

Deployment Steps:

1. Dockerizing the application:

- Build docker image of the source code using any IDE console (Pycharm or VScode).

```
FROM python:3.8.16-slim-buster
COPY ./app/
WORKDIR /app/
RUN pip install -r requirements.txt
EXPOSE 8501
ENTRYPOINT ["streamlit","run"]
CMD ["app.py"]
```

Syntax:

```
$ docker build -t <USERNAME>/<YOUR_IMAGE_NAME> .
```

2. Deploying the application:

2.1 Local deployment:

- Now, to test whether docker image is properly working or not, first run it locally.

Syntax:

```
$ docker run -p 8501:8501<USERNAME>/<YOUR_IMAGE_NAME>
```

You can access the application at the following address:

<http://localhost:8501/>

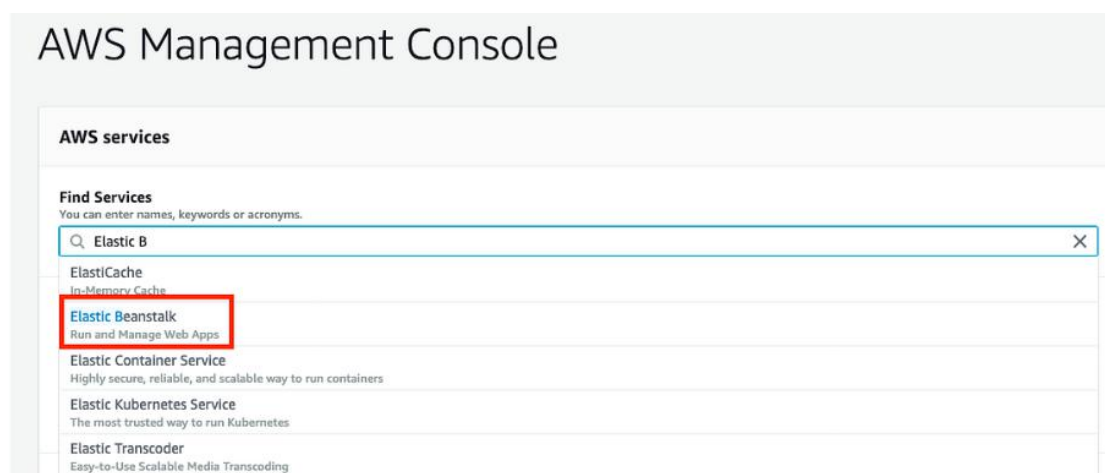
2.2 AWS Elastic Beanstalk (EB) deployment:

- To deploy our application on AWS, we need to publish our image on a registry which can be accessed by the cloud provider. For convenience, let's go with Docker Hub. If you haven't pushed an image before, the client might ask you to login. Provide the same credentials that you used for logging into Docker Hub. Note that this step might take a while as our image is fairly large!

Syntax:

\$ docker push<USERNAME>/<YOUR_IMAGE_NAME>

- Check whether docker image is pushed or not in your docker hub.
- Now, Login to **AWS Console** and search for **Elastic Beanstalk**.



- Click on the **Create Application** button and name your application.

Compute

AWS Elastic Beanstalk

End-to-end web application management.

AWS Elastic Beanstalk is an easy-to-use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker on familiar servers such as Apache, Nginx, Passenger, and IIS.

Get started
Easily deploy your web application in minutes.

[Create Application](#)

Pricing
There's no additional charge for Elastic Beanstalk. You pay for AWS resources that we create to store and run your web application, like Amazon S3 buckets and Amazon EC2 instances.

How it works
You simply upload your code and Elastic Beanstalk automatically handles the deployment, from capacity provisioning, load balancing, and automatic scaling to web application health monitoring, with ongoing fully managed patch and security updates. [Learn more](#)

- Choose Docker as the platform. Now, we need to upload our code from a local file. Since our application is dockerized, we only need to provide the details of the container. We will do this by clicking on the Choose file button and uploading the Dockerrun.aws.json file. This is an AWS-specific file that share with EB our application's details and the docker configuration. Before uploading it, make sure you have used correct naming covention which is **Dockerrun.aws.json**
- Dockerrun.aws.json contains following Information.

```
{  
  "AWSEBDockerrunVersion": "1",  
  "Image": {  
    "Name":  
      "ansari369/energy_efficiency_of_residential_buildings",  
    "Update": "true" },  
  "Ports": [{  
    "ContainerPort": 8501,
```

```
"HostPort": 8501 }]
```

```
}
```

Platform

Platform
▼
Docker

Platform branch
▼
Docker running on 64bit Amazon Linux 2

Platform version
▼
3.2.0 (Recommended)

Application code

☐ Sample application
Get started right away with sample code.

☒ Upload your code
Upload a source bundle from your computer or copy one from Amazon S3.

Source code origin

Version label
Unique name for this version of your application code.
vector-engine-source

Source code origin
Maximum size 512 MB

☒ Local file

☐ Public S3 URL

☐ No file uploaded

- Once you upload the file, click on **Configure more options**.
- Edit **Instances** and **Capacity**. Select below: >>> Configuration presents: **Single instance (free tier eligible)**

Presets

Start from a preset that matches your use case or choose *Custom configuration* to unset recommended values and use the service's default values.

Configuration presets

☒ Single instance (Free Tier eligible)

☐ Single instance (using Spot instance)

☐ High availability

☐ High availability (using Spot and On-Demand instances)

☐ Custom configuration

- Click on **Create app**. EB will take a few minutes to deploy our application. Once it's done, you will be able to access and share the project link via its URL!



Application Link:

<http://energyefficiencyofresidentialbuildin-e-2.eba-vypd6sib.ap-south-1.elasticbeanstalk.com/>