



Jenkins

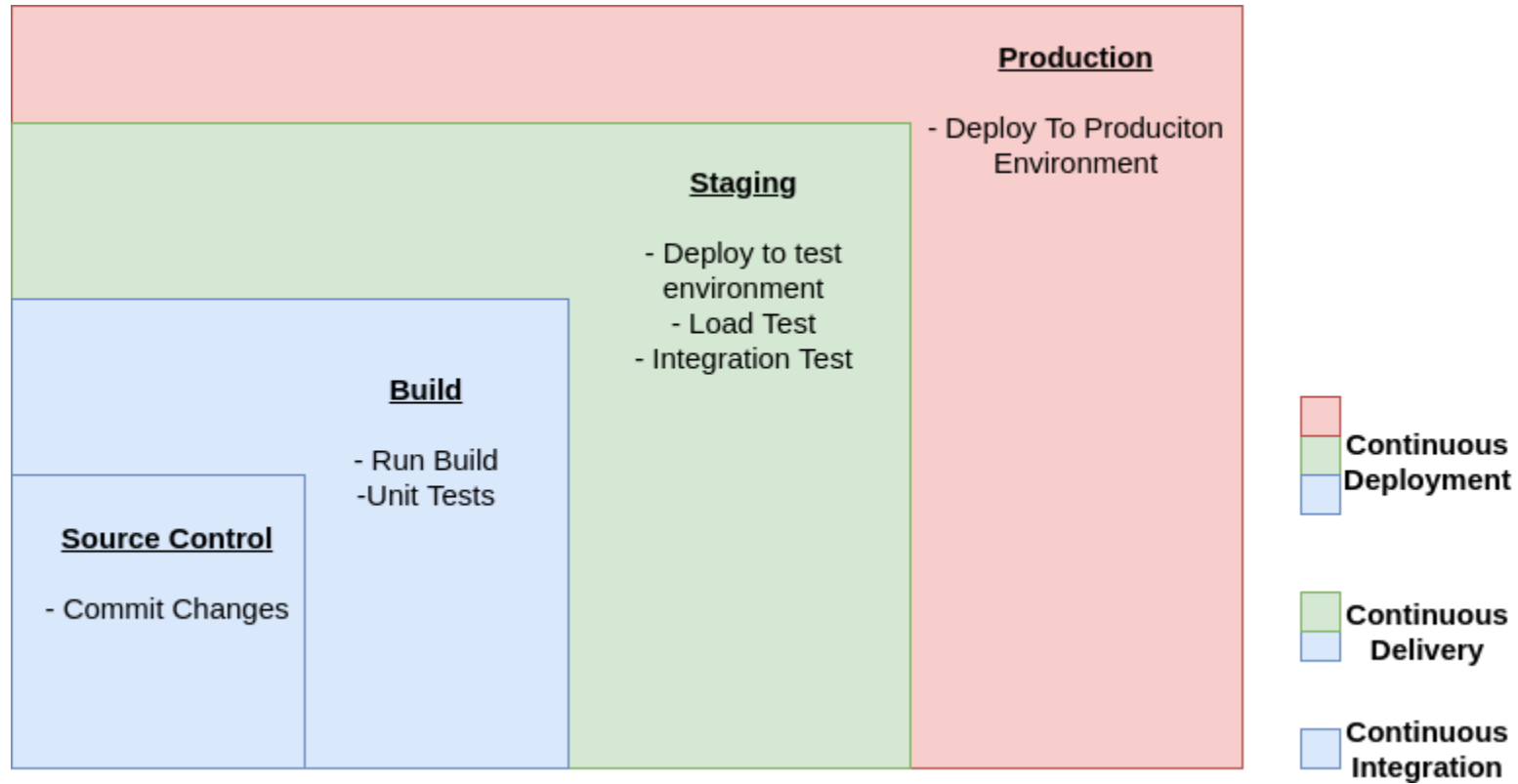
История

- Kohsuke Kawaguchi (staff Engineer at Sun Microsystems)
- Hudson, первый коммит - 3 Октября 2003. Лицензия - MIT
- “I used to be a guy who breaks the builds, so at one time I thought I should have a program that catches it before my colleagues do.”
- 2009 - Oracle покупает Sun Microsystems
- 2010, декабрь - Oracle получает права на название и регистрируют торговую марку
- 2011, январь – разработчики Hudson проголосовали за переименование. Новое имя – Jenkins

