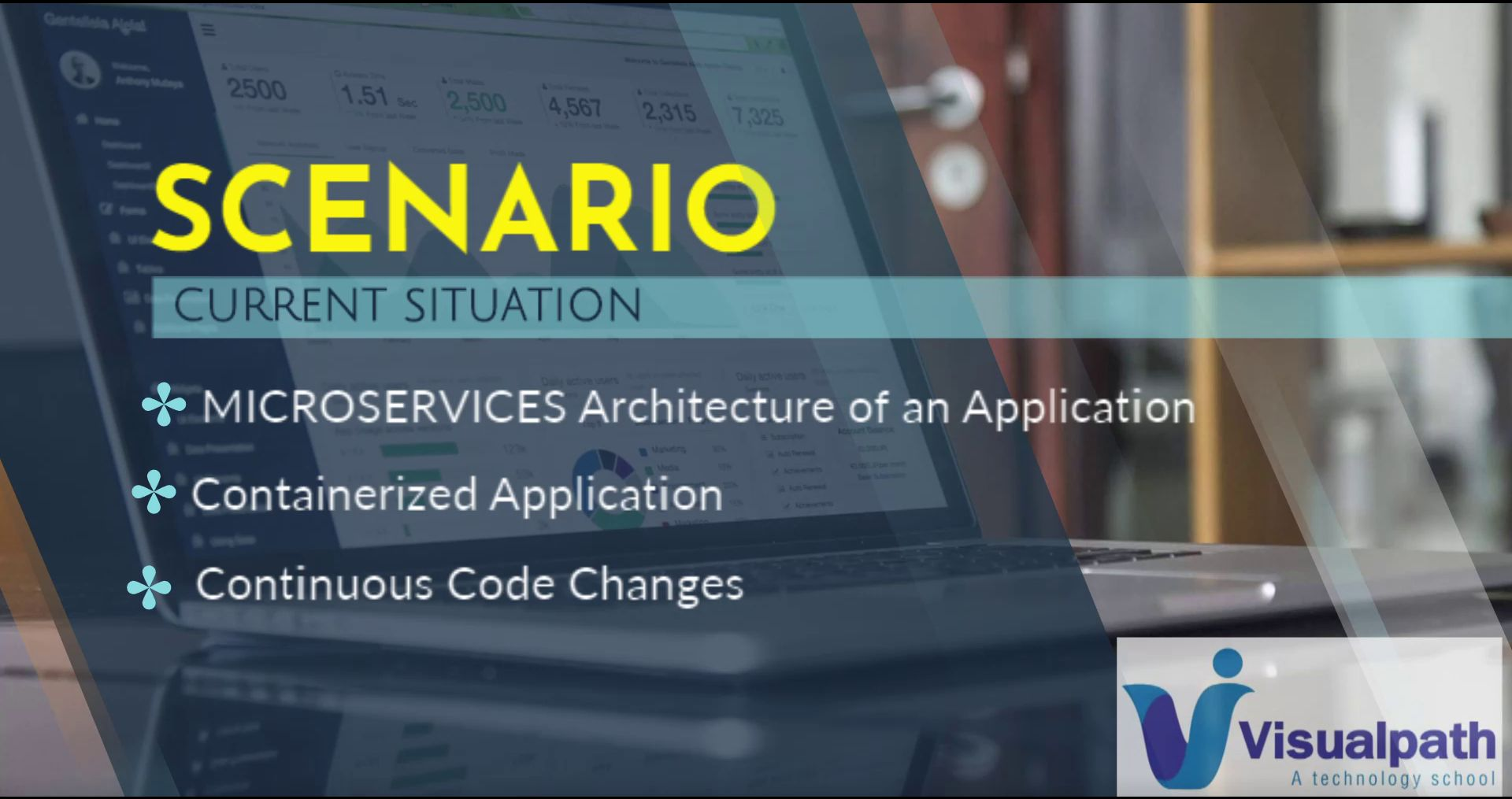

CONTINUOUS DELIVERY
for Docker
CONTAINERS

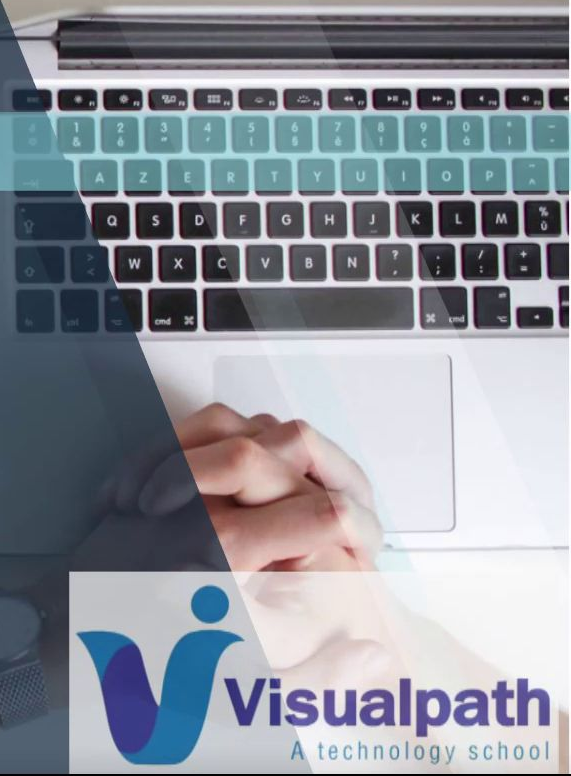

SCENARIO
CURRENT SITUATION
MICROSERVICES Architecture of an Application
Containerized Application
Continuous Code Changes
Visualpath
A technology school

