**Serverless Labs**

**1. Building a Serverless Web Application**

**Objective**: Create a serverless web application using AWS Lambda, API Gateway, S3, and DynamoDB.

**Approach**:

* **Set Up Backend**: Create Lambda functions to handle backend logic. These functions will interact with a DynamoDB table for data storage.
* **API Gateway**: Set up API Gateway to create RESTful endpoints that trigger the Lambda functions.
* **Frontend Hosting**: Host a static website on S3 that interacts with the backend via API Gateway.
* **Integration**: Ensure that the frontend can successfully send requests to the backend and display responses.

**Goal**: Understand the basics of building and connecting serverless backend services with a static frontend, enabling a fully serverless web application.

**2\*\*. Creating a Serverless API\*\***

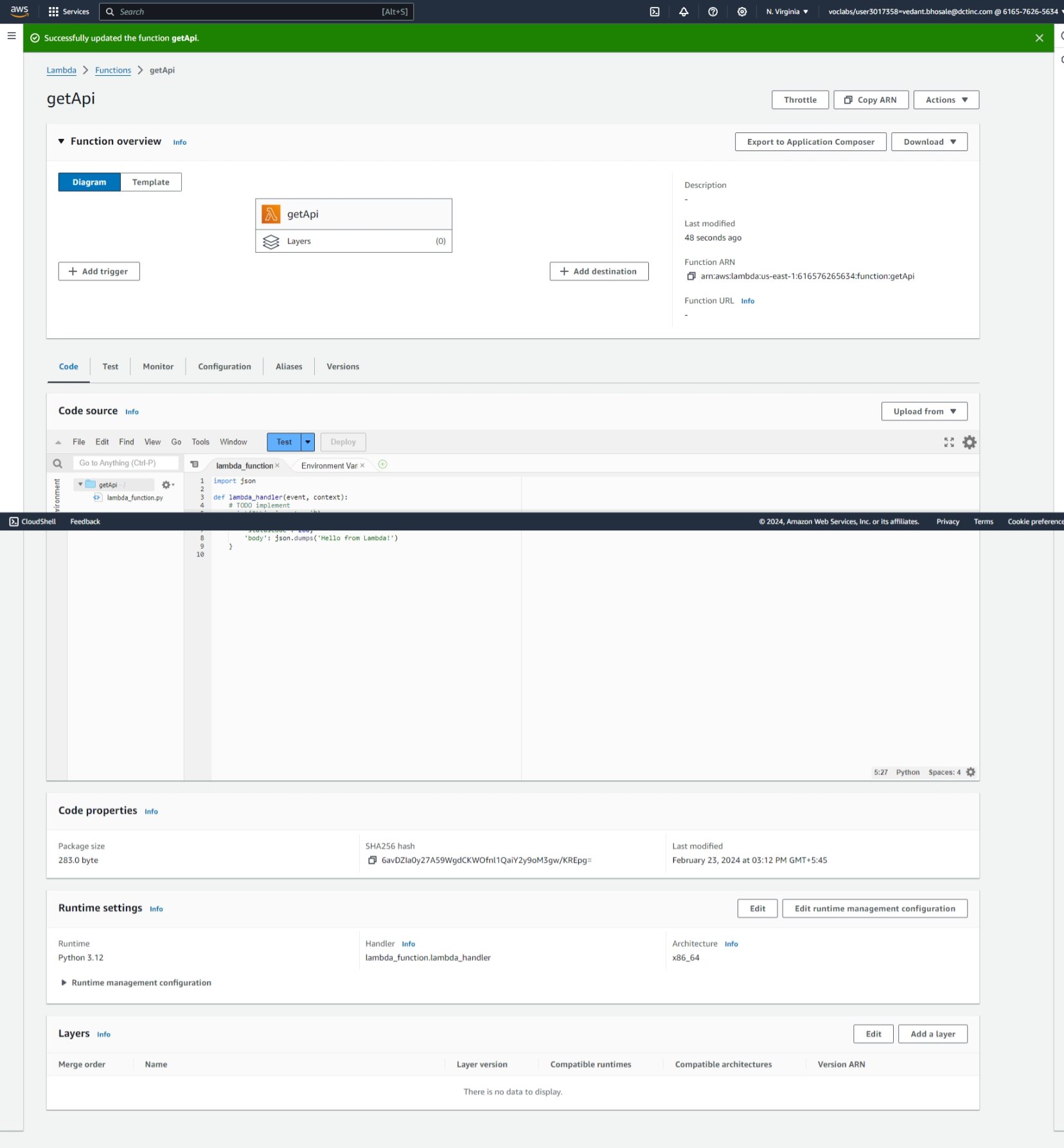
**Objective**: Develop a serverless API using AWS Lambda and API Gateway.

