Assignment 8 – DynamoDB

Don't copy and paste the reference code! Please find the source in the Slides folder on Sakai. **DON'T COPY AND PASTE. JUST REFER. Code won't work if you copy/paste. It works when you read docs and write the code yourself.**

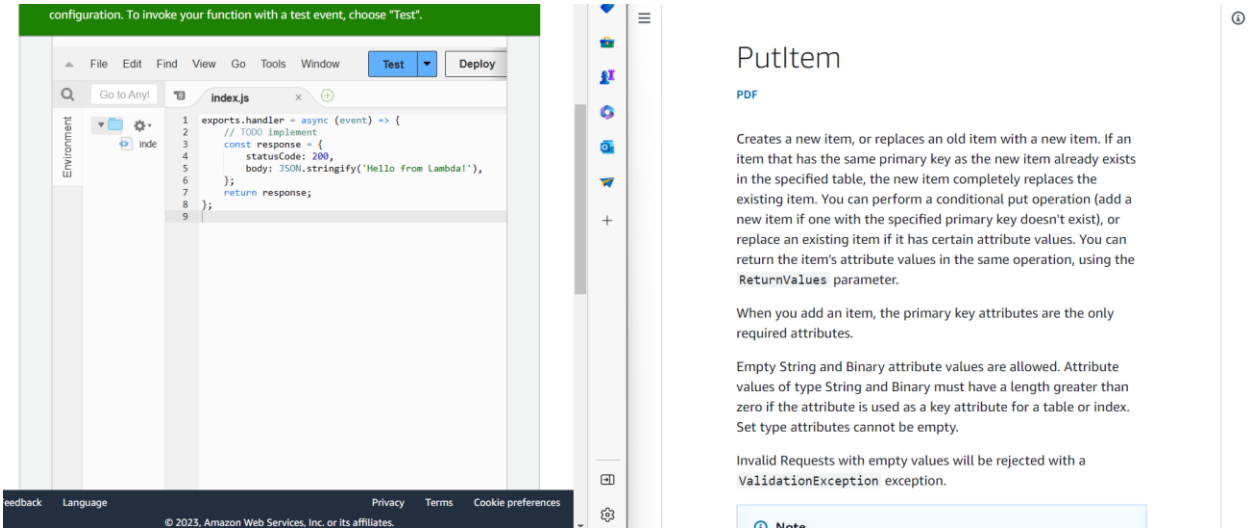
Don't come to me with code like this. Look at the indent. It is pretty clear that it is a copy-and-paste.

```
const AWS = require("aws-sdk");
const dynamodb = new AWS.DynamoDB({ apiVersion: "2012-08-10" });
const tableName = process.env.COURSE_TABLE;
exports.handler = async (event) => {
console.log("Request received: " + JSON.stringify(event));
const saveParams = {
TableName: tableName,
Item: {
"courseCode": {
S: "CS516"
},
"courseName": {
S: "Cloud Computing"
},
"teacherName": {
S: "Unubold"
},
"students": {
SS: [
"Bipin",
"Ryan",
"Michael"
]
},
"month": {
N: "7"
},
"year": {
N: "2021"
}
}
};

await dynamodb.putItem(saveParams).promise();

const response = {
```

This is how you start your work, one side your lambda and the other side is the official documentation.



PART II – DynamoDB

Check out the "Be a better dev" channel. https://www.youtube.com/c/BeABetterDev/playlists

1. [*previous assignment, it is done by now*] Create a Lambda, "CourseLambda". The LabRole already has permission to do the CRUD operations on the table. If it were a regular account, you have to write the following inline policy for the lambda role.
2. [*previous assignment, it is done by now*] Create a DynamoDB table, "CourseTable".
    a. courseCode -> Partition key
    b. teacherName -> Sort key
3. Add some columns such as (just add in the Lambda code, DynamoDB is flexible and schemaless)
    a. courseName
    b. month – Which month of the year the course was taught
    c. year
    d. students – String Set
4. Create a global secondary index, **courseName**. So the index will allow you to effectively query on the courseName column.
5. Update the Course Lambda to do the the rest of the **CRUD** operations. Query on the courseName index, scan with filters, and update are the ones that challenge you.
    a. [*previous assignment, it is done by now*] PutItem
    b. GetItem and DeleteItem – Relatively simple. You just need to provide the composite key (courseCode and teacherName)
    c. **Query** - on an index (courseName)
    d. **Scan** - Get items with some filter (month, and year).
    e. **UpdateItem** - update (month, and year) of the item. You need to provide the composite key (courseCode and teacherName) to update a specific item.

Refer:

- DynamoDB examples using SDK for JavaScript (v3) - AWS SDK for JavaScript (amazon.com)
- https://medium.com/geekculture/become-a-dynamodb-ninja-d25b36ce765e
- https://docs.aws.amazon.com/AWSJavaScriptSDK/latest/AWS/DynamoDB.html