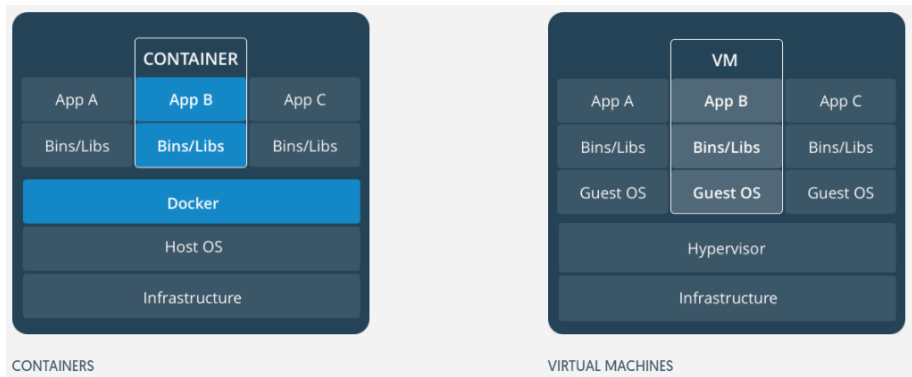


# Занятие 12: Continuous Delivery

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# Docker



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# Dockerfile

*# Use an official Python runtime as a parent image*

FROM python:2.7-slim

*# Set the working directory to /app*

WORKDIR /app

*# Copy the current directory contents into the container at /app*

ADD . /app

*# Install any needed packages specified in requirements.txt*

RUN pip install --trusted-host pypi.python.org -r requirements.txt

*# Make port 80 available to the world outside this container*

EXPOSE 80

*# Define environment variable*

ENV NAME World

*# Run app.py when the container launches*

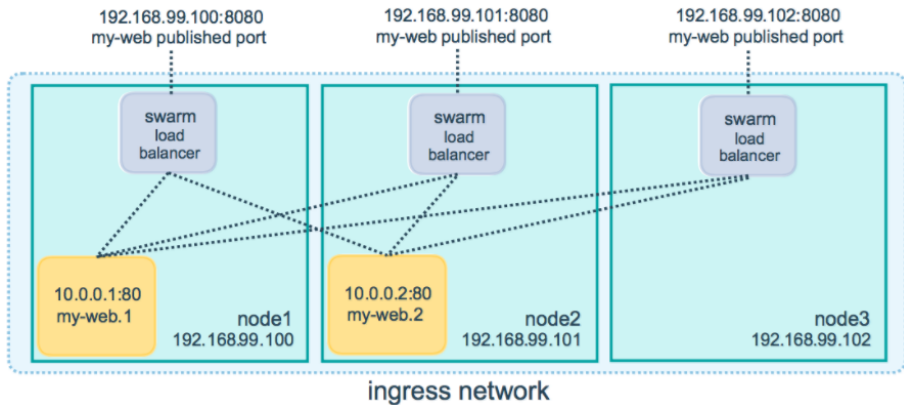
CMD ["python", "app.py"]

# Балансировка нагрузки

docker-compose.yml

```
version: "3"
services:
  web:
    # replace username/repo:tag with your name and image details
    image: username/repo:tag
    deploy:
      replicas: 5
      resources:
        limits:
          cpus: "0.1"
          memory: 50M
      restart_policy:
        condition: on-failure
    ports:
      - "80:80"
    networks:
      - webnet
networks:
  webnet:
```

# Swarm-ы



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# Сборка в Docker

- ▶ Приложение: <https://github.com/trikset/trikRuntime>
  - ▶ Прошивка для робота, C++ с Qt
- ▶ Dockerfile:  
<https://github.com/trikset/trikRuntime/blob/master/docker/Dockerfile>
- ▶ .travis.yml:  
<https://github.com/trikset/trikRuntime/blob/master/.travis.yml>

# Jenkins

- ▶ Continuous Delivery-система
  - ▶ Похожа на Travis, но более конфигурируема
- ▶ Работает локально
  - ▶ Следовательно, требует настройки и хостинга
  - ▶ Следовательно, может использоваться в корпоративном окружении
- ▶ Имеет кучу плагинов на все случаи жизни
- ▶ Опенсорсный, очень популярен по сей день
  - ▶ Начинался в 2005 в Sun как Hudson

# Jenkinsfile

```
pipeline {  
  agent any  
  stages {  
    stage('build') {  
      steps {  
        sh 'mvn --version'  
      }  
    }  
  }  
}
```



## Более продвинутые шаги

```
pipeline {  
  agent any  
  stages {  
    stage('Deploy') {  
      steps {  
        retry(3) {  
          sh './flakey-deploy.sh'  
        }  
  
        timeout(time: 3, unit: 'MINUTES') {  
          sh './health-check.sh'  
        }  
      }  
    }  
  }  
}
```

# Jenkins и Docker

```
pipeline {  
  agent { docker 'maven:3.5.2-jdk-8-slim' }  
  stages {  
    stage('build') {  
      steps {  
        bat 'mvn --version'  
      }  
    }  
  }  
}
```

# Переменные окружения

```
pipeline {
  agent any

  environment {
    DB_ENGINE = 'sqlite'
    AWS_ACCESS_KEY_ID = credentials('AWS_ACCESS_KEY_ID')
    AWS_SECRET_ACCESS_KEY = credentials('AWS_SECRET_ACCESS_KEY')
  }

  stages {
    stage('Build') {
      steps {
        sh 'printenv'
      }
    }
  }
}
```

# Слежение за тестами

```
pipeline {  
  agent any  
  stages {  
    stage('Test') {  
      steps {  
        sh './gradlew check'  
      }  
    }  
  }  
  post {  
    always {  
      junit 'build/reports/**/*.xml'  
    }  
  }  
}
```

# Деплой, ручное подтверждение

```
pipeline {  
  agent any  
  stages {  
    ...  
    stage('Deploy - Staging') {  
      steps {  
        sh './deploy staging'  
        sh './run-smoke-tests'  
      }  
    }  
    stage('Sanity check') {  
      steps {  
        input "Does the staging environment look ok?"  
      }  
    }  
    stage('Deploy - Production') {  
      steps {  
        sh './deploy production'  
      }  
    }  
  }  
}
```

# Jenkins Blue Ocean

The screenshot displays the Jenkins Blue Ocean interface for a pipeline named "creating-a-pipeline-in-blue-ocean 3". The top navigation bar includes tabs for "Pipeline", "Changes", "Tests", and "Artifacts", along with icons for search, edit, settings, and a "Logout" button. Below the navigation bar, the pipeline's status is shown: "Branch: master" with a checkmark, "Commit: f8f31f2", and a duration of "2m 22s". The pipeline's progress is visualized as a horizontal line with five stages: "Start", "Build", "Test", "Deliver", and "End". The "Build" and "Test" stages are marked with green checkmarks, indicating successful completion. The "Deliver" stage is currently active, marked with a blue circle and a play icon. Below the progress bar, the "Steps Deliver" section is visible, showing two steps: a "Shell Script" step (duration 13s) and a "Wait for interactive input" step (duration 1m 27s). The "Wait for interactive input" step is currently active, displaying a message: "Finished using the web site? (Click 'Proceed' to continue)". Below the message are two buttons: "Proceed" and "Abort".

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