USER GUIDE

BudgetWise: Your Financial Advisor

The following document is a comprehensive user guide to using the BudgetWise application. This document highlights the following:

A. Prerequisites for demo

a. Install Terraform CLI

To run the application, please install Terraform CLI to your terminal. Please follow the official documentation provided by HashiCorp to ensure proper installation. You can find the installation instructions **here**.

b. AWS Account

Since this application leverages AWS services, the user is required to have an AWS account. You can create an account **here**.

B. How to run the demo?

a. Step 1: Clone the repository to your local

Clone the application repository from GitHub. You can find the link to the repository **here**. To clone the repository you can run the following command:

```
git clone
git@github.com:manasipatil0109/BudgetWise-Your-Financial-Advisor.gi
t
```

Note: The above step assumes that SSH is set up with GitHub for your account. If not, you can follow **these instructions** from GitHub to do so.

b. Step 2: Navigate to the working directory

Using your terminal, navigate to the working folder after cloning the repository. First navigate inside the project directory, using the following command:

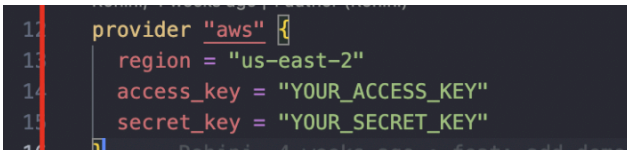
```
cd BudgetWise-Your-Financial-Advisor

```

Once inside the project directory, now navigate to the terraform folder. This is where we would be executing our commands. To navigate to the terraform folder, run the following command:

```
cd tf-templates
```

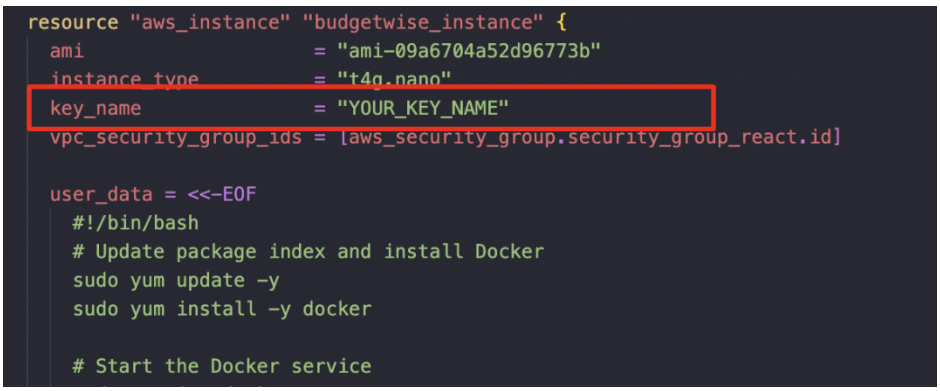
c. **Step 3: Update your AWS credentials**

Either using a code editor (example: VS Code) or directly through the terminal (nano command), open the `provider.tf` file. Here replace the fields `access_key` and `secret_key` on line 14 and 15 respectively with your AWS account's keys.



Note: If you are unsure about where to find these keys, please refer to **this** AWS documentation. By default, our application uses the **us-east-2** region.

Since we leverage AWS EC2, we also require a key pair in the **us-east-2** region. If you do not have an existing key pair in this region, you can follow **these instructions** provided by AWS to create one. Once you have your key pair, similar to the previous edit, edit the file `ec2_fontend.tf` and replace the `key_name` field with your value.



Not mandatory: **IF** you would like to try the feature where a budget report is emailed to you, then change the following email addresses to yours in the

`ses_identities.tf` file. This is **not** mandatory and would not affect provisioning if not changed.

