100 XP

Exercise: Provision non-relational Azure data services

10 minutes

Sandbox activated! Time remaining: **3 hr 8 min**

You have used 2 of 10 sandboxes for today. More sandboxes will be available tomorrow.

In the sample scenario, you've decided to create the following data stores:

- A Cosmos DB for holding information about the volume of items in stock. You need to store current and historic information about volume levels, so you can track how levels vary over time. The data is recorded daily.
- A Data Lake store for holding production and quality data.
- A blob container for holding images of the products the company manufactures.
- File storage for sharing reports.

In this exercise, you'll provision and configure the Cosmos DB account, and test it by creating a database, a container, and a sample document. You'll also provision an Azure Storage account that can provide blob, file, and Data Lake storage.

You'll perform this exercise using the Azure portal.

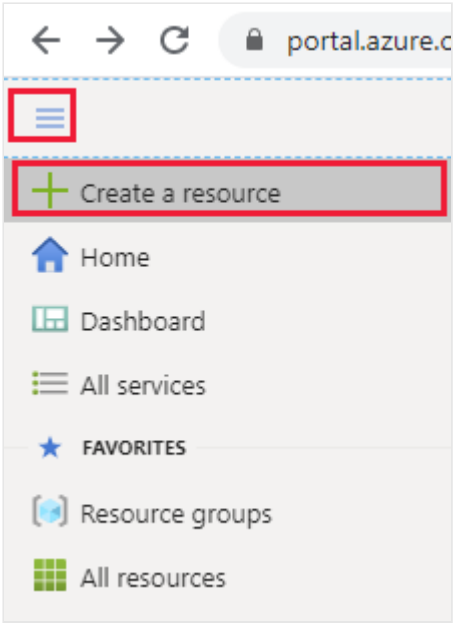
> **Note**
>
> Azure can take as little as 5 minutes or as long as 20 minutes to create the Azure Cosmos DB account.

Provision and configure a Cosmos DB database and container

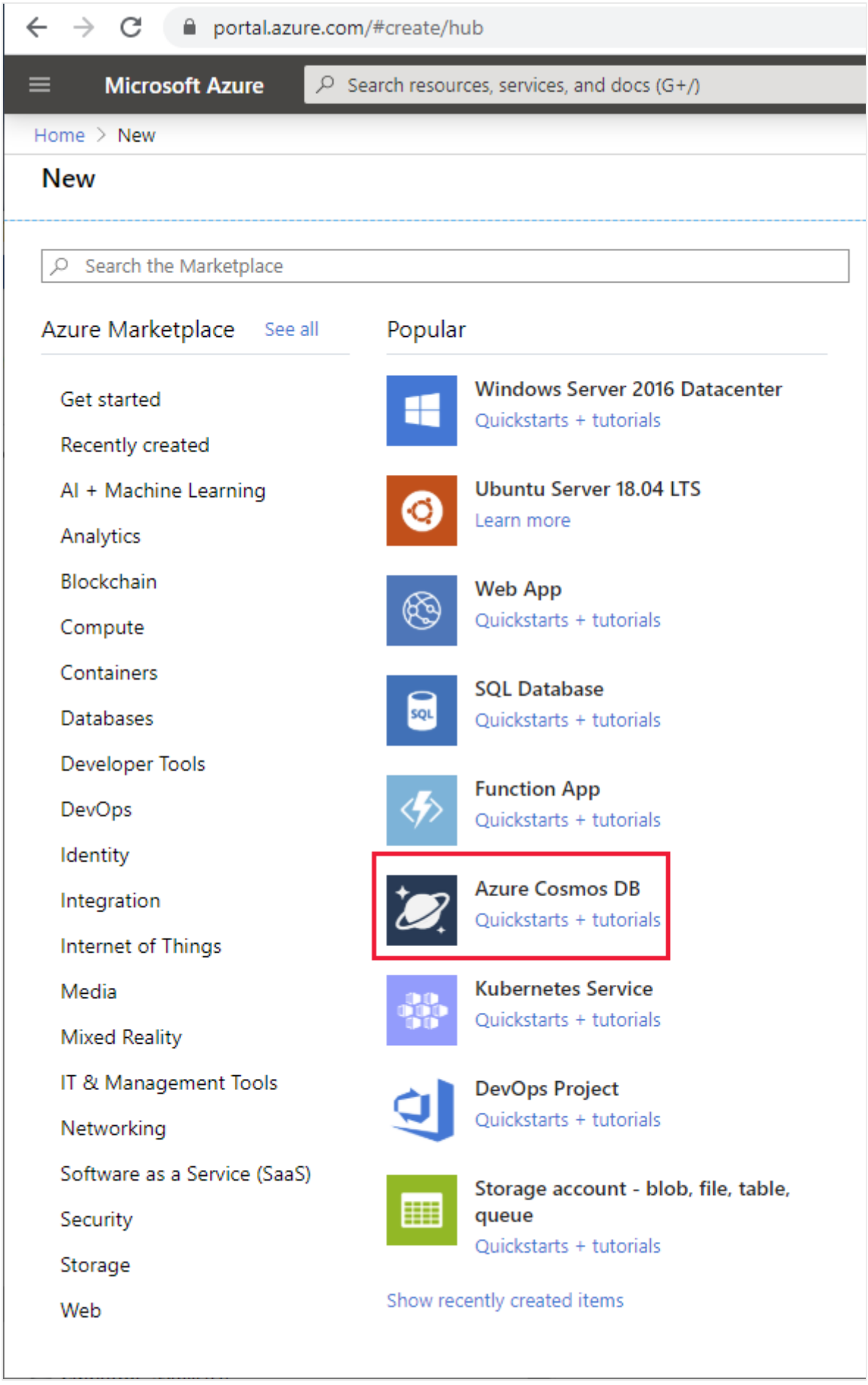
Create a Cosmos DB account

1. Sign in to the Azure portal.

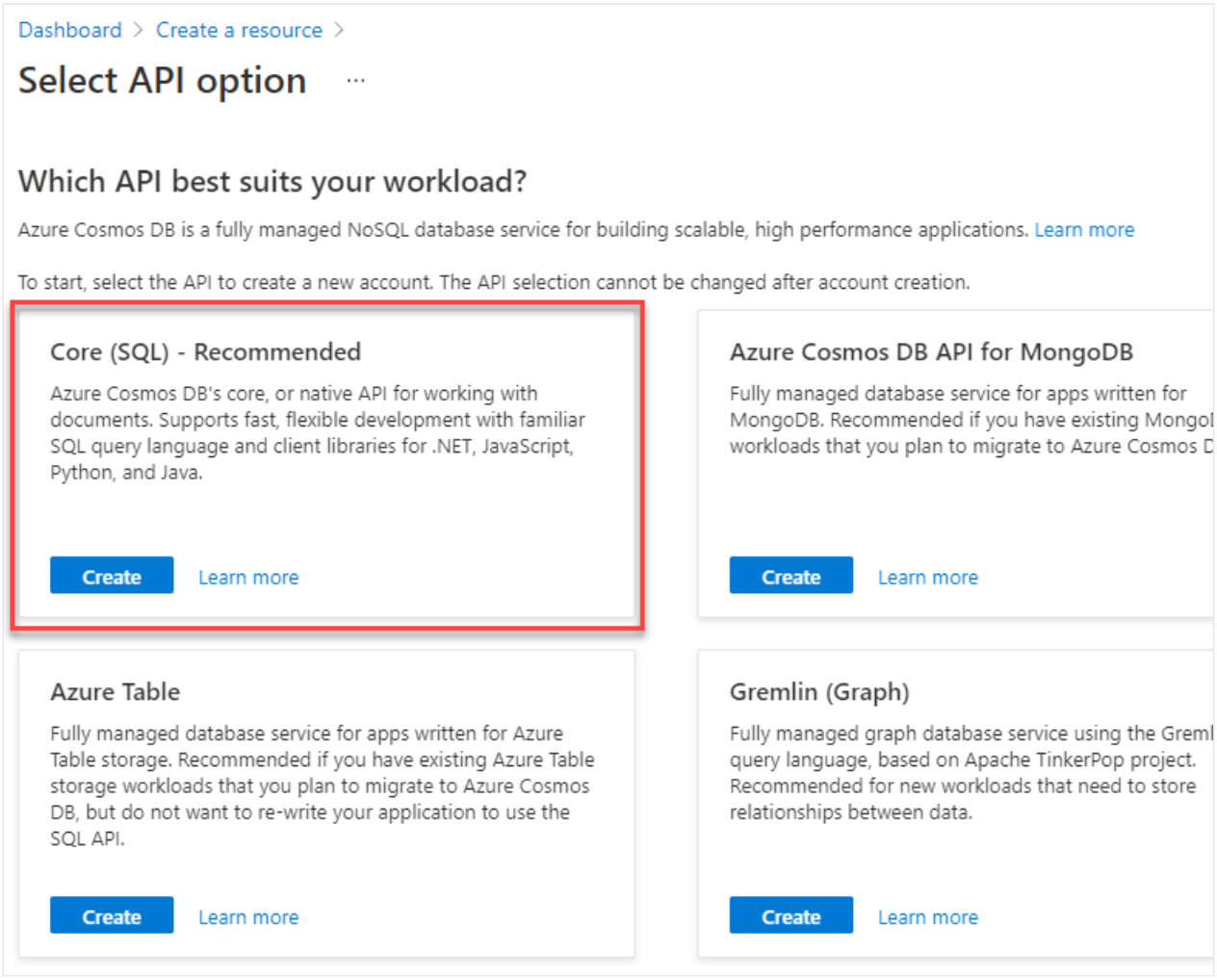
2. From the left-hand navigation menu in the Azure portal, select **Create a resource**.



