Xerris Bootcamp Series

Running DynamoDB Locally

xerris

ACCOLITE DIGITAL
Transforming The Future, Now

Running DynamoDB On Developer Workstation

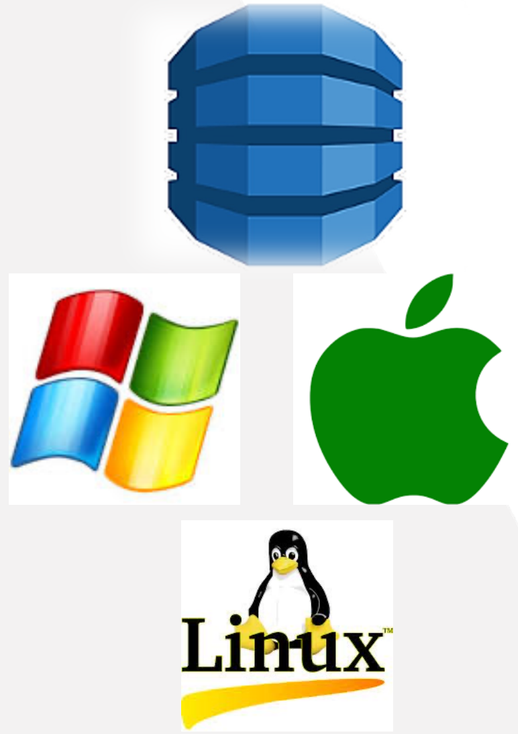
- AWS provides a way to run DynamoDB Locally.

There are a few options for running DynamoDB locally; some depend on the developer's platform (Windows, Mac OS, Linux).

The easiest method is to use a local Docker container (Mac OS, Linux), but this is not feasible for Windows.

Steps to run DynamoDB locally

- Download DynamoDB binary (docker container/.zip file)
- Install Java 8.x JRE or newer.
- Run the DynamoDB HTTP server
- Setup AWS CLI access keys



Windows Installation Steps

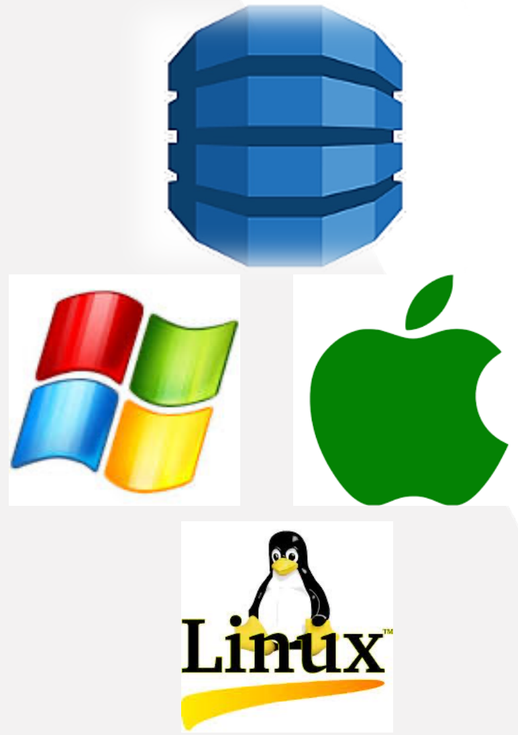
Setup for Windows

- Download the .zip file to the desired location.
- Install Java 8.x JRE or newer.
- Run the DynamoDB HTTP server in the PowerShell window.

```
java -D"java.library.path=./DynamoDBLocal_lib" -jar
DynamoDBLocal.jar
```

- Setup AWS CLI access keys.
- Access keys are required to use local DynamoDB via the AWS CLI. The keys are just placeholders but are still required.

```
SET AWS_ACCESS_KEY_ID=local-key
SET AWS_SECRET_ACCESS_KEY=local-key
```

