Integrating an API with AWS Step Functions

Next, you will update the Workflow to become accessible for end-user consumption. In this section of the workshop, you will:

- Connect the workflow to your own GraphQL API in AWS AppSync
- Invoke the Step Function Workflow from the AppSync Console

Connect the workflow to a GraphQL API in AWS AppSync

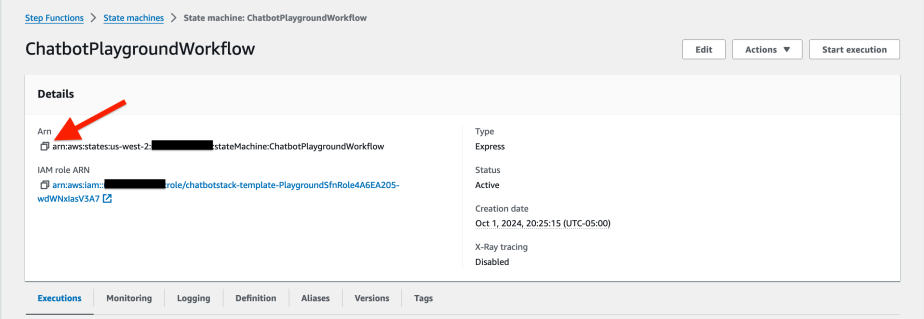
The Step Function workflow you built is designed in a way where it can be served behind an API.

facing API that you manage.

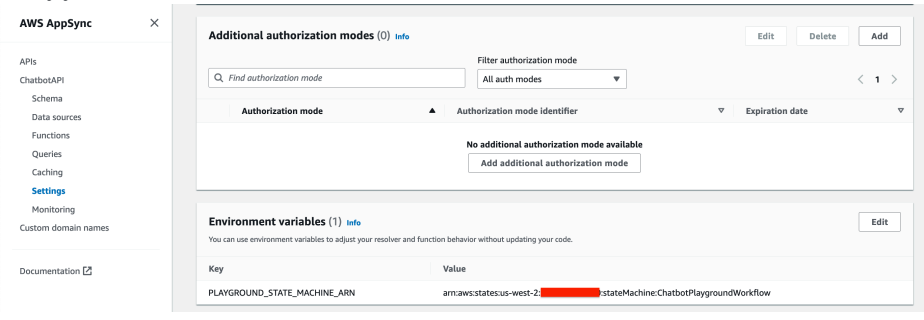
When working with APIs, you likely have come across RESTful APIs and the Amazon API Gateway service. This workshop uses a GraphQL API and Pub/Sub APIs powered by AWS AppSync for real-time capabilities. AWS AppSync is a managed service that makes it easy to setup and run serverless GraphQL APIs. GraphQL is an open-source data query and manipulation language for APIs and a query runtime engine.

An AppSync GraphQL API has been pre-configured for this workshop. The below steps will guide you through connecting your Step Functions workflow to the AppSync API.

1. If you are in the Step Functions designer, select **Exit** on top right to return to the workflow details. Else navigate to the Step Functions console, select the **State machines** link in the left navigation menu, and open the **ChatbotPlaygroundWorkflow** State Machine
2. Copy the value of the **Arn** under the `Details` section



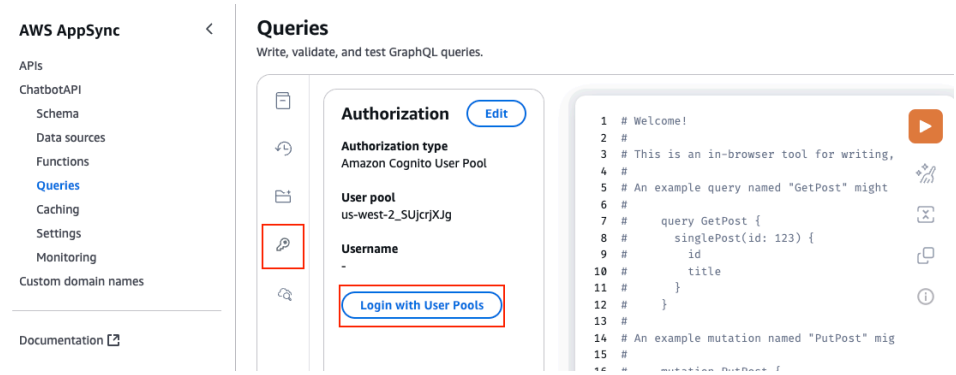
3. Navigate to the AWS AppSync Console by searching for **AppSync** in the search bar
4. Select the **ChatbotAPI** from the `APIs` page
5. Navigate to **Settings** from the left navigation menu and scroll down to **Environment Variables**
6. Select **Edit** and replace the value of `<state_machine_arn>` with your copied State Machine Arn. Then select **Submit**
7. Verify your state machine arn is saved in the API's Environment Variables



