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Load and Query DynamoDB Tables

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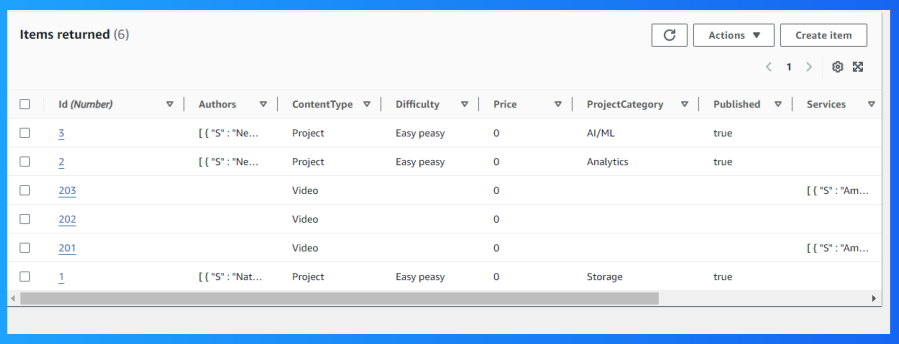

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Introducing Today's Project!

What is Amazon DynamoDB?

Amazon DynamoDB is a fully managed NoSQL database service that offers fast, predictable performance with seamless scalability. It's useful for applications requiring low-latency data access, such as mobile apps, gaming, IoT, and real-time analytics.

How I used Amazon DynamoDB in this project

In today's project, I used Amazon DynamoDB to create a table, load data into it using AWS CloudShell, and then interact with the data by viewing and updating it. DynamoDB helped store and manage the data efficiently for my web app to use.

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

One thing I didn't expect was how seamless it was to interact with DynamoDB through AWS CloudShell. The process of running CLI commands to create tables and load data was faster and easier than I anticipated, making data management more efficient.

This project took me...

This project took me about 2 hours to complete. Setting up DynamoDB tables, loading data using AWS CloudShell, and updating the entries was efficient. I spent a bit of time getting familiar with the commands, but it was a smooth process.

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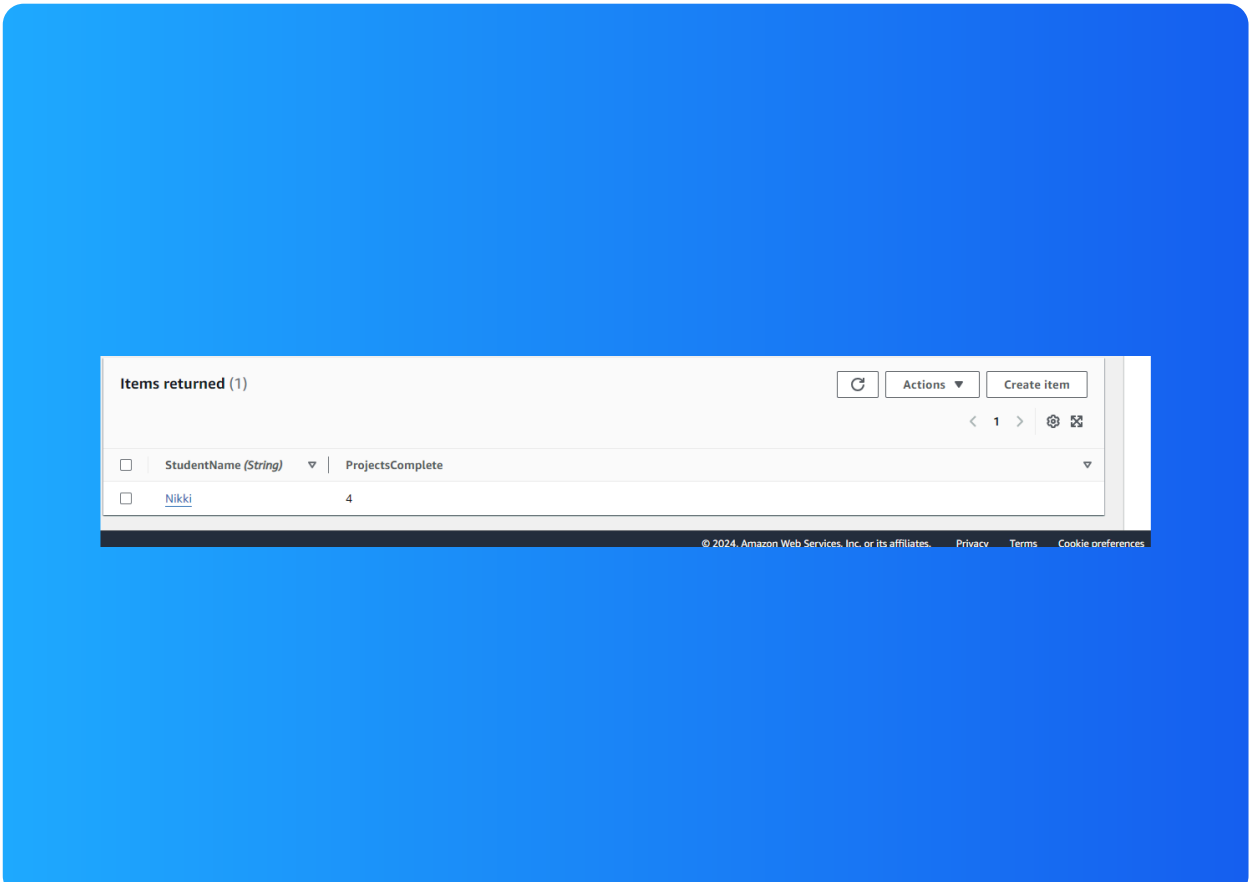
Create a DynamoDB table

