

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

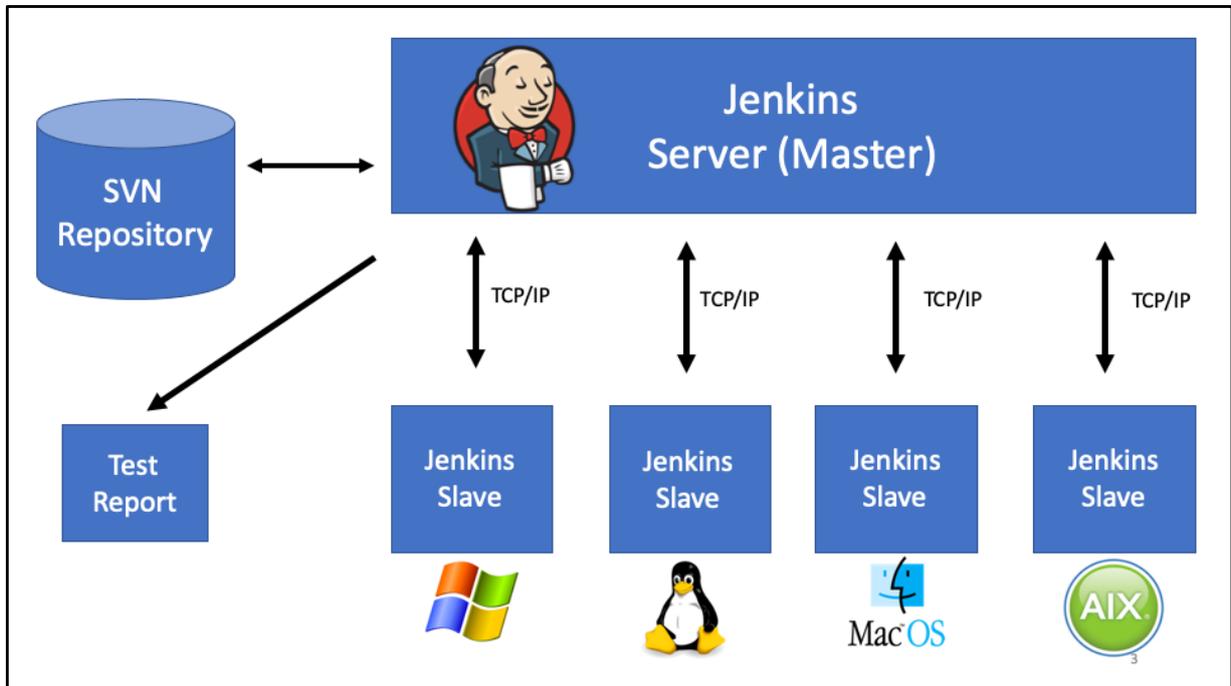
<https://jenkins.io/>



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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 (sometimes 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 web 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)

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

http://build.oorexx.org/



Welcome to Jenkins!

[Neuen Benutzer registrieren.](#)

Username

Passwort

Sign in

Keep me signed in

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

The screenshot shows the Jenkins web interface for 'The Rexx Language Association's netRexx and ooRexx Build Server'. The interface is divided into several sections:

- Left Sidebar:** Contains administrative tasks such as 'Element anlegen', 'Benutzer', 'Build-Verlauf', 'Projektbeziehungen', 'Fingerabdruck überprüfen', 'Meine Ansichten', 'Lockable Resources', 'Zugangsdaten', and 'Ansicht anlegen'. It also shows 'Build-Warteschlange' (no builds planned) and 'Build-Processor-Status' for various machines like 'master', 'AIX 7.1', 'IBMZ', 'ams-01', 'naffnet01', 'pos-Mac-mini', and 'pos-Pi-2B'.
- Main Content Area:** Displays a table of build jobs. The table has columns for 'S' (Success), 'W' (Warning), 'Name', 'Letzter Erfolg', 'Letzter Fehlschlag', and 'Letzte Dauer'. Jobs are color-coded: blue for successful, grey for warning, and red for failure. For example, 'ooRexx-jvm-1.8-build' is successful (blue), 'ooRexx-AIX71-build' has a warning (grey), and 'ooRexx-CentOS7-test' has failed (red).
- Bottom Legend:** Explains the symbols: 'S' for Success, 'M' for Missing, 'L' for Locked. It also includes RSS feed links: 'RSS Alle Builds', 'RSS Nur Fehlschläge', and 'RSS Nur jeweils letzter Build'.

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) |

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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!



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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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