Guided Lab: Backing Up an Amazon DynamoDB Table

Description

DynamoDB is a fully-managed NoSQL database service that offers fast and predictable performance along with seamless scalability. While DynamoDB takes care of many complex tasks such as replication and failover, it's crucial to create backups of your tables for data protection, compliance, and disaster recovery purposes.

Amazon DynamoDB provides on-demand backups, allowing you to easily create full backups of your tables without affecting the performance and availability of your applications. These backups can be restored at any time, ensuring that your data can be recovered in case of accidental deletion, corruption, or other unforeseen issues.

This guide will teach you how to back up an Amazon DynamoDB table, an essential step in ensuring the durability and recoverability of your data.

Prerequisites

This lab assumes you have basic knowledge of DynamoDB and its table structure.

If you find any gaps in your knowledge, consider taking the following lab:

- Creating an Amazon DynamoDB table
- Querying a Global Secondary Index
- Querying a Local Secondary Index

Objectives

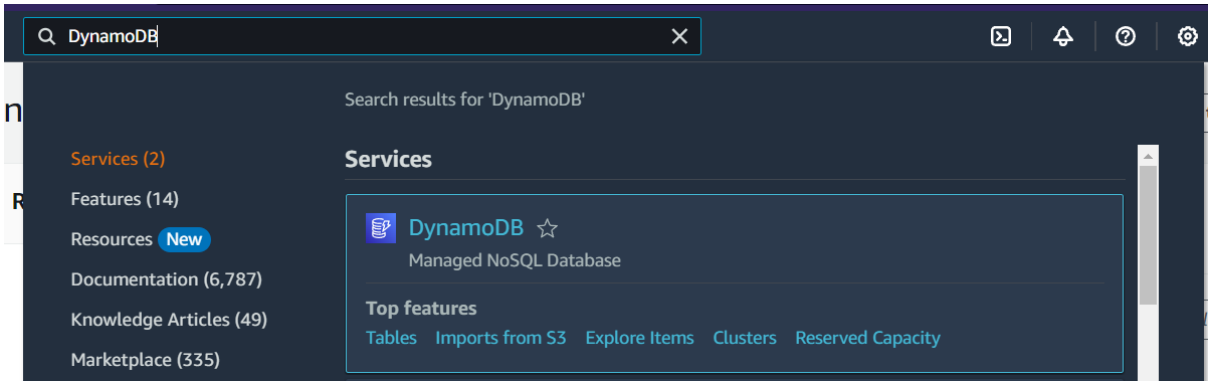
By the end of this lab, you will:

- Understand how to create on-demand backups for a DynamoDB table.
- Learn how to restore a DynamoDB table from a backup.
- Simulate the backup and restoration process using the DynamoDB console.

Lab Steps

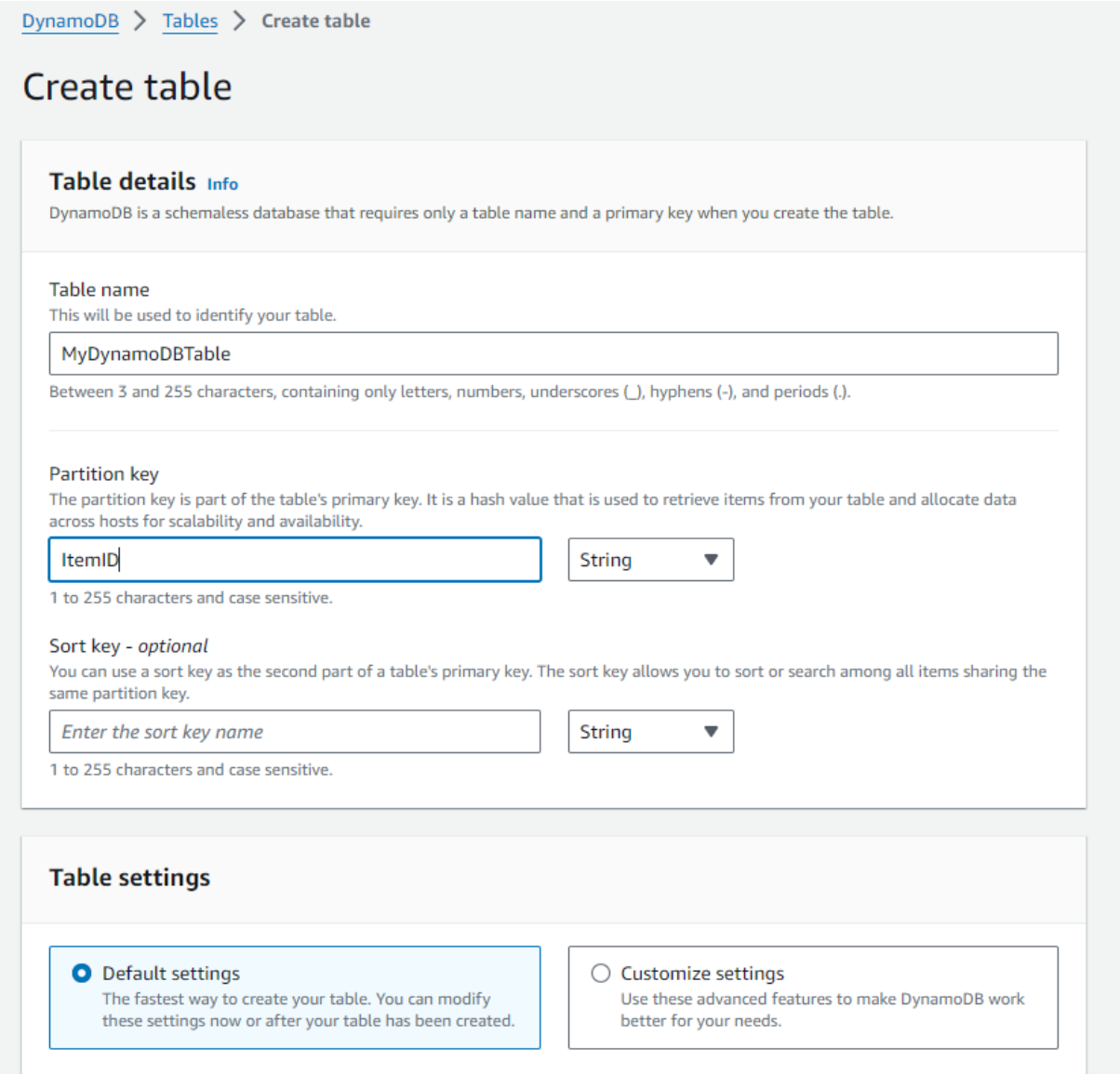
Create the DynamoDB Table and Items

1. Navigate to the DynamoDB service in the AWS Management Console.



2. Create a new table with the following configurations:

- Table name: MyDynamoDBTable
- Primary key: ItemID (String)
- Table settings: Select Default settings



- Click **Create table**

3. nsure the table status is set to Active before proceeding to the next step.

