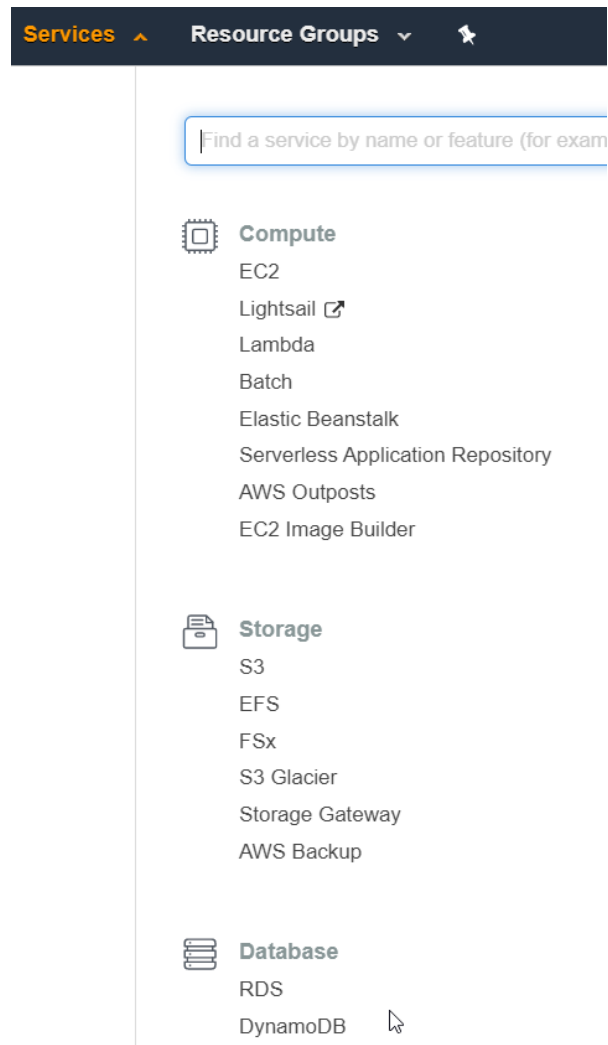




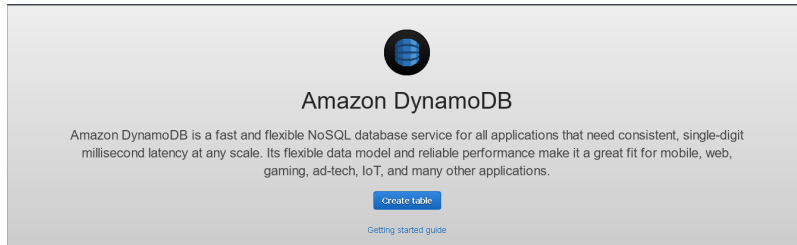
## CS 470 Module Five Assignment One Guide

### Part One – Creating the Question Table

1. Navigate to the DynamoDB console page. As in the previous modules, navigate to the console through the **Services** drop-down menu and select the service you want – in this case, **DynamoDB**. It is under the **Database** group, or you can type it into the search bar.



2. Select the **Create Table** button.



3. Enter a table name of “Question” and Primary Key of “id”, with a type of “string”. Ensure that the “Add sort key” box is unchecked. Click the **Create** button in the lower-right corner.

Create DynamoDB table Tutorial ?

DynamoDB is a schema-less database that only requires a table name and primary key. The table's primary key is made up of one or two attributes that uniquely identify items, partition the data, and sort data within each partition.

Table name\*  ⓘ

Primary key\* Partition key

ⓘ

☐ Add sort key

Table settings

Default settings provide the fastest way to get started with your table. You can modify these default settings now or after your table has been created.

☒ Use default settings

- No secondary indexes.
- Provisioned capacity set to 5 reads and 5 writes.
- Basic alarms with 80% upper threshold using SNS topic "dynamodb".
- Encryption at Rest with DEFAULT encryption type.