DynamoDB tables organize data using a primary key, which consists of a partition keyand an optional sort key.Items in the table are uniquely identified by this key.Data is stored as key-value pairs, where each item can have multiple attributes.

An attribute is a fundamental data element in a DynamoDB item. It represents a key-value pair where the key is the attribute name and the value can be various data types, such as strings, numbers, or binary data, used to describe properties of an ite



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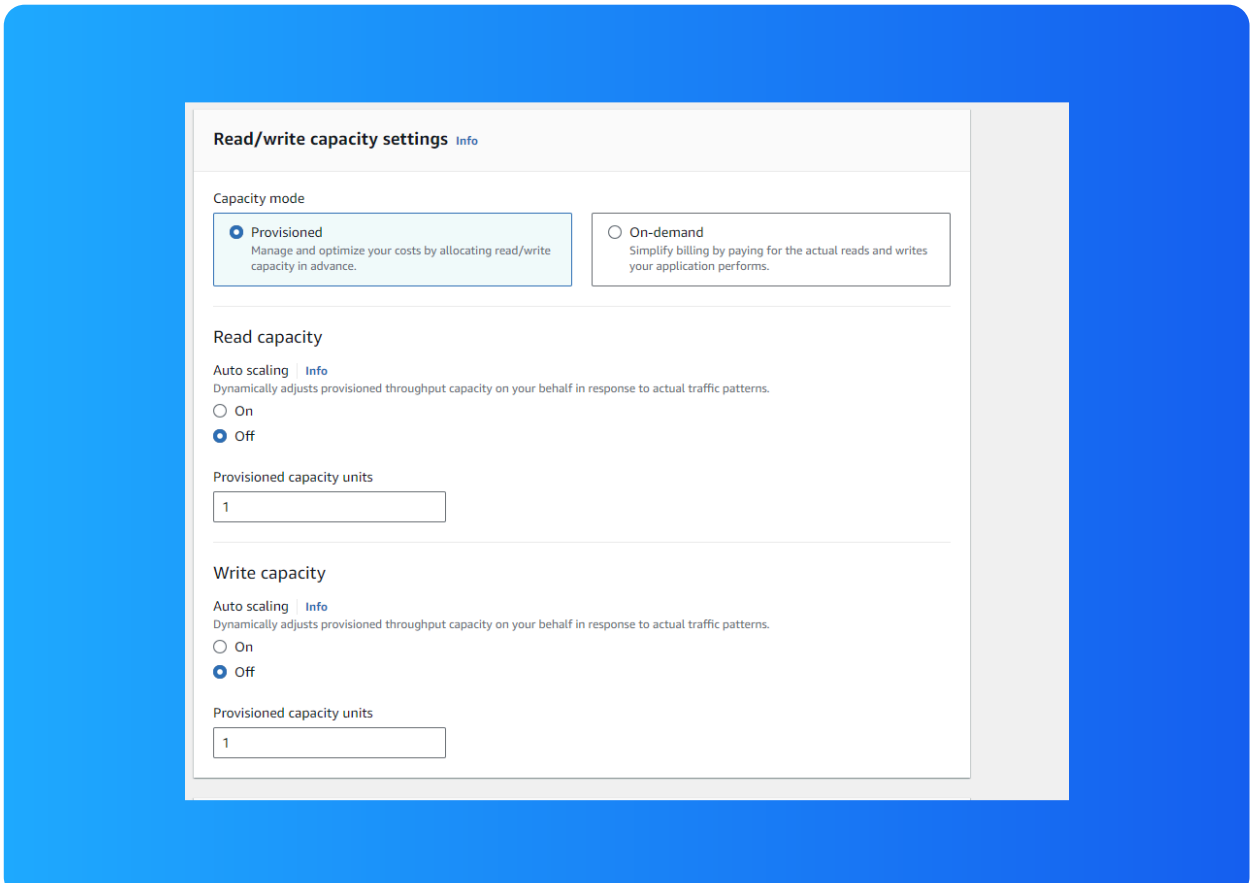
Read and Write Capacity