**Approach**:

* **Define API**: Design a simple RESTful API (e.g., for a todo list application).
* **Lambda Functions**: Create Lambda functions for each API method (GET, POST, PUT, DELETE).
* **API Gateway Setup**: Use API Gateway to set up the API endpoints, connecting each endpoint to the corresponding Lambda function.
* **Testing**: Test the API using tools like Postman or AWS API Gateway test functionality.

**Goal**: Gain hands-on experience in building and deploying a serverless API, understanding the integration between Lambda and API Gateway.

* 1. Creating lambda function for get api

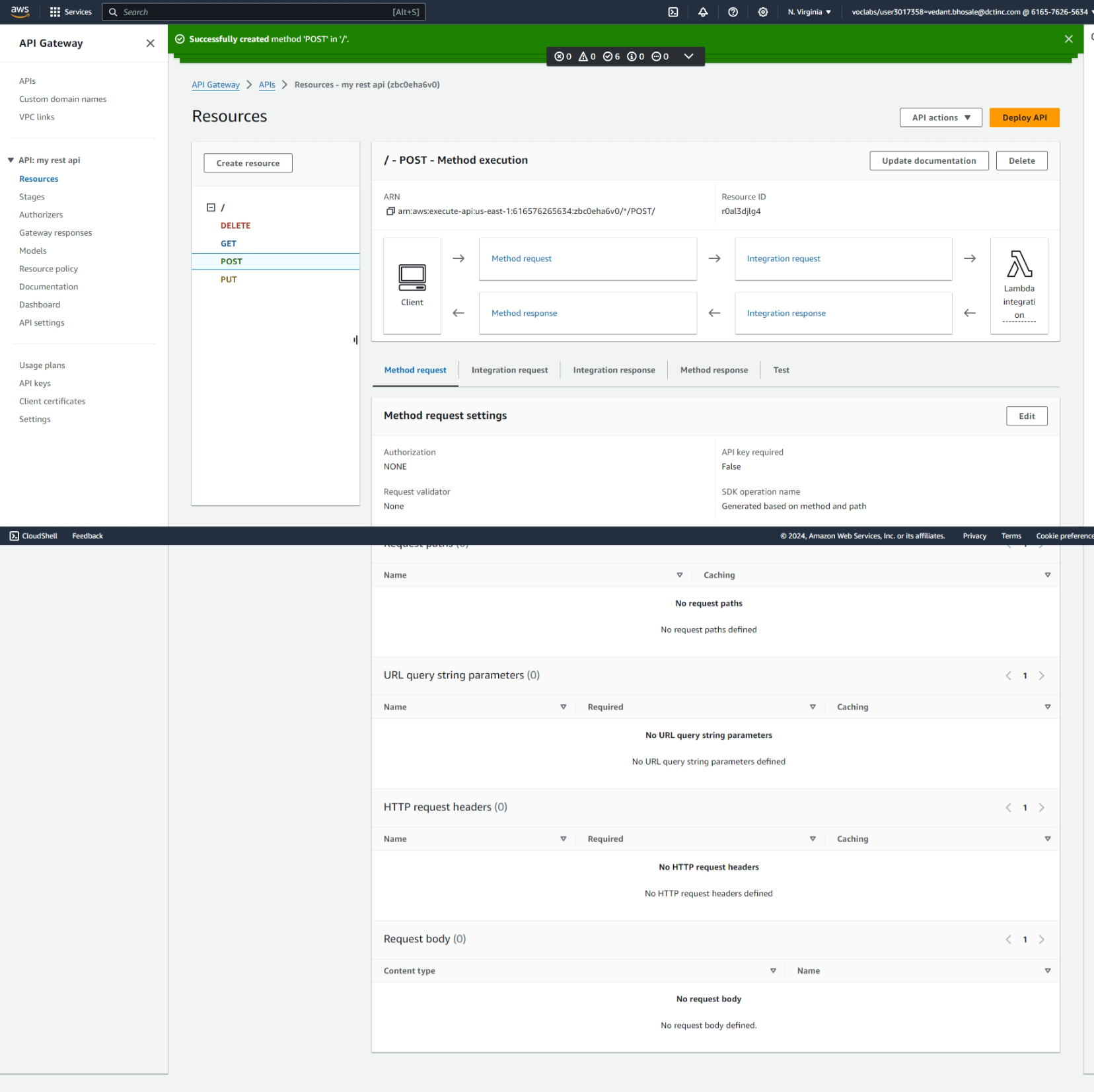


* 1. Repeat same step for post,put,delete
  2. In API getway create an api and create methods for get, put, post, delete