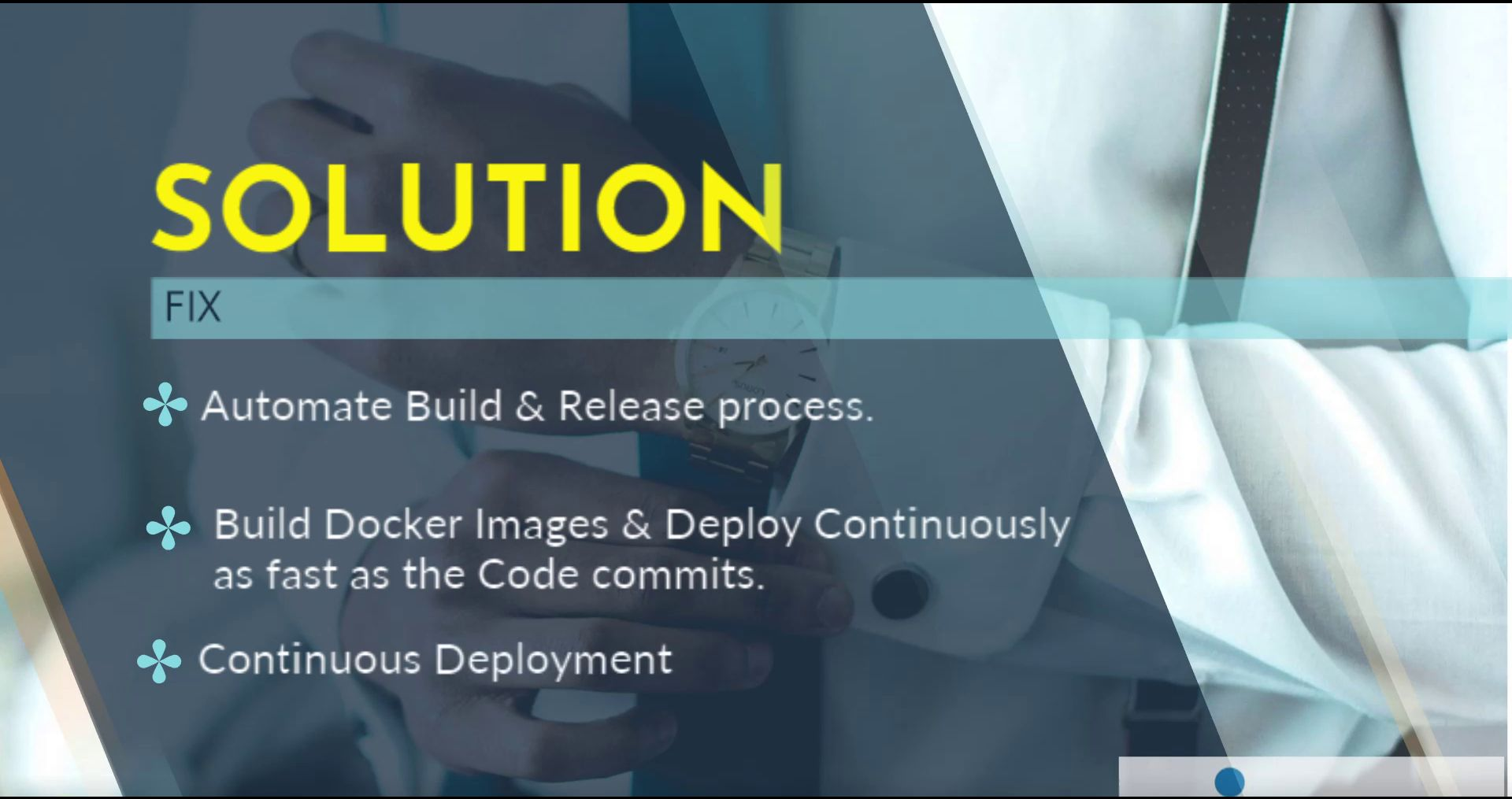

SCENARIO
CURRENT SITUATION
Continuous Build & Test
Regular Build of Container Images
Regular Deployment Requests to Ops Team.
Visualpath
A technology school

PROBLEM

ISSUES WITH CURRENT SITUATION

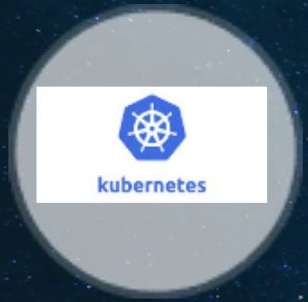
- Operation team incharge of Managing containers Gets continuous Deployment Requests.
- Manual Deployment creates dependency
- Time Consuming




SOLUTION
FIX
Automate Build & Release process.
Build Docker Images & Deploy Continuously as fast as the Code commits.
Continuous Deployment


