Training and Certification

Introduction to Amazon DynamoDB
Self-Paced Lab

Version 1.0

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Introduction to Amazon DynamoDB

Lab overview

Introduction

This guide introduces you to Amazon DynamoDB. In this lab, you will create a simple table in Amazon DynamoDB to store information about games, such as the names, the player IDs, and the win/loss statistics. You will then query the game scores, and finally, delete the table.

What is Amazon DynamoDB?

Amazon DynamoDB is a web service that makes it easy to quickly and cost-effectively store vast amounts of data in cloud storage without the need of administrating, installing software, managing database servers, tuning the performance of the database, and dealing with hardware or software failures.

Prerequisites

This lab requires:

- Access to a notebook computer with Wi-Fi running Microsoft Windows, Mac OS X, or Linux (Ubuntu, SuSE, or Red Hat)
  - The qwikLAB lab environment is not accessible using an iPad or tablet device, but you may use these devices to access the student guide (PDF)
- For Microsoft Windows users: Administrator access to the computer
- An Internet browser such as: Chrome, Firefox, or IE9 (previous versions of Internet Explorer are not supported)
- An SSH client such as PuTTY

Objectives

After completing this lab, you will be able to:

- Describe Amazon DynamoDB.
- How to use Amazon DynamoDB.
- Create an Amazon DynamoDB table.
- Load data into an Amazon DynamoDB table.
- Query Amazon DynamoDB.
- Delete an Amazon DynamoDB table.
- View information about the Amazon DynamoDB environment.

Creating a New Table

Create a new table

In this procedure, you will create a new table named *GameScores.*
To create a table:

Step	Action
1	Click the **DynamoDB** icon on the Management Console to open the Amazon DynamoDB dashboard.
2	Click **Create Table** to launch the wizard.
3	In the **Table Name** box, type **GameScores**.
4	For **Primary Key Type**, click **Hash and Range**.
5	In the **Hash Attribute Name** box, type **UserID**.
6	For the range key type, click **String**.
7	In the **Range Attribute Name** box, type **GameTitle**.
8	Click **Continue**.
9	On the **Add Indexes** page, click **Continue**. **Note** You will not be using an index for this exercise.
10	On the **Provisioned Throughput Capacity** page, click **Continue**. **Note** You will accept the default read and write capacity for this exercise.
11	On the **Throughput Alarms** page: a. Accept the default setting of 80%. b. In the **Send notification to** box, type your email address. c. Click **Continue**.
12	Click **Create**. It takes several seconds for Amazon Dynamo DB to create the table. When the table is ready to use, it appears in the list of tables with a status of *Active.* If the status does not change, refresh the page.

Adding and Modifying Table Data

Add data to a table

In this procedure, you will add data to the GameScores table.
To add data to a table:

Step	Action
1	In the list of tables, click the **GameScores** table, and then click **Explore Table**.
2	Click **New Item**.
3	For the **UserID** attribute, in the **Attribute Value** box, type **101**.
4	For the **GameTitle** attribute, in the **Attribute Value** box, type **Galaxy Invaders**.
5	In the third row, create a new attribute: a. **Attribute Name:** Type **TopScore**. b. **Attribute Type:** Click **Number**. c. **Attribute Value:** Type **5842**.
6	In the fourth row, create another new attribute: a. **Attribute Name:** Type **Wins**. b. **Attribute Type:** Choose **Number**. c. **Attribute Value:** Type **21**.
7	In the fifth row, create another new attribute: a. **Attribute Name:** Type **Losses**. b. **Attribute Type:** Choose **Number**. c. **Attribute Value:** Type **72**.
8	Click **Put Item**, and then click **OK** to dismiss the confirmation message.
9	Repeat steps 3 through 8, using the data in the following table:

Attribute Name	Attribute Type	Attribute Value
UserID	String	101
GameTitle	String	Meteor Blasters
TopScore	Number	1000
Wins	Number	12
Losses	Number	3

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Adding and Modifying Table Data, Continued

Add data to a table, continued

Step	Action
10	Repeat steps 3 through 8, using the data in the following table: **Attribute Name** / **Attribute Type** / **Attribute Value** *UserID* / String / 102 *GameTitle* / String / Alien Adventure *TopScore* / Number / 192 *Wins* / Number / 32 *Losses* / Number / 192
11	Repeat steps 3 through 8, using the data in the following table: **Attribute Name** / **Attribute Type** / **Attribute Value** *UserID* / String / 102 *GameTitle* / String / Galaxy Invaders *TopScore* / Number / 0 *Wins* / Number / 0 *Losses* / Number / 5

Modify an existing item

To modify an item in the table:

Step	Action
1	Click the **List Tables** tab to return to the list of tables.
2	In the list of tables, click the **GamesScores** table, and then click **Explore Table**.
3	Double-click the item with UserID *102* and GameTitle *Galaxy Invaders.*
4	Click **Edit Item**.
5	For the **Wins** attribute value, delete the 0 and type **1**.
6	Click **Update**.

Querying the Table

Query the table

In this procedure, you will use different methods to query the data in the GameScores table. To query the data:

Step	Action
1	Click the **List Tables** tab to return to the list of tables.
2	In the list of tables, click the **GamesScores** table, and then click **Explore Table**.
3	Click the **Query** option.
4	For the first query, in the **Hash Key** box, type **101**, and then click **Query**. All games played by user 101 are displayed.
5	For the second query, in the **Hash Key** box, type **102**, and then click **Query**. All games played by user 102 are displayed.
6	For narrower search results, combine attributes: a. In the **Hash Key** box, type **101**. b. In the second **Range Key** drop-down list, select **begins with**. c. In the **Range Key** box, type **M**. d. Click **Query**. Only the game Meteor Blasters played by user 101 is displayed.

Deleting the Table

Delete the table

In this procedure, you will delete the GameScores table, which will also delete all the data in the table. To delete the table:

Step	Action
1	Click the **List Tables** tab to return to the list of tables.
2	Click the **GamesScores** table, and then click **Delete Table**.
3	In the confirmation message, select the **Delete this table** check box, and then click **Delete**. It may take Amazon DynamoDB several seconds to delete the table. During that process, the status of the table changes to *Deleting.*

Achievement

Congratulations! You have now successfully:

- Created an Amazon DynamoDB table.
- Loaded data into the table.
- Queried the table.
- Deleted the table.

Additional resources

Continue to learn about Amazon DynamoDB and other AWS products and services:

- For more information about Amazon DynamoDB pricing, visit http://aws.amazon.com/dynamodb/pricing/.
- For more information about the AWS Certification program and other learning opportunities, visit http://aws.amazon.com/training/.