Cloud Automation Café (CAC) Documentation

About Cloud Automation Café

Cloud Automation Café is a comprehensive solution from Infosys designed to automate the entire range of cloud activities, leveraging extensive experience from various customer engagements. The tool operates on the principle of 'Infrastructure as Code' by automating infrastructure provisions using Terraform scripts based on user inputs.

Step 1: Database Setup

1. **Install MariaDB on a Linux server and connect it to the MySQL database by setting up the username and password credentials.**

Installation Steps:

- Open PuTTY, select the required Linux Host IP, save and load the session.
- Configure SSH AUTH Tunnels with source port 3306 and destination port 127.0.0.1:3306. Add and select.
- Click on Auth and add the `.ppk` file for authentication.
- Save, load, and open the session. Login with the server username.

MariaDB Service Commands:

- Switch to superuser: `sudo su`
- Update system packages: `sudo yum update -y`
- Install MariaDB server: `sudo yum install mariadb-server -y`
- Start MariaDB service: `sudo systemctl start mariadb`
- Check MariaDB service status: `sudo systemctl status mariadb`
- Enable MariaDB service to start on boot: `sudo systemctl enable mariadb`

Connect MariaDB to MySQL:

- Login to MariaDB: `sudo mysql -u username -p password`

- If access is denied (ERROR 1045), use:

  ```shell
  GRANT ALL PRIVILEGES ON *.* TO 'root'@'localhost' IDENTIFIED BY 'your_new_password' WITH GRANT OPTION;
  ```

Step 2: Jenkins Pipeline Setup

1. **Create a new pipeline in Jenkins:**

- Access Jenkins portal and create a new pipeline for AWS.

- Enter the GitHub repository's HTTPS link, GitHub credentials, repository branch name, and Jenkins file path in the respective fields to configure the pipeline.

2. **Add AWS credentials in Jenkins:**

- Navigate to `Manage Jenkins`, scroll down, and click on `Add Credentials`.

- For AWS and Azure, select the category `Secret Text` and upload the credentials file. For GCP, use `Secret File`.

3. **Configure credentials in the `Jenkinsfile`:**

- Set environment variables for credentials (e.g., `aws_access_key`, `aws_secret_key` for AWS) to be referenced during Jenkins script execution.

Step 3: GitHub Repository Setup in Visual Studio Code

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1. **Clone the GitHub repository:**

- Use the command `git clone https://github.com/cloudAuto9/AWS_CAC_v2.git` in the terminal to clone the repository.

2. **Install Node modules:**

- Navigate to the `Client` and `Server` directories (`AWS_Client_CAC_Avatar_2.0` and `AWS_Server_CAC_Avatar_2.0`).

- Install node modules with `npm i --force`.

3. **Ensure NodeJS SDK is installed:**

- If not already installed, download and install from [Node.js official site](https://nodejs.org/en/download).

Step 4: Render the CAC v2 Tool

1. **Start the client application:**

- In the `AWS_Client_CAC_Avatar_2.0` directory, run:

  ```shell
  export PORT=3000
  npm start
  ```

2. **Start the server application:**

- In the `AWS_Server_CAC_Avatar_2.0` directory, run:

  ```shell
  export NODE_ENV=windows-dev
  ```

~~~
  npm start
  ```
~~~

Homepage Navigation

The homepage of Cloud Automation Café features a navigation bar with the following options:

1. **Hyperscaler Selection:** Choose from AWS, GCP, Azure.

2. **Add Modules:** Upload new use cases (modules).

3. **View Modules:** Deploy specific modules. The modules listed include Terraform modules for various use cases such as:

- S3Bucket

- InternetGateway

- NatGateway

- VPC

- Subnet

- CloudWatch

- ThreeTier

- Datalake

- SageMaker

- And many more...

Deploying an S3 Bucket Example

1. **Select the hyperscaler (e.g., AWS).**

2. **Navigate to View Modules and select S3Bucket from the list.**

3. **Fill in the required details (e.g., Bucket Name, Region).**

4. **Click on Submit to deploy the module.**

5. **Check deployment status on the dashboard (In Progress, Failed, or Success).

Add Modules Page

This page allows users to upload new use cases, expanding the functionality of the Cloud Automation Café by integrating additional modules tailored to specific needs.

View Modules Page

Users can browse and deploy pre-configured modules, providing a streamlined way to manage and automate cloud infrastructure tasks.

Detailed Explanation of Images

For images included in the document, provide detailed descriptions of their content, such as:

- Screenshots of the Cloud Automation Café interface.
- Diagrams illustrating the setup process.
- Flowcharts depicting the pipeline configuration.
- Example outputs from deploying modules.