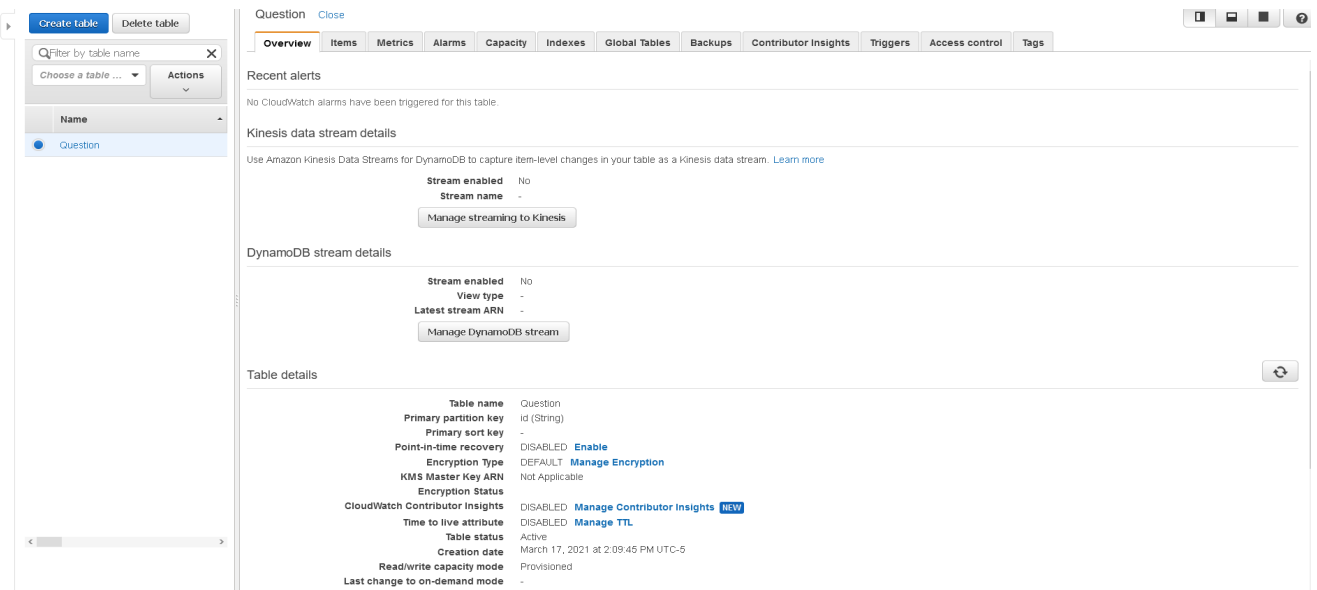
ⓘ You do not have the required role to enable Auto Scaling by default.  
Please refer to [documentation](#).

+ Add tags **NEW!**

Additional charges may apply if you exceed the AWS Free Tier levels for CloudWatch or Simple Notification Service. Advanced alarm settings are available in the CloudWatch management console.

Cancel Create

4. AWS will create the table; it may take a minute or two. When it is complete, you will see the table selected and the table details view.



Question Close

Overview Items Metrics Alarms Capacity Indexes Global Tables Backups Contributor Insights Triggers Access control Tags

Recent alerts

No CloudWatch alarms have been triggered for this table.

Kinesis data stream details

Use Amazon Kinesis Data Streams for DynamoDB to capture item-level changes in your table as a Kinesis data stream. [Learn more](#)