4. Create the following items:

Item 1:

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    - **ItemID**: "001" (String)
    - **ProductName**: "Wireless Mouse" (String)

- **Category**: "Electronics" (String)
- **Price**: 29.99 (Number)
- **StockQuantity**: 150 (Number)

Item 2:

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  - **ItemID**: "002" (String)
  - **ProductName**: "Bluetooth Headphones" (String)
  - **Category**: "Electronics" (String)
  - **Price**: 79.99 (Number)
  - **StockQuantity**: 85 (Number)

Item 3:

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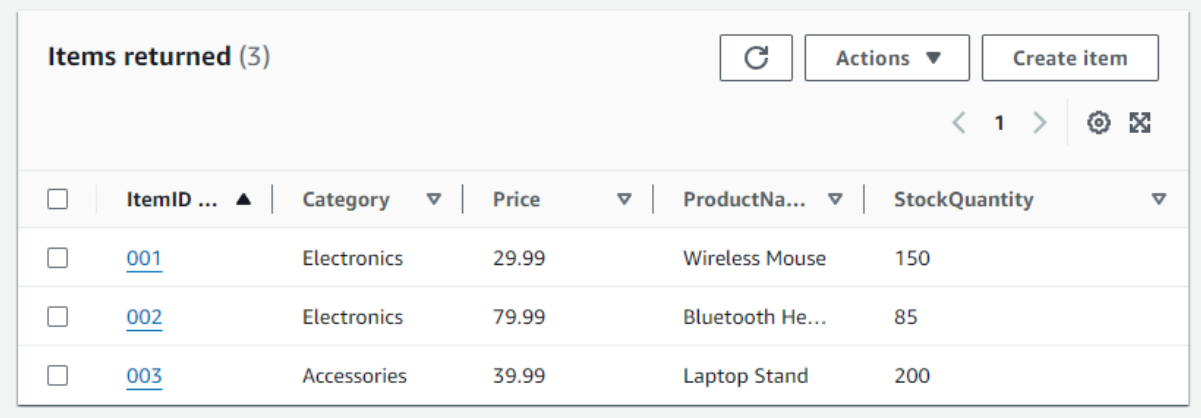
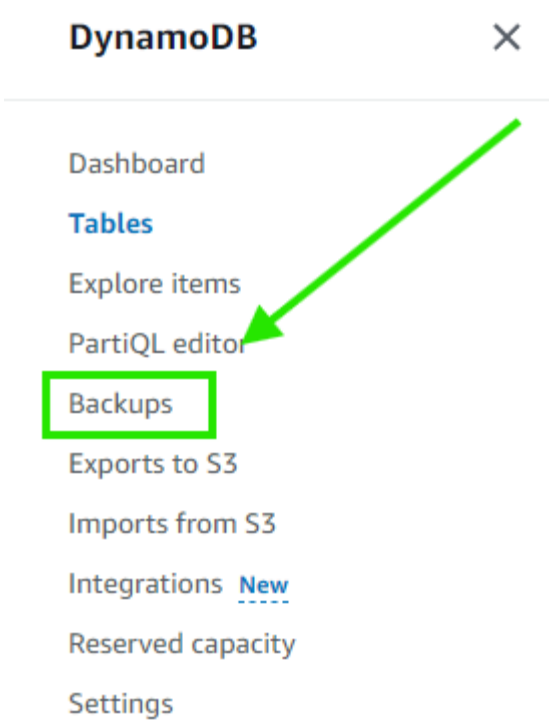
  - **ItemID**: "003" (String)
  - **ProductName**: "Laptop Stand" (String)
  - **Category**: "Accessories" (String)
  - **Price**: 39.99 (Number)
  - **StockQuantity**: 200 (Number)

