amazon web services | Certified

Developer - Associate

lab

lab title

Using AWS DynamoDB with the CLI

V1.02

Course title

AWS Certified Associate

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About the Lab

These lab notes are to support the instructional videos on Using Amazon DynamoDB using the CLI in the BackSpace AWS Certified Associate course.

We will first create a DynamoDB table using the console and then add items to the table.

We will then:

- Create a DynamoDB table.
- Upload a JSON file containing items using the batchWriteItem method.
- Query the data using the CLI.

Please refer to the AWS CLI documentation at:

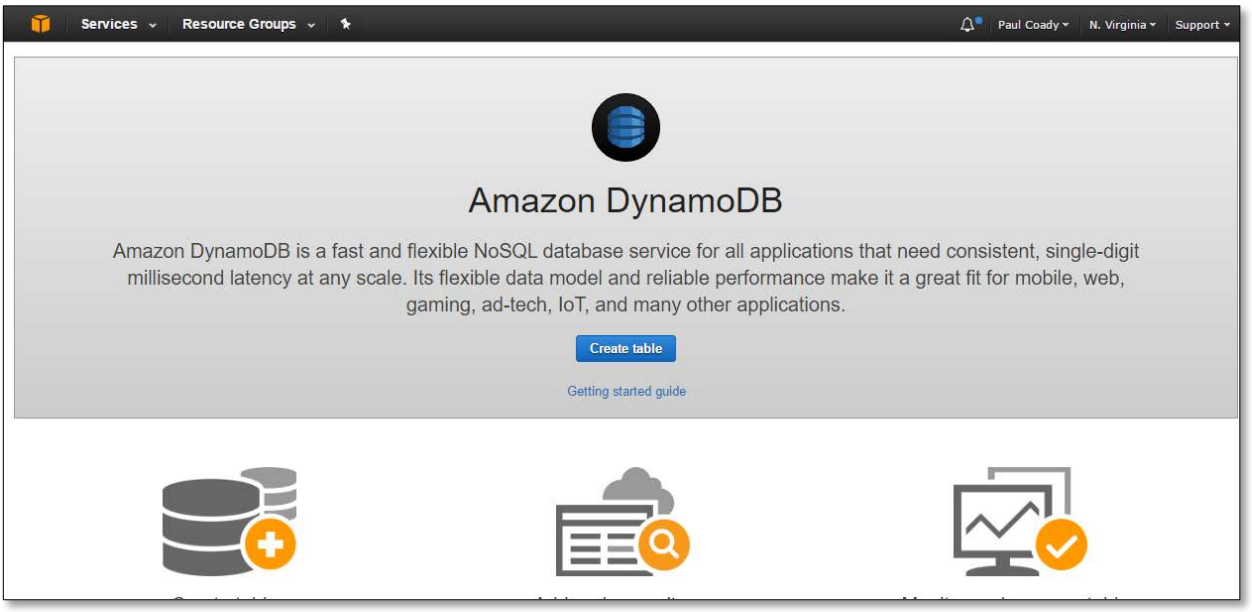
http://docs.aws.amazon.com/cli/latest/reference/dynamodb/index.html#cli-aws-dynamodb

Please note that AWS services change on a weekly basis and it is extremely important you check the version number on this document to ensure you have the lastest version with any updates or corrections.

Creating a DynamoDB Table using the Console

In this section we will use the DynamoDB console to create a table and then add items individually using the console.

Select the DynamoDB Console



Click “Create Table”

Enter the following details (enter exactly with correct case)

BE CAREFUL IF USING COPY/PASTE NOT TO INCLUDE ANY EXTRA SPACES ON THE END.

