Setting up DynamoDB locally (Linux)

- prerequisite: Java must be installed on your machine.

  If you don't have Java installed on your machine you will need to run following commands to install java.

```
$ sudo apt update
$ sudo apt install default-jdk
update-alternatives --config java
$ sudo gedit /etc/environment
```

  Last command will open the text file. Now, copy the following code and paste into it then save the file.

```
JAVA_HOME="/usr/lib/jvm/java-11-openjdk-amd64/bin/java"
PATH="/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:$
JAVA_HOME/bin"
```

1. Download and install DynamoDB server:

```
$ mkdir dynamodb
$ cd dynamodb
$ wget http://dynamodb-local.s3-website-us-west-
2.amazonaws.com/dynamodb_local_latest.tar.gz

$ tar xzf dynamodb_local_latest.tar.gz
```

2. Start DynamoDB Server: In the command prompt window, change the working directory to the `dynamoDB` directory and issue following command:

```
$ java -Djava.library.path=./DynamoDBLocal_lib -jar
DynamoDBLocal.jar -sharedDb
```

Do not close this console window. Closing this window will shut down the dynamoDB server.

3. Download and install AWS CLI (following instructions should work):
   taken from: https://docs.aws.amazon.com/cli/latest/userguide/install-cliv2-linux.html#cliv2-linux-install

```
$ curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64-2.0.30.zip" -o "awscliv2.zip"
$ unzip awscliv2.zip
$ sudo ./aws/install
```

4. Configure DynamoDB. Open another command window and submit command

```
$ aws configure
```

```
AWS Access Key ID [None]: 1234
AWS Secret Access Key [None]: 1234
Default region name [None]: us-west-2
Default output format [None]: json
```

It prompts for some inputs. Give some inputs. May preserve these inputs for some later use; we may never need these values, though.

5. Test if set up is done correctly:

   [Create a work directory, say `home/dynamodb-work`. Move to this directory before doing following tasks]

   a. Create Table (named as `ProductCatalog`) as following:

```
$ aws dynamodb create-table \
--table-name ProductCatalog \
--attribute-definitions \
        AttributeName=Id,AttributeType=N \
--key-schema \
        AttributeName=Id,KeyType=HASH \
--provisioned-throughput \
        ReadCapacityUnits=10,WriteCapacityUnits=5 \
   --endpoint-url http://localhost:8000
```

If everything is successful, you should see the following as a response.

```
{
   "Table": {
        "AttributeDefinitions": [
        {
             "AttributeName": "Id",
             "AttributeType": "N"
        }
        ],
        "TableName": "ProductCatalog",
        "KeySchema": [
        {
             "AttributeName": "Id",
             "KeyType": "HASH"
        }
        ],
        "TableStatus": "ACTIVE",
```

```
          "CreationDateTime": "2021-02-16T00:16:00.227000+05:30",
          "ProvisionedThroughput": {
          "LastIncreaseDateTime": "1970-01-01T05:30:00+05:30",
          "LastDecreaseDateTime": "1970-01-01T05:30:00+05:30",
          "NumberOfDecreasesToday": 0,
          "ReadCapacityUnits": 10,
          "WriteCapacityUnits": 5
          },
          "TableSizeBytes": 0,
          "ItemCount": 0,
          "TableArn":
 "arn:aws:dynamodb:ddblocal:000000000000:table/ProductCatalog"
    }
       }
```

6. Describe the Table

```
$ aws dynamodb describe-table \
    --table-name ProductCatalog \
   --endpoint-url http://localhost:8000
```

7. You can also check list of tables in your AmazonDB database as following:

```
$ aws dynamodb list-tables --endpoint-url http://localhost:8000
```

Response should be as following.

```
{
    "TableNames": [
       " ProductCatalog"
    ]
}
```

8. Done!