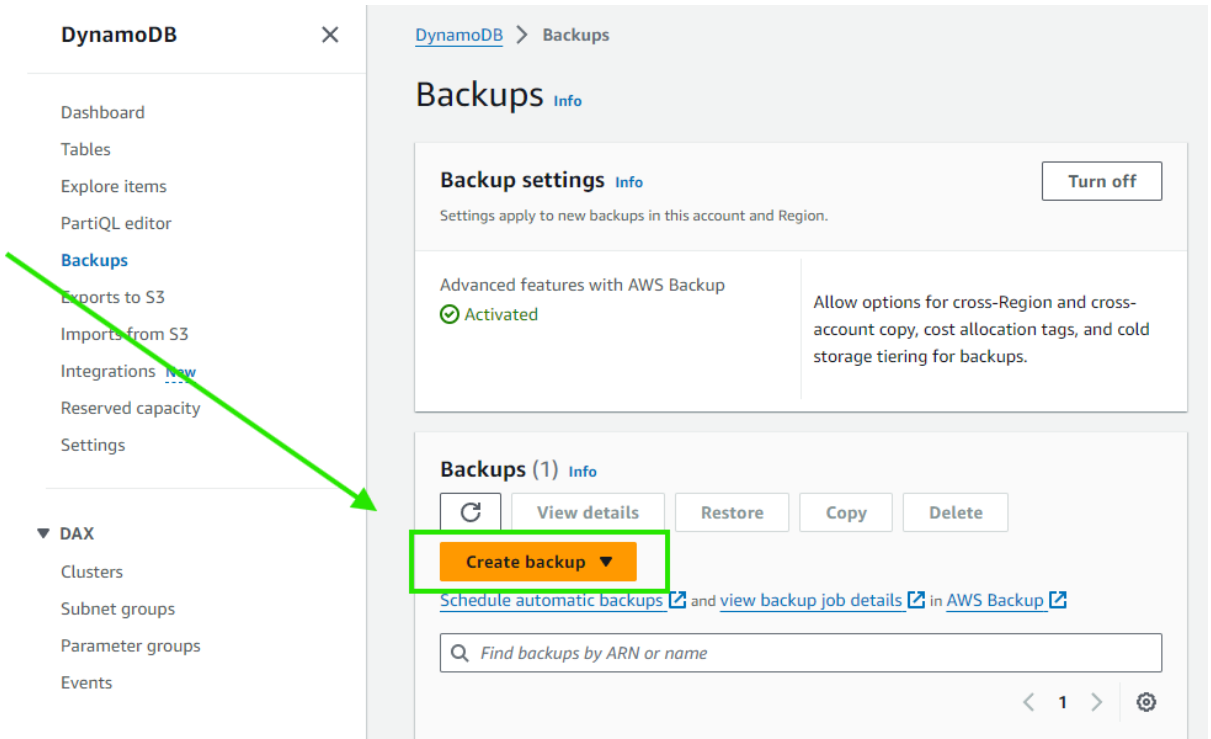


Create an On-Demand Backup

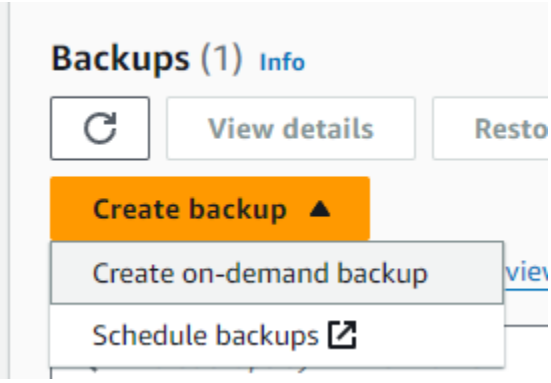
1. Navigate to the **Backups** tab in the DynamoDB console.



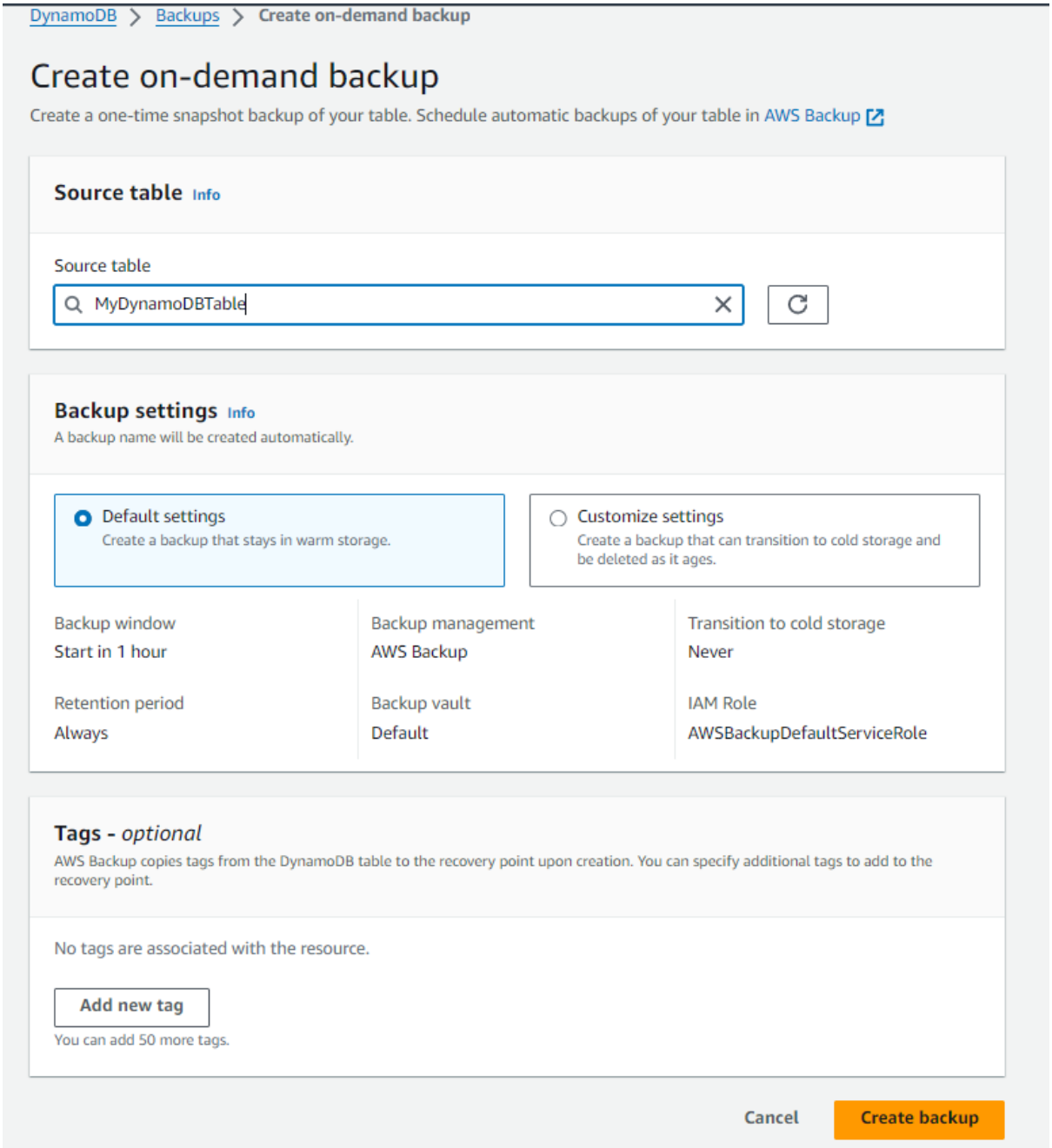
2. Click **Create backup**.



