Project 5: Flask + SQLite with Dynamic Inventory & Artifact Upload

Goal:

Deploy a Flask app using SQLite as a local database and push artifacts to an S3 bucket for backup/versioning.

Requirements:

- Jenkins master: Ubuntu

- Jenkins agent: Amazon Linux

- App servers selected via Ansible dynamic inventory (e.g., AWS EC2 tags)

Ansible roles:

- Install Python3, Flask, SQLite

- Copy app, set up service

Artifact:

- Jenkins compresses codebase + config

- Uploads to S3 on every build

Pipeline:

- Jenkins builds and tests the Flask app

- Archives and uploads the artifact to S3

- Triggers Ansible to deploy using dynamic inventory

- App is accessible publicly over the internet (port 5000)

Expected Output:

- Web page displays: "Flask + SQLite app running via DevOps pipeline!"