CI/CD/CD

- Continuous Integration – автоматический build и проведение unit-тестов для интеграции нового кода в существующую кодовую базу
- Continuous Deployment – CI и развертывание в тестовой среде и проведение интеграционных тестов
- Continuous Delivery – Continuous Deployment и автоматическое развертывание в production

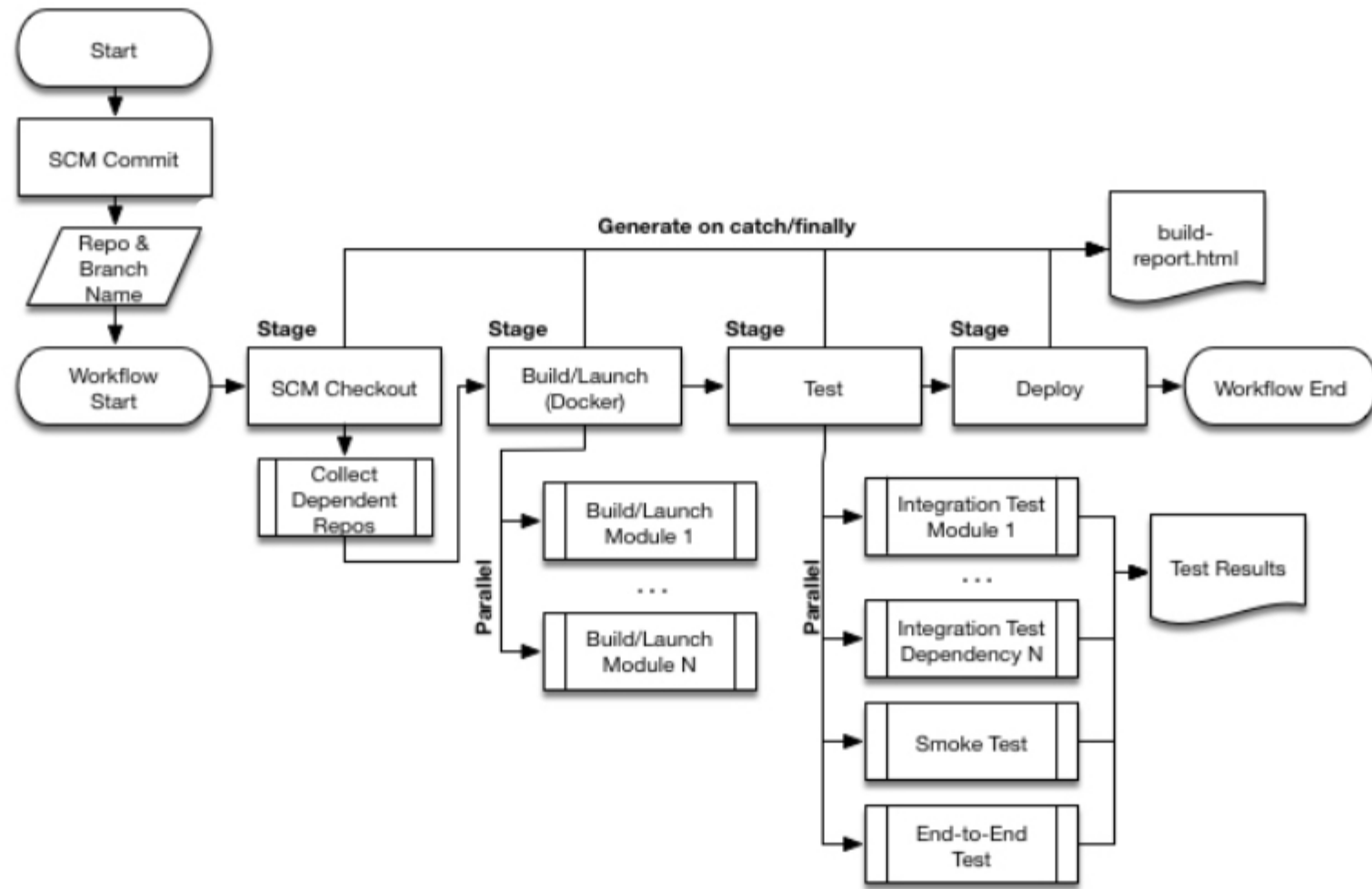
CI/CD/CD



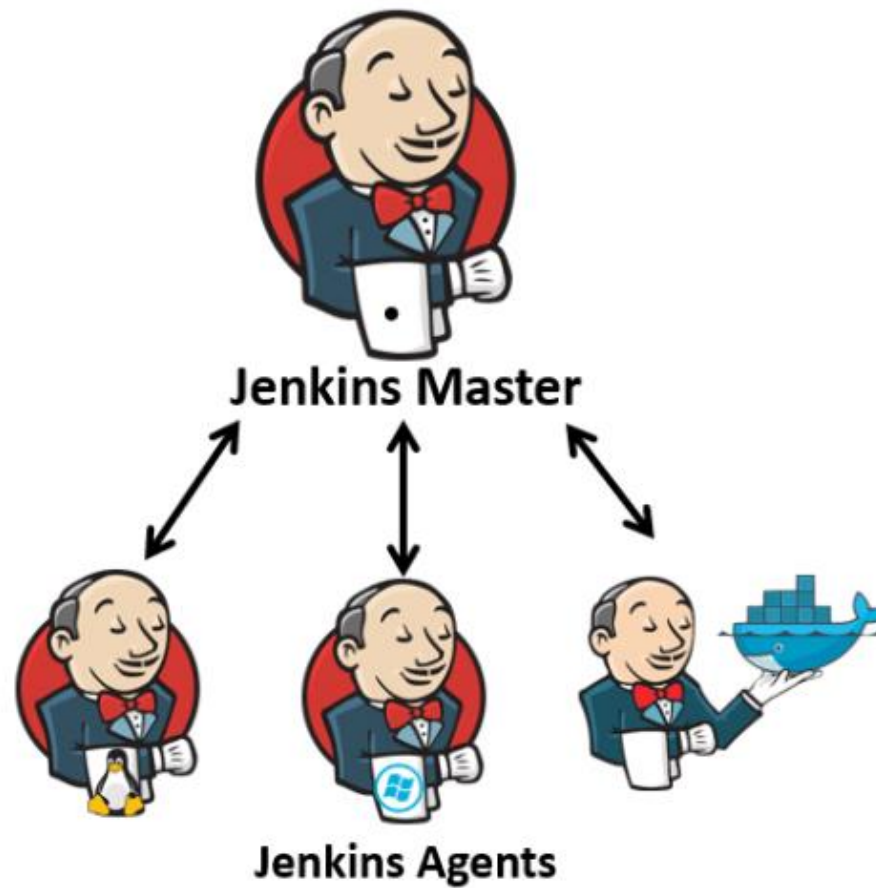
Pipeline

- “Jenkins is, fundamentally, an automation engine which supports a number of automation patterns”
- Pipeline пишется с помощью кода или в GUI
- В коде описываются этапы и шаги

```
pipeline {
  agent any
  options {
    skipStagesAfterUnstable()
  }
  stages {
    stage('Build') {
      steps {
        sh 'make'
      }
    }
    stage('Test'){
      steps {
        sh 'make check'
        junit 'reports/**/*.xml'
      }
    }
    stage('Deploy') {
      steps {
        sh 'make publish'
      }
    }
  }
}
```