3. Select **Create on-demand backup**

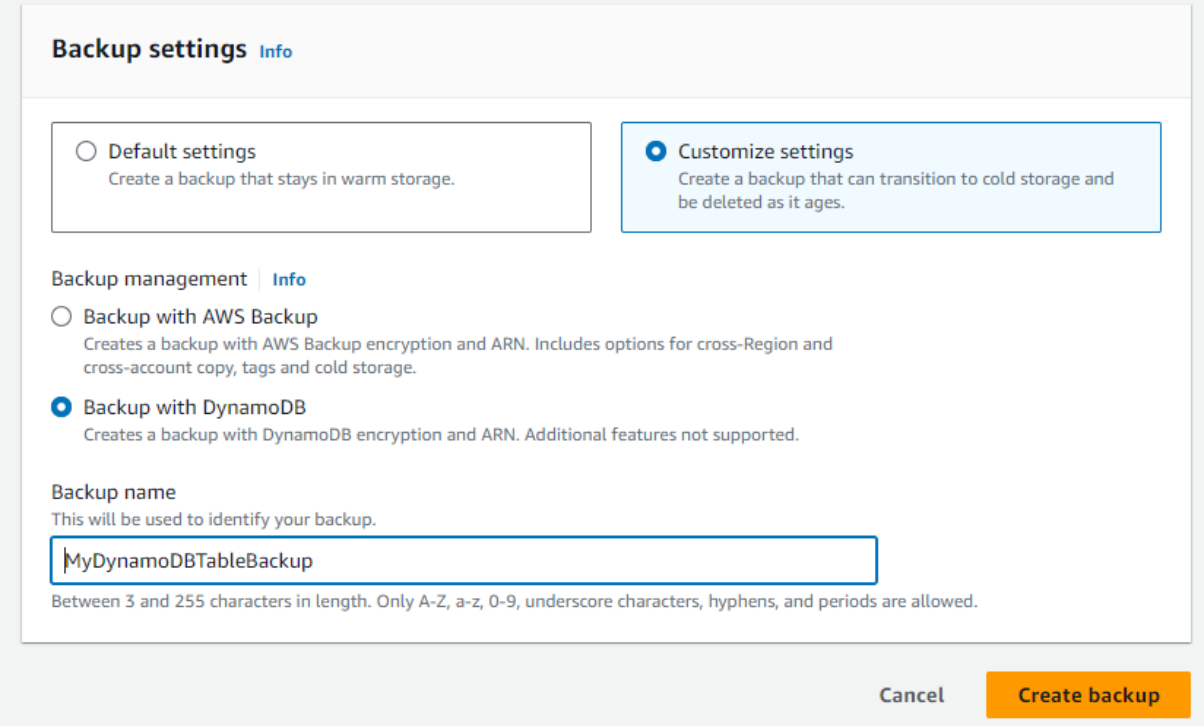


4. Add in the **Source table :** MyDynamoDBTable (The name of the created Dynamo DB earlier)



5.For the **Backup Settings**:

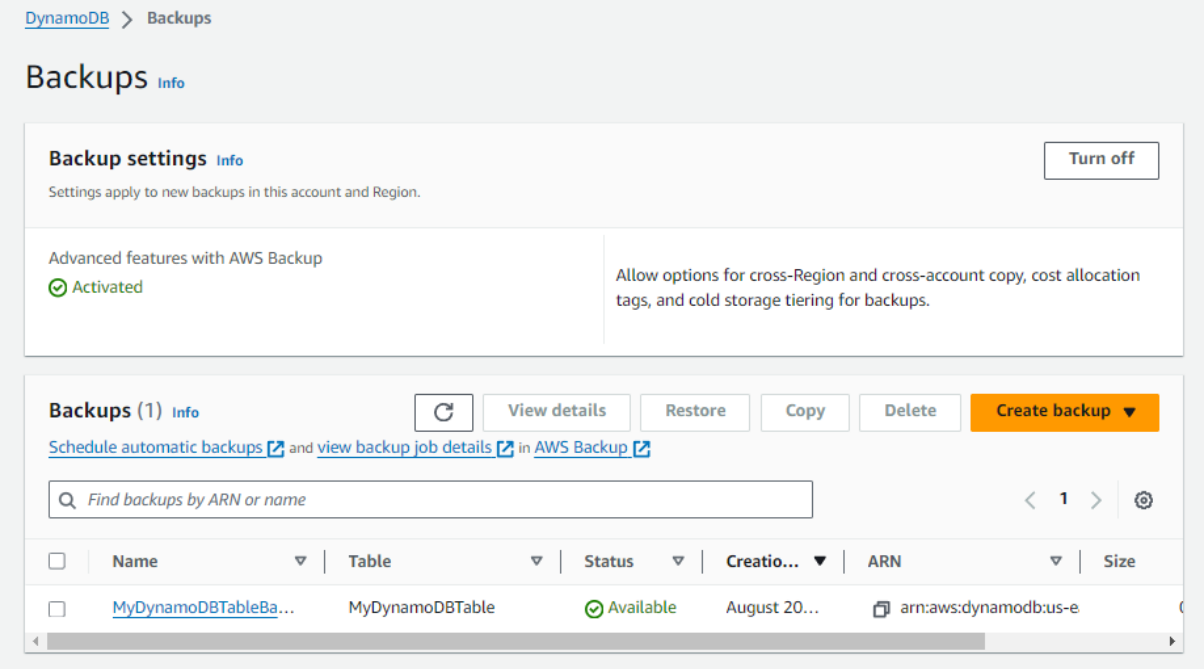
- Select **Customize settings**
- Backup management: Select **Backup with DynamoDB**
    - Backup name: MyDynamoDBTableBackup



- Click **Create backup**

The backup process may take a few minutes, depending on the size of the table.

6. Once the backup is created, it will appear in the list under the **Backups** tab.



Verify that the backup is complete and check the details to ensure it includes all the items from your table.

imulate Data Loss or Table Deletion

Important: Do not delete the table if you are practicing in a production environment. For this lab, assume that data loss has occurred or the table was deleted accidentally.