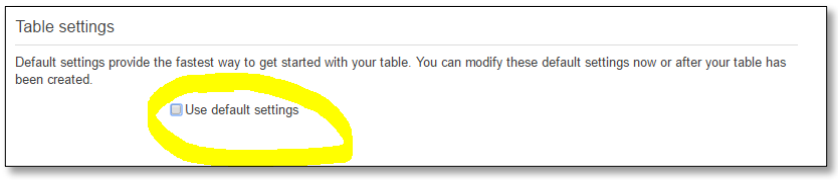
Table Name: test-table

Primary Key Type: hash

Hash Attribute Type: Number

Hash Attribute Name: Id (case sensitive - make sure the first letter is capitalised)

Uncheck *Use Default Settings*

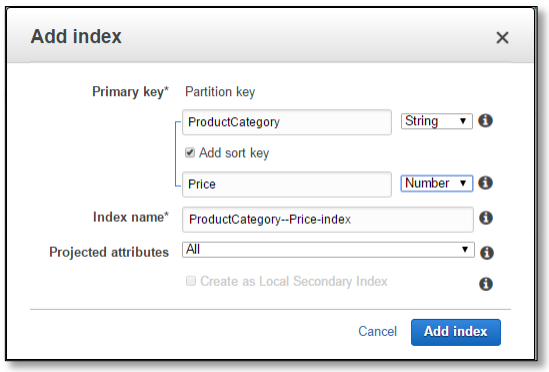


Now create a global secondary index with hash key string ProductCategory and sort key number Price.

Use index name ProductCategory-Price-index

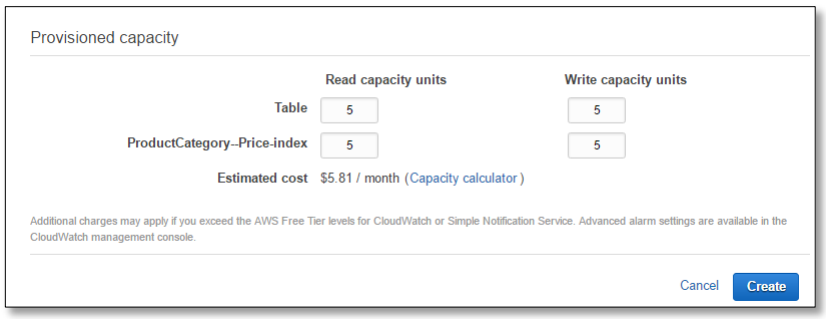
Click Add index to table.

Enter index details



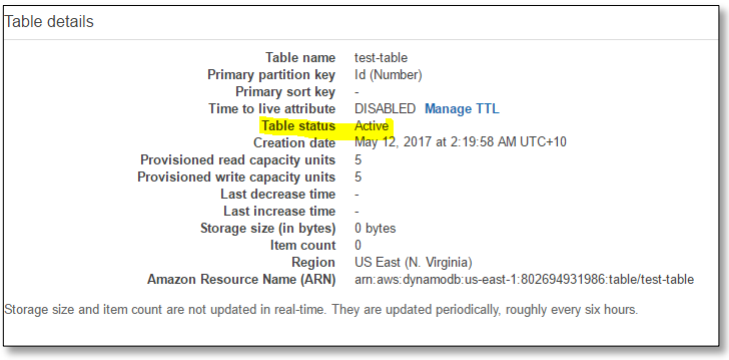
Click *Add Index*

Continue using default settings.



Click Create.

Press refresh until table status is listed as active.



Click on Items tab

Click on Create Item

BE CAREFUL IF USING COPY/PASTE NOT TO INCLUDE ANY EXTRA SPACES ON THE END.

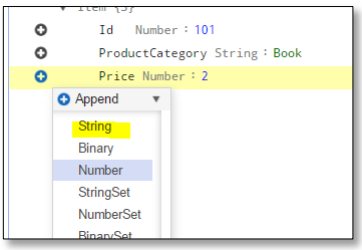
Enter the Id as 101

ProductCategory- String: Book

Price - Number:-2

and then click on the action menus box on the left of the entry.

Select Append then String



Enter field *Title* and value *Book 101 Title*

Enter the rest of the details for the item. Make sure you select the right data type of string or number or boolean:

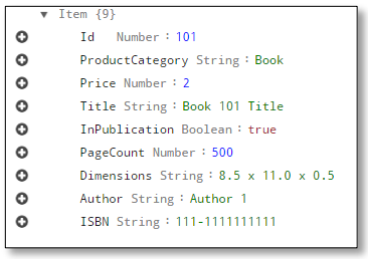
InPublication - Boolean:true

PageCount - Number:500

Dimensions - String: 8.5 x 11.0 x 0.5

Authors - String: Author 1

ISBN- String: 111-1111111111



Click Save

Importing Items into DynamoDB using batch-write-item

In this section we will the DynamoDB CLI to import items from a JSON file into a DynamoDB table.