Read capacity units (RCUs) and write capacity units (WCUs) are the resources in DynamoDB that determine the amount of read and write throughput a table can handle. RCUs measure the number of reads per second, while WCUs measure the writes per second.

Amazon DynamoDB's Free Tier covers 25 GB of storage, 25 RCUs, and 25 WCUs per month. I turned off auto scaling because the project doesn't require automatic capacity adjustments and I want to control the throughput manually to manage costs better.



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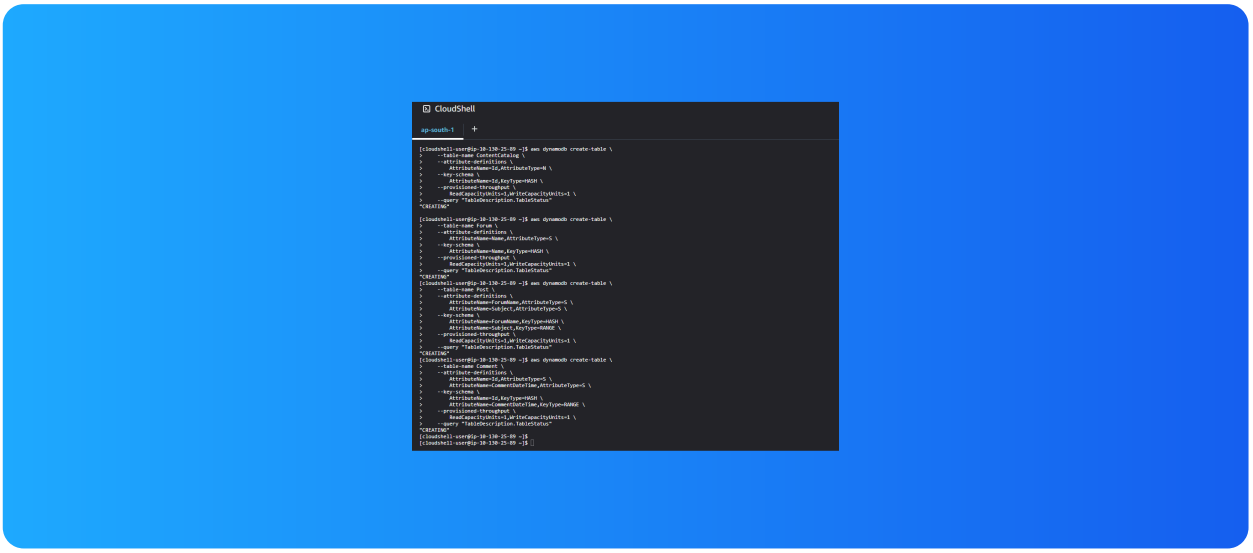
Using CLI and CloudShell

AWS CloudShell is a browser-based shell that provides a pre-configured environment with AWS CLI and other tools, allowing you to interact with AWS services directly from the console without needing to set up anything locally.

