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Circle Ci Training: Continuous Integration

2 days (14 hours)

Presentation

[Circle CI](#) continuous integration and deployment platform automates the process of creating builds and unit tests. Validated and used by Coin Base, DSC and Sony, Circle CI stands out for its functionalities, rapid configuration and large number of tools, as well as its ability to manage numerous tests. What's more, Circle CI's flexibility makes it easy to adapt to user-selected environments such as Android, Linux or Apple macOS.

Circle CI was named one of the leaders in Continuous Integration by [Forrester](#) in 2017.

Continuous Integration is a set of essential practices that will help you save time and increase efficiency. This system, discovered by Grady Booch, automates the process of executing unit tests and detecting integration problems right from the start of development. The main aim of this method is to improve developers' code, a practice that is increasingly used by large companies such as Amazon and Facebook.

As with all our training courses, we'll be using the latest software ([Circle CI 3.1](#)).

Objectives

- Master the implementation of continuous integration
- Automate the construction of your applications
- Setting up Circle CI
- Code sharing via hosting services
- Continuous application testing
- Validate developers' compliance with development standards

Target audience

Web developer, Architect, Extreme Programming (XP) test team

Prerequisites

Basic knowledge of a source manager

Further information

We also offer [GitLab CI](#) for Continuous Delivery & Integration.

CIRCLE CI TRAINING PROGRAM

PRESENTATION OF CONTINUOUS INTEGRATION

- Why switch to continuous integration?
- Introduction to agility
- Continuous integration: presentation, positioning in an agile approach
- Development process, unit/integration testing.
- Solutions Advantages & Disadvantages : State of the art
 - GitLab CI
 - Semaphore
 - Team Foundation Build / VSTS
 - Gump
 - Jenkins
 - Solano
 - Shippable
 - Bamboo
 - Puppet Pipelines
 - Continua CI
 - JetBrains TeamCity
 - Travis CI
 - QuickBuild
 - CruiseControl
 - GoCD
 - IBM UrbanCode Build
 - AWS CodeBuild
 - Codeship

INTRODUCTION TO THE CONCEPT OF CIRCLE BASES

- CircleCI Overview
- Language processing on Circle CI
- Write YAML
- Using the CircleCI CLI
- Test configuration locally

- LES ORBES
 - Orb creation
 - Using orbs
 - Orb testing
- **EXECUTORS**
 - Choose an executor type
 - iOS app testing
 - CircleCI Docker Images
 - Using custom images
 - Using private images
- **ADVANCED CONFIG**
 - Using shell scripts
 - Browser test configuration
 - Database configuration
 - Executing Docker commands
 - Using Docker Compose

APPLY CIRCLE CI TO YOUR PROJECTS

- GitHub and Bitbucket
- Enable GitHub checks
- Building Open Source projects
- Using notifications
- API token management
- Using environment variables
- Using contexts
- Activate construction processing
- Setting up iOS code signing

USING CIRCLE CI

- **STATUS**
 - Use of containers
 - Adding status badges
 - Storage of construction artifacts
 - Debugging with SSH
 - Debugging Java memory errors
 - Collecting test metadata
 - Generation of code coverage metrics
 - Using Insights
- **TRIGGERS**
 - Ignore and cancel constructions
 - Using the API to trigger jobs
 - Using workflows to plan jobs

- DEPLOYMENT
 - Deployment on AWS ECR / ECS
 - Using wire on CircleCI
 - Publish snapshot packages
 - Using Artifactory
 - Publish packages on packagecloud

Companies concerned

This training course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.