

Lab 3

Deploying Flask App with AWS Elastic Beanstalk

Objective:

The primary objective of this lab is to guide users through the process of deploying a Flask application using AWS Elastic Beanstalk, a fully managed service for deploying and scaling web applications.

Prerequisites

1. Aws Cli configured
2. Knowledge of Flask applications
3. Knowledge of AWS
4. python 3.7 or 3.9 installed

Install and configure AWS CLI:

Steps

1. [Official Documentation](#)
2. `curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"`
3. `unzip awscliv2.zip`
4. `sudo ./aws/install`
5. `aws configure`

Install and configure Elastic beanstalk CLI

Steps

1. [Official Documentation](#)
2. `git clone https://github.com/aws/aws-elastic-beanstalk-cli-setup.git`
3. `python ./aws-elastic-beanstalk-cli-setup/scripts/ebcli_installer.py`

```
*****
6. Finishing up
*****
Success!

Note: To complete installation, ensure `eb` is in PATH. You can ensure this by executing:

1. Bash:

    echo 'export PATH="/home/mghaurii/.ebcli-virtual-env/executables:$PATH"' >> ~/.bash_profile && source ~/.bash_profile

2. Zsh:

    echo 'export PATH="/home/mghaurii/.ebcli-virtual-env/executables:$PATH"' >> ~/.zshenv && source ~/.zshenv
```

4. Run the above command regarding your Shell
5. `which eb`
6. `source /path/to/.ebcli-virtual-env/bin/activate`
7. `eb --version`

Setup Flask Application

Steps

1. python 3.9 or 3.7 should be installed
2. Create virtual environment:
 1. `pip3 install virtualenv`
 2. `python3 -m venv eb-flask`

3. Activate virtual environment:
 1. `source /eb-flask/bin/activate`
4. Install flask:
 1. `pip3 install flask`
5. `flask --version`
 1. Python 3.10.12
 2. Flask 3.0.0
 3. Werkzeug 3.0.1
6. `pip freeze > requirements.txt`
7. Create flask application with the name `application.py` and exposed on port 8000
8. create Procfile with the following content:
 1. `web: gunicorn -b 0.0.0.0:8000 application:app`
9. Run elastic beanstalk cli commands to create application
 1. `eb init -p python-3.9 eb-flask-app --region us-east-1`
 2. `eb create eb-flask-env-app --region us-east-1`
 3. `eb open`
 4. `eb logs`
10. Terminate application:
 1. `eb terminate`