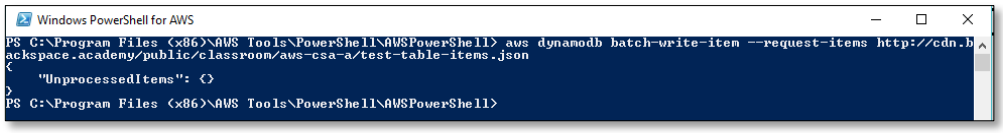
The following JSON file contains our list of items to be imported:

http://cdn.backspace.academy/public/classroom/aws-csa-a/test-table-items.json

We will use the batch-write-item from the CLI to download the file and write the items to DynamoDB:

```
aws dynamodb batch-write-item --request-items
http://cdn.backspace.academy/public/classroom/aws-csa-a/test-table-items.json
```

After running the command you will receive a message: "UnprocessedItems": {}



Now go to the DynamoDB console and view the added items:

Id	Author	Dimensions	ISBN	InPublication	PageCount	Price	ProductCategor	Title	BicycleType	Brand	Color	Description
205						500	Bike	20-Bicycle 205	Hybrid	Brand-Compa...	{ "Black", "Re...	205 descripti
203						300	Bike	19-Bicycle 203	Road	Brand-Compa...	{ "Black", "Gre...	203 descripti
202						200	Bike	21-Bicycle 202	Road	Brand-Compa...	{ "Black", "Re...	202 descripti
201						100	Bike	18-Bicycle 201	Road	Brand-Compa...	{ "Black", "Re...	201 descripti
204						400	Bike	18-Bicycle 204	Mountain	Brand-Compa...	Red	204 descripti
102		8.5 x 11.0 x 0.8	222-2222222...	true	600	20	Book	Book 102 Title				
103		8.5 x 11.0 x 1.5	333-3333333...	false	700	200	Book	Book 103 Title				
101	Author 1	8.5 x 11.0 x 0.5	111-1111111111	true	500	2	Book	Book 101 Title				

Querying DynamoDB Tables using the CLI

In this section we will use CLI to query items in a DynamoDB table.

The details of our query are locate in a json file at:

http://cdn.backspace.academy/public/classroom/aws-csa-a/test-table-query.json

This query will based upon:

ProductCategory: Bike

Price: Less than or equal to 300

We can use the query command to query our table:

```
aws dynamodb query --table-name test-table --index-name ProductCategory-Price-index --key-
conditions http://cdn.backspace.academy/public/classroom/aws-csa-a/test-table-query.json
```

This produce the Bike items less than or equal to $300 in JSON format:

```
    },
    {
        "BicycleType": {
            "S": "Road"
        },
        "Description": {
            "S": "202 description"
        },
        "Title": {
            "S": "21-Bicycle 202"
        },
        "Color": {
            "SS": [
                "Black",
                "Red"
            ]
        },
        "Gender": {
            "S": "M"
        },
        "Price": {
            "N": "200"
        },
        "ProductCategory": {
            "S": "Bike"
        },
        "Brand": {
            "S": "Brand-Company A"
        },
        "Id": {
            "N": "202"
        }
    },
    {
        "BicycleType": {
            "S": "Road"
        },
        "Description": {
            "S": "203 description"
        },
        "Title": {
            "S": "19-Bicycle 203"
        },
        "Color": {
            "SS": [
                "Black",
                "Green",
                "Red"
            ]
        },
        "Gender": {
            "S": "W"
        },
        "Price": {
            "N": "300"
        },
        "ProductCategory": {
            "S": "Bike"
        },
        "Brand": {
            "S": "Brand-Company B"
        },
        "Id": {
            "N": "203"
        }
    }
],
"ScannedCount": 3,
"ConsumedCapacity": null
```