Parallel and Distributed



Jenkins + Kubernetes + Cloud =





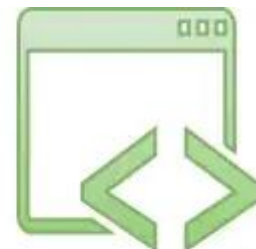
Code Repo



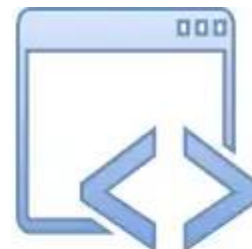
Build



Test Env



UAT Env



Prod Env



Jenkins Master

CI/CD Pipeline



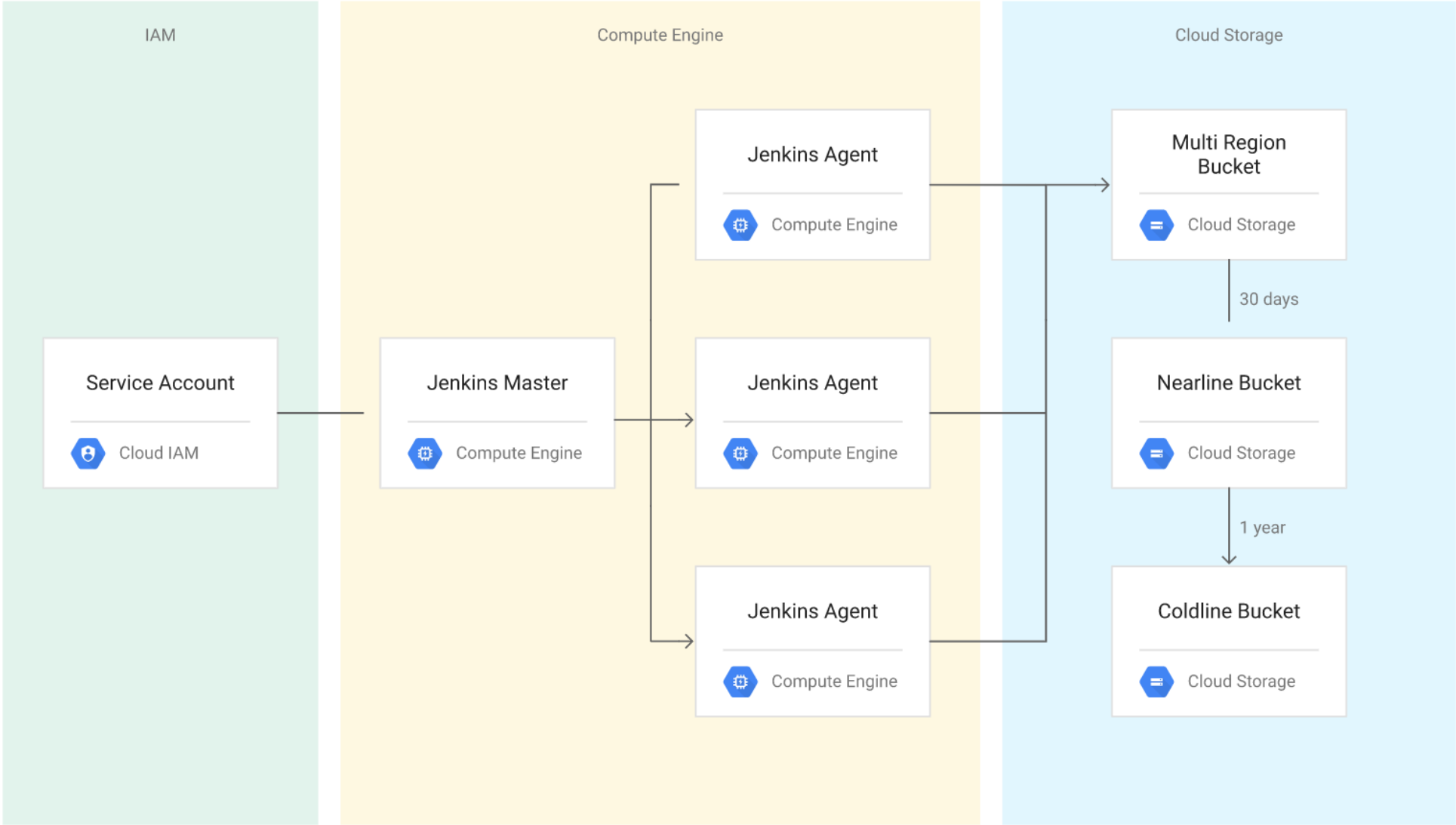