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* 1. After creating methods deploy api



* 1. Create the stage

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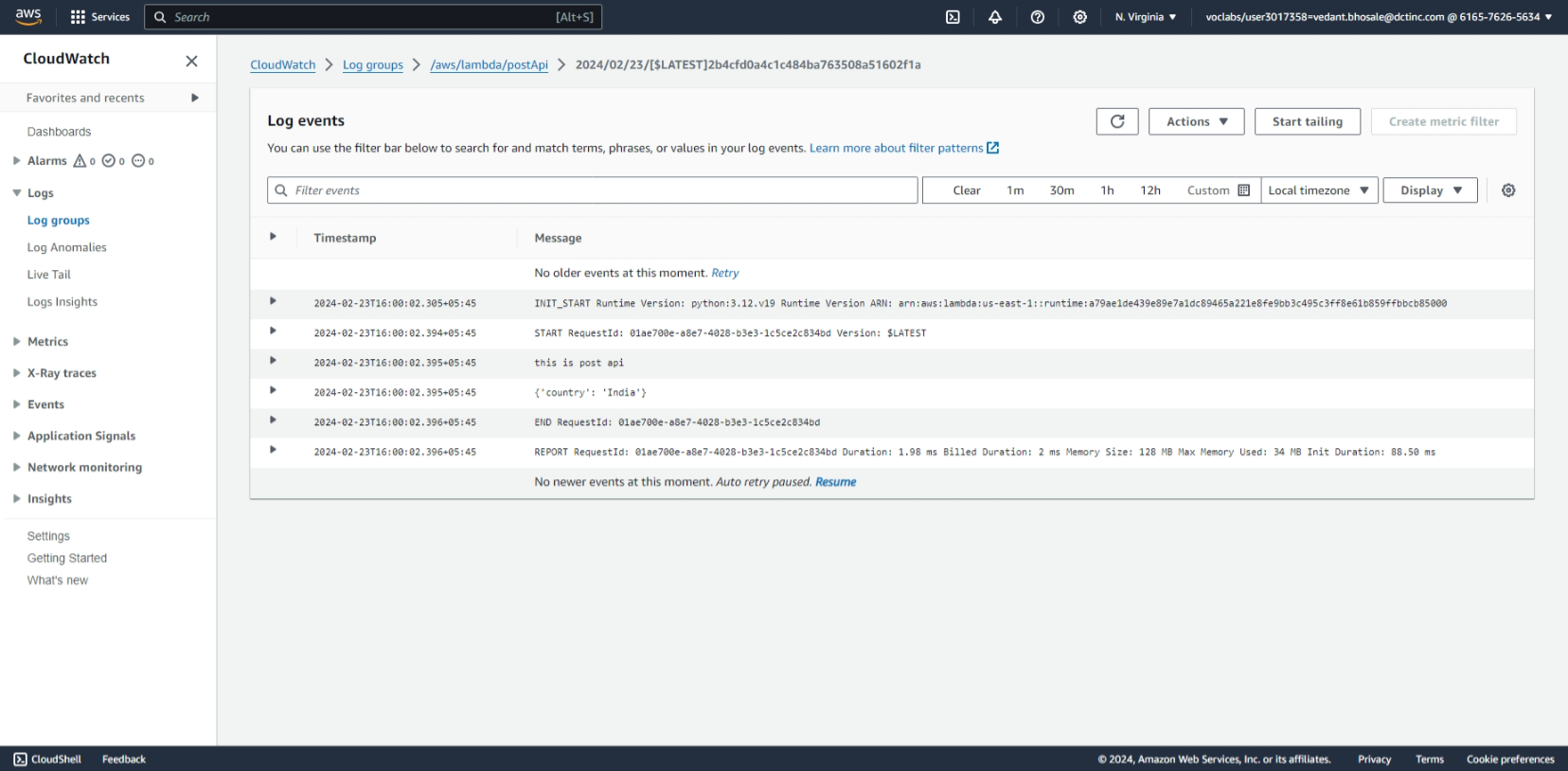
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* 1. Testing each method using test

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* 1. Here we can see the output generated in cloudwatch



**3\*\*. Serverless Data Processing Pipeline\*\***

**Objective**: Build a serverless pipeline for processing data (e.g., log processing or ETL jobs).

**Approach**:

* **Data Ingestion**: Use AWS services like S3 or Kinesis to ingest data.
* **Processing**: Create Lambda functions to process the ingested data.
* **Storage**: Store the processed data in an appropriate AWS service, like S3 or DynamoDB.
* **Monitoring**: Set up CloudWatch to monitor the pipeline's performance and to log any issues.