d. Step 4: Provision the infrastructure for the demo

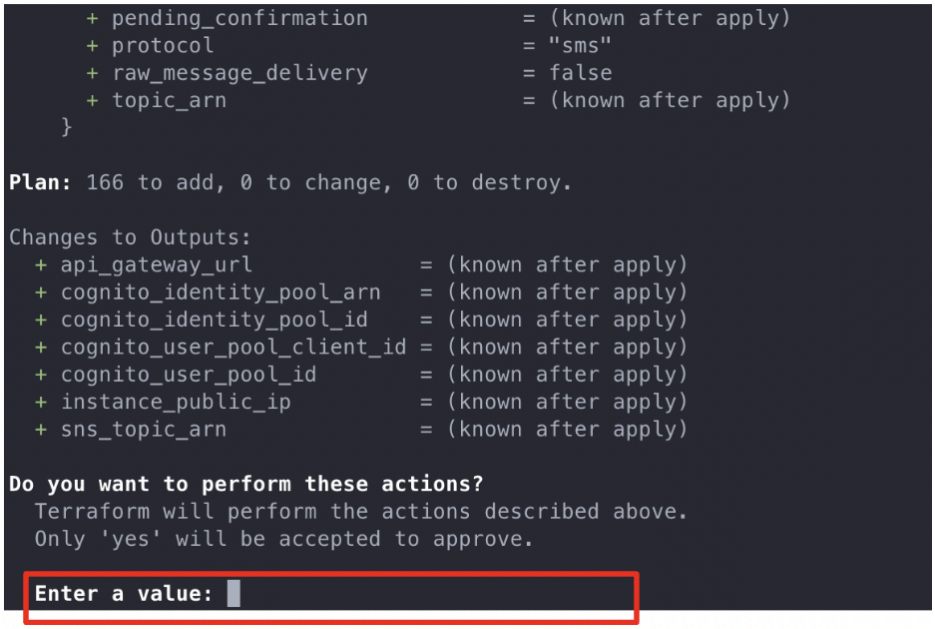
Now that we have updated the credentials, we can provision our infrastructure using Terraform (double check that you are in the directory tf-templates as instructed in Step 2 to avoid error.) Firstly, we would have to initialize terraform. To do so, run the following command:

```
terraform init

```

Now, we can apply to create the resources (Note: you can choose to perform a `terraform plan` before the next command, but it is not mandatory as the template is already validated). Run the following command to apply the template:

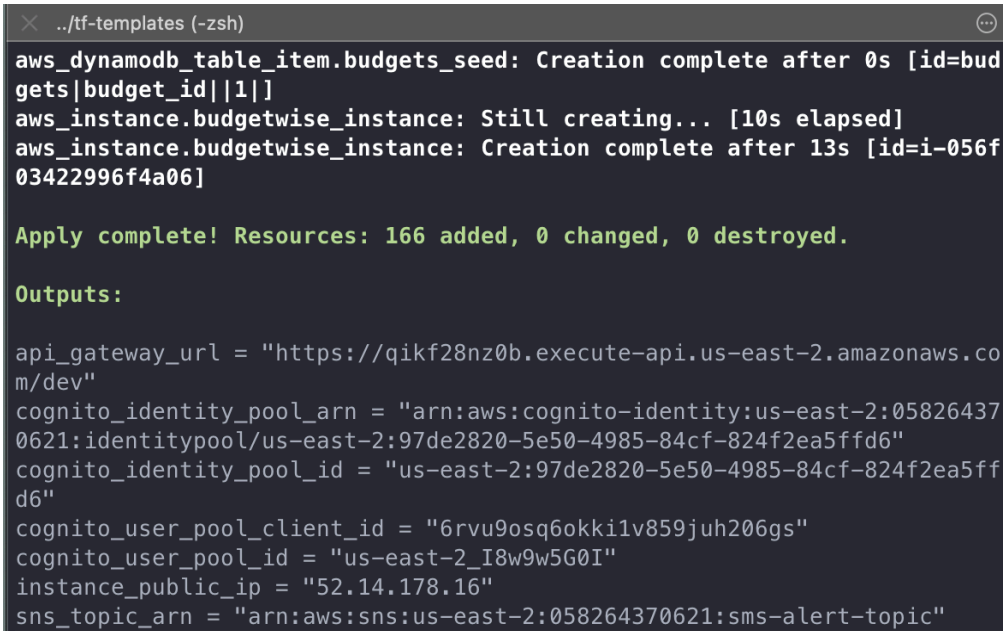
```
terraform apply

```

You will be prompted to confirm if you would like to perform the actions. Type `yes` and press enter. The prompt will look something like below:



