Instance create or drop

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Contents

Self-help content presented in Azure Portal

(This content was shown to the customer during case submission. It's also visible on 'Diagnose and solve problems' blade.)

You can provision a Microsoft Azure SQL Managed Instance by using the Azure portal, PowerShell, CLI, or ARM templates. Before you begin, be aware that:

- Creating an instance is a long-running operation.
- Managed instances are not available to client applications during deployment and deletion operations.

To resolve issues when creating or dropping a managed instance, see the following insights from diagnostics and step-by-step instructions, which include common issues and solutions.

Prepare your environment for the creation of a managed instance

- By design, a managed instance needs a minimum of 32 IP addresses in a subnet. Therefore, you can use a minimum subnet mask of /27 when defining your subnet IP ranges. We recommend carefully planning the subnet size for your managed instance deployments. See Determine required subnet size & range for Azure SQL Managed Instance.

- Decide when you want to create your new virtual network and subnet in advance. You can create the virtual network and subnet before you begin creating the managed instance, or while you create the managed instance. If you decide to create the virtual network and subnet in advance, see Create a virtual network for Azure SQL Managed Instance.
- If you already have a virtual network where you want to provision the managed instance, see Configure an existing virtual network for Azure SQL Database Managed Instance.
- Use the Azure portal to create or delete a managed instance.
- For a list of API, PowerShell, or CLI commands, see the list of available commands.
- To use ARM templates, see Creating Azure SQL Managed Instance using ARM templates.

Create managed instance is slow or stuck

Creating a managed instance can be a long-running operation and take several hours.

Here's a list of operations and typical durations.

Operation	Long-running segment	Estimated duration
First instance in an empty subnet	Virtual cluster creation	90% of operations finish in 4 hours.
First instance of another hardware generation in a non-empty subnet (for example, first Gen5 instance in a subnet with Gen4 instances)	Virtual cluster creation	90% of operations finish in 4 hours.
Subsequent instance creation within the non-empty subnet (2nd, 3rd, etc. instance)	Virtual cluster resizing	90% of operations finish in 2.5 hours.

To support deployments within Azure virtual networks and provide isolation and security for customers, SQL Managed Instance relies on virtual clusters. The virtual cluster represents a dedicated set of isolated virtual machines deployed inside the customer's virtual network subnet. Essentially, every managed instance deployed to an empty subnet results in a new virtual cluster buildout.

Subsequent management operations on managed instances may impact the underlying virtual cluster. Changes that impact the underlying virtual cluster may affect the duration of management operations, as deploying additional virtual machines comes with an overhead that you need to consider when you plan new deployments or updates to existing managed instances.

Management operations cross-impact

Management operations on a managed instance can affect other management operations of the instances placed inside the same virtual cluster:

- Long-running restore operations in a virtual cluster will put other instance creation or scaling operations in the same subnet on hold. For example, if there is a long-running restore operation and there is a create or scale request in the same subnet, this request will take longer to complete as it waits for the restore operation to complete before it continues.

- A subsequent instance creation or scaling operation is put on hold by a previously initiated instance creation or instance scale that initiated a resize of the virtual cluster. For example, If there are multiple create and/or scale requests in the same subnet under the same virtual cluster, and one of them initiates a virtual cluster resize, all requests that were submitted five or minutes after the initial operation request will last longer than expected, as these requests will have to wait for the resize to complete before resuming.

- Create/scale operations submitted in a five minute window will be batched and executed in parallel. For example, one virtual cluster resize will be performed for all operations submitted in a 5-minute window (measuring from the moment of executing the first operation request). If another request is submitted more than five minutes after the first one is submitted, it will wait for the virtual cluster resize to complete before execution starts.

Management operations that are put on hold because of another operation that is in progress will automatically be resumed once conditions to proceed are met. No user action is necessary to resume the temporarily paused management operations.

See more at Overview of Azure SQL Managed Instance management operations.

Monitor management operations

- For information on how long it will take to create a managed instance, see management operations duration.
- For information on how to monitor management operations, see Monitoring Azure SQL Managed Instance management operations.

Delete managed instance is slow or stuck

Deleting a managed instance can be a long-running operation, depending if the instance being deleted is last in the subnet.

Each virtual cluster is associated with a subnet and deployed together with first instance creation. In the same way, a virtual cluster is automatically removed together with last instance deletion leaving the subnet empty and ready for removal. You don't need to take any manual action on the virtual cluster in order to release the subnet. Removing the last instance and associated virtual cluster is a long-running operation that can take up to 1.5 hours.

In case of prolonged deletion of the last managed instance in the subnet and associated virtual cluster,check for active resource locks.

- Locks on the dedicated subnet's virtual network, its parent resource group, or subscription, will prevent managed instance related resources from being removed.
- Locks on the managed instance resource, its parent resource group, or subscription, will prevent managed instance related resources from being removed as well.

Managed instances can be deleted at any time. However, deleted instances can't be restored.

Managed instance is not available for the selected subscription and region

Different subscription types have different resources available to them, including regional deployments, and the number of vCores or subnets available. See Supported subscription types. You can remove these limitations by submitting a quota increase request. See these instructions.

Name already exists

The name for the SQL Managed Instance needs to be unique across logical servers and managed instances because they share the same namespace. Additionally, there is a known limitation related to the usage of the name of logical server previously dropped for seven days. See the known issues.

Cancel a create request

The **Cancel** button on the **Resource group deployments** blade will not cancel an ongoing managed instance create request. However, the managed instance create request can be canceled from the **Managed instance overview** blade. For detailed instructions, see Cancel Azure SQL Managed Instance management operations.

Resources

- Getting started with Azure SQL Database managed instance
- Managed Instance management operations overview
- Quota increase request
- List of available commands

Managed API reference for Azure SQL Database Managed Instances

You can create and manage Azure SQL Database Managed Instances using the Azure portal, PowerShell, Azure CLI, REST API, and Transact-SQL. In this article, you can find an overview of functions and API that you can use to create and configure Managed Instance.

Azure portal: Create a managed instance

PowerShell: Create and manage managed instances

Azure CLI: Create and manage managed instances

Transact-SQL: Create and manage instance databases

REST API: Create and manage managed instances

Public Doc Reference

Determine VNet subnet size for Azure SQL Database Managed Instance

https://docs.microsoft.com/en-us/azure/sql-database/sql-database-managed-instance-determine-size-vnet-subnet

Create a virtual network for Azure SQL Database Managed Instance

https://docs.microsoft.com/en-us/azure/sql-database/sql-database-managed-instance-create-vnet-subnet

Configure an existing virtual network for Azure SQL Database Managed Instance

https://docs.microsoft.com/en-us/azure/sql-database/sql-database-managed-instance-configure-vnet-subnet

Configuring a Custom DNS for Azure SQL Database Managed Instance

https://docs.microsoft.com/en-us/azure/sql-database/sql-database-managed-instance-custom-dns

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