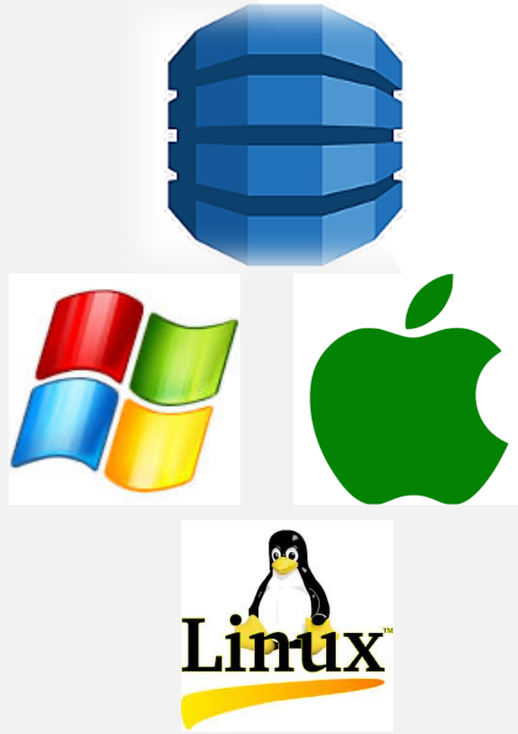


Docker Installation Steps

Installing DynamoDB using Docker requires Docker and docker-compose pre-installed and configured.

The following is the docker-compose.yml file needed.

```
version: '3.8'
services:
  dynamodb-local:
    command: "-jar DynamoDBLocal.jar -sharedDb -dbPath ./data"
    image: "amazon/dynamodb-local:latest"
    container_name: dynamodb-local
    ports:
      - "8000:8000"
    volumes:
      - "./docker/dynamodb:/home/dynamodblocal/data"
    working_dir: /home/dynamodblocal
  app-node:
    depends_on:
      - dynamodb-local
    image: banst/awscli
    container_name: app-node
    ports:
      - "8080:8080"
    environment:
      AWS_ACCESS_KEY_ID: 'DUMMYIDEXAMPLE'
      AWS_SECRET_ACCESS_KEY: 'DUMMYEXAMPLEKEY'
    command:
      dynamodb describe-limits --endpoint-url http://dynamodb-local:8000 --region
us-west-2
```



Execute the docker-compose up command from the Terminal

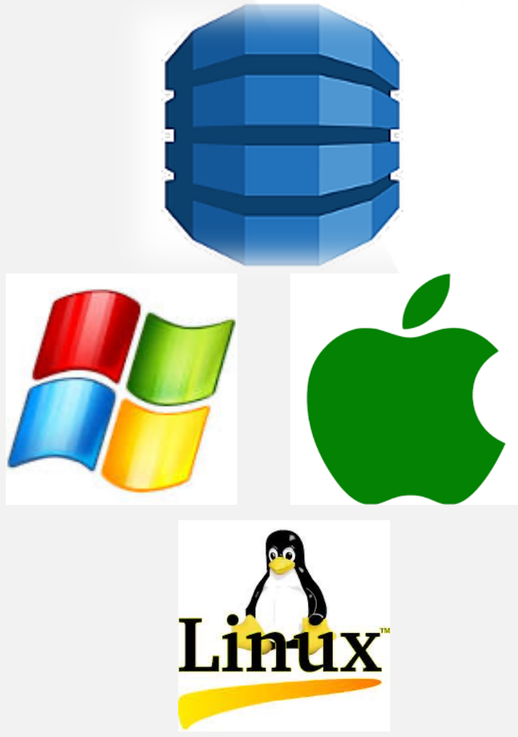
Validating Your Installation

Use AWS CLI to validate your local installation.

The docker-compose file has HTTP port 8000 as the default port. Change that as needed.

Run the following command from the terminal to validate your installation.

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



Using AWS CLI with Local DynamoDB

You can use the same AWS CLI commands locally as you use for AWS-hosted DynamoDB.
You need only to add the --endpoint-url http://dynamodb-local:8000.

```
aws dynamodb create-table \
 --table-name Music \
 --attribute-definitions \
      AttributeName=Artist,AttributeType=S \
      AttributeName=SongTitle,AttributeType=S \
 --key-schema \
      AttributeName=Artist,KeyType=HASH \
      AttributeName=SongTitle,KeyType=RANGE \
 --provisioned-throughput \
      ReadCapacityUnits=10,WriteCapacityUnits=5 \
 --endpoint-url http://localhost:8000
```