Guide for AWS IAM Users: Accessing and Manipulating DynamoDB Tables in the AWS Management Console

Overview

This document provides step-by-step instructions for AWS IAM users to access and manipulate DynamoDB tables using the AWS Management Console. You will learn how to view tables, add or modify data, and configure permissions for secure and effective usage.

Prerequisites

Before proceeding, ensure the following:

1. **IAM User Account**: You have an IAM user account with permissions to access DynamoDB. This account is called `dynamo_user`

2. **AWS Management Console Access**: You have the login credentials for the AWS Management Console. The password for this account is here.

3. **Region Selection**: You know the AWS region where the DynamoDB tables are hosted.
   The region to use is us-east-1 (N. Virginia)

4. **Assigned Permissions**:
   - dynamodb:ListTables
   - dynamodb:GetItem
   - dynamodb:PutItem
   - dynamodb:UpdateItem
   - dynamodb:DeleteItem
   - dynamodb:Scan
   - dynamodb:Query

If you do not have sufficient permissions, contact your instructor.

Step 1: Logging into the AWS Management Console

1. Open a web browser and navigate to the AWS Management Console.
2. Enter your IAM user credentials.
3. Ensure that you are in the correct region by selecting it from the dropdown menu in the top-right corner of the console.

Step 2: Navigating to DynamoDB

1. From the AWS Management Console, search for **DynamoDB** in the search bar and click on the DynamoDB service.
2. In the DynamoDB dashboard, you will see:
    - A list of tables (if you have the `dynamodb:ListTables` permission).
    - Metrics and monitoring information for your tables.

Step 3: Viewing a Table

1. In the **Tables** section, click on the name of the table you want to view. We will click on the Movies table.

2. Explore the tabs:
    - **Overview**: View the table's settings, capacity, and key schema.
        a. Record the Partition key for tables Movies and Tigers.
        How do these keys work in the context of each table?
        b. Record the Sort key for tables Movies and Tigers.
        How do these keys work in the context of each table?
        c. How do their Capacity Modes differ? What does this mean?
        d. How many items in each table? How large is each table?
    - **Items**: See the data stored in the table by clicking on button [`Explore table items`]. Use filters to query specific items.
        e. Examine the information for the movie "This is the End".
        Hint: use an online JSON formatter to better see the JSON structure.

        What can we say about the structure of the actors, the plot, the release_date and the rating?

f. Examine the information for the Tiger “Mrs. Claws”. Note that Tiger information is distributed in tables Enclosures and Keepers. List everything we know about Mrs. Claws.

Step 4: Adding Items to a Table

1. Go to the **Items** tab of the table Movies

2. Click the **Create Item** button.

   Ensure that the primary key is filled in. Record the primary key for two movies you created and added to the table. Add an attribute called `created_by` to store your username.

3. Click **Save** to add the item to the table.

Step 5: Editing Items in a Table

1. In the **Items** tab, locate a movie you just entered.
2. Select the item and click **Edit**.
3. Modify and/or add attribute values as needed.
4. Click **Save** to update the item.

Step 6: Deleting Items from a Table

1. In the **Items** tab, locate one of the two movies you created.
2. Select the item and click **Delete**.
3. Confirm the deletion in the prompt.

Step 7: Querying and Scanning Tables

Scan: Use the **Scan** operation to retrieve all items in the table Keepers.

1. Go to the **Items** tab.
2. Click **Scan**.
3. Use filters to refine the results and find the Keeper whose first name is “Carol”.
4. Click **Run** to execute the scan and add a screenshot to your document.

Query:

- Use the **Query** operation to retrieve items based on the primary key.

1. Go to the **Items** tab.
2. Click **Query**.
3. Find the Keeper whose first name is not “Carol”
4. Click **Run** to execute the query and view results. How does Query differ from Scan?

Step 8: Logging Out

After you have completed your tasks, ensure that you log out of the AWS Management Console by clicking your account name in the top-right corner and selecting **Sign Out**.