Step-by-step process

1. Install nodejs, npm, Angular

$ sudo apt install nodejs

$ sudo apt install npm

$ npm install -g @angular/cli

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1. Create Angular Application

$ ng new my-app

$ cd my-app

$ git init

$ git add README.md

$ git commit -m "first commit"

$ git branch -M main

$ git remote add origin https://github.com/stephengineer/AngularFirst.git

$ git push -u origin main

$ ng serve –open

<https://github.com/stephengineer/AngularFirst>

Graphical user interface

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1. Create Jenkins Pipeline in Jenkins server
2. Create Jenkinsfile and Dockerfile to build application in Docker and host in DockerHub

<https://hub.docker.com/u/stephenwangmath>

Graphical user interface, application

Description automatically generated

Graphical user interface, application

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1. Build docker image

$ docker build -t stephenwangmath/angularfirst .

$ docker run -d -it -p 80:80/tcp –name angularfirst stephenwangmath/angularfirst:latest

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1. Open browser in <http://192.168.99.100:80>
2. Now Docker image is available in Docker Hub registry and this Angular app is running in the Docker container.

List the advantages, disadvantages, and document the tasks involved

Advantages: Using docker technique can make application running in different OS and customer does not need to set up environment for application. Developer can wrap up the application and deploy it to Docker Hub, and customer can just download the docker and run docker image to try the application regardless the OS and environment setting up. It is easy for both developer and customer.

Disadvantages: The only disadvantage I can think is the learning curve of docker and DevOps, but I do not think it is a big deal.