e. **Step 5: Wait for the resources to provision**

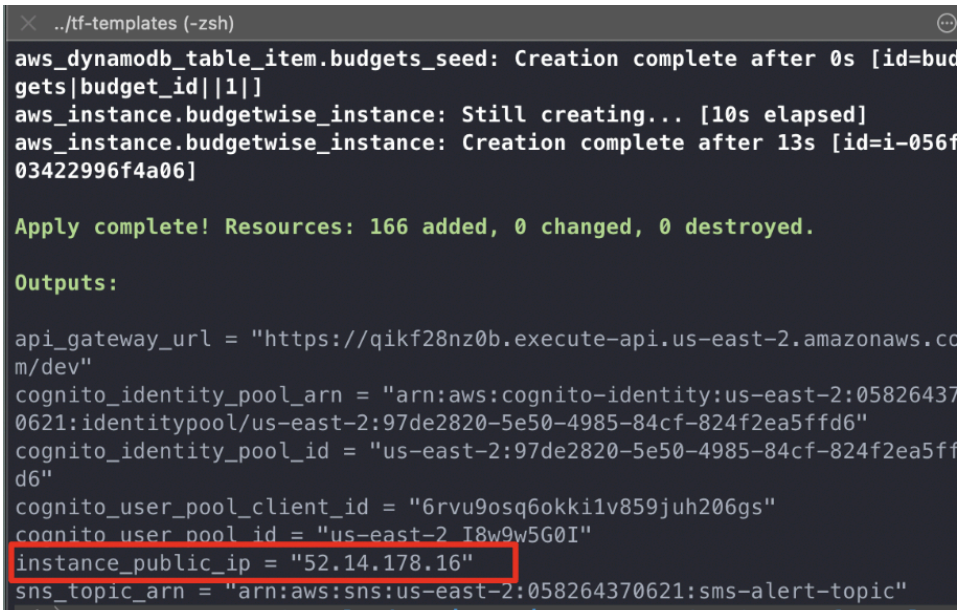
Provisioning the resources should take about 2-3 minutes. When your provisioning is complete, you should see a similar output (with different values) in your terminal:



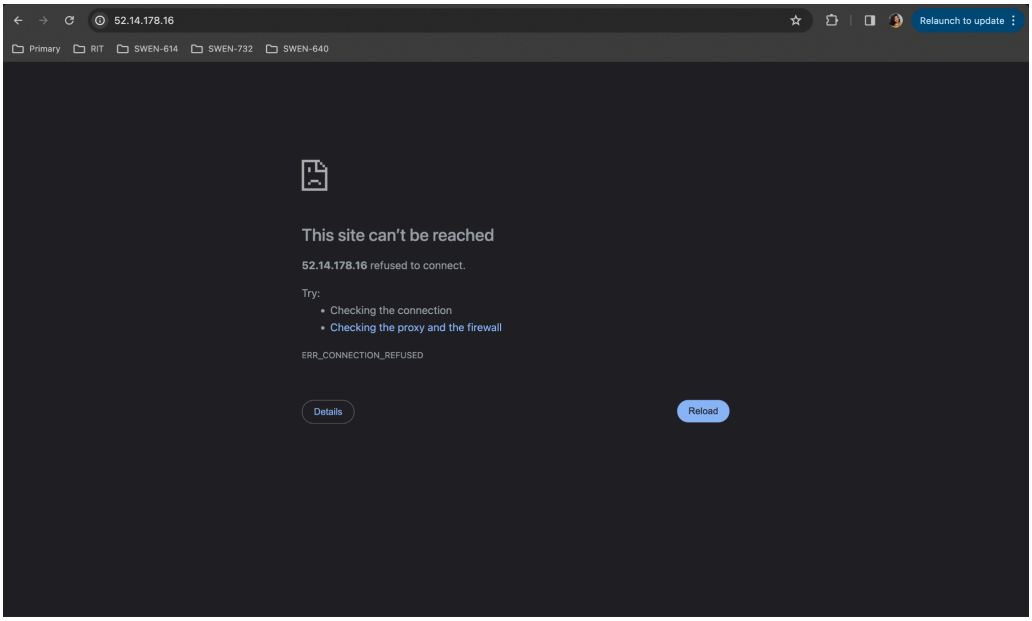
f. **Step 6: Navigate to the application on browser**

In your terminal, one of the outputs of the terraform apply command would be the IP address of the instance. This would be listed as `instance_public_ip`. Copy paste this IP address and paste it in your browser with the prefix `http://`

