

# Specific Questions for Microsoft Azure

This document describes the configuration of your Microsoft Azure subscription for using an [appliance template](#). If you want to do deploy a [product](#) instead (high availability as an option, without preconfigured content), see [this document](#).

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## How to create a Microsoft Azure account?

As a prerequisite to create a Microsoft Azure account you must have a [Microsoft account](#). To create a Microsoft Azure account, you must navigate in your Web browser to this [Microsoft Azure portal](#).

## How to create a subscription in my Microsoft Azure account?

Login to your [Microsoft Azure account](#) using the credentials for your Microsoft account and then choose *Add Subscription*.

## What is the difference between a Microsoft Azure account and a subscription?

A Microsoft Azure account determines how Microsoft Azure usage is reported and who the Account Administrator is. Each account contains as few as one or up to 50 subscriptions.

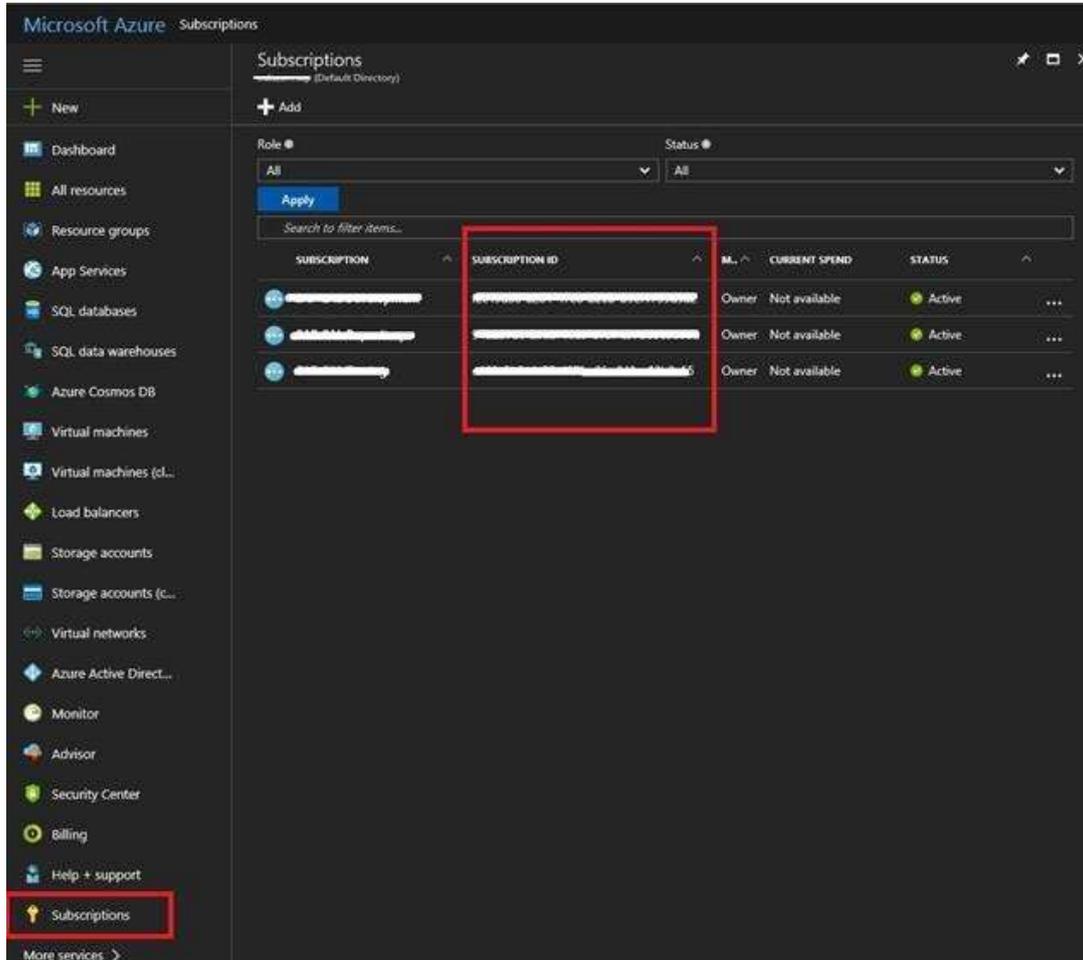
Subscriptions help you organize access to cloud service resources. They also help you control how resource usage is reported, billed, and paid for. Each subscription can have a different billing and payment setup, so you can have different subscriptions and different plans by department, project, regional office, and so on. Every cloud service belongs to a subscription, and the subscription ID may be required for programmatic operations.