3. On the **New** page, select **Azure Cosmos DB**.



4. On the **Select API option** page, select **Core (SQL) - Recommended**

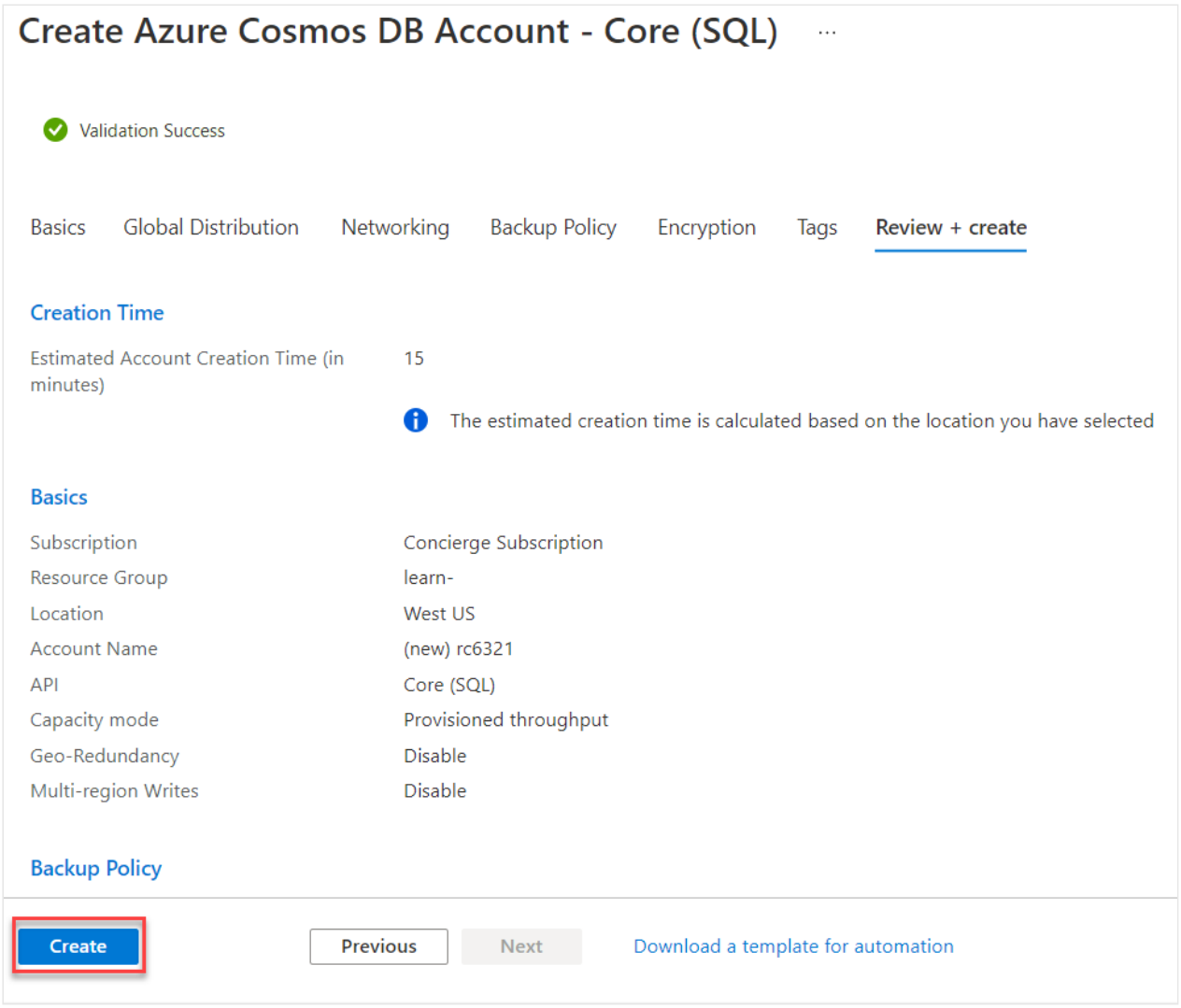


5. On the **Create Azure Cosmos DB Account** page, on the **Basics** tabs, enter the details of the account using the values in the following table, and then select **Review + create**:

Field	Value
Subscription	Concierge Subscription
Resource Group	learn-3bc1cfc6-1125-46d6-81f4-573ebb88be76 (This resource group will have been created for you in the sandbox. Click on the Resource Group field's drop-down arrow to select.)
Account Name	Enter a unique name, such as your initials, the date (in numeric format), and the text *cosmosdbaccount*. For example, *jpws01012020cosmosdbaccount*
Location	Accept the default location
Capacity mode	Provisioned throughput
Apply Free Tier Discount	Do Not Apply

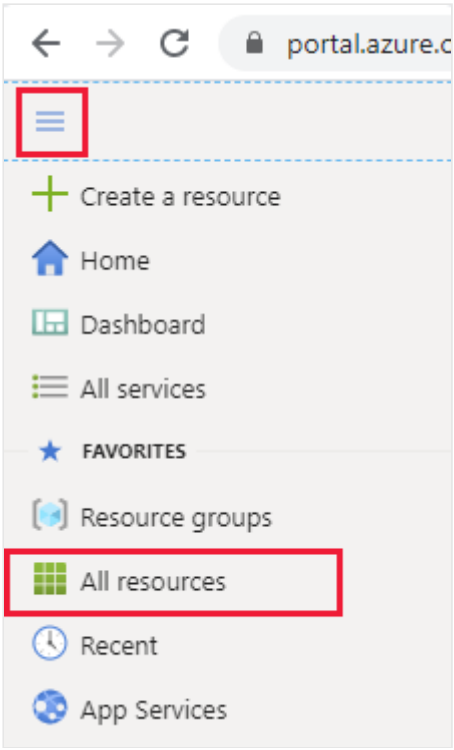
6. Wait while your settings are validated. If there's a problem, it will be reported at this stage, and you can go back and correct the issue.