Jenkins Slaves

On-premise Host Pool




Dockerized Jenkins Slaves

Alibaba Cloud




Blue Ocean




jenkins / SO-41198689 #9

Branch SO-41198689

No changes

 a few seconds


 2 hours ago

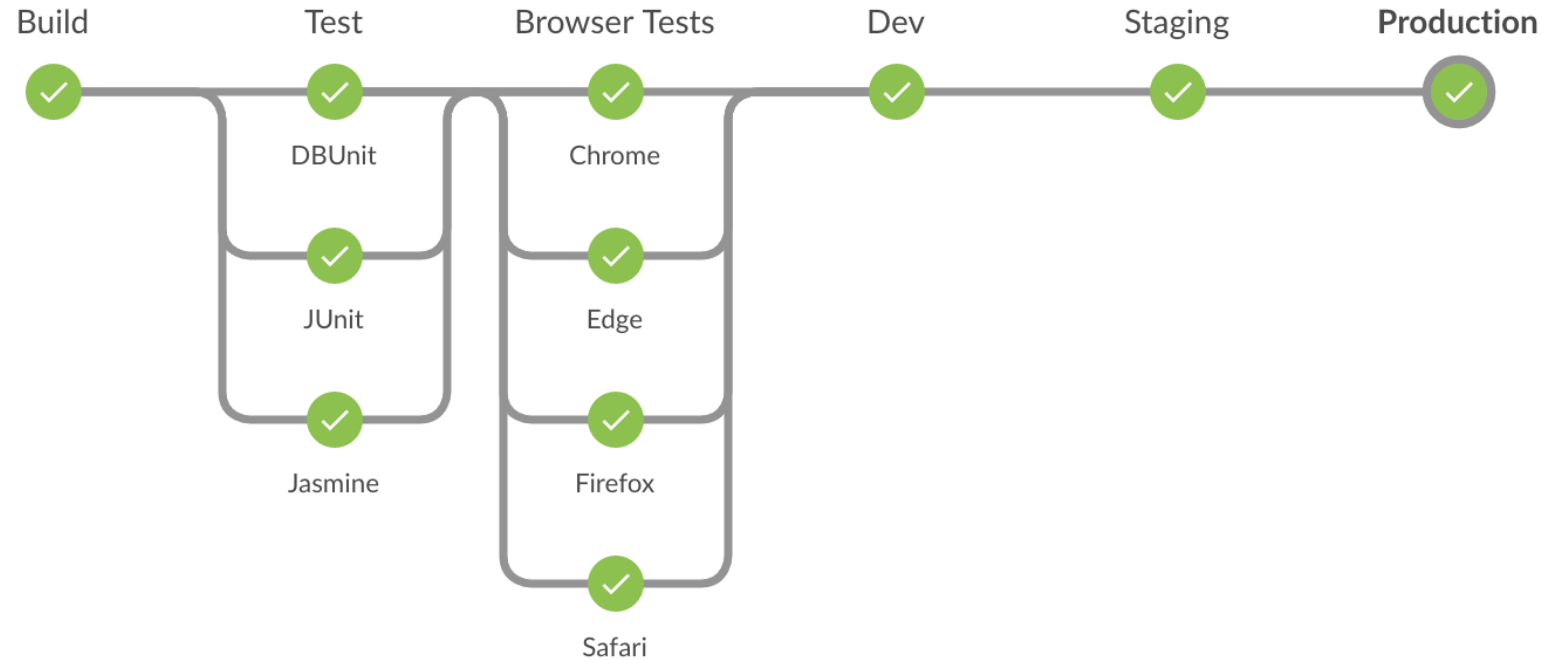
Pipeline

Changes

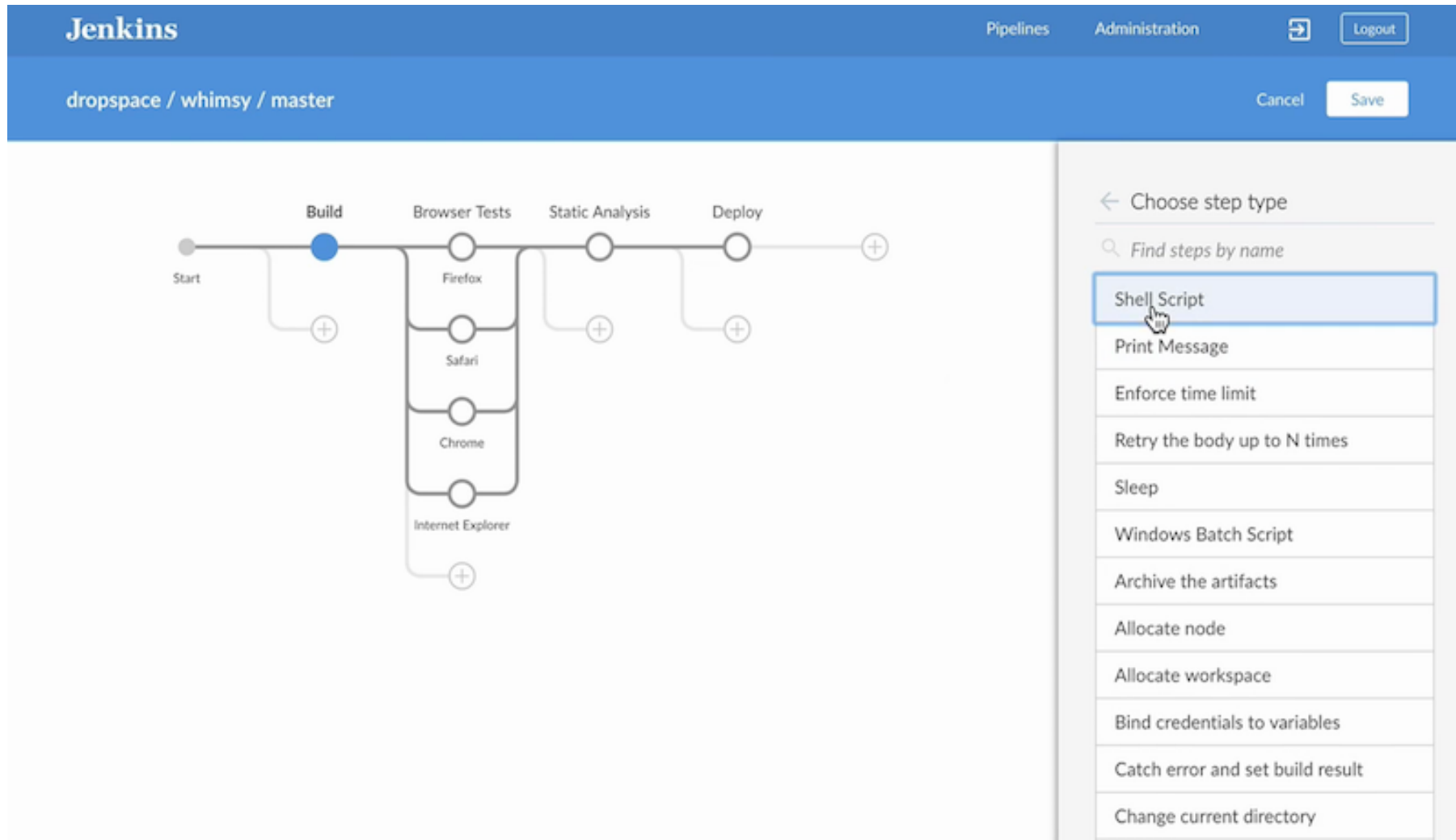
Tests












Artifacts





Blue Ocean



-  New Item
-  People
-  Build History
-  Project Relationship
-  Check File Fingerprint
-  Manage Jenkins
-  My Views
-  Lockable Resources
-  Credentials
-  **Dependency Graph**
-  New View

Build Queue

No builds in the queue.