Accounts and subscriptions are created at the Account Center. The person who creates the account is the Account Administrator for all subscriptions created in that account. That person is also the default Service Administrator for the subscription.

For more information, see the [Microsoft Azure documentation](#).

### How do I get the subscription ID of the subscription in my Microsoft Azure account?

1. Log on to the [Microsoft Azure Portal](#).
2. In the navigation pane, choose *Subscriptions*. For your subscription, you can get the *Subscription ID* in the table:



### How to connect to Microsoft Azure from SAP Cloud Appliance Library with the Standard Authorization type?

To create an appliance in SAP Cloud Appliance Library, proceed as follows:

1. From the *Create Appliance* wizard on the step for the account, select the *Standard Authorization* type and choose *Authorize* to establish the connection to the Microsoft Azure cloud provider and grant permissions to SAP Cloud Appliance Library to access your *Microsoft Entra ID*.
2. Then the consent dialog from Microsoft Azure is displayed and you must choose *Accept*.
3. After that you will be redirected again to the SAP Cloud Appliance Library to continue with the creation of the appliance.

For more information about the common MS Azure consent scenarios, see the [MS Azure documentation](#).

Note that if your Microsoft Azure account in SAP Cloud Appliance Library is with a status *Inactive*, you can proceed as follows:

1. In the SAP Cloud Appliance Library, open the account details.
2. Choose *Authorize* to establish the connection to the cloud provider again and grant permissions to SAP Cloud Appliance Library to access your Microsoft Entra ID.
3. Then the consent dialog from Microsoft Azure is displayed and you must choose *Accept*.
4. After that you will be redirected again to the SAP Cloud Appliance Library.

### **What are the roles required by the Microsoft Azure user which will grant permissions to SAP Cloud Appliance Library with the Standard Authorization type?**

- Option 1: You are an administrator of the subscription; your user has the role *Owner* and has access to scope */subscriptions/<subscription ID>*.
- Option 2: Your Microsoft Azure user has the roles *Contributor and User Access Administrator* and has access to scope */subscriptions/<subscription ID>*. You must also have the role *Global Administrator* for the Microsoft Entra ID.

### **How do I check the roles that have been assigned to my Microsoft Azure user in a subscription?**

1. Sign in to the [Microsoft Azure Portal](#).
2. In the navigation pane, choose *Subscriptions*.
3. Select your subscription and then choose *My permissions*.

### **How do I check the roles that have been assigned to my Microsoft Azure user in the Microsoft Entra ID?**

1. Sign in to the [Microsoft Azure Portal](#).
2. In the navigation pane, choose *Microsoft Entra ID > Users*.
3. Select your user and then choose *Directory* role.

### **How to connect to Microsoft Azure from SAP Cloud Appliance Library with the Authorization with Application type?**

#### **Prerequisites**

You must execute the following steps to get the required MS Azure properties to create an account with the authorization type *Authorization with Application* in the SAP Cloud Appliance Library.

1. Log on to the Microsoft Azure portal.
2. From the main menu choose *Microsoft Entra ID*, then *App registrations* and then choose *New registration*.
3. Specify the required fields and register the application.
4. Choose *Certificates & secrets*. SAP recommends using a *Certificate* for your application as the more secure option. To upload the certificate file, do the following procedure:
  - a. Choose *Certificates*.
  - b. Choose *Upload certificate* and select the certificate file to upload.
  - c. Choose *Add*.Once the certificate is uploaded, the thumbprint, start date, and expiration values are displayed. After adding the certificate to your application with the application registration portal, enable [confidential client application code](#) to use the certificate.

If you prefer to use a *Client Secret*, do the following procedure:

- a. In the *Client secrets* section, choose *New client secret*.
- b. Enter the *Description* field and choose *Expires*.
- c. Choose *Add*.

Note that the password will be displayed only when you add the secret, so you must copy the *Value* of the newly created secret.

5. From the main menu go to *Microsoft Entra ID*, from the *Overview* section copy the *Tenant ID* which will be used for the account creation in the SAP Cloud Appliance Library.
6. From the main menu go to *Subscriptions* and choose your subscription. From there you should copy the *Subscription ID* which will be used on the account creation in the SAP Cloud Appliance Library.
7. In the *Access control (IAM)* of your subscription, add the role assignment *Contributor* for your newly registered application on the step 2.

For more information, see the following MS Azure documents:

- [About Azure Key Vault certificates](#)
- [Certificate creation methods](#)
- [Azure authentication with service principal](#)
- [Create a Microsoft Entra application and service principal](#)

For more information about registering an application and adding credentials to it, see [this link](#).