7. Select **Create**. It can take 10 or 15 minutes to create the account.

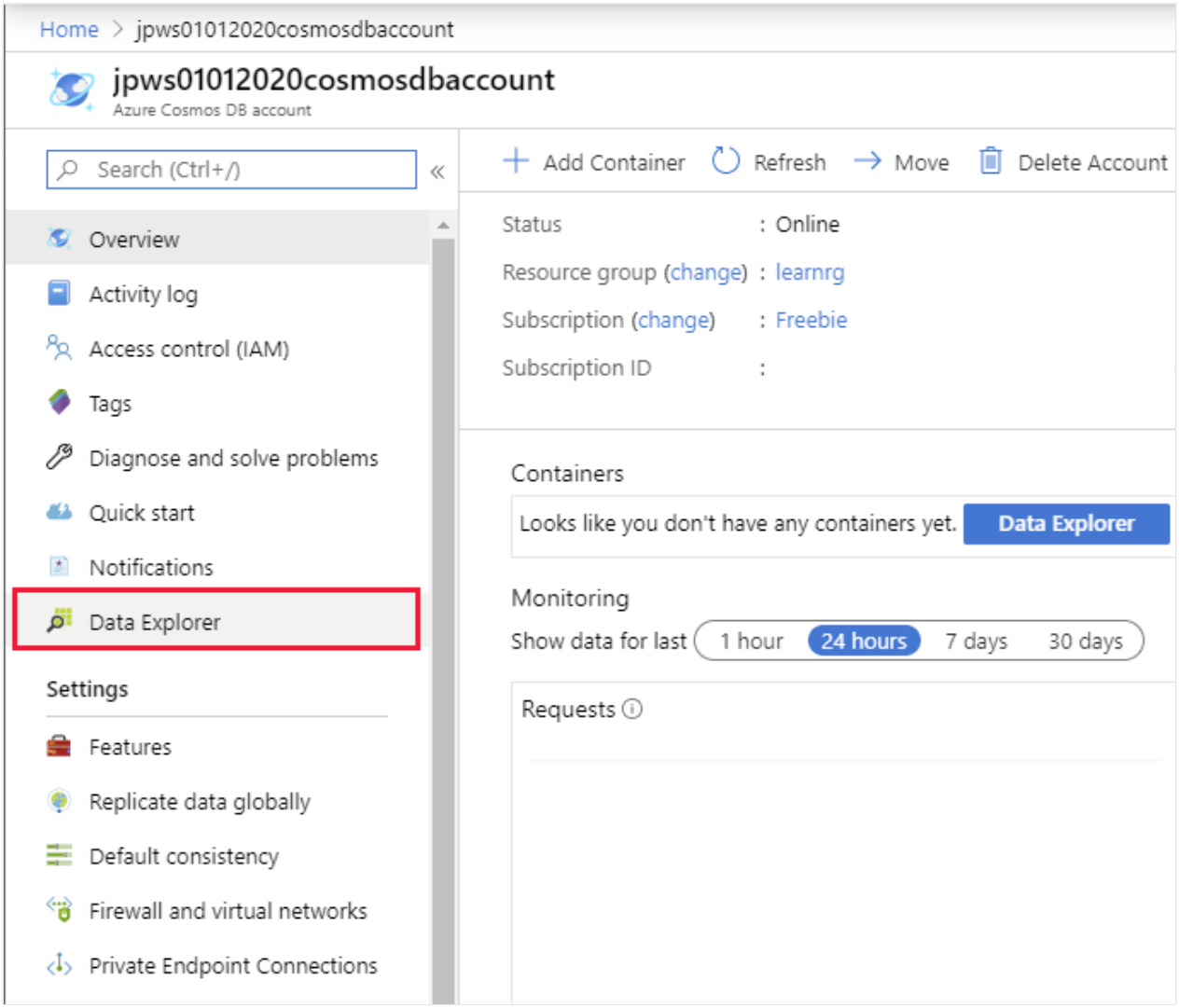


Create a database and a container

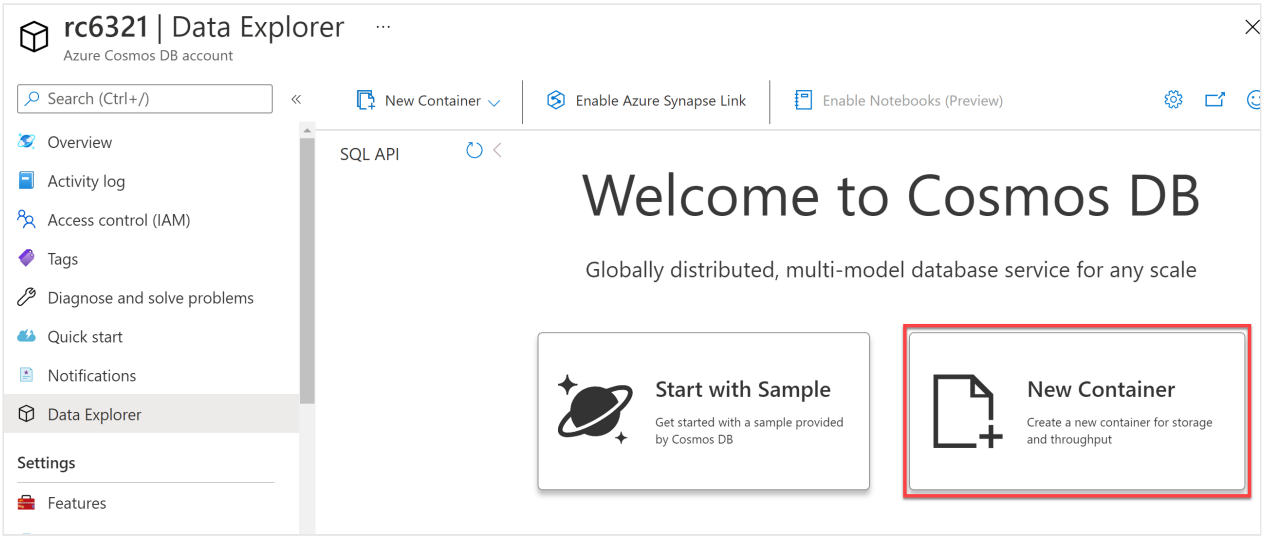
1. In the Azure portal, in the left-hand navigation menu, select **All resources**, and then select your Cosmos DB account.