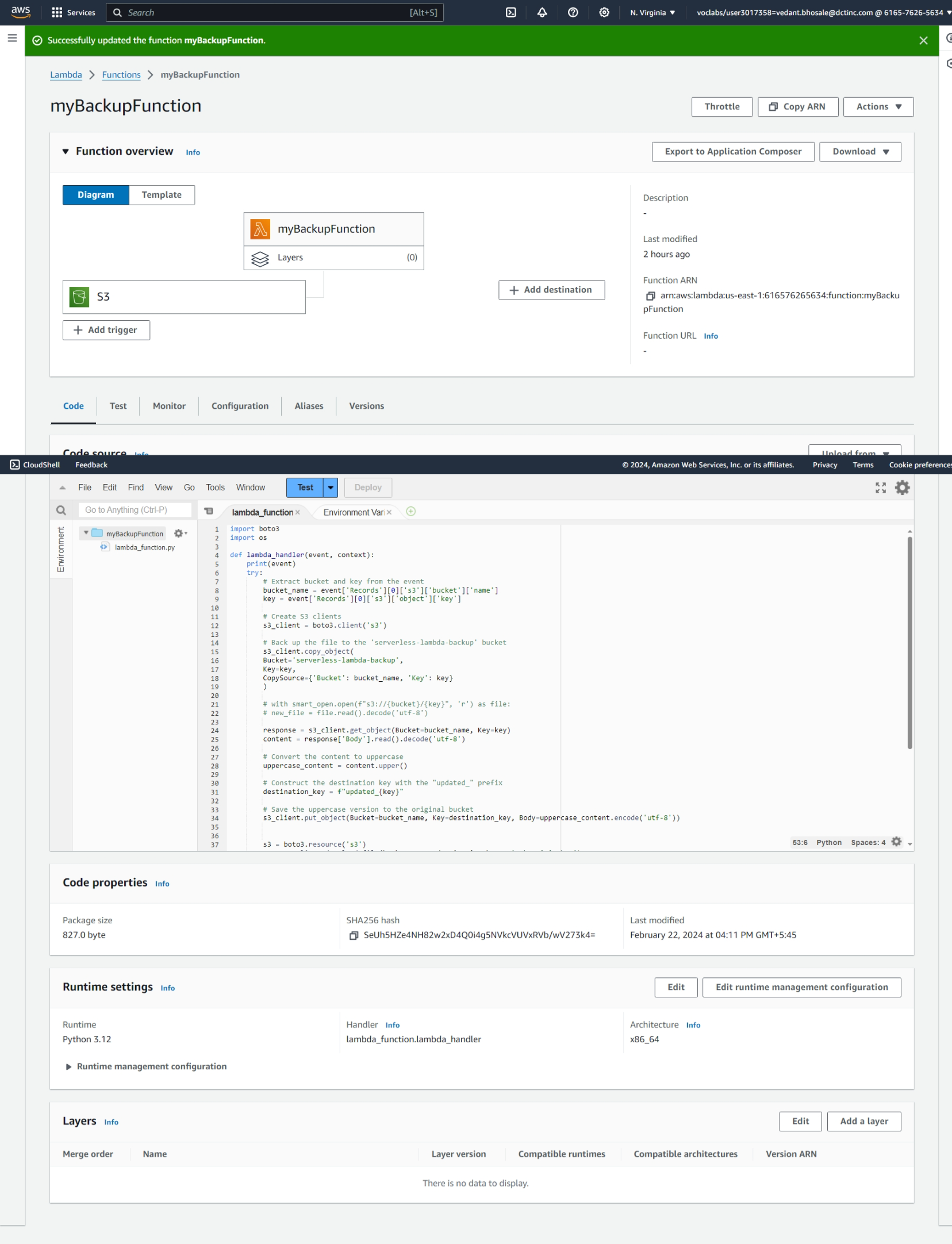
**Goal**: Learn to build a serverless data processing pipeline, understanding the flow of data through various AWS services.

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