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title Sequence Diagram - DevOps Workflow Automation Tool

actor Developer

participant "GitHub" as GH

participant "CI Server (Jenkins/GitHub Actions)" as CI

participant "Docker Engine" as DE

participant "Cloud Provider (AWS/Azure)" as CP

Developer -> GH : Push Code

GH -> CI : Trigger Build Pipeline

CI -> CI : Run Unit Tests

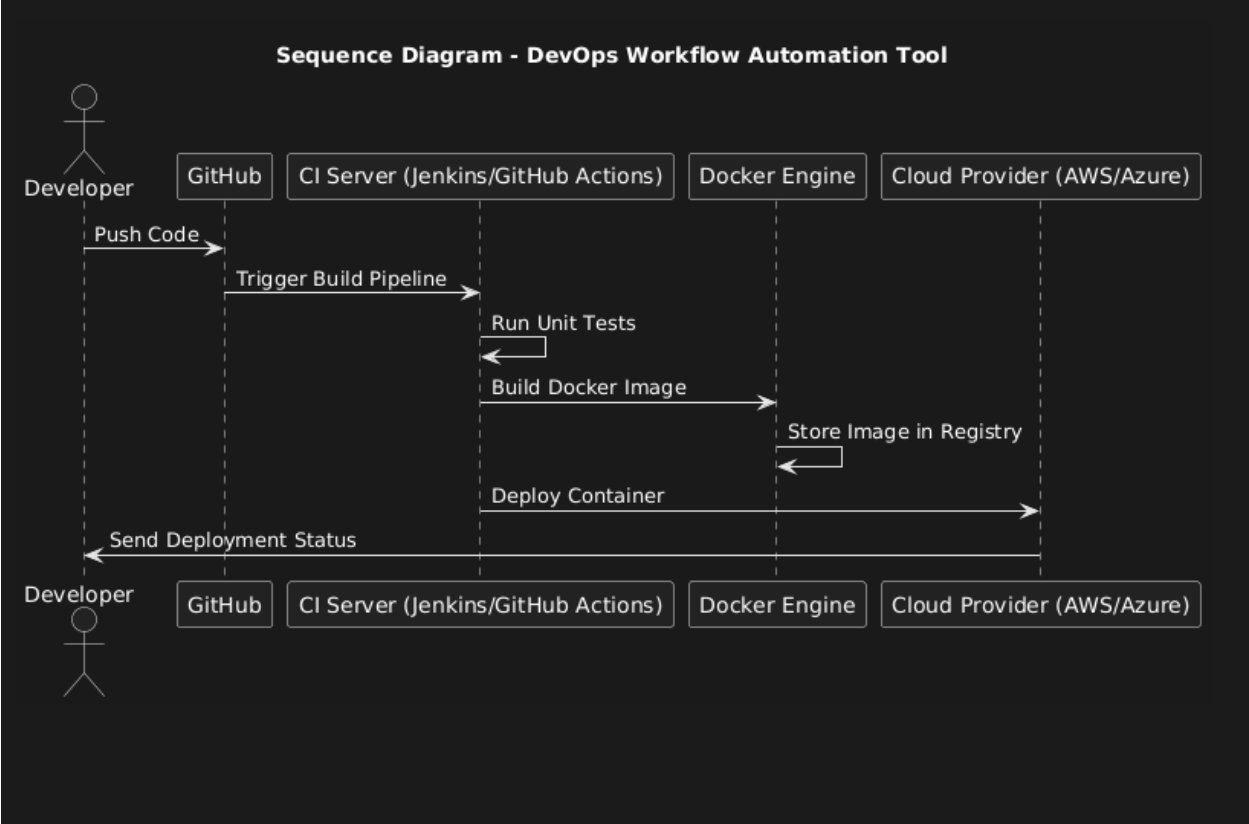
CI -> DE : Build Docker Image

DE -> DE : Store Image in Registry

CI -> CP : Deploy Container

CP -> Developer : Send Deployment Status

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title Deployment Diagram - DevOps Workflow Automation Tool

