

# CSYE 6225 – Network Structures & Cloud Computing

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# Circle CI

## Features:

- CircleCI is a cloud-based system — no dedicated server required, and you do not need to administrate it. It also offers an on-prem solution that allows you to run it in your private cloud or data center.
- CircleCI caches requirements installation. It checks 3rd party dependencies instead of constant installations of the environments needed
- You can trigger SSH mode to access container and make your own investigation
- It has a free plan even for a business account

# Circle CI cont...

**Programming Language** - Python, Node.js, Ruby, Java, Go, etc

**OS** - Ubuntu (12.04, 14.04), Mac OS X (paid accounts)

**Technology** - Github, Bitbucket

**Cloud Platform** - AWS, Azure, Heroku, Docker, dedicated server

# Circle CI cont...

## Pros:

- Fast start
- CircleCI has a free plan for enterprise projects
- It's easy and fast to start
- Lightweight, easily readable YAML config
- You do not need any dedicated server to run CircleCI

# Circle CI cont...

## Cons:

- CircleCI supports only 2 versions of Ubuntu for free (12.04 ,14.04) and MacOS as a paid part
- Despite the fact CircleCI do work with and run on all languages it supports only the following programming languages "out of the box":  
Go, Haskell, Java, PHP, Python, Ruby/Rails, Scala
- You may need some 3rd party software to make some customization

# Travis CI

## Features:

- Travis CI and CircleCI are almost the same
- Both of them have YAML file as a config, Are cloud-based and have support of Docker

## What does TravisCI offer that CircleCI doesn't?

- Option to run tests on Linux and Mac OS X at same time
- Supports more languages out of the box:  
Android, C, C#, C++, Clojure, Crystal, D, Dart, Erlang, Elixir, F#, Go, Groovy, Haskell, Haxe, Java, JavaScript (with Node.js), Julia, Objective-C, Perl, Perl6, PHP, Python, R, Ruby, Rust, Scala, Smalltalk, Visual Basic
- Support of build matrix

# Travis CI cont...

## Pros:

- Build matrix out of the box
- Fast start
- Lightweight YAML config
- Free plan for open-sourced projects
- No dedicated server required



# Travis CI cont...

## Cons:

- Price is higher compared to CircleCI, no free enterprise plan
- You may need some 3rd party software to make some customization



# Jenkins

## Features:

- Jenkins is a self-contained Java-based program, ready to run out-of-the-box, with packages for Windows, Mac OS X and other Unix-like operating systems
- With hundreds of plugins in the Update Center, Jenkins integrates with practically every tool in the continuous integration and continuous delivery toolchain
- Jenkins can be extended via its plugin architecture, providing nearly infinite possibilities for what Jenkins can do
- Jenkins Pipeline. That's a suite of plugins which supports implementing and integrating continuous delivery pipelines into Jenkins. Pipeline provides an extensible set of tools for modeling simple-to-complex delivery pipelines "as code" via the Pipeline DSL
- Allows you to launch builds with various conditions.
- Allows you to launch builds with various conditions.

# Jenkins cont...

## **Pros:**

- Price (it's free)
- Customization
- Plugins system
- Full control of the system

# Jenkins cont...

## Cons:

- Dedicated server (or several servers) are required. That results in additional expenses.
- Time needed for configuration / customization

# Conclusion

## What CI system to chose?

- CircleCI is recommended for small projects, where the main goal is to start the integration as fast as possible.
- Travis CI is recommended for cases when you are working on the open-source projects, that should be tested in different environments
- Jenkins is recommended for the big projects, where you need a lot of customizations that can be done by usage of various plugins. You may change almost everything here, still this process may take a while. If you are planning the quickest start with the CI system Jenkins might not be your choice