AWS CLI is a command-line interface tool that allows you to interact with AWS services using commands in your terminal or command prompt, making it easier to manage resources and automate tasks on AWS.

I ran a CLI command in AWS CloudShell that created a DynamoDB table using the `aws dynamodb create-table` command, specifying the table name, partition key, and read/write capacity units.



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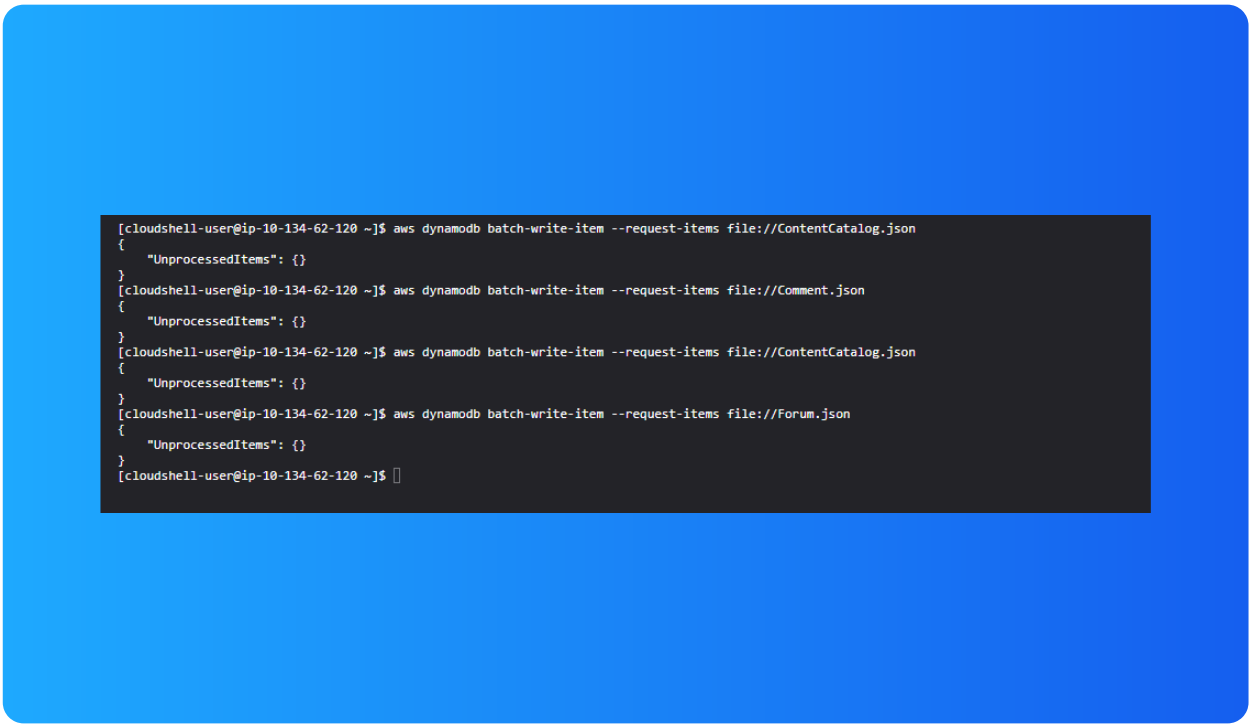
Loading Data with CLI

I ran a CLI command in AWS CloudShell that used the `aws dynamodb batch-write-item` command to load data into my DynamoDB table.This allowed me to insert multiple items into the table efficiently, ensuring the data was populated correctly for use.



