documentation for information about creating a database from the AWS console.
- The Microsoft SQL Server database VM instances must have access to Microsoft endpoints such as `*.microsoft.com` via HTTPS.

Troubleshooting

Error while installing the media

If you provide an incorrect location of the ISOs, the import will fail.

While the media will not get imported, you might still see the Media ID on the Custom AZs screen.

The screenshot shows the VMware vSphere interface for configuring a Custom AZ. At the top, a red error banner reads: "Your request to import media for custom AZ: new-custom-AZ has failed. Error: OS media not found at provided location." Below this, the page title is "new-custom-AZ" with a "Delete" button. The "Summary" section displays the following details:

Custom AZ name new-custom-AZ	Custom AZ identifier rds-caz-1x2jKcZ	Custom AZ status Active
VPN name vpn-tunnel-1	VPN id 112240084753-641e55c4	VPN gateway IP
VPN originator IP		

The "Install media" section contains a search filter "Filter installation media" and buttons for "Remove", "Import", and "Refresh". Below is a table of installed media:

Media id	AZ Status	Engine	Engine version
eVAnR8kuGmCUjH	Failed Import	sqlserver-ee	13.00.5292.0.v1

Resolution

Select the media listed under Install Media, delete it, and re-import the media with the correct location of the ISOs.



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