2. On the page for your Cosmos DB account, select **Data Explorer**.

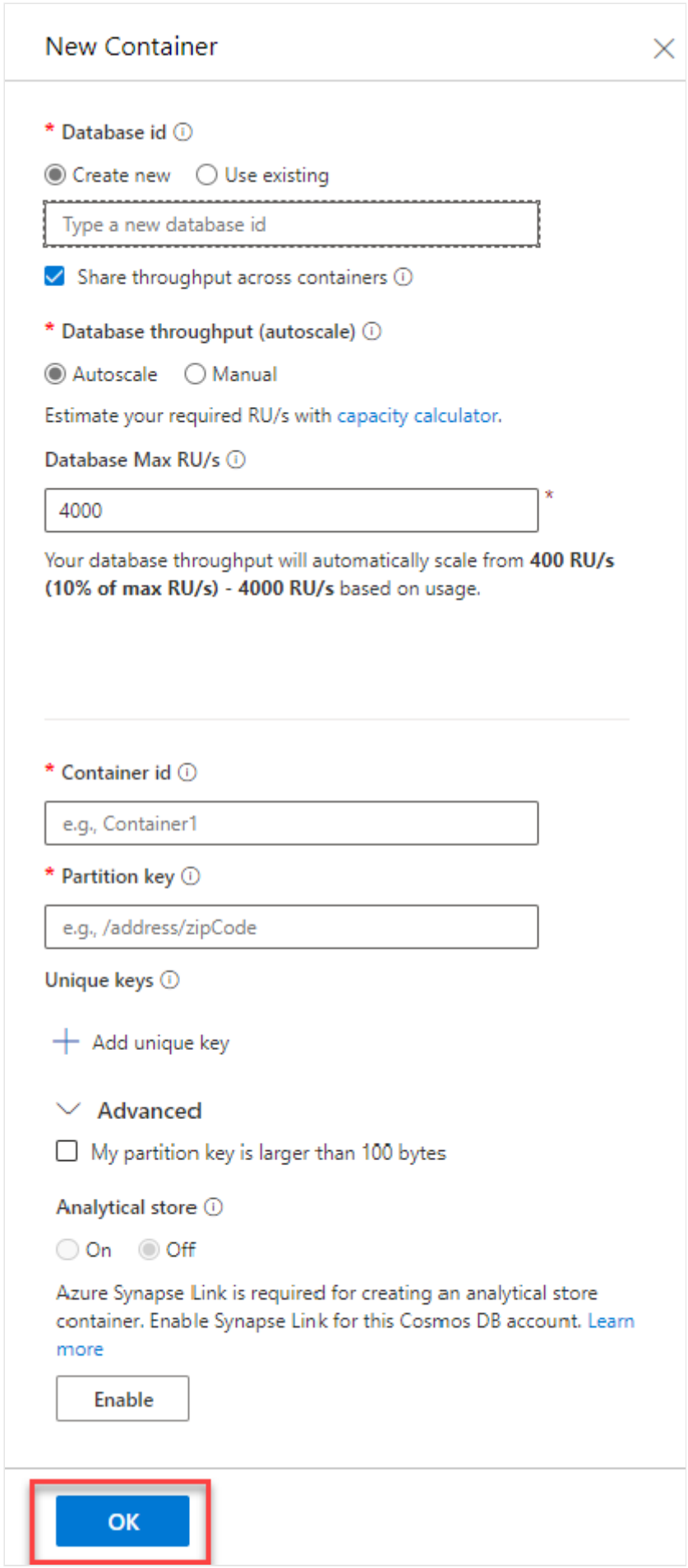


3. On the **Data Explorer** page, select **New Container**.

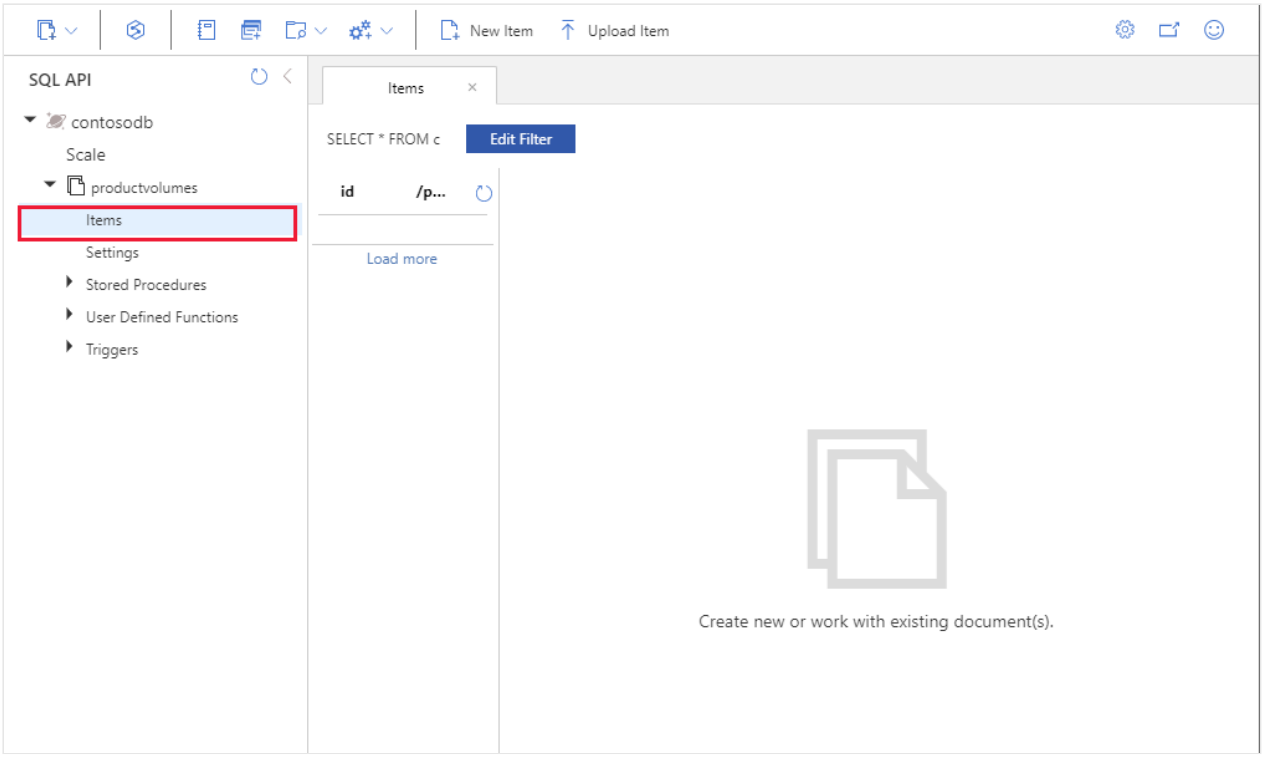


4. In the **Add Container** dialog box, create a new container with the following values, and then select **OK**:

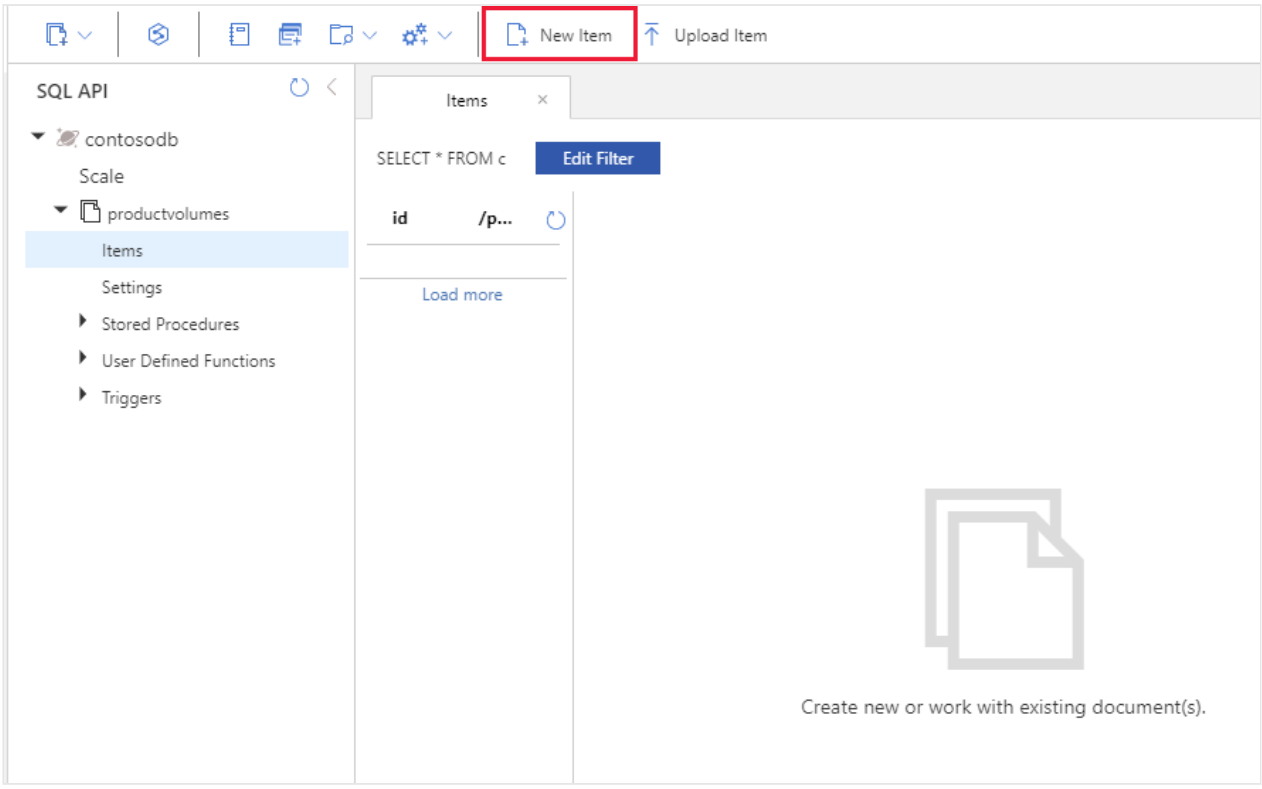
Field	Value
Database ID	Select **Create new**, and enter **contosodb**
Share throughput accross containers	Check
Throughput	Select **Manual**, and specify 400 RU/s (the default)
Container ID	**productvolumes**
Partition key	**/productid** (Each product will have a new level recorded each day. Partitioning by product ID enables you to quickly report how the levels for a product vary over time.)
My partition key is larger than 100 bytes	Leave unchecked



5. In the **Data Explorer** window. Expand **contosodb**, expand **productvolumes**, and then click **Items**. The container should currently be empty.



6. Select **New Item** to create a new document.



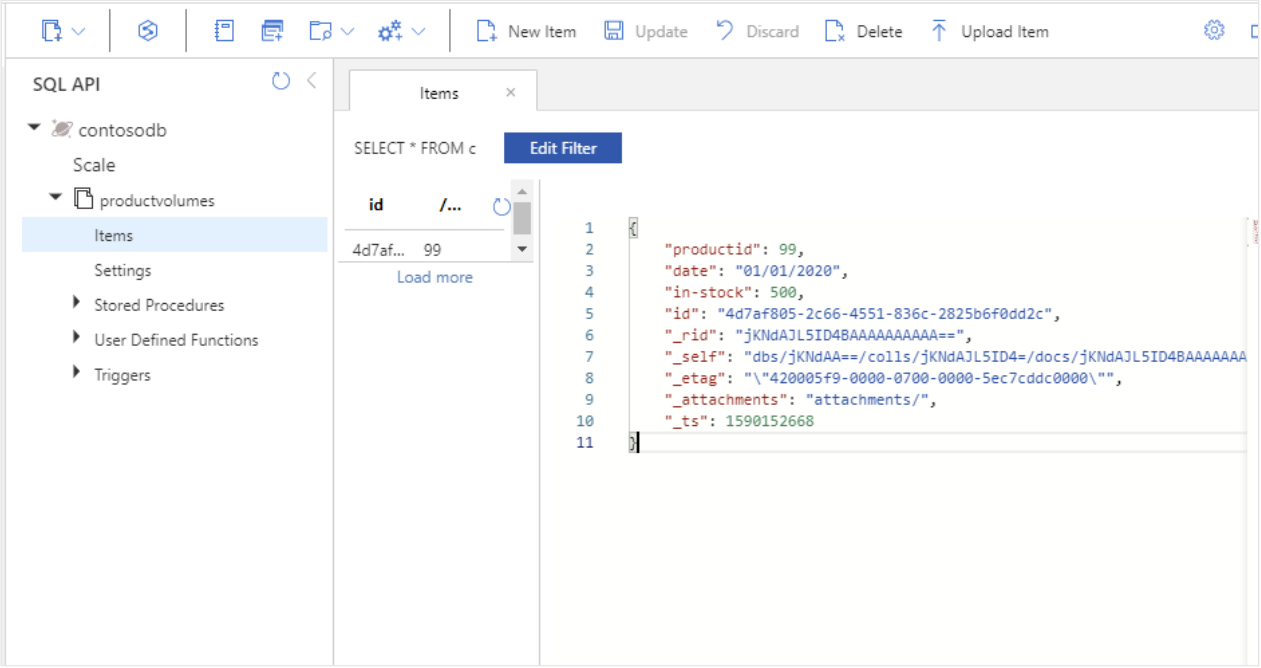
7. Replace the text that appears in the document window with the following JSON document. This is an example document showing the amount of product 99 in stock on 01/01/2020.

JSON Copy

```
{
    "productid": 99,
```

```
    "date": "01/01/2020",
    "in-stock": 500
}
```

8. Select **Save**. The document will be added to the container. The new document will have some additional fields that Cosmos DB uses to track and manage the document. You can ignore these fields for now.



