# Jenkins

What it is and how it is used for ooRexx/NetRexx

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Session title: "Jenkins - What it is and how it is used for ooRexx/NetRexx"

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Session abstract:
The concept of automated building & testing using Jenkins is explained and the different platforms for which ooRexx are built automatically are presented.

Credentials

P.O. Jonsson have a MSc in engineering physics and worked as a development engineer before taking up a post as a patent examiner at the European Patent Office (EPO) some 30 years ago. At the EPO he came into contact with Rexx as it was used to automate search procedures. In his spare time he used Rexx and later ooRexx to create in-house search tools that are now part of the toolbox for all examiners at the EPO.
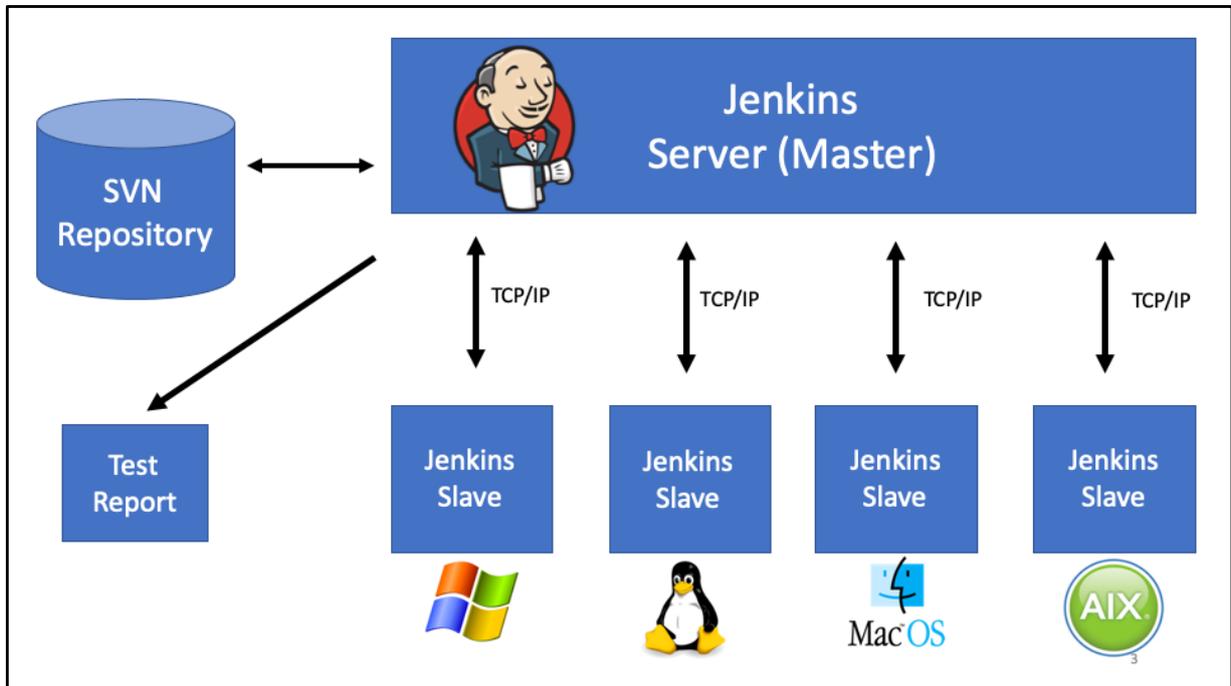
Jenkins Master – Slave Concept

https://jenkins.io/

Presented is Jenkins and how Jenkins is used to automate ooRexx and Netrexx builds

Jenkins can be used to automate all sorts of tasks related to building, testing, and delivering or deploying software.

The system works with a single master and a number of slaves (sometime called agents) The master can be set up to check a repository and activate builds.

For new commits we will have hourly builds

Shown here are Slaves for Windows, Linux, MacOS and Unix

# Jenkins Master

- Jenkins is a self-contained, Java-based, automation **server**
- Can be installed on any machine with a Java Runtime (JRE)
- More than 1500 Plugins available
- Open Source
- Used for building, testing, and uploading ooRexx/NetRexx

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Jenkins is a webb server used to control other machines.

Can also run in a container, like Docker

# Jenkins Slaves (or Agents)

- Can be set to do various tasks under the control of the Master
- Can be almost any machine accepting connection from Remote
- Can be setup to use SSH Protocol for communication
- Do not need any further modifications (except the build environment)

The master will download a small part necessary for the communication to all slaves

This is the login page of Jenkins master, on top the internet address pointing to this page

The Jenkins server presents itself with a GUI that is divided in separate parts
To the top left various administrative tasks
At the bottom left there is a list of the machines defined
In the middle all tasks (Jobs) are listed Blue button means a successful task a Grey or Red button indicates a problem
here you can maybe see that all the builds passed (blue) and that all the tests failed (example screen only)

| | |
|---|---|
| • master | • T20 running Jenkins @DE (P.O.) |
| • AIX 7.1 | • AIX (ppc64) @Polarhome.com (René) |
| • IBMZ | • Linux (s390x) @NL (René) |
| • ams-01 | • Linux (amd64) @NL (René, NetRexx) |
| • Naffnet01 | • Linux (amd64) @UK (Dave Woodman) |
| • pos-Mac-mini | • macOS (x86_64) @DE (P.O.) |
| • pos-Pi-2B | • Linux (arm) @DE (P.O.) |
| • pos-Windows | • Windows 10 (x86) @DE (P.O.) |
| • Ubuntu16 | • Linux (amd64) |
| • master | • Uploading Artefacts (ooRexx builds) |

master -> The master is used to launch & collect the builds
AIX 7.1 -> Building ooRexx for AIX 7.17 (Unix) Power PC hardware ?
IBMZ -> Building ooRexx for LinuxONE (SLES/390) SUSE Linux Enterprise Server (SLES), mainframe hardware System 390
ams-01 -> NetRexx build on java 1.8
naffnet01 -> Building ooRexx for CentOS 7
pos-Mac-mini -> Building ooRexx for MacOS
pos-Pi-2B -> Building ooRexx 5.0 for Raspbian 9.4
pos-Windows -> Building ooRexx for Windows 32-bit Building ooRexx for Windows 64-bit
ubuntu16 -> Building ooRexx for Ubuntu 16.04 Building also a Debug version
The master is also used to upload ooRexx builds to sourceforge
All ooRexx machines also run the test suite for ooRexx whenever a build has succeeded.

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- macOS Slave
- Raspberry PI Slave
- Windows Slave
- Jenkins Master
- Space for Hire!

Jenkins Master Dell PowerEdge T20 Minitower-Server
- Quad-Core Intel Xeon Processor
- 12 GB RAM
- 250 GB SSD
- OS Ubuntu 18.04.3 LTS

Jenkins Windows Slave Dell GX760 Desktop
- Core 2 Duo Intel Processor
- 8,00 GB RAM
- 225 GB SSD
- 500 GB HD
- OS Windows 10 PRO, Build 1809

Jenkins Raspberry Pi Slave Raspberry Pi 2B
- ArmV7 quadcore, 900 MHz Processor
- 1 GB RAM
- 16 GB SD card
- 32 bit OS OS Raspbian GNU/Linux 9 (stretch)

Jenkins MacOS Slave Mac Mini
- i5 Intel Processor
- 4 GB Ram
- 125 GB SSD
- 137 GB HD
-   OS macOS Mojave 10.14.6

Thank you for your attention!

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