Note: The application will **not** open if you use `https://`

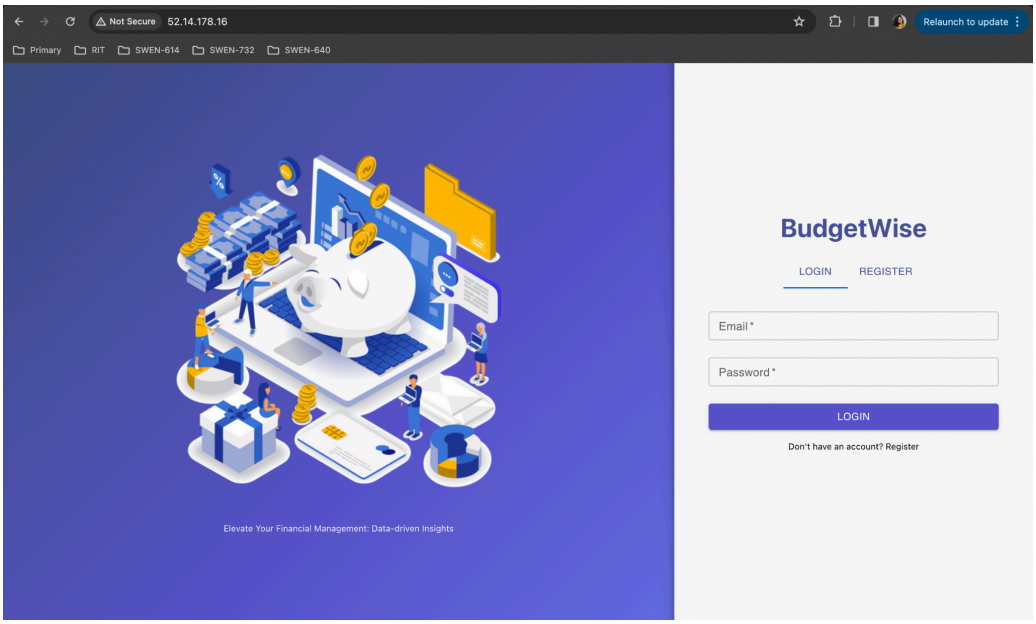


If you get the following error screen, it means the provisioning checks have not completed. Wait for a minute before trying again:



g. Step 7: View the application

You should see the following application login screen now!



Awesome. You have successfully provisioned our infrastructure. The next steps will outline how to use the application itself.

h. Step 8: Verify email

IF you followed the step to update your email address (Step 3), then verify the verification link sent to you by AWS. The email should look something like this:

Dear Amazon Web Services Customer,

We have received a request to authorize this email address for use with Amazon SES and Amazon Pinpoint in region US East (Ohio). If you requested this verification, please go to the following URL to confirm that you are authorized to use this email address:

https://email-verification.us-east-2.amazonaws.com/?Context=058264370621&X-Amz-Date=20240422T185753Z&Identity.IdentityName=rv8542%40rit.edu&X-Amz-Algorithm=AWS4-HMAC-SHA256&Identity.IdentityType=EmailAddress&X-Amz-SignedHeaders=host&X-Amz-Credential=AKIA4IDF2HDCDYTQEJNO%2F20240422%2Fus-east-2%2Fses%2Faws4_request&Operation=ConfirmVerification&Namespace=Bacon&X-Amz-Signature=8093790cbb37caafa0055a9e79281a0436dfe375320ebc480ba8d5ed190494a5

Your request will not be processed unless you confirm the address using this URL. This link expires 24 hours after your original verification request.

If you did NOT request to verify this email address, do not click on the link. Please note that many times, the situation isn't a phishing attempt, but either a misunderstanding of how to use our service, or someone setting up email-sending capabilities on your behalf as part of a legitimate service, but without having fully communicated the procedure first.

To learn more about sending email from Amazon Web Services, please refer to the Amazon SES Developer Guide at http://docs.aws.amazon.com/ses/latest/DeveloperGuide/Welcome.html and Amazon Pinpoint Developer Guide at http://docs.aws.amazon.com/pinpoint/latest/userguide/welcome.html.

Sincerely,

The Amazon Web Services Team.