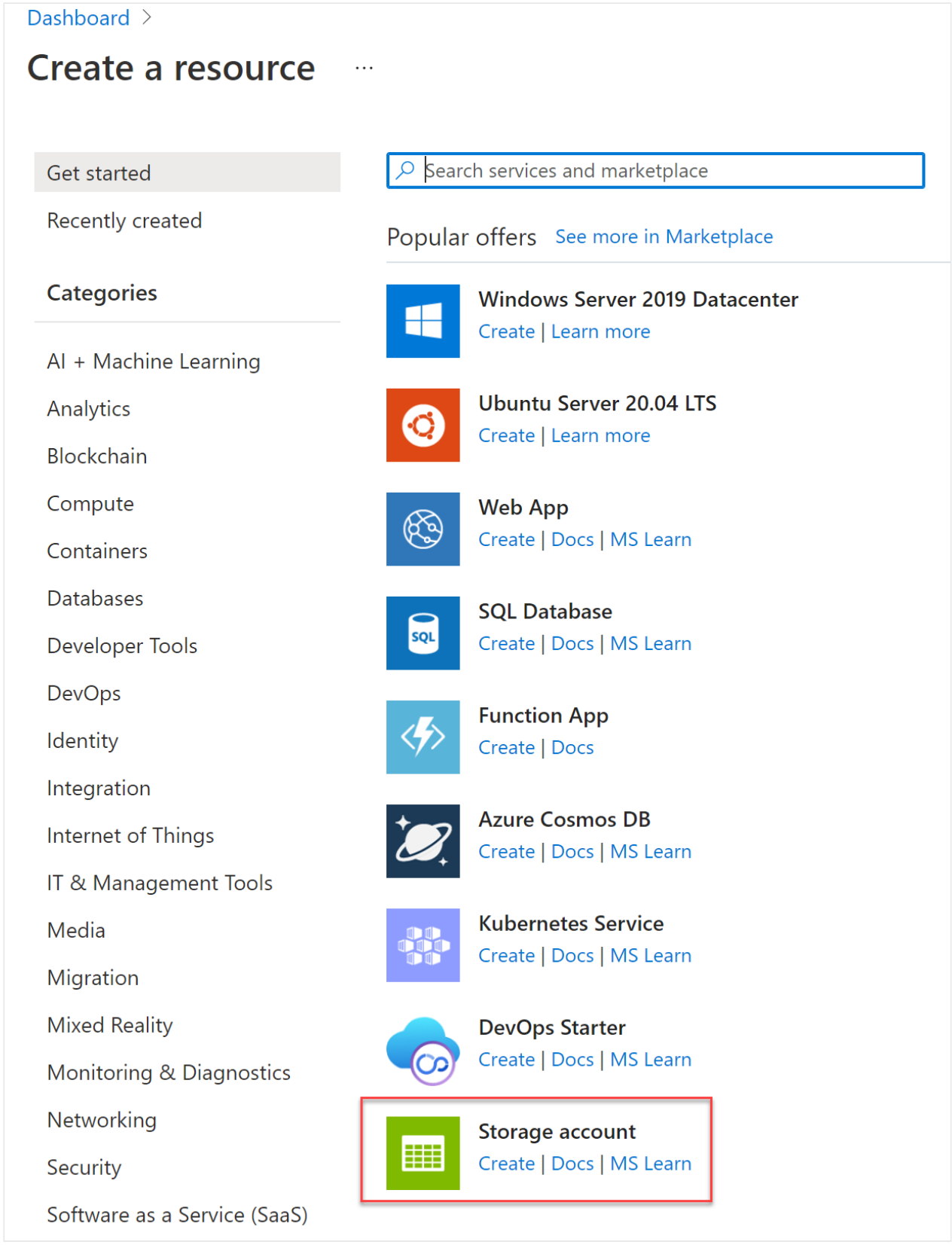
You've now provisioned a new Cosmos DB account, and created a database and container.

Provision Azure Storage

Create an Azure Storage account for Data Lake Storage

1. On the left-hand navigation menu in the Azure portal, select **Create a resource**.

2. On the **New** page, select **Storage account**.

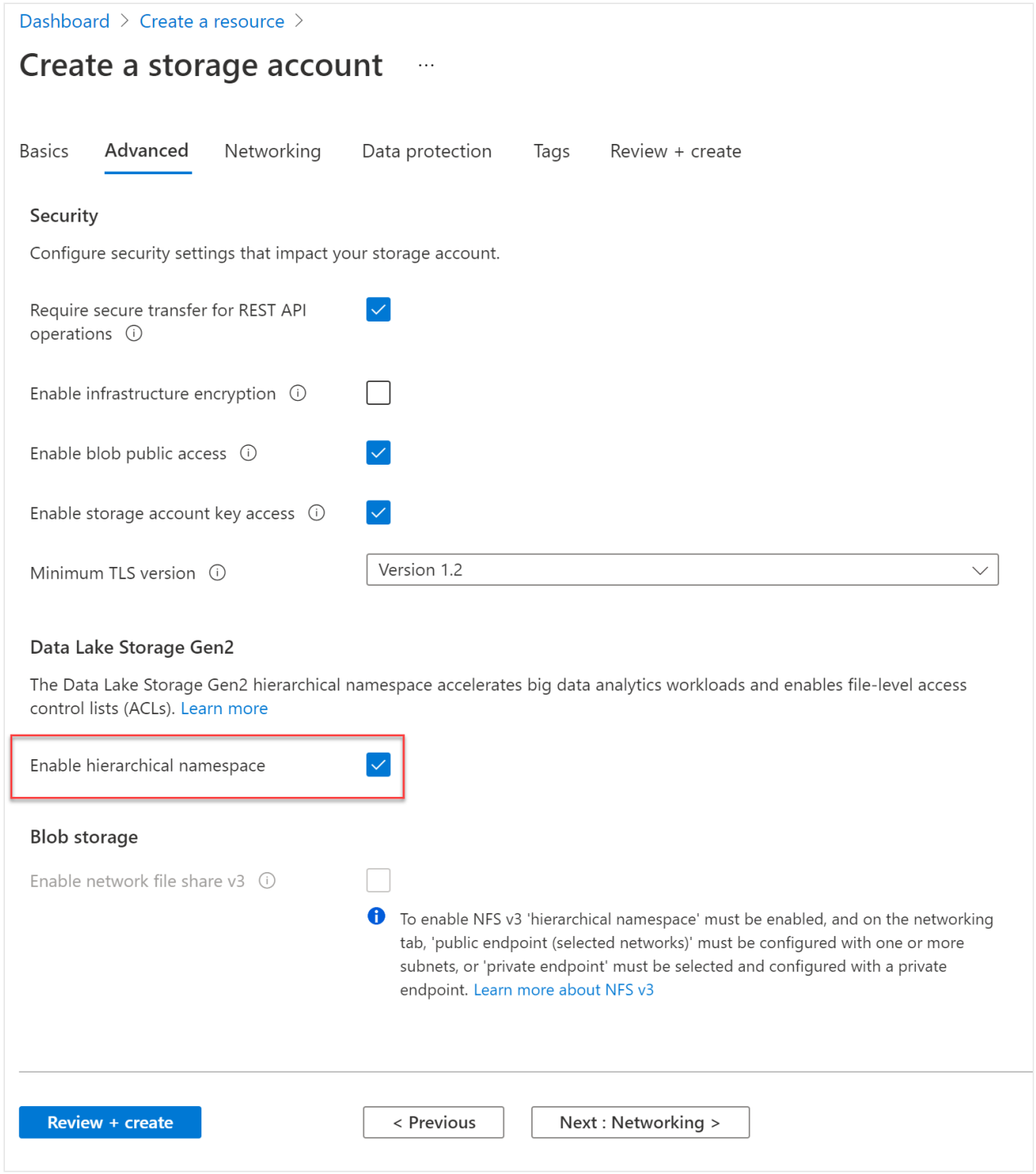


3. On the **Create storage account** page, on the **Basics** tabs, enter the details of the account using the values in the following table:

Field	Value
Subscription	Concierge Subscription

Field	Value
Resource Group	[sandbox resource group]
Storage account Name	Enter a unique name, such as your initials, the date (in numeric format), and the text *storage*. For example, *jpws01012020storage*
Performance	Standard
Redundancy	Geo-redundant storage (GRS)

4. Select **Advanced**. On the **Advanced** page, in the **Data Lake Storage Gen2** section, select **Enabled**, and then select **Review + create**.



