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D15C 50

Assignment 2

Create a rest api with a serverless framework.

Install Node.js and NPM from node.js website steps:

Install serverless framework
The serverless framework is a CLI tool that helps deploy serverless applications, managing resources like Lambda, API Gateway & more.
command: npm install -g serverless

Create a new serverless Project.
The serverless framework provides templates to scaffold a new serverless service.
command: serverless create --template aws-nodejs --path my-rest-api
cd my-rest-api

Configure credentials
command: Aws configure

Define API routes
command: Modify serverless.yml as follows

```
service: my-rest-api
provider:
name: aws
runtime: nodejs14.x
region: us-east-1
stage: dev
functions:
createItem:
handler: handler.createItem
events:
-http:
path: item
method: post
getItem:
Handler: handler.getItem
events:
-http:
path: item/{id}
method: get
updateItem:
handler: handler.updateItem
events:
-http:
path: item/{id}
method: put
deleteItem:
handler: handler.deleteitem
events:
-http:
path: item/{id}
method: delete
```

5. Write lambda function in handler.js.

6. Deploy REST API
command: serverless deploy

7. Test the API
Test by using tools like Postman or curl to REST API

8. Monitor & Logs:
For performance analysis.

9. Case study for Sonarqube

10. Create your own profile for Sonarqube for testing project quality.

- Use Sonarcloud to analyze your github code.

- Install sonarlint in your java intellij id or eclipse.

Analyze python project with sonarqube.

Analyze nodejs project with sonarqube.

→ Sonarqube helps developers identify issues like bugs, security etc.

1. Create personal profile
   - Sign in to sonarqube
   - Connect your project.

2. Sonarcloud integrates with github, offering continuous analysis.

3. Sonarlint is a plugin that offers realtime code quality checks while coding in IDE.

4. Sonarqube supports python projects To analy
   - setup the python project with a sonar proj properties file.
   - Run Sonarscanner
   - View the detailed

5. Analysis for node.js
   - create a sonar-project-properties fi in project root
   - Use sonarscanner for analysis
   - Review the report.

At a large organization your centralized operations team may get many repetetive infrastructure requests. You can use terraform to build a self serve infrastructure model that lets product teams manage infrastructure independently. You can create and use terraform modules that codify the standards for deploying and managing services in compliance with your organizations.

→ Self serve infrastructure with terraform
By using terraform you can build reusable modules that encapsulate the best practices and compliance standard of your own organizat
These modules can be made available to various product teams, empowering them to provision infrastructure themselves.

→ Terraform modules for standardization.
Terraform modules are reusable templates that simplify the process of deploy infrastructure by codifying the standards for managing resources.

Integration with ticketing systems like service now.
Terraform cloud on Enterprise can integrate with tools like service now, automating the process of generating new infrastructure request

• For instance, when a product team submits a ticket for infrastructure resources, the cloud can automatically handle provisioning based on preapproved templates.