Test the API with the query editor

The AWS AppSync Console provides a query editor as a convenient way to test the functionality of your API. You can use Explorer window to help construct your GraphQL requests and see the responses from your GraphQL API. This section will demonstrate that you have finished configuring the workflow and API integration

1. Navigate to **Queries** in the left navigation menu in the AWS AppSync Console
2. Select then **Authorization** icon, then select **Login with User Pools** button.



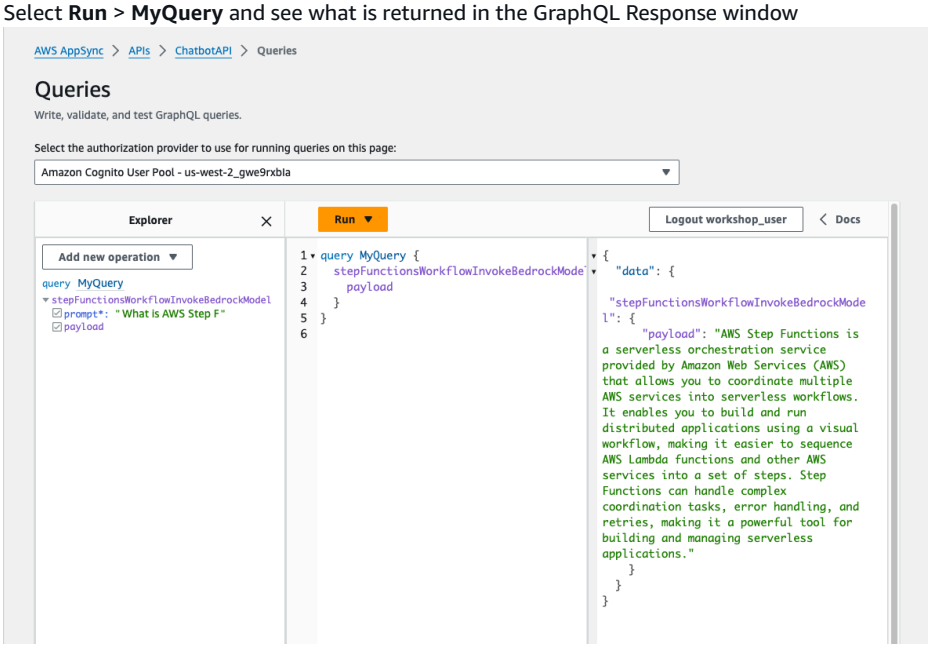
3. Choose the Client ID from the dropdown
4. For the credentials, enter:
   - `Username: workshop_user`
   - `Password: Password1!`

> **Where are these credentials from?**
> Amazon Cognito provides a way to manage credentials for customer identity and access management. The API was configured to require client authentication from the Cognito User Pool, and for this workshop sample user credentials were configured as above. In your Cognito User Pools, you can configure Password Requirements and Multi-Factor Authentication to meet your security requirements

5. In the query editor, replace content with the below GraphQL query

```
query MyQuery {
  stepFunctionsWorkflowInvokeBedrockModel(prompt: "What is AWS Step Functions in 3 sentences?
    payload
  }
}
```

6. Select **Run** > **MyQuery** and see what is returned in the GraphQL Response window



Congratulations!
You have successfully connected your StepFunctions express workflow to your AppSync API

Previous Next