Continuous Deployment

EECS 2311 - Software Development Project

Wednesday, February 27, 2019

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Software deployment

- For your midterm submission, you created a release of your software manually

- In practice, the steps that create a new release that gets deployed once new code is pushed to the master branch can be automated

  - This is **Continuous Deployment**

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Gradle

- Gradle is a modern build automation tool that a software project can use to automate tasks related to deployment

- Gradle comes installed with the latest version of Eclipse
  - If you don't have it, you can install it through the Eclipse Marketplace (search for Buildship)

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Adding Gradle to your project

- You can add Gradle to any existing Eclipse project
  - Right-click on the project name -> Configure -> Add Gradle Nature
  - Then open the Gradle Tasks window
    - Window -> Show View -> Other -> Gradle
  - Under build setup, right-click on init -> Run Gradle Tasks
  - If you now right-click on the project name -> Gradle -> Refresh Gradle Project, you should be able to see the build.gradle file in Package Explorer
  - The build.gradle file describes all the tasks necessary to build and deploy your system

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Gradle code

- Gradle uses a language called Groovy to express the necessary tasks

- We provide a sample build.gradle file that you can use as a starting point for your project

- Start by watching this video prepared by Daniel (the course TA):
  - https://www.youtube.com/watch?v=r5DIuWPUwE0&t=12m30s

- Daniel uses the command-line to run Gradle but you can also do it through the Gradle Tasks window in Eclipse

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Circle CI

- Once you are able to build your system using Gradle, follow the instructions on Circle CI in this video

  - https://www.youtube.com/watch?v=r5DIuWPUwE0&t=40m40s

- Login to circleci.com with your Github credentials

  - This way Circle CI has access to your Github repositories

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Circle CI

- Continue with the second video
    - https://www.youtube.com/watch?v=cK-0pOX749k

- Once everything is set up, Circle CI will be able to use your Gradle scripts to build your project

- Use the provided config.yml file and adjust for your project

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Full pipeline

- Once everything is set up correctly, you should be able to:

1. Push a new version to the master branch of your project

2. Relax while the new version is tested automatically and a new release is created in your github page for your users

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Lab Task

- Set up the Gradle – Circle CI pipeline for your project (as a team)

- Demonstrate to the TA that pushing a new version to the master branch creates a new release on your github page

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