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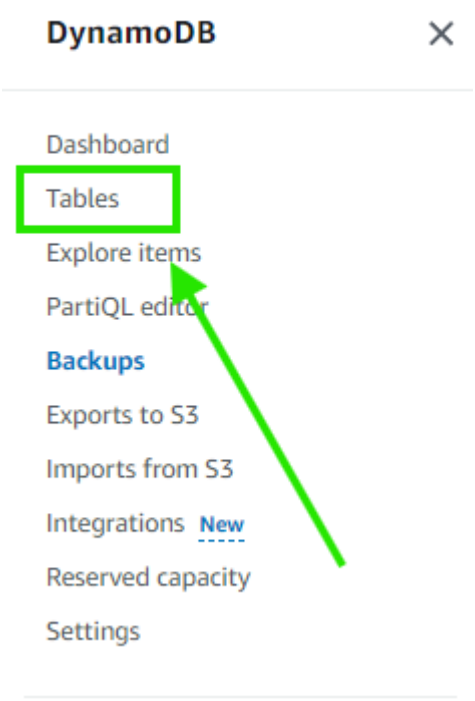
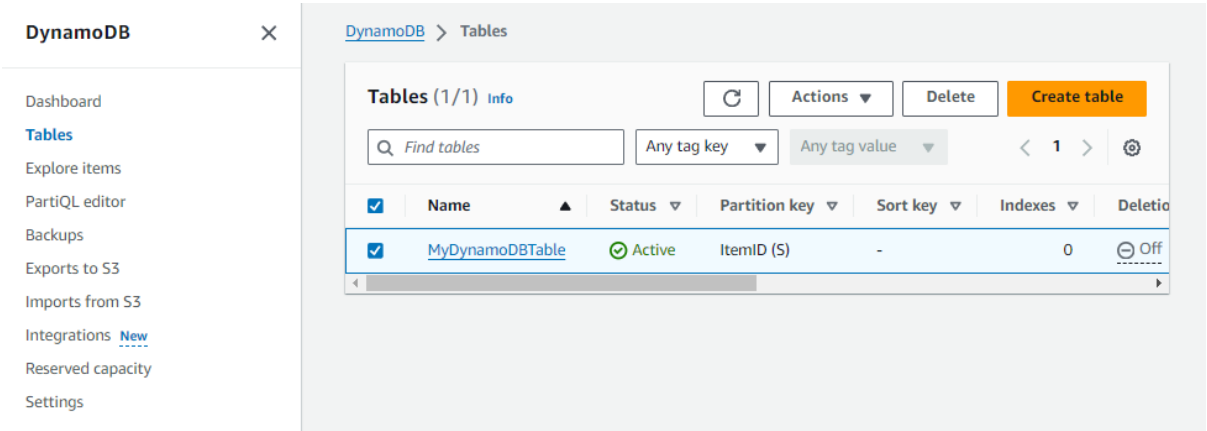
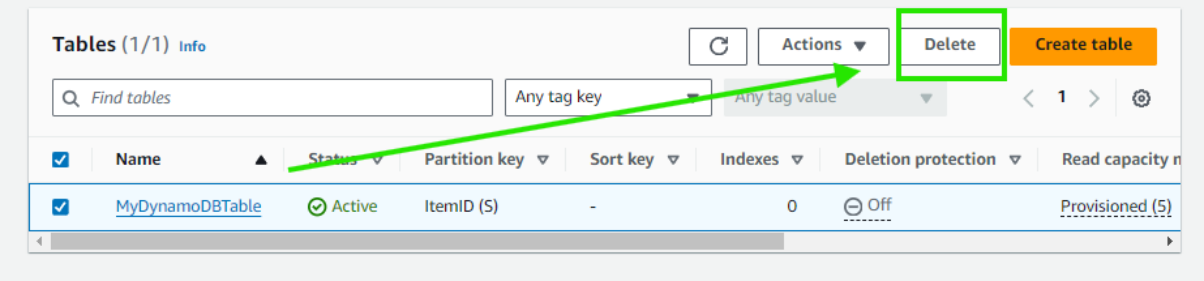
1. Navigate to the Tables Tab of the DynamoDB



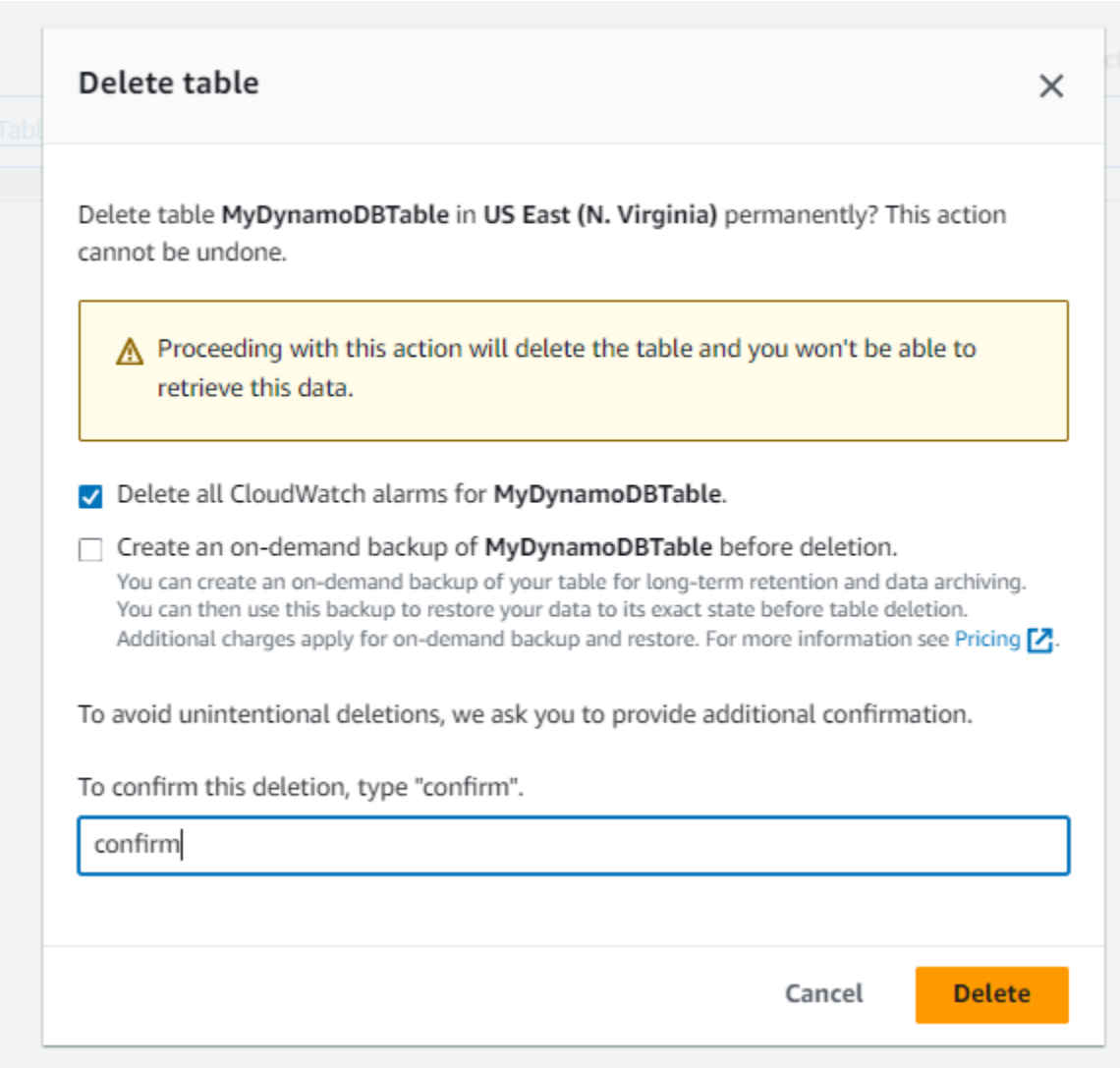
2. Select the table we created earlier, that is MyDynamoDBTable