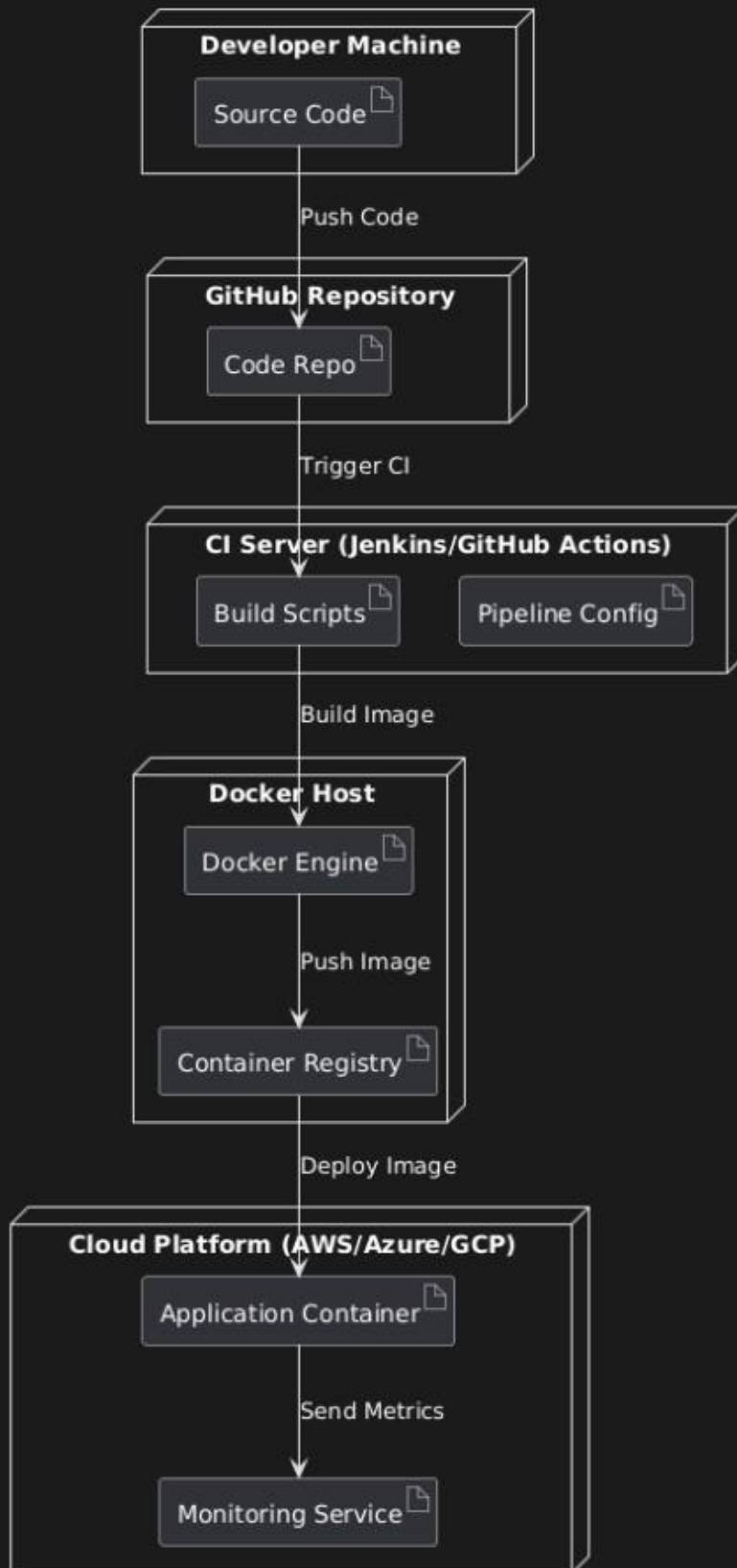
```
node "Developer Machine" {  
    artifact "Source Code" as src  
}  
  
node "GitHub Repository" {  
    artifact "Code Repo" as repo  
}  
  
node "CI Server (Jenkins/GitHub Actions)" {  
    artifact "Build Scripts" as build  
    artifact "Pipeline Config" as pipe  
}
```

```
node "Docker Host" {  
    artifact "Docker Engine" as docker  
    artifact "Container Registry" as registry  
}
```

```
node "Cloud Platform (AWS/Azure/GCP)" {  
    artifact "Application Container" as app  
    artifact "Monitoring Service" as monitor  
}
```

```
src --> repo : Push Code  
repo --> build : Trigger CI  
build --> docker : Build Image  
docker --> registry : Push Image  
registry --> app : Deploy Image  
app --> monitor : Send Metrics  
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```

Deployment Diagram - DevOps Workflow Automation Tool



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title Class Diagram - DevOps Workflow Automation Tool