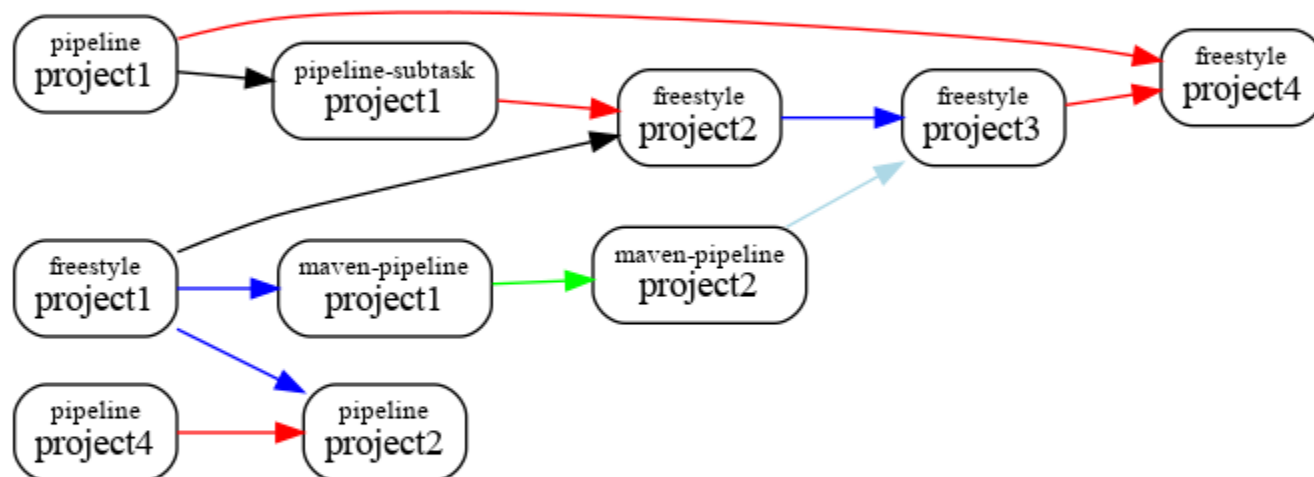
Build Executor Status

- 1 Idle
- 2 Idle

Dependency Graph of All

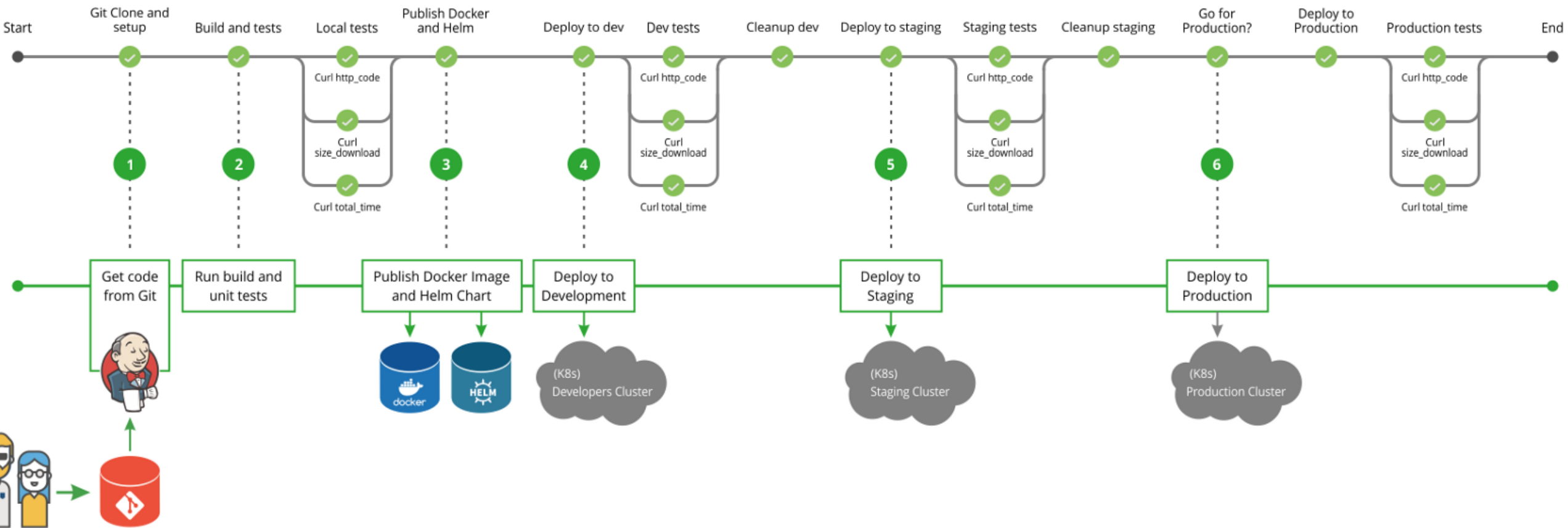
graphviz

jsplumb

[Graph in graphviz format](#)Legend

Legend:





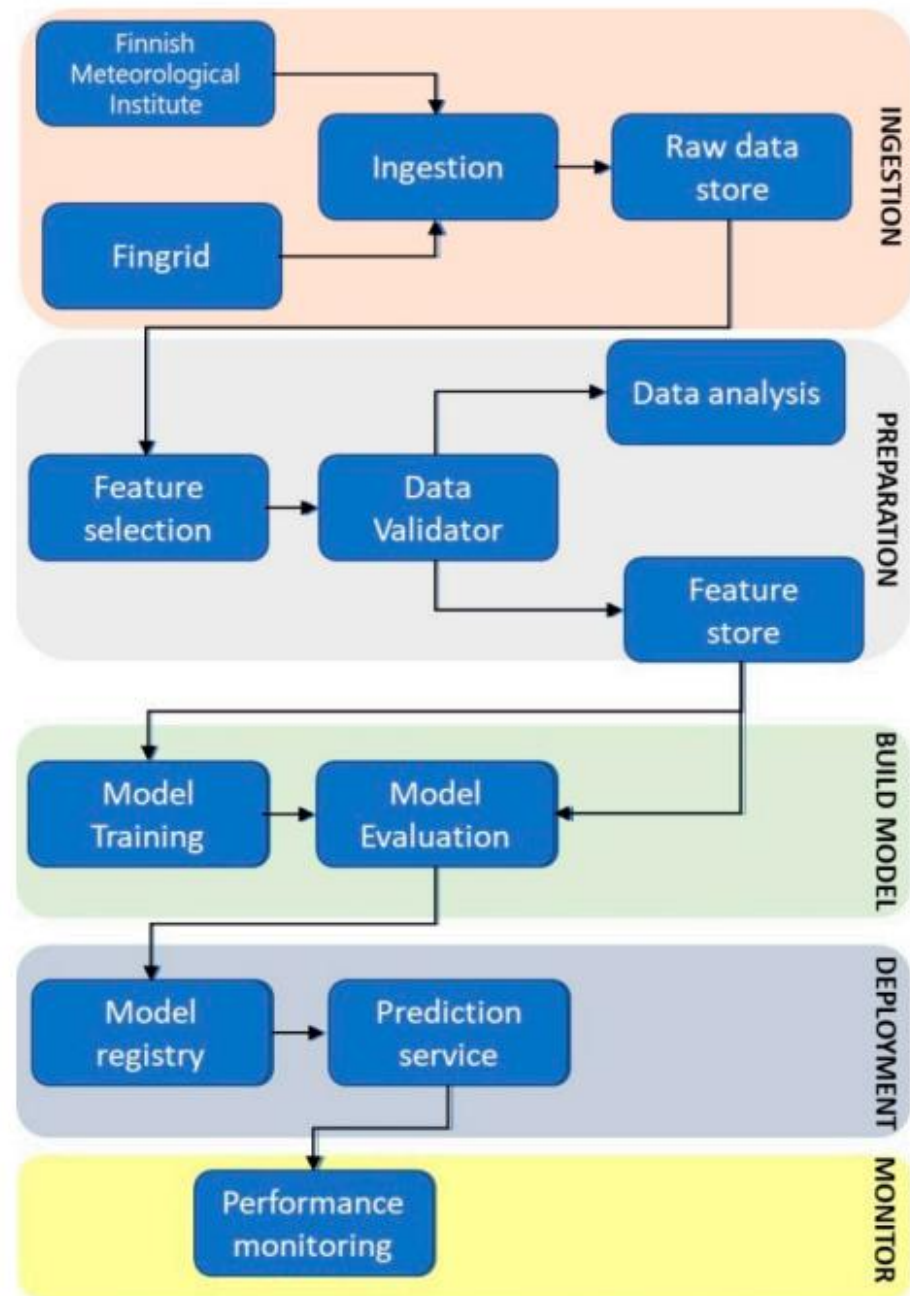


Figure 7. Proposed MLOps pipeline.

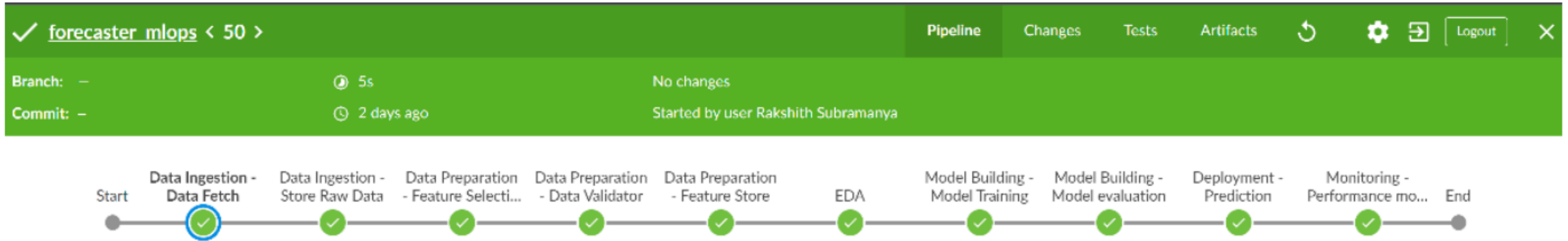


Figure 9. MLOps pipeline for FCR-N market price forecasting.

ИСТОЧНИКИ

- <https://web.archive.org/web/20140701020639/https://www.java.net/blog/kohsuke/archive/20070514/Hudson%20J1.pdf>
- <https://stackoverflow.com/questions/28608015/continuous-integration-vs-continuous-delivery-vs-continuous-deployment>
- Subramanya, R.; Sierla, S.; Vyatkin, V. From DevOps to MLOps: Overview and Application to Electricity Market Forecasting. *Appl. Sci.* 2022, 12, 9851. <https://doi.org/10.3390/app12199851>

Альтернативы

- Gitlab/github/ CI, Github Actions
- Apache Airflow
- Circle CI

Спасибо за внимание!