3. Click on the **Delete** button

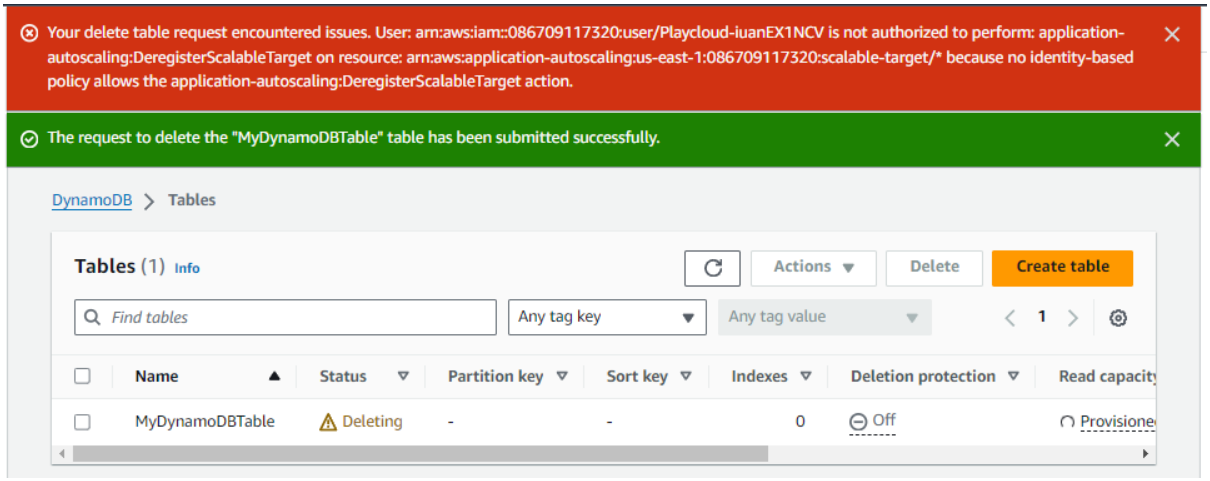


4. A Delete table dialog will pop up. Type confirm in the confirmation text box.

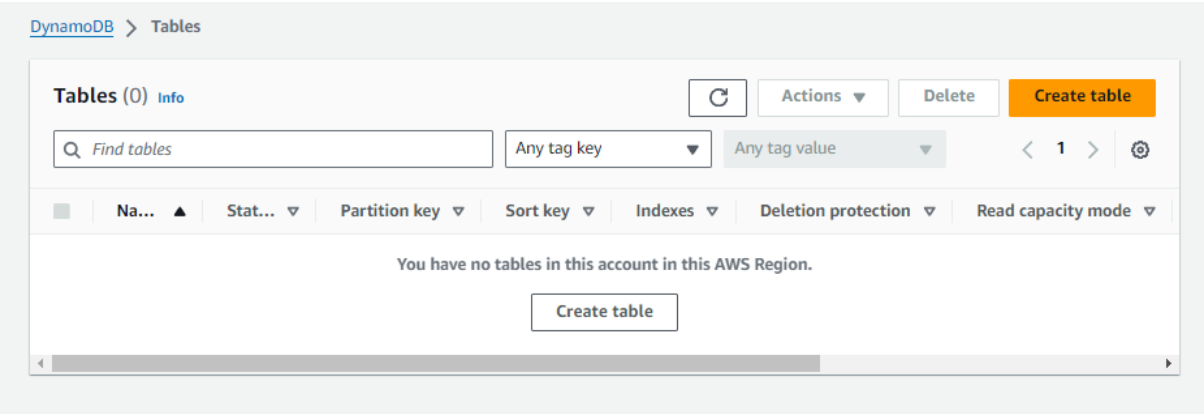


5. Click on **Delete.**

Ignore the Red notification above and focus on the green notification below. This means the table is being deleted.