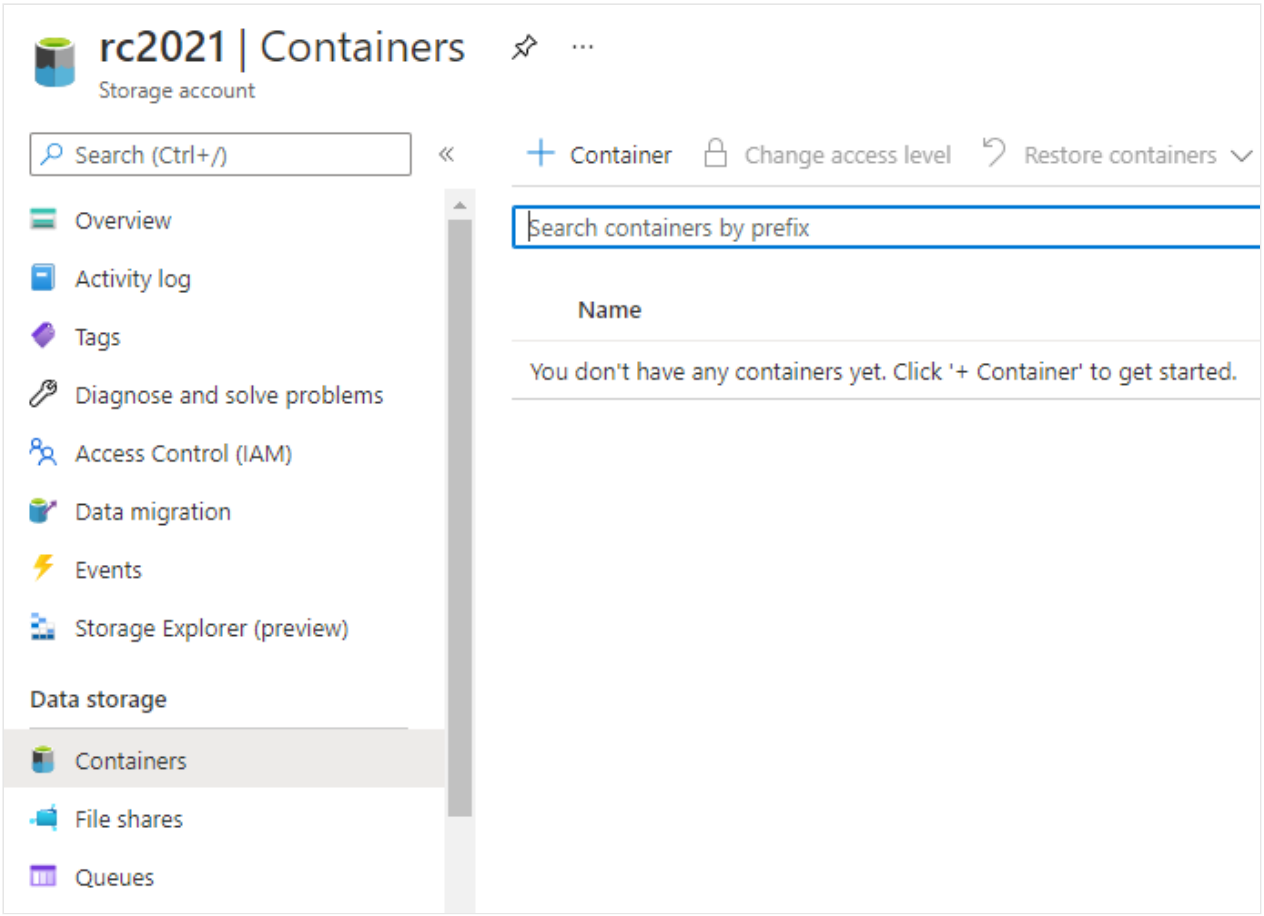
5. If your settings are validated correctly, select **Create**.

   It takes approximately 15-20 seconds for the storage account to be provisioned.

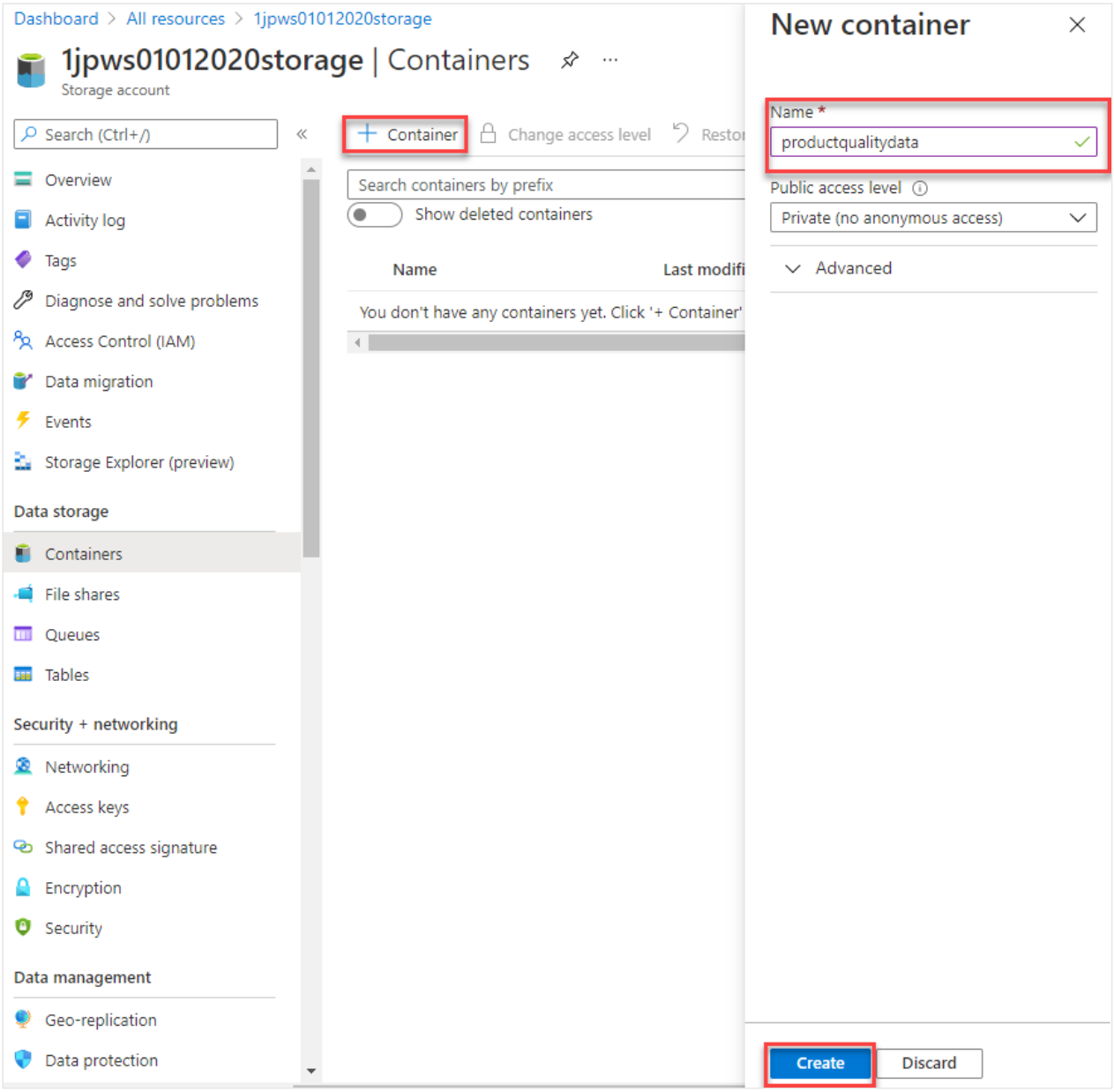
Create a container for Data Lake storage

1. In the Azure portal, on the left-hand navigation menu, select **All resources**, and then select your storage account.

2. On the page for your storage account, under **Data Storage**, select **Containers**.



3. On the **Containers** page, select **+ Container**, and create a new container named **productqualitydata**. Leave the **Public access level** set to **Private (no anonymous access)**, and then click **Create**.

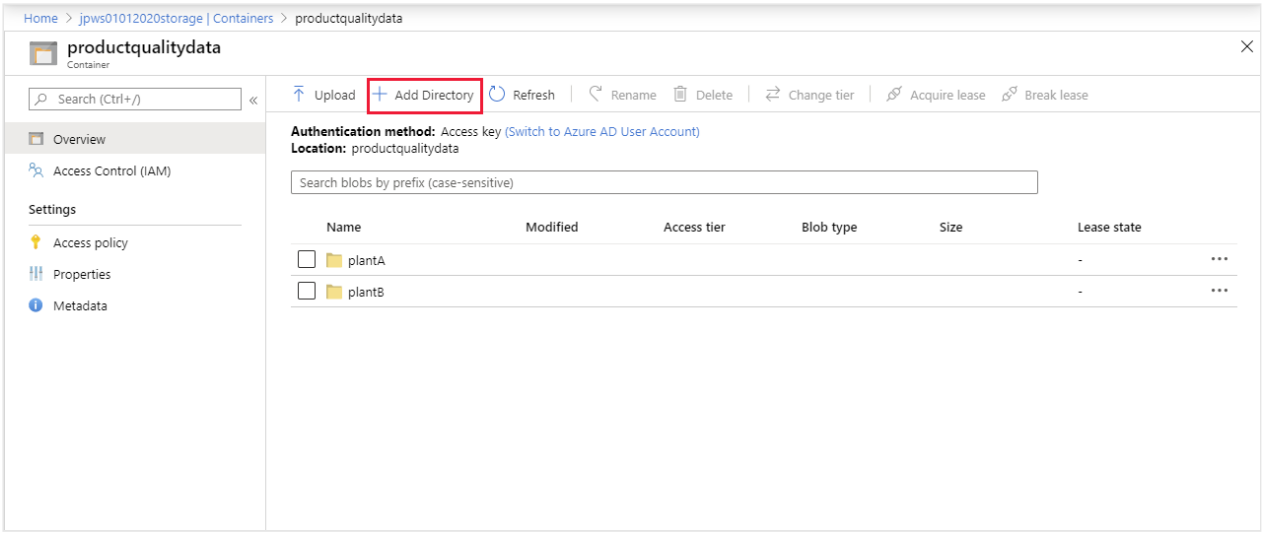


4. When the container has been created, double-click the **productqualitydata** container.

5. On the **productqualitydata** page, click **+ Add Directory**, and add a directory named **plantA** and click **Save**.