```
class "Repository" {  
    +url: String  
    +branch: String  
    +commitCode(): void  
}
```

```
class "Pipeline" {  
    +id: int  
    +triggerEvent(): void  
    +runBuild(): void  
    +runTests(): void  
    +deploy(): void  
}
```

```
class "DockerManager" {  
    +buildImage(): void  
    +pushImage(): void  
    +deployContainer(): void  
}
```

```
class "CloudManager" {  
    +deployToCloud(): void  
    +monitorService(): void  
}
```

```
class "NotificationService" {
```

```
+sendStatus(): void  
+alertFailure(): void  
}
```

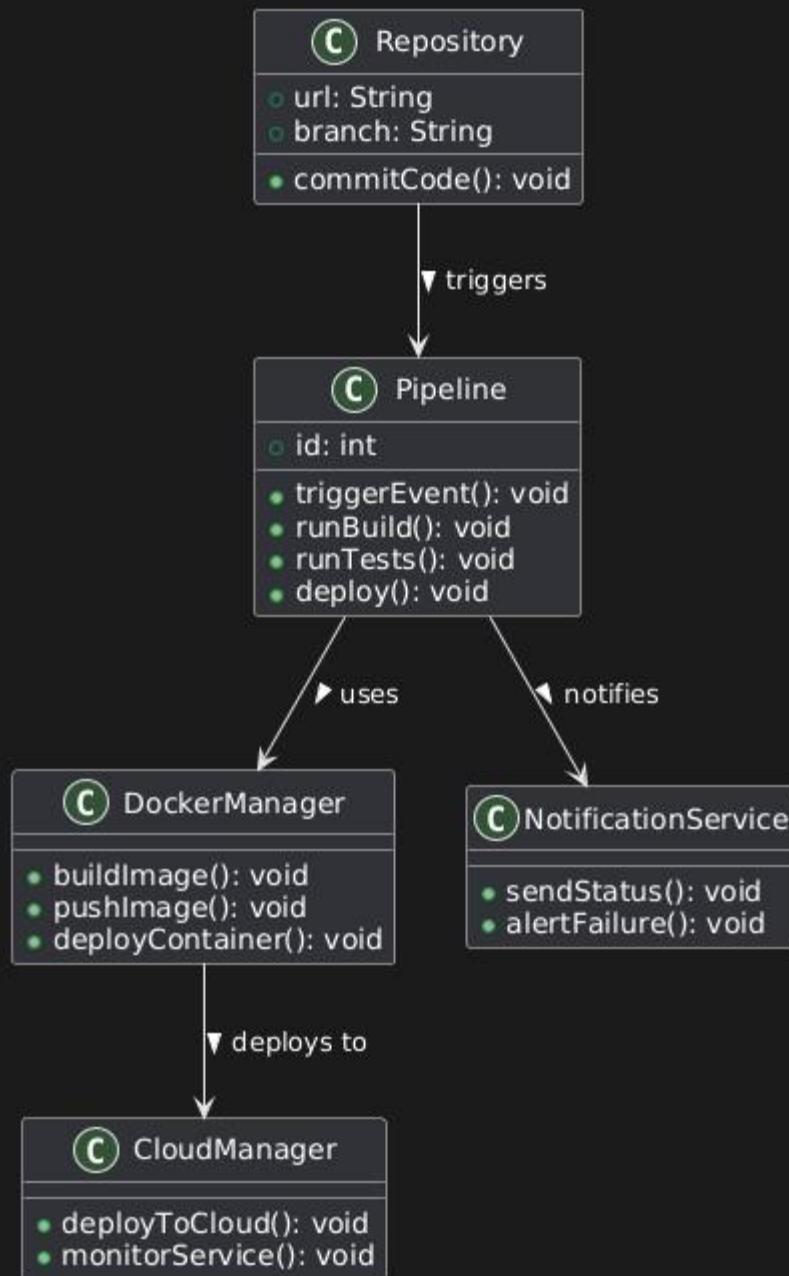
Repository --> Pipeline : triggers >

Pipeline --> DockerManager : uses >

DockerManager --> CloudManager : deploys to >

Pipeline --> NotificationService : notifies >

Class Diagram - DevOps Workflow Automation Tool



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