CONTINUOUS DELIVERY
for Docker
CONTAINERS

TOOLS



KUBERNETES
Orchestration tool

DOCKER
Container Runtime

JENKINS
CICD Server

DOCKER HUB
CONTAINER REGISTERY

TOOLS

HELM

PACKAGING & DEPLOYING ON KUBERNETES

GIT

VERSION CONTROL SYSTEM

MAVEN

BUILD TOOL

SONARQUBE

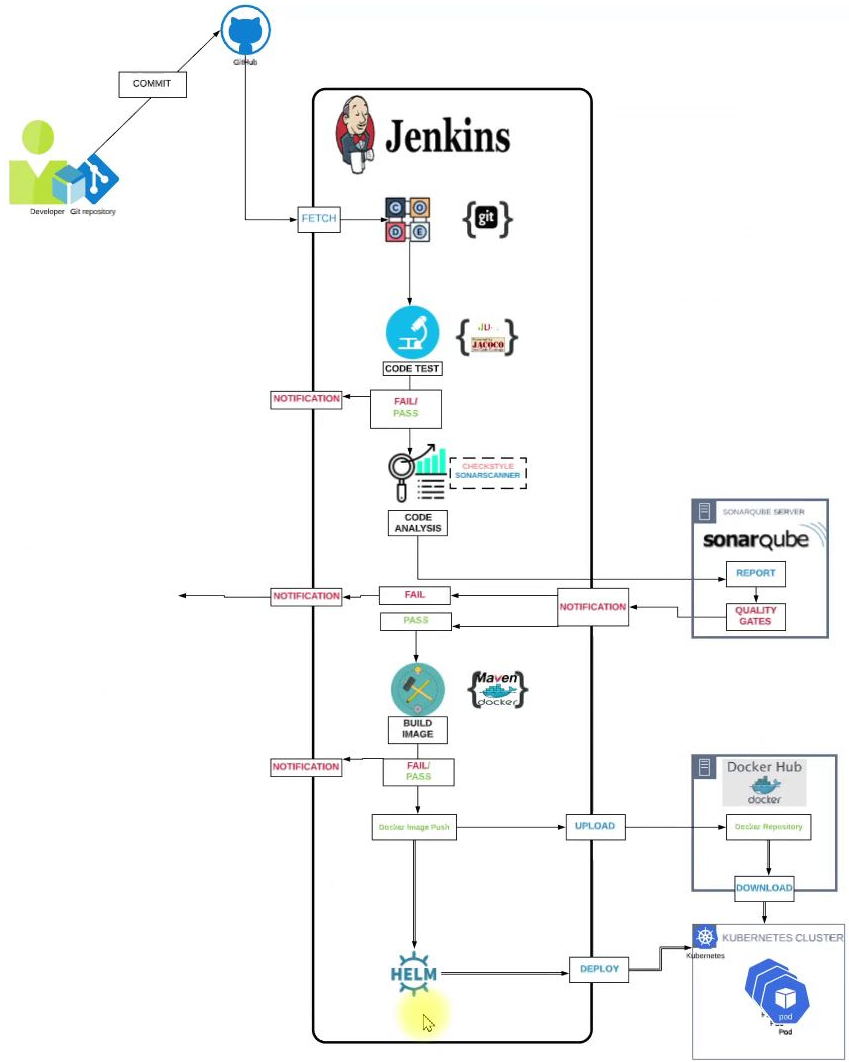
CODE ANALISYS SERVER

OBJECTIVE

GOALS

- CONTINUOUS DELIVERY FOR CONTAINERS.


ARCHITECTURE
CONTINUOUS
DELIVERY
PIPELINE


GitHub
COMMIT
Developer
Git repository
Jenkins
FETCH
CODE TEST
NOTIFICATION
FAIL/
PASS
CHECKSTYLE
SONARSCANNER
CODE
ANALYSIS
SONARQUBE SERVER
sonarqube
REPORT
QUALITY
GATES
NOTIFICATION
FAIL
PASS
NOTIFICATION
BUILD
IMAGE
Maven
docker
NOTIFICATION
FAIL/
PASS
Docker Hub
docker
Docker Image Push
UPLOAD
Docker Repository
DOWNLOAD
HELM
DEPLOY
KUBERNETES CLUSTER
Kubernetes
pod
Pod

FLOW OF EXECUTION

1. Continuous Integration Setup
    a. Jenkins, Sonarqube & Nexus (Continuous Integration Project)
2. Dockerhub account (Containerization Project)
3. Store Dockerhub credentials in Jenkins
4. Setup Docker Engine in Jenkins
5. Install Plugins in Jenkins
    a. Docker-pipeline
    b. Docker
    c. Pipeline utility
6. Create Kubernetes Cluster with Kops
7. Intall Helm in Kops VM
8. Create Helm Charts
9. Test Charts in K8s Cluster in test namespace..

FLOW OF EXECUTION

10. Add Kops VM as Jenkins Slave

11. Create Pipeline code [Declarative]

12. Update Git Reposiroty with

    a. Helm Charts
    b. Dockerfile
    c. Jenkinsfile (Pipeline code)

13. Create Jenkins job for Pipeline

14. Run & Test the job.