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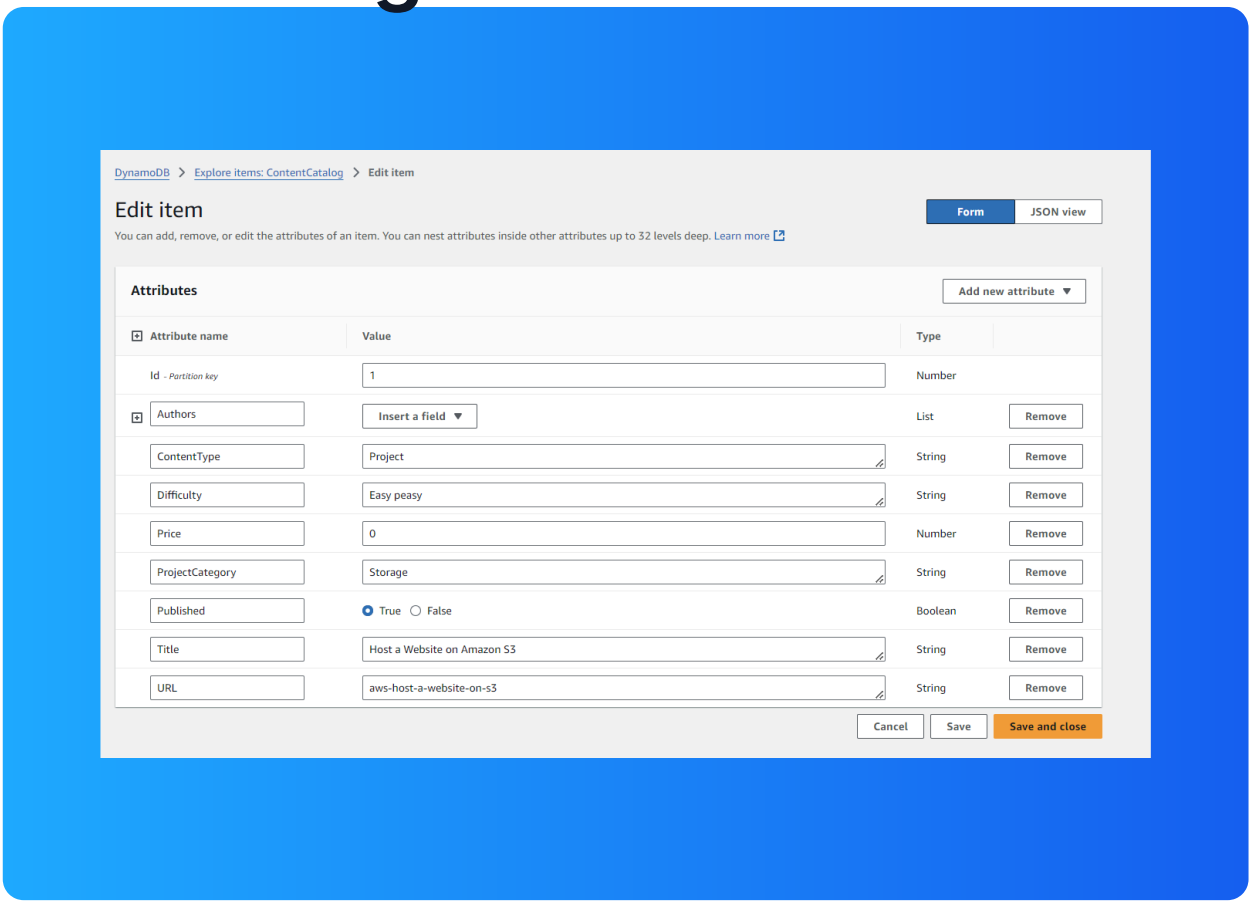
Observing Item Attributes



I checked a ContentCatalog item, which had the following attributes: Id, Authors, ContentType, Difficulty, Price, ProjectCategory, Published, and Title.

I checked another ContentCatalog item, which had a different set of attributes: Id, ContentType, Price, Services, Title, URL, and VideoType. This one appears to be a video item with a title, URL, and video type.