Stream enabled No

Stream name -

Manage streaming to Kinesis

DynamoDB stream details

Stream enabled No

View type -

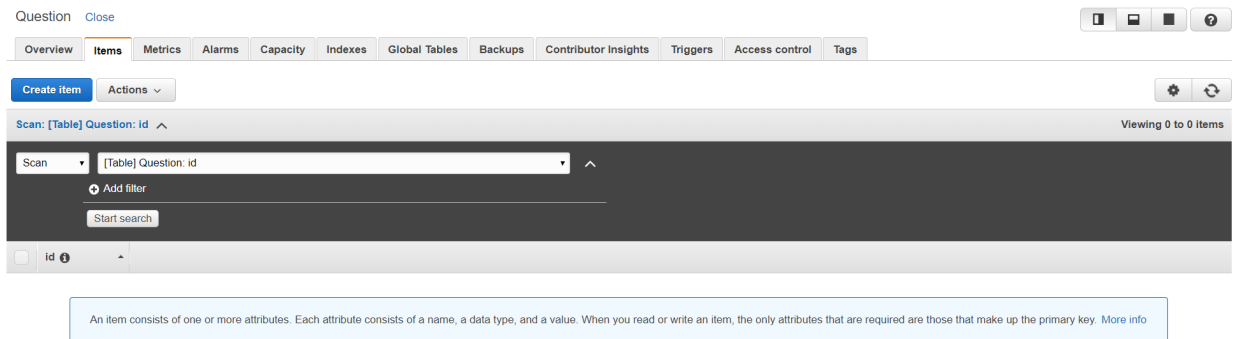
Latest stream ARN -

Manage DynamoDB stream

Table details

|                                 |  |
|---------------------------------|--|
| Table name                      | Question   |
| Primary partition key           | id (String)  |
| Primary sort key                | -  |
| Point-in-time recovery          | DISABLED <a href="#">Enable</a>  |
| Encryption Type                 | DEFAULT <a href="#">Manage Encryption</a>                                |
| KMS Master Key ARN              | Not Applicable   |
| Encryption Status               | -  |
| CloudWatch Contributor Insights | DISABLED <a href="#">Manage Contributor Insights</a> <a href="#">NEW</a> |
| Time to live attribute          | DISABLED <a href="#">Manage TTL</a>                                      |
| Table status                    | Active   |
| Creation date                   | March 17, 2021 at 2:09:45 PM UTC-5                                       |
| Read/write capacity mode        | Provisioned  |
| Last change to on-demand mode   | -  |

5. Congratulations! You have created your first DynamoDB table.
6. Before moving on to Part Two, select the **Items** tab. The console will have done a table scan and shown you all the records. You have none. It also shows you all your attributes. In this case, you only have one – the partition key “id”. This page will be helpful to you for the rest of this module and the subsequent modules. It allows you to quickly see the items in your database.



Question Close

Overview **Items** Metrics Alarms Capacity Indexes Global Tables Backups Contributor Insights Triggers Access control Tags

