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Load Data into a DynamoDB Table



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The screenshot shows the AWS DynamoDB console interface. The left sidebar has a navigation tree under the 'Explore Items' section, including 'Dashboard', 'Tables', 'PartiQL editor', 'Backups', 'Exports to S3', 'Imports from S3', 'Integrations', 'Reserved capacity', and 'Settings'. Below this is a 'DAX' section with 'Clusters', 'Subnet groups', 'Parameter groups', and 'Events'. The main content area is titled 'ContentCatalog' and shows a table with 6 items. The table has columns: Id (Number), Authors, ContentType, Difficulty, Price, and ProjectCategory. The items are:

Id (Number)	Authors	ContentType	Difficulty	Price	ProjectCategory
3	[{"S": "NextWork"}]	Project	Easy peasy	0	AI/ML
2	[{"S": "NextWork"}]	Project	Easy peasy	0	Analytics
203		Video		0	
202		Video		0	
201		Video		0	
1	[{"S": "Natasha"}]	Project	Easy peasy	0	Storage

At the bottom of the table, there are 'Actions' and 'Create item' buttons. The status bar at the bottom of the page includes links for CloudShell, Feedback, Console Mobile App, Privacy, Terms, and Cookie preferences.

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Introducing Today's Project!

What is Amazon DynamoDB?

Amazon DynamoDB is a fully managed NoSQL database, and it's useful because it's extremely fast, automatically scales, and doesn't require you to manage servers or infrastructure.

How I used Amazon DynamoDB in this project

In today's project, I used Amazon DynamoDB to create tables, add data via the console and AWS CLI, and then look through the new data using the console.

One thing I didn't expect in this project was...

One thing I didn't expect in this project is how different non-relational databases are compared to relational ones. The concept of a table without rows and columns is hard to comprehend, but once I got into it, it became clear how Dynamo stores data differently.

This project took me...

This project took me about 40 minutes.

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Create a DynamoDB table

DynamoDB tables organises data using items and attributes. Essentially, instead of a table with columns and rows, DynamoDB basically keeps all the data in lists - for example, one list might be called Nikko (item) and all the items in the list are ProjectsCompleted - 4 (attribute).

An attribute is basically something that describes an item. For example, in this case, the attribute is ProjectsComplete, because it describes the number of projects completed by Nikko.

The screenshot shows the AWS DynamoDB console with the 'Explore items' view for the 'NextWorkStudents' table. The left sidebar has 'Explore items' selected under 'DynamoDB'. The main area shows a table with one item named 'Nikko' and a value of '4' for the 'ProjectsComplete' attribute. The table structure is:

StudentName (String)	ProjectsComplete
Nikko	4

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Read and Write Capacity

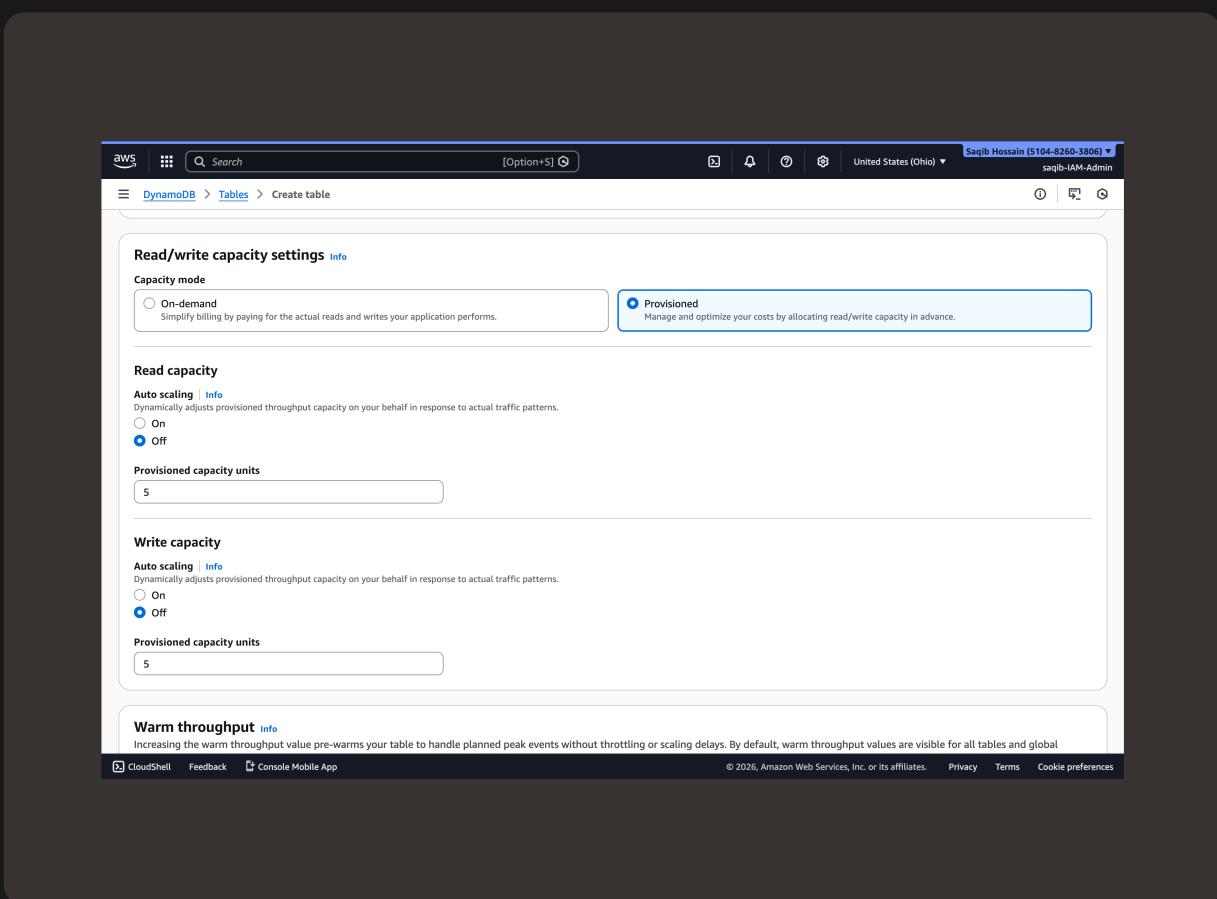
Read capacity units (RCUs) and write capacity units (WCUs) are basically engines in DynamoDB that handle tasks like reading, editing, and creating. 1 read capacity unit (1 engine) can perform 2 reads per second, and 1 write capacity unit (1 engine) can perform 1 write action per second.