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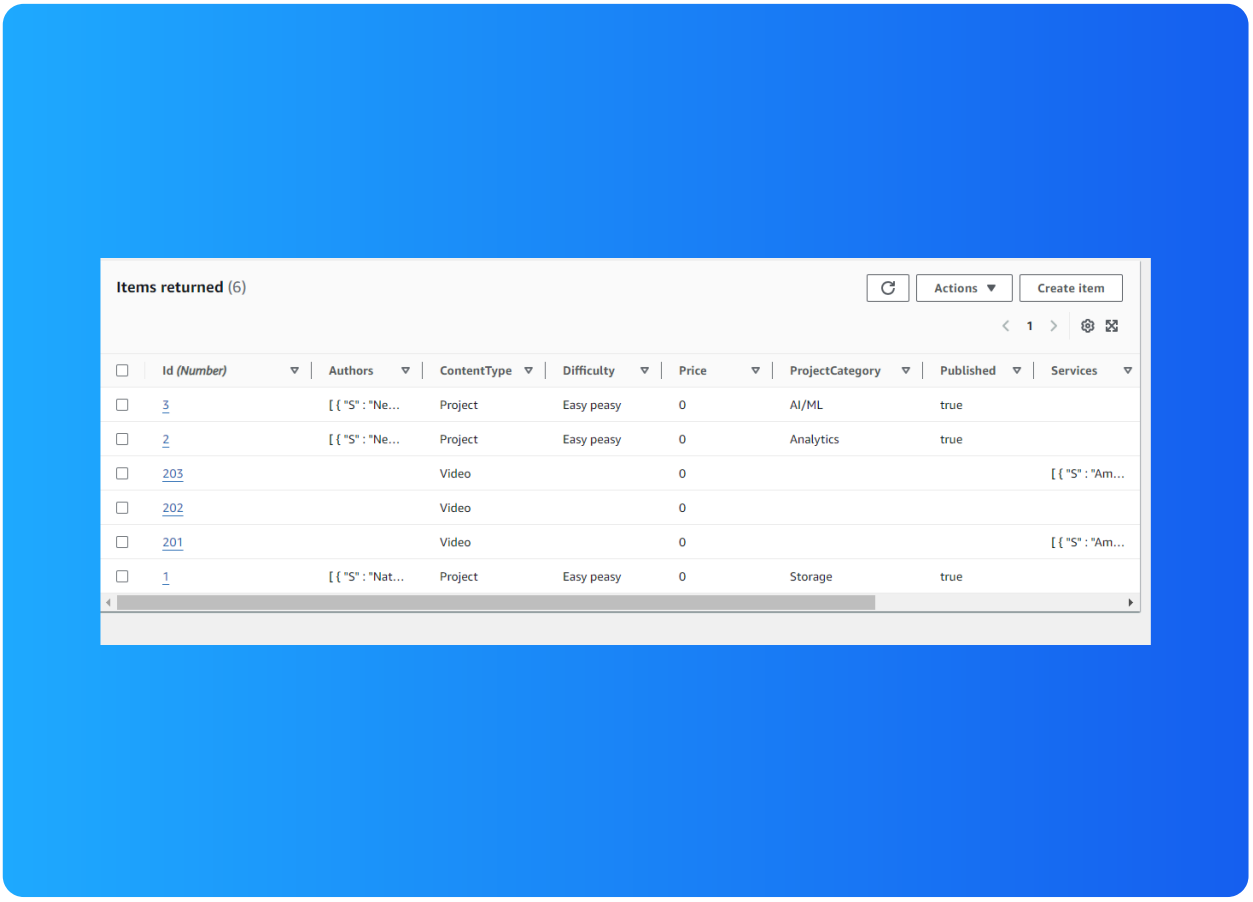
Benefits of DynamoDB

A benefit of DynamoDB over relational databases is flexibility, because it offers a schema-on-read approach, allowing for easier data structure changes. Additionally, its flexible indexing enables efficient querying of data.

Another benefit over relational databases is speed, because DynamoDB is a NoSQL database designed for high performance. It uses a distributed architecture and optimized data storage, making it suitable for applications that require fast response time



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