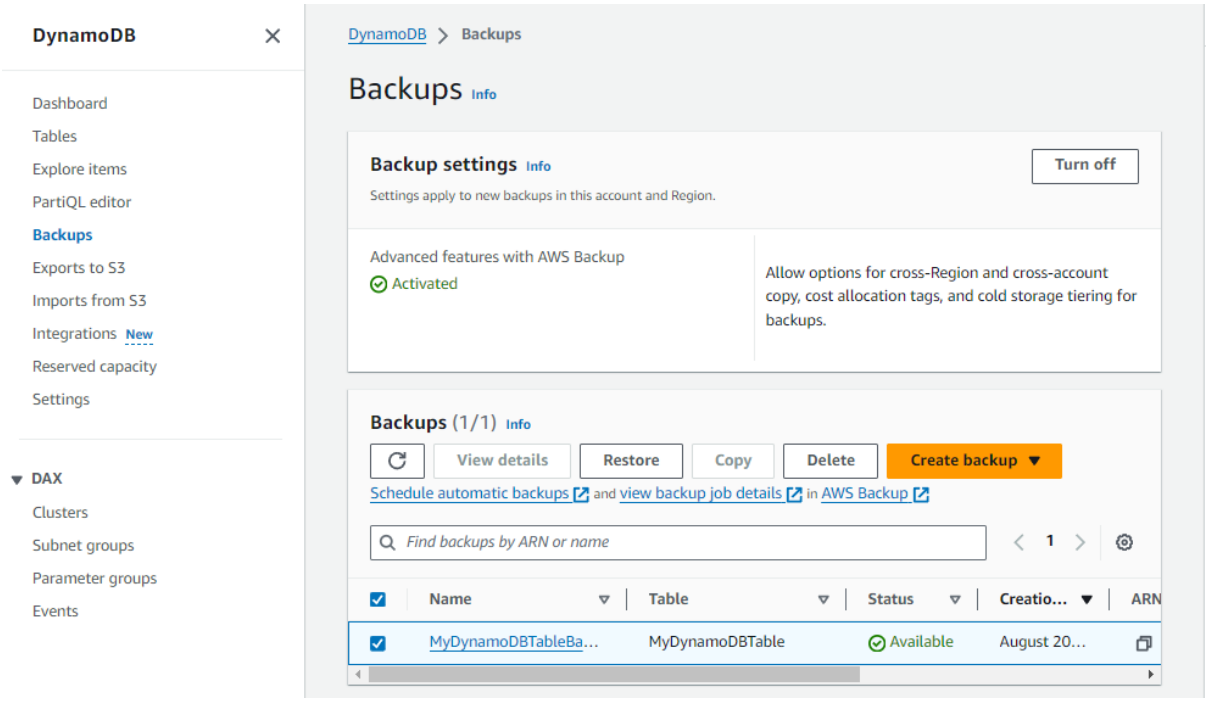


6. Wait for it to be deleted. Click the Refresh icon or refresh the page itself if necessary.

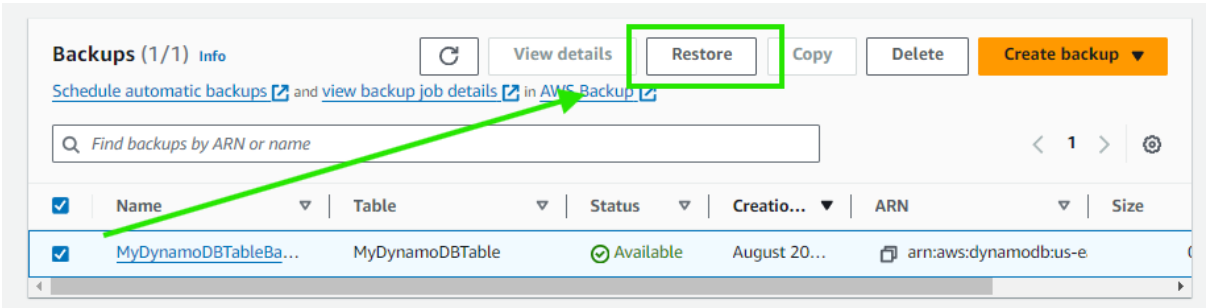


Restore the Table from Backup

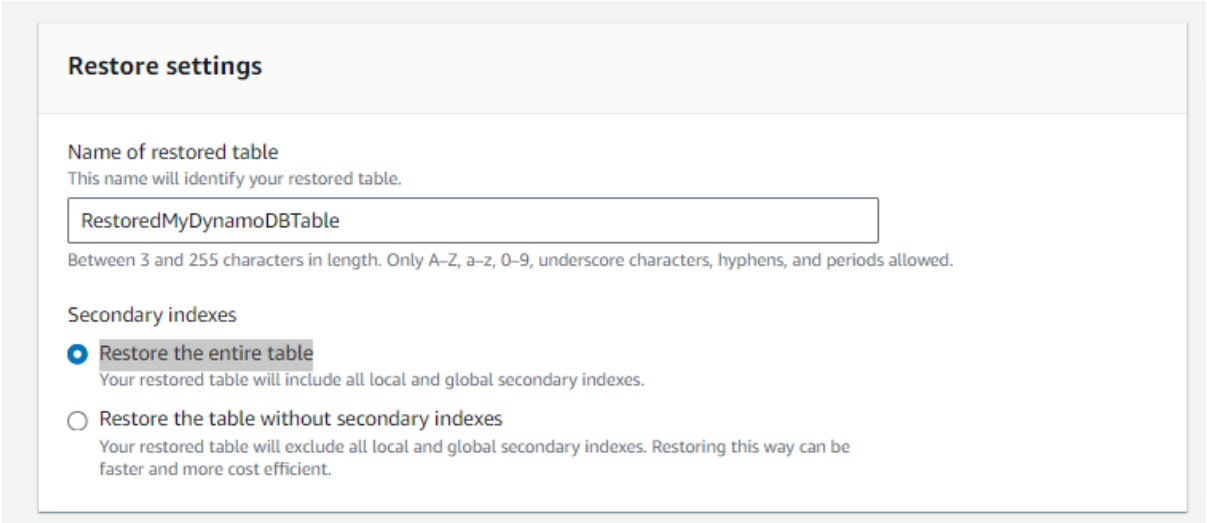
1. Go to the **Backups** tab and select the backup you created earlier.



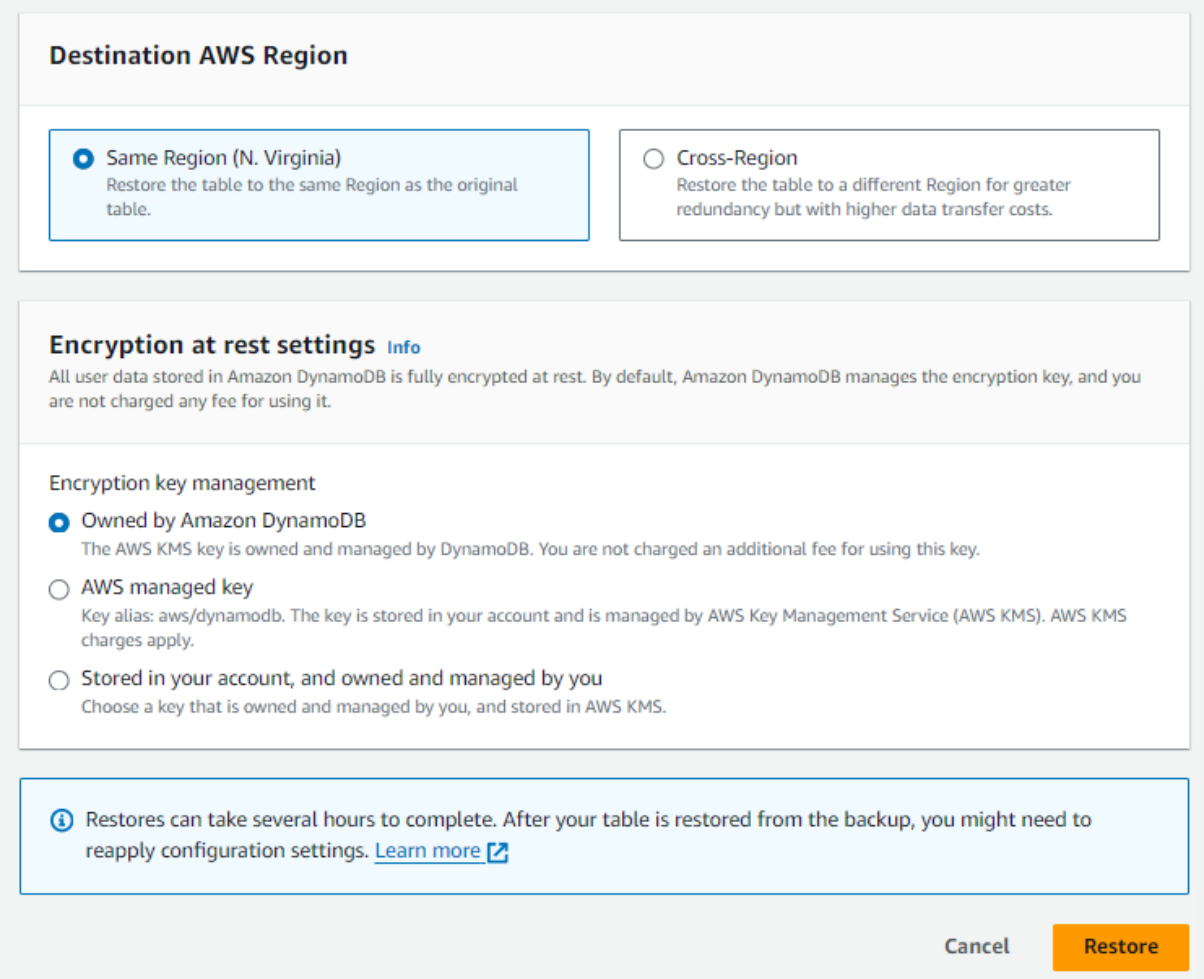
2. Click **Restore**.