Amazon DynamoDB's Free Tier covers 25gb of data, 25 read capacity units and 25 write capacity units. I turned off auto scaling because I don't want DynamoDB to automatically create more than 25 read or write capacity units since that will be a charge.

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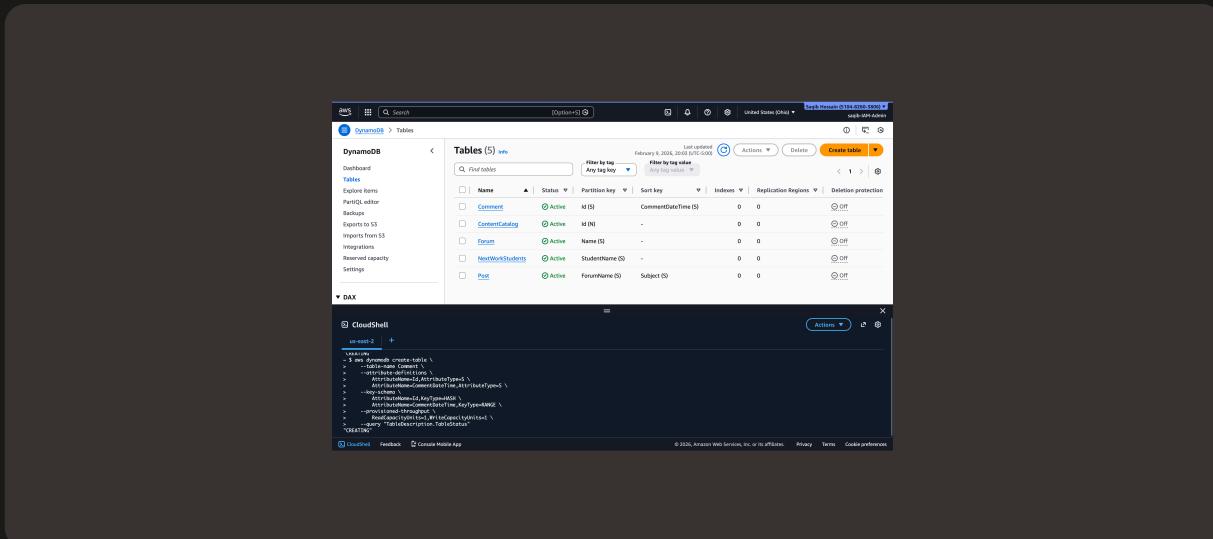
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Using CLI and CloudShell

AWS CloudShell is a terminal built right into the management console that is already connected to AWS.

AWS CLI is software that lets engineers manage resources within AWS with commands in the terminal instead of with clicks and navigating through the console.

I ran a CLI command in AWS CloudShell that created 4 new tables, each different items including, partition keys, attributes, and sort keys.