6. Add a second directory named **plantB** and click **Save**.

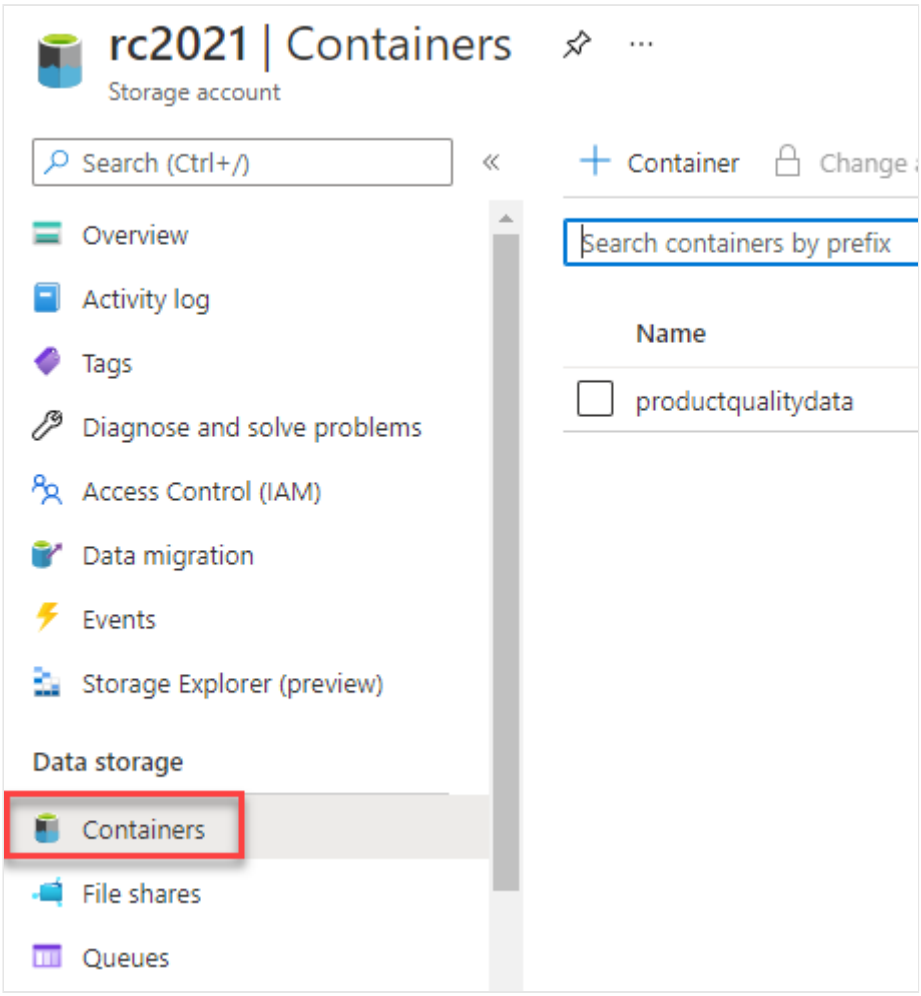
   Contoso has two manufacturing plants named *Plant A* and *Plant B*. Other applications will upload manufacturing data from each of these plants to the appropriate directory for later analysis.



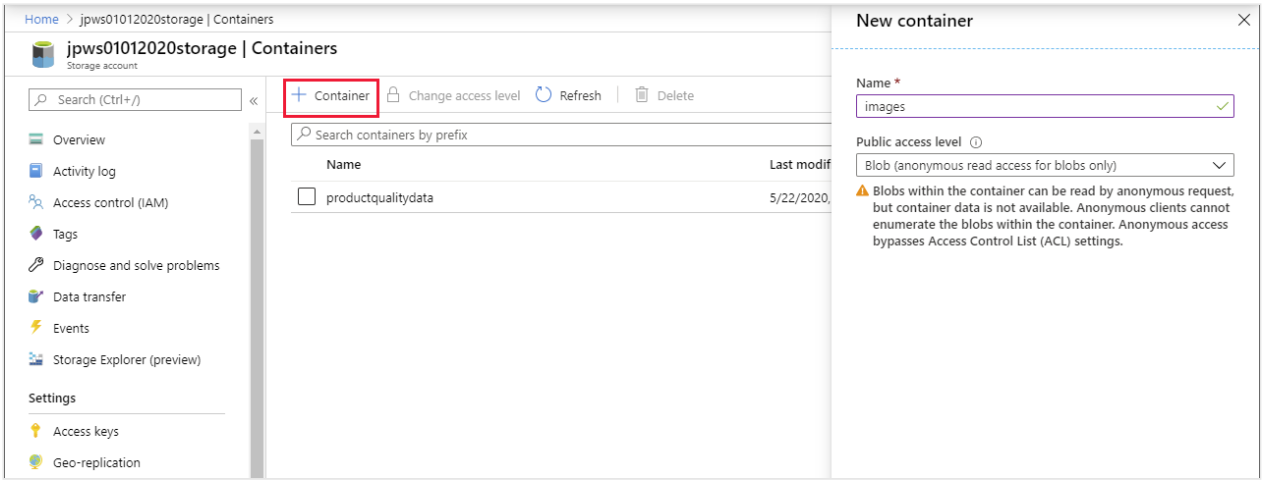
Create a container for Blob storage

1. In the Azure portal, on the left-hand navigation menu, select **All resources**, and then select your storage account.

2. On the **Overview** page, select **Containers**.



3. On the **Containers** page, select **+ Container**, and create a new container named **images**. Set the **Public access level** to **Blob (anonymous read access for blobs only)**.

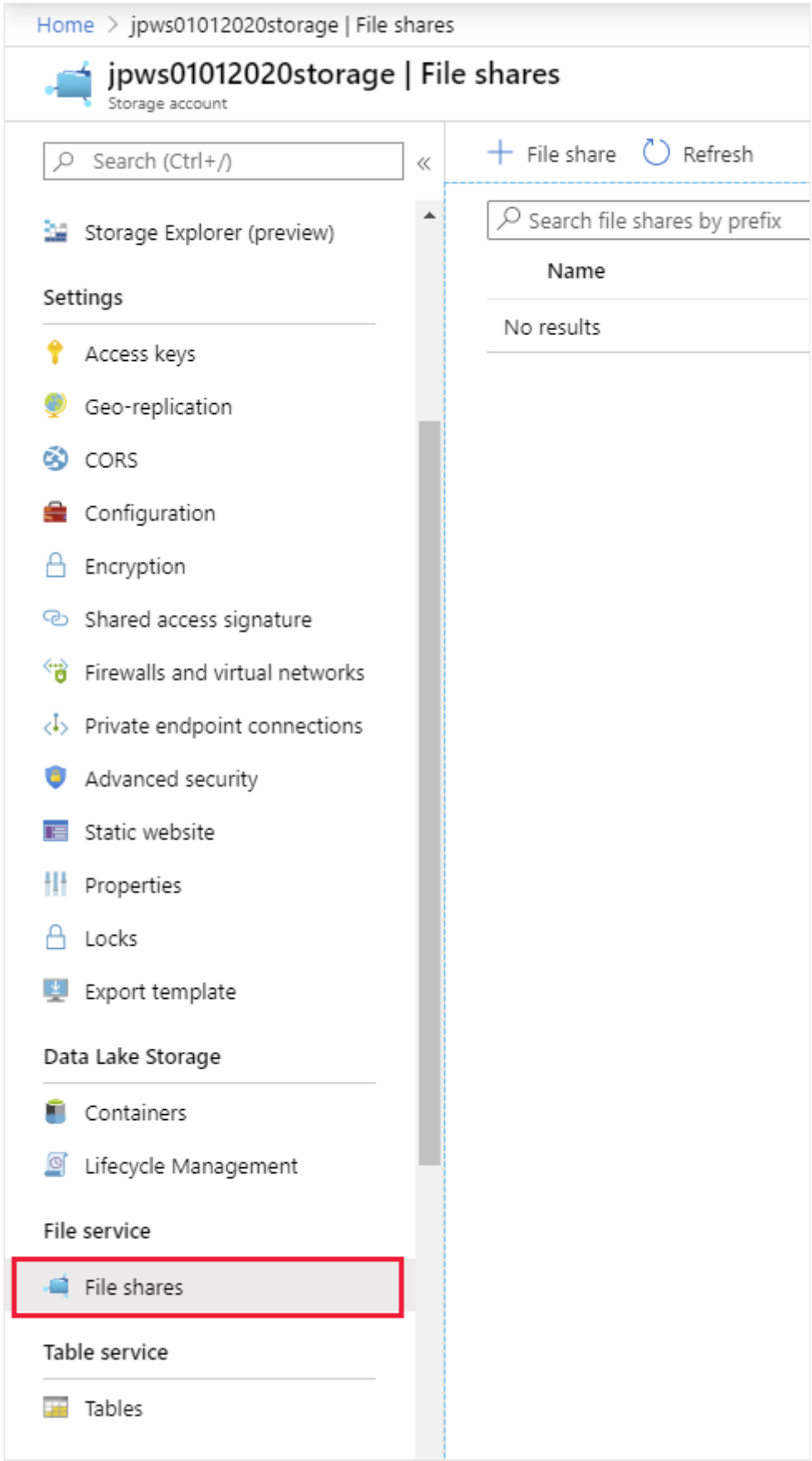


Contoso will use this container to hold product images.