Create item Actions

Scan: [Table] Question: id

Viewing 0 to 0 items

Scan [Table] Question: id

Add filter

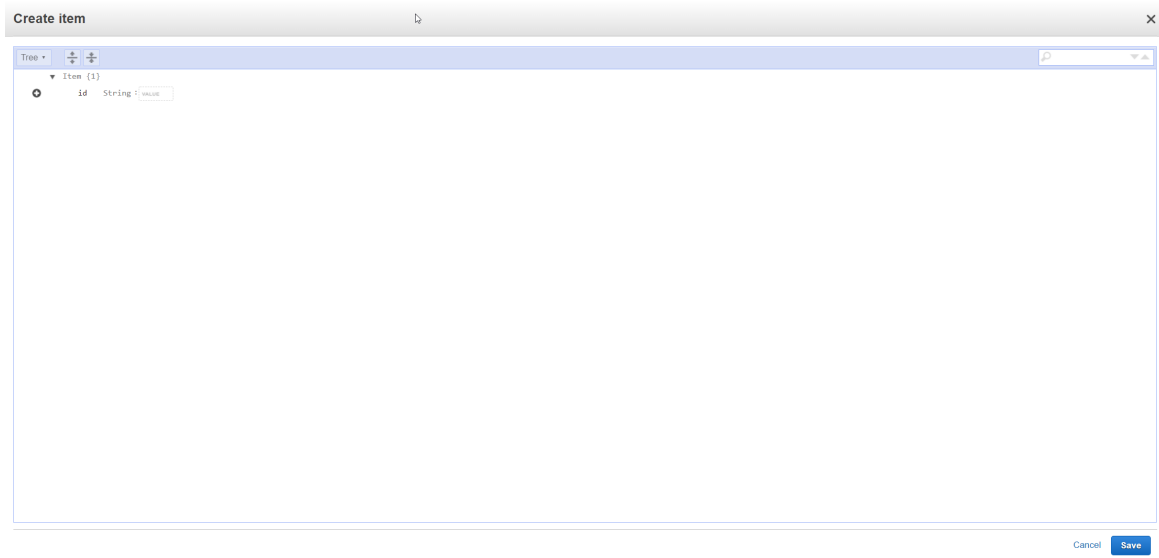
Start search

id

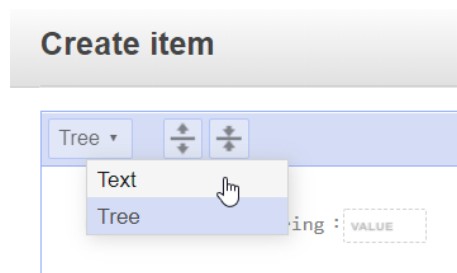
An item consists of one or more attributes. Each attribute consists of a name, a data type, and a value. When you read or write an item, the only attributes that are required are those that make up the primary key. [More info](#)

## Part Two – Adding Items and Attributes

1. Since DynamoDB is technically schema-less, it creates a schema based on the items you insert into it. Because of this, you will not add attributes in the traditional way before you insert data. You will add attributes by inserting an item.
2. Picking up from Step 6 in Part One, click the **Create Item** button. The console will show the **Create Item** screen. Here you enter items directly.



3. Select **Text** from drop-down menu in the upper-left corner. This will allow you to enter items in JSON format instead of attribute-by-attribute in the tree view.



4. Paste the following JSON into the window, overwriting the existing text. A new GUID has been generated as the id to ensure uniqueness.

```
{
  "id": "5eb59b7f80433e00045a7dfb",
  "categorySlug": "angular",
  "questionSlug": "what-is-angular",
  "question": "What is Angular",
  "negativeVotes": 0,
  "positiveVotes": 0,
  "answers": []
}
```

5. Click the **Save** button in the lower-right corner.

Create item

Text

DynamoDB JSON

```

1 {
2   "id": "5eb59b7f8043300045a7dfb",
3   "categorySlug": "angular",
4   "questionSlug": "what-is-angular",
5   "question": "What is Angular",
6   "negativeVotes": 0,
7   "positiveVotes": 0,
8   "answers": []
9 }

```

Cancel

Save

6. You should now be looking at the **Items** tab with a single item shown as such:

Question [Close](#)

Overview

Items

Metrics

Alarms

Capacity

Indexes

Global Tables

Backups

Contributor Insights

Triggers

Access control

Tags

Create item

Actions

Scan: [Table] Question: id

Scan

[Table] Question: id

+

Add filter

Start search

|  | id                      | answers | categorySlug | negativeVotes | positiveVotes | question        | questionSlug    |
|--|-------------------------|---------|--------------|---------------|---------------|-----------------|-----------------|
|  | 5eb59b7f8043300045a7dfb | []      | angular      | 0             | 0             | What is Angular | what-is-angular |

7. As you can see, DynamoDB created the other attributes and populated the item.

8. Select the GUID in the “id” field. This will bring up the **Edit Item** screen.



9. From this screen, you can update your record if you need to. Click **Cancel** to exit the editing view.
10. There is one last thing to know about this screen for now. Select the **Actions** drop-down menu next to the **Create Item** button while your item is selected. This allows you to duplicate, edit, or delete an item, or export the table to a CSV file. If you duplicate, you will need to provide a new id value. The “delete” option will ask you to confirm before deleting your item. “Export to .csv” allows you to export your database. “Manage TTL” and “Manage live count” are not relevant to this assignment.



11. Modify the JSON above to create four more Question entries. Make sure each id is unique.
12. Congratulations! You have now created and populated your Question table. You will create the Answer table in Part Three. We could have designed Answer as an array of answer items inside of our Question table, but the Angular application is expecting Answer to act as an independent table.



### Part Three – Creating the Answer Table

1. Using the steps for the Question table, create an Answer table with a partition key of “id” and type of “string”.
2. Select the **Items** tab for the Answer table and create an item using the following JSON data. Make sure the **questionId** matches the id used for an item in your Question table.

```
{
  "answer": "Because it is the backbone of angular",
  "negativeVotes": 0,
  "positiveVotes": 0,
  "id": "5b8629d2af53c20004793ac0",
  "questionId": "5eb59b7f80433e00045a7dfb"
}
```

3. That's it! You now have your tables and the ability to work with your data through the AWS Console.