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Loading Data with CLI

I ran a CLI command in AWS CloudShell that told DynamoDB that some data need be uploaded to tables and that the data was stored within specific files.

The screenshot shows the AWS CloudShell interface. On the left, there's a sidebar with navigation links like Dashboard, Tables, Explore items, PartiQL editor, Backups, Exports to S3, Imports from S3, Integrations, Reserved capacity, and Settings. The main area has two tabs: 'Tables (5)' which is currently selected, and 'CloudShell'. The 'Tables' tab displays five tables: Comment, ContentCatalog, Forum, NextWorkStudents, and Post. Each table has columns for Name, Status, Partition key, Sort key, Indexes, Replication Regions, and Deletion protection. The 'CloudShell' tab shows a terminal window with the following AWS CLI commands:

```
nextworksampled $ aws dynamodb batch-write-item --request-items file://Forum.json
{
  "UnprocessedItems": {}
}
nextworksampled $ aws dynamodb batch-write-item --request-items file://Post.json
{
  "UnprocessedItems": {}
}
nextworksampled $ aws dynamodb batch-write-item --request-items file://Comment.json
{
  "UnprocessedItems": {}
}
```

At the bottom of the CloudShell tab, there are links for CloudShell Feedback, Console Mobile App, and a footer with copyright information: © 2026, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences.

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Observing Item Attributes

The screenshot shows the AWS DynamoDB 'Edit item' interface. At the top, there's a navigation bar with 'aws', a search bar, and user information for 'Saqib Hossain (S104-8260-3806)'. Below the navigation is a breadcrumb trail: 'DynamoDB > Explore items: ContentCatalog > Edit item'. The main area is titled 'Edit item' with a sub-instruction: 'You can add, remove, or edit the attributes of an item. You can nest attributes inside other attributes up to 32 levels deep. [Learn more](#)'. There are two tabs at the top right: 'Form' (selected) and 'JSON view'. A table below lists the attributes:

Attribute name	Value	Type	Action
Id - Partition key	1	Number	Remove
Authors	Insert a field ▾	List	Remove
ContentType	Project	String	Remove
Difficulty	Easy peasy	String	Remove
Price	0	Number	Remove
ProjectCategory	Storage	String	Remove
Published	<input checked="" type="radio"/> True <input type="radio"/> False	Boolean	Remove
Title	Host a Website on Amazon S3	String	Remove
URL	aws-host-a-website-on-s3	String	Remove

At the bottom right of the form are three buttons: 'Cancel', 'Save' (disabled), and 'Save and close'.

I checked a ContentCatalog item, which had the following attributes: - cat
Authors - ContentType - Difficulty - Price - ProjectCategory - Published - Title - URL

I checked another ContentCatalog item, which had a different set of attributes: - ContentType - Price - Services - Title - URL - VideoType

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Benefits of DynamoDB

A benefit of DynamoDB over relational databases is flexibility, because each item in DynamoDB can have different attributes, whereas in a relational database, each item has to have the same column headers.

Another benefit over relational databases is speed, because DynamoDB can use autoscaling, so when more traffic is needed, it can ramp up its number of read and write capacity units to meet demand.

The screenshot shows the AWS DynamoDB console interface. The left sidebar navigation bar includes links for Dashboard, Tables, Explore items (which is selected), PartiQL editor, Backups, Exports to S3, Imports from S3, Integrations, Reserved capacity, and Settings. Below this is a section for DAX with links for Clusters, Subnet groups, Parameter groups, and Events. The main content area displays the 'ContentCatalog' table. At the top of this area, there are dropdown menus for 'Select a table or index' (set to 'Table - ContentCatalog') and 'Select attribute projection' (set to 'All attributes'). Below these are buttons for 'Run' and 'Reset'. A green notification bar at the bottom of this section says 'Completed - Items returned: 6 - Items scanned: 6 - Efficiency: 100% - RCU consumed: 0.5'. The table itself has a header row with columns: Id (Number), Authors, ContentType, Difficulty, Price, and ProjectCategory. The data rows are:

	Id (Number)	Authors	ContentType	Difficulty	Price	ProjectCategory
<input type="checkbox"/>	3	[{"S": "NextWork"}]	Project	Easy peasy	0	AI/ML
<input type="checkbox"/>	2	[{"S": "NextWork"}]	Project	Easy peasy	0	Analytics
<input type="checkbox"/>	203		Video		0	
<input type="checkbox"/>	202		Video		0	
<input type="checkbox"/>	201		Video		0	
<input type="checkbox"/>	1	[{"S": "Natasha"}]	Project	Easy peasy	0	Storage

At the bottom of the page, there are links for CloudShell, Feedback, and Console Mobile App. The footer contains copyright information: © 2026, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences.



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