Run MlFLow on Kubernetes Cluster
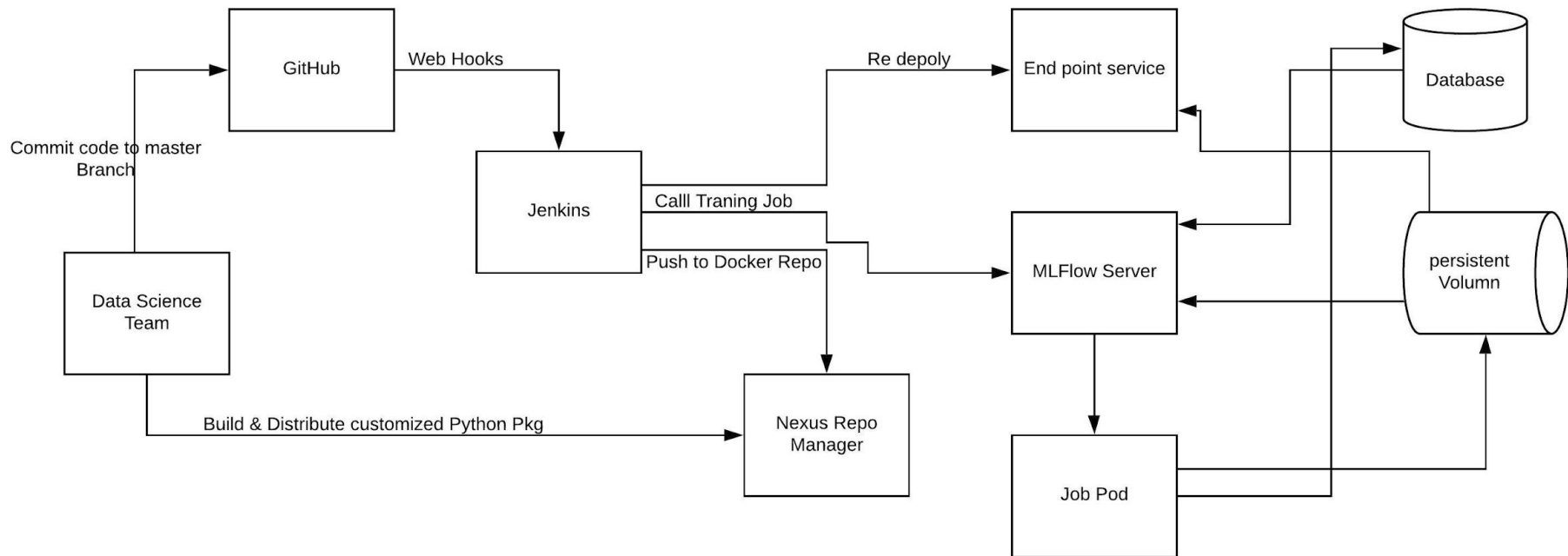
Srinivasan

Agenda

- Aim of this POC
- End to End Flow
- Mlflow Project Structure
- How Mlflow job works in Kubernetes
- Demo

Aim of this POC

1. Support ML Project for End to End Automation
2. Support to share Customized Ml project package to other Team with in Organization
3. Easy to Migrate ML Project from DEV to Production Environment
4. Isolate Platform/DevOps Team & Data Science Team

End to End Flow Diagram:

Commit code to master Branch

GitHub — Web Hooks → Jenkins

Re depoly → End point service

Calll Traning Job

Push to Docker Repo

Data Science Team

Build & Distribute customized Python Pkg → Nexus Repo Manager

MLFlow Server

Database

persistent Volumn

Job Pod

MlFLow Project Structure

- Main Project Folder
  - Dockerfile
  - MLproject
  - Kubernetes_config.json
  - Kubernetes_job_template.yaml
  - Requirements.txt
  - train.py
  - Training DataSet File

How MIflow job works in Kubernetes

1. MI FLow push new Docker Image to Docker Repository
2. Starts a Kubernetes Job on your Kubernetes Cluster
3. Kubernetes job download the Docker image and starts a corresponding docker container inside of Pod
4. Docker Container invoke your project entry point to logging params,metrics and artifacts

Demo

Thank you

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