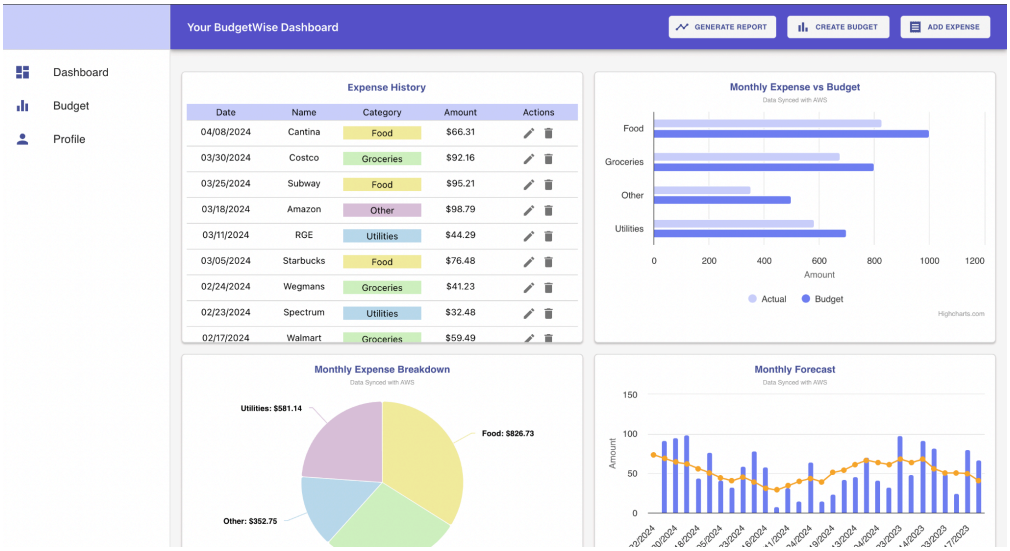
You should receive one email for each email address.

C. How to use the application?

To use the application, a demo user is already created with pre-populated data for the dashboard. The steps will be detailed according to the demo user.

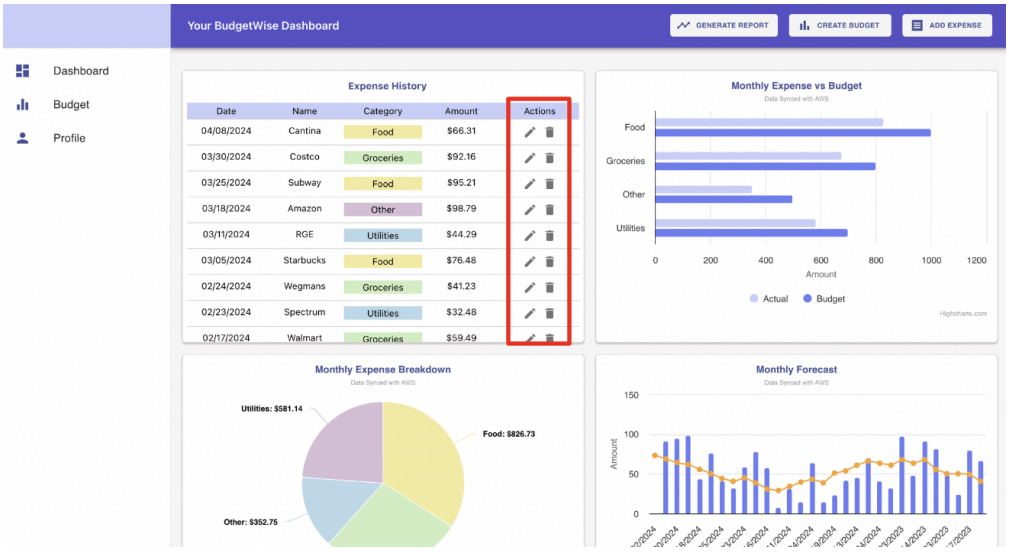
a. Step 1: Logging into the application:

To login into the application, provide the email address: `johndoe@gmail.com` and password as `pass#123`. Once logged in, you should be able to see the following dashboard screen:

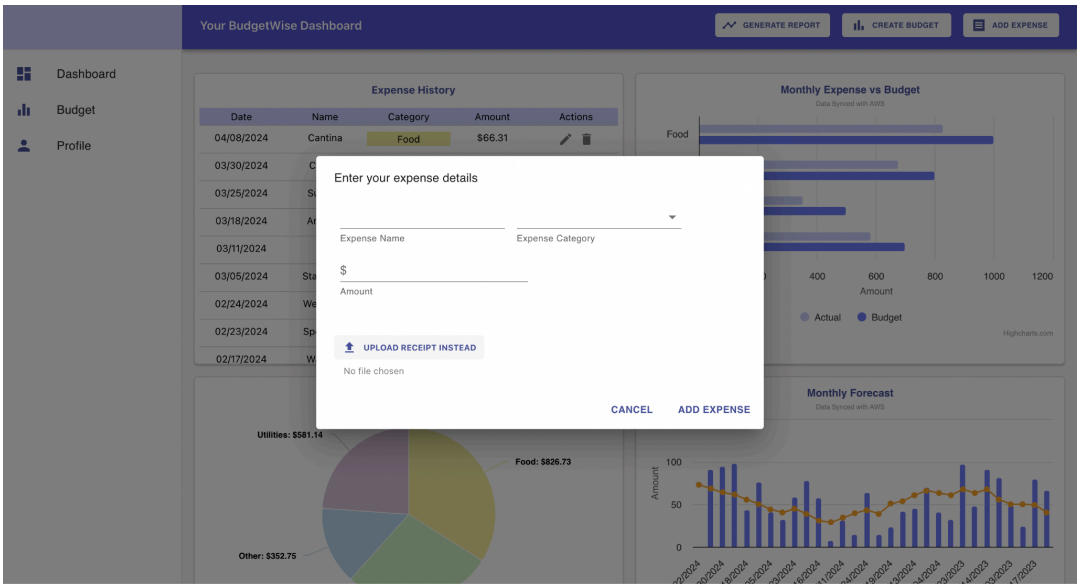


b. Step 2: Expense actions:

In the expense history, you can edit the existing expenses by clicking on the action buttons against each expense. This will open up a modal prompting for confirmation/updated information.



To create a new expense, you can click on the “Add Expense” button. This will open a modal prompting for required information. You can manually enter the information OR upload a receipt instead.



Note: There are higher chances of your receipt being read properly if they have visible indicators like “AMOUNT” or “TOTAL.” Here is a list of validated receipts:

Based on the actions performed, the graphs will be adjusted as all data is synced with AWS.

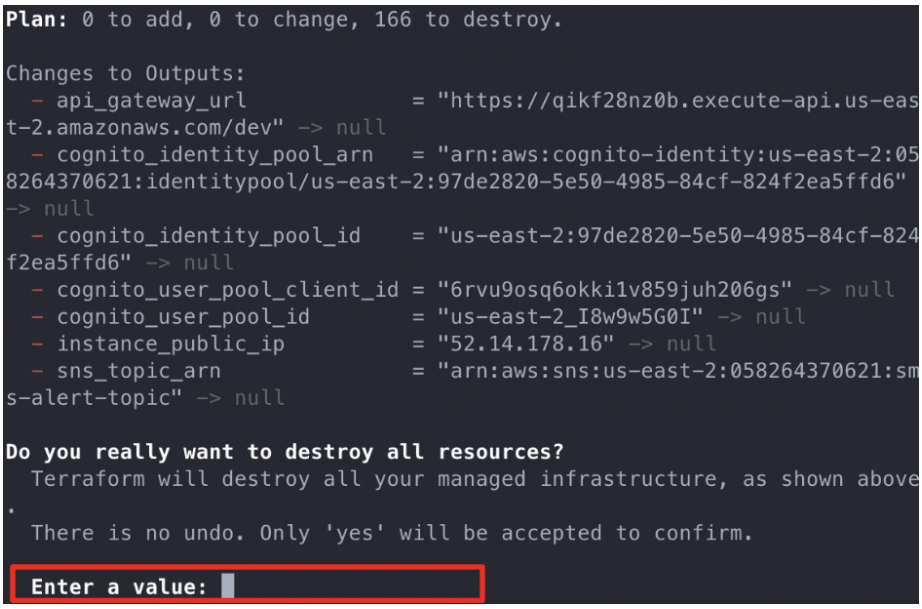
D. How to clean-up after the demo?

a. Step 1: Destroy resources

To destroy your resources, run the following Terraform command on your terminal:

```
terraform destroy
```

You will be prompted to confirm if you would like to perform the actions. Type `yes` and press enter. The prompt will look something like below:



Deleting the resources should take about 1-2 minutes. When your deletion is complete, you should see a similar output in your terminal:

Clean-up is done.