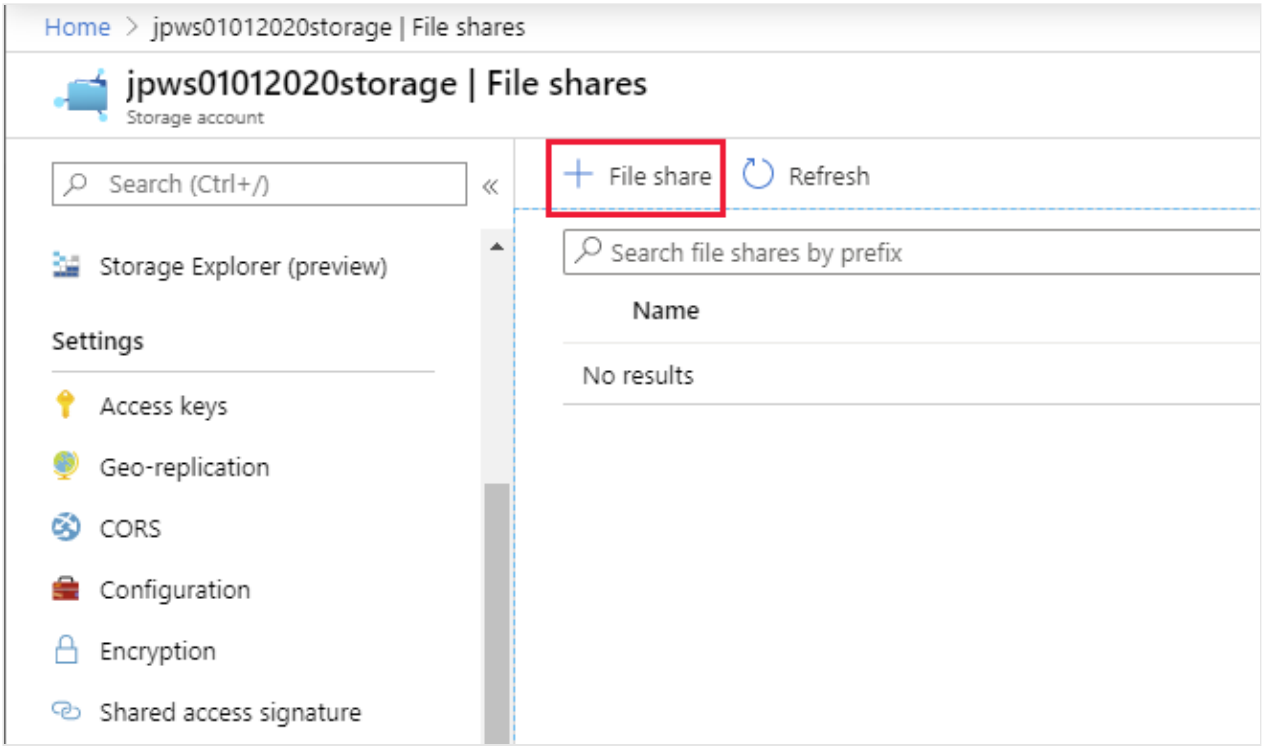
> **Note**
>
> The container created for Data Lake Storage will also appear in the **Containers** page. You could store image data in a Data Lake Storage container, but Contoso want to keep the images separate from product quality data.

Create a file share

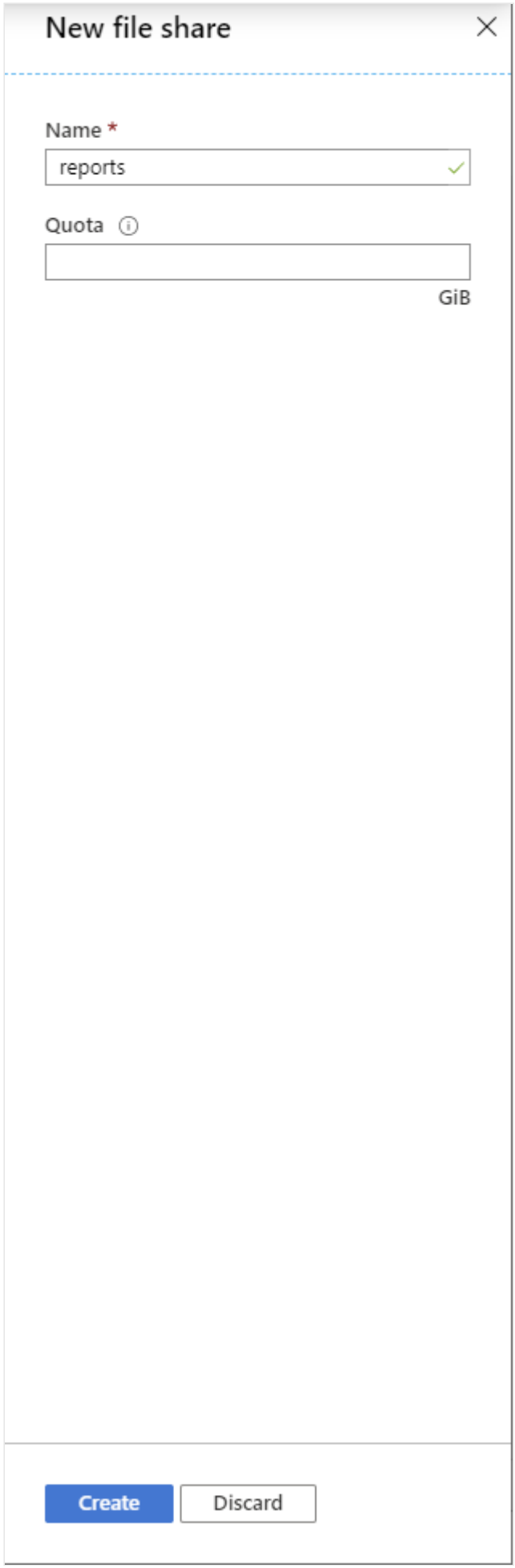
1. On the storage account page, under **File service** select **File shares**.



2. On the **File shares** page, select **+ File share**.



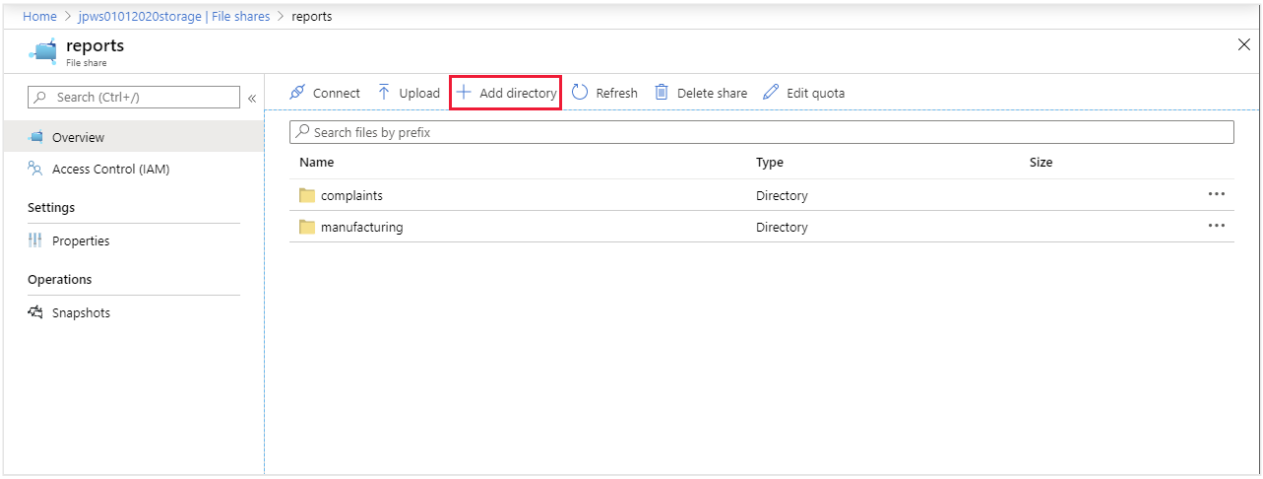
3. Create a new file share named **reports**. Leave the **Quota** empty.



4. On the **File shares** page, double-click the **reports** file share.

5. On the **reports** page, select **+ Add directory**, and add a directory named **manufacturing**.

6. Add a second directory named **complaints**.



Contoso will use these directories to hold documents relating to the manufacturing process and customers' complaints. A user that has been granted access to the **reports** file share can upload and download files from these directories.

Next unit: Knowledge check

Continue >