

## Task

1. Install prerequisites for Jenkins server (Java)

```
sudo apt-get install openjdk-8-jre
```

```
java -version
```

```
openjdk version "1.8.0_312"  
OpenJDK Runtime Environment (build 1.8.0_312-8u312-b07-0ubuntu1~20.04-b07)  
OpenJDK 64-Bit Server VM (build 25.312-b07, mixed mode)
```

2. Install Jenkins from command line

```
kirill@kirill-VirtualBox:/etc/nginx/sites-available$ curl -fsSL https://pkg.jenkins.io/debian-stable/jenkins.io.key | sudo tee \  
> /usr/share/keyrings/jenkins-keyring.asc > /dev/null  
kirill@kirill-VirtualBox:/etc/nginx/sites-available$  
kirill@kirill-VirtualBox:/etc/nginx/sites-available$ echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] \  
> https://pkg.jenkins.io/debian-stable binary/ | sudo tee \  
> /etc/apt/sources.list.d/jenkins.list > /dev/null  
kirill@kirill-VirtualBox:/etc/nginx/sites-available$ sudo apt-get update  
kirill@kirill-VirtualBox:/etc/nginx/sites-available$ sudo apt-get install jenkins
```

## Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log ([not sure where to find it?](#)) and this file on the server:

```
/var/lib/jenkins/secrets/initialAdminPassword
```

Please copy the password from either location and paste it below.

Administrator password

3. Install and configure Nginx server for navigation to Jenkins without port in URL. URL should have the following pattern – <http://jenkins>

```

GNU nano 4.8                                     conf.d/jenkins.conf
upstream jenkins {
    keepalive 32;
    server 127.0.0.1:8080;
}

# Required for Jenkins websocket agents
map $http_upgrade $connection_upgrade {
    default upgrade;
    '' close;
}

server {
    listen      80 default;

    server_name _;

    # this is the jenkins web root directory
    # (mentioned in the /etc/default/jenkins file)
    root        /var/run/jenkins/war;

    access_log   /var/log/nginx/jenkins.access.log;
    error_log    /var/log/nginx/jenkins.error.log;

    # pass through headers from Jenkins that Nginx considers invalid
    ignore_invalid_headers off;

    location ~ "^/static/[0-9a-fA-F]{8}\/(.*)" {
        # rewrite all static files into requests to the root
        # E.g /static/12345678/css/something.css will become /css/something.css
        rewrite "^/static/[0-9a-fA-F]{8}\/(.*)" /$1 last;
    }

    location /userContent {
        # have nginx handle all the static requests to userContent folder
        # note : This is the $JENKINS_HOME dir
        root /var/lib/jenkins/;
        if (!-f $request_filename){
            # this file does not exist, might be a directory or a /**view** url
            rewrite (.*) /$1 last;
            break;
        }
        sendfile on;
    }

    location / {
        sendfile off;
        proxy_pass      http://jenkins;
        proxy_redirect   default;
        proxy_http_version 1.1;

        # Required for Jenkins websocket agents
        proxy_set_header    Connection      $connection_upgrade;
        proxy_set_header     Upgrade         $http_upgrade;

        proxy_set_header     Host            $host;
        proxy_set_header      X-Real-IP      $remote_addr;
        proxy_set_header      X-Forwarded-For $proxy_add_x_forwarded_for;
        proxy_set_header      X-Forwarded-Proto $scheme;
        proxy_max_temp_file_size 0;

        #this is the maximum upload size
        client_max_body_size    10m;
        client_body_buffer_size 128k;

        proxy_connect_timeout    90;
        proxy_send_timeout        90;
        proxy_read_timeout        90;
        proxy_buffering            off;
        proxy_request_buffering    off; # Required for HTTP CLI commands
        proxy_set_header Connection ""; # Clear for keepalive
    }
}

```

192.168.1.10/login?from=%2F

Getting Started

## Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log ([not sure where to find it?](#)) and this file on the server:

`/var/lib/jenkins/secrets/initialAdminPassword`

Please copy the password from either location and paste it below.

Administrator password

4. Configure Jenkins settings in global configuration UI (java, authentication, email)

## JDK

### JDK installations

Add JDK

JDK