3. Enter a new table name, e.g., RestoredMyDynamoDBTable, and select **Restore the entire table** for the Secondary indexes.

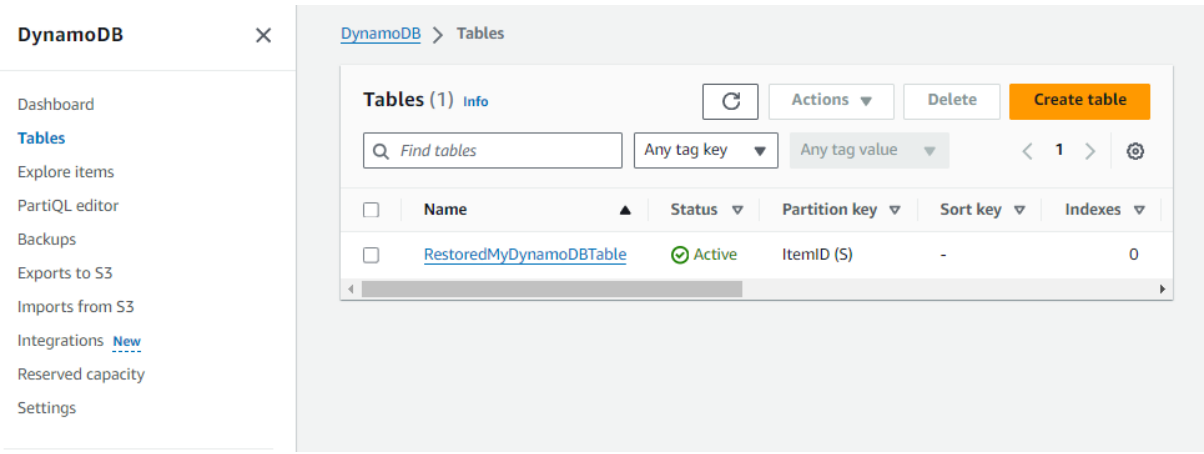


4. Let the rest as default.

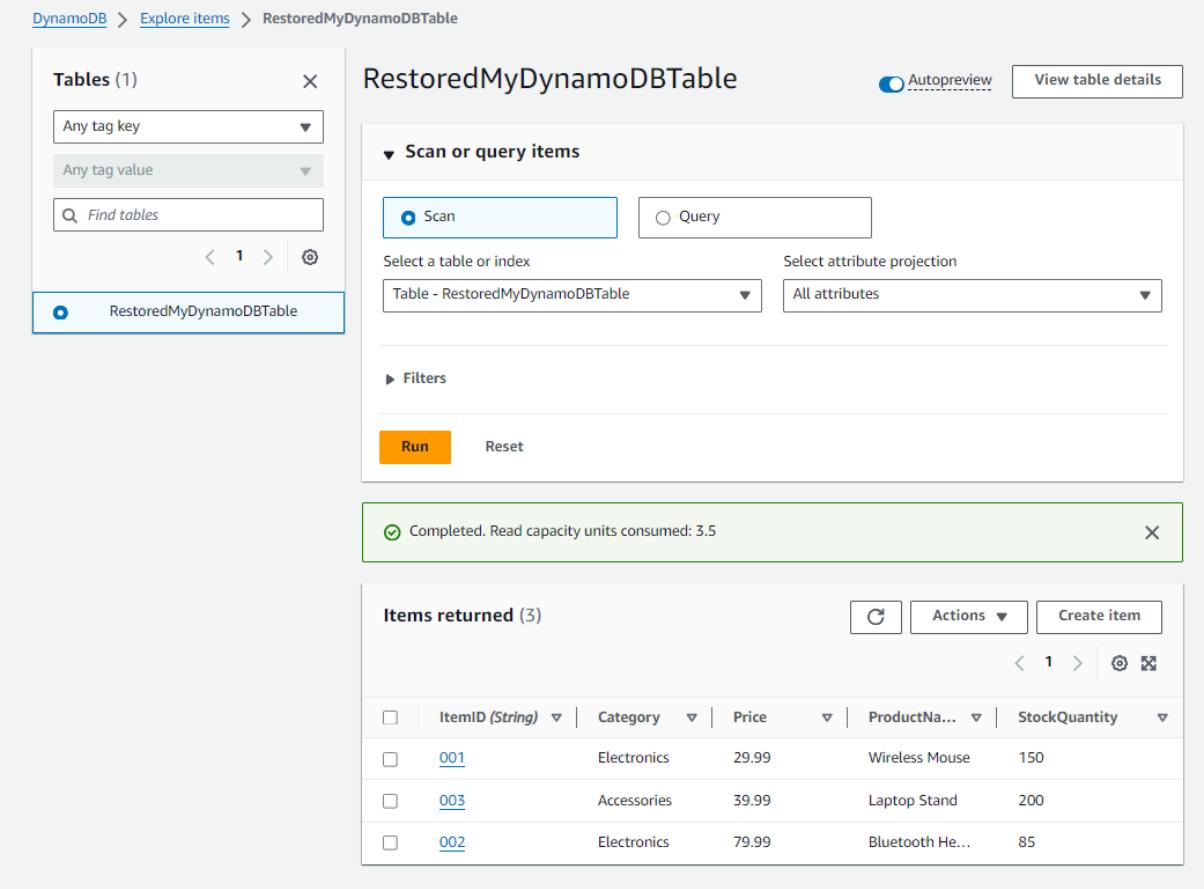


5. Click **Restore** to create a new table from the backup.

You will be redirected to the tables tab. Please wait for the status to become **active.** This will take time, so **c**lick on the **refresh** icon or refresh the page occasionally.



6. Once the restoration is complete, navigate to the new table (RestoredMyDynamoDBTable) and verify that all the data has been restored correctly.



That’s it! Congratulations! You successfully backed up and restored an Amazon DynamoDB table, demonstrating essential skills for managing data resilience in the cloud. By creating an on-demand backup, you ensure that your data is safeguarded against accidental deletion or corruption. You also learned how to restore a table from a backup, simulate a recovery scenario, and verify the integrity of the restored data. Happy learning!