To get the value for the *Application ID* which will be needed for creating an account in the SAP Cloud Appliance Library use the following procedure:

1. From the Microsoft Azure portal, go to *Microsoft Entra ID* and then choose *Enterprise applications*.
2. Search for your application and open it.
3. Copy the value from this parameter: *Application ID*
4. Paste the value in the *Account Details* step of the wizard in SAP Cloud Appliance Library in the following parameter: *Application (Client) ID*

Note that if you are not familiar with the security policies for the Azure cloud provider in your company, you should contact the person who is responsible for the cloud provider setup in the company to assist you with the required information.

### **Procedure**

To create an appliance in SAP Cloud Appliance Library, proceed as follows:

1. From the *Create Appliance* wizard on the step for the account, select the *Authorization with Application* type and specify the MS Azure properties.
2. Choose *Test Connection* to ensure the correctness of the specified MS Azure properties. Note that if your Microsoft Azure account in SAP Cloud Appliance Library is with a status *Inactive*, you can proceed as follows:
3. In the SAP Cloud Appliance Library, open the account details and check the correctness of the specified MS Azure properties and the configured roles in the MS Azure portal.
4. Choose *Test Connection* to ensure the correctness of the specified MS Azure properties.

### **How to request admin consent when such workflow is enabled for my Microsoft Entra ID in the Microsoft Azure portal?**

If the admin consent workflow is enabled in the Microsoft Azure portal for your Microsoft Entra ID, you can request such admin approval for the Microsoft Azure cloud provider when you create an account in SAP Cloud Appliance Library.

You have to execute the following procedure:

1. Go to SAP Cloud Appliance Library, from the *Accounts* tab, choose *Create Account*.
2. Specify the account details (name, description, select the Microsoft Azure cloud provider, enter your Subscription ID, and select the following authorization type: *Standard Authorization*).
3. Choose **Authorize** to establish the connection to the Microsoft Azure cloud provider and grant permissions to SAP Cloud Appliance Library to access your Microsoft Entra ID.

Then if you do not have the required admin consent the *Approval Required* dialog from Microsoft Azure is displayed and you must choose *Request Approval*. A *Request sent* message confirms that the request was submitted to the admin. If you send several requests, only the first request is submitted to the admin. Then you will receive an email notification when your request is approved, denied, or blocked. For more information about the approval process in the MS Azure portal, see the [MS Azure documentation](#).

4. After that you will be redirected again to the SAP Cloud Appliance Library and an error message will be displayed to inform you that you have no required permissions to proceed with the creation process of the account.
5. When your MS Azure administrator gives you the required permissions for the subscription ID that you want to use in SAP Cloud Appliance Library, you can try to create a new account.

Note that you have to receive an email notification from the MS Azure that you are approved, and you have the required permissions (*Admin consent granted*) and after that to create a new account in SAP Cloud Appliance Library.

### How to access to backend servers on the Operating System (OS) level?

Depending on the overall requirements your appliance template may consist of one or more servers running either on a Linux OS and/or on a Windows OS.

#### Access to Linux OS on Backend

If you need OS access, you can use SSH connectivity:

Parameter ID	Value	Description
OS User Name	root	The default Operating System administrator user.
OS Password	<none>	Use the private key (downloaded during the activation of the SAP appliance in SAP Cloud Appliance Library) for logging on with the root user.

#### Access to Windows OS on Backend

If you need OS access, you can use RDP connectivity:

- **Microsoft Windows:** Start the *Remote Desktop Connection* using the *Start Menu (All Programs > Accessories)* or executing *mstsc.exe*.
- **Apple Mac OS X:** Use the free [Microsoft Remote Desktop](#) app available in the Mac App Store to connect to your frontend.
- **Linux:** Use your preferred RDP client.

Parameter ID	Value	Description
OS User Name	Administrator	The default OS administrator user for Windows.
OS Password	<none>	The master password is used for accessing the system. It is provided by the user during the creation of the appliance in SAP Cloud Appliance Library.

### How to increase the quota for your subscription in Microsoft Azure portal?

To see the procedure how to increase the quota in your subscription, please check [this link](#).

Note that you can check the size requirements by going to the appliance template details in the SAP Cloud Appliance Library and navigating to the RECOMMENDED VM SIZES section. There you can see the required cores for each virtual machine.

If you would like to see the details of the different available sizes for the appliance template, you can choose Calculate Cost and choose the desired cloud provider and select the required region. There you will see the different available sizes and their details, as well as the required storage to successfully start the appliance. Please note that the update of the quota generally takes some time. Additionally, it is possible that some of the quota may be consumed by activities not related to the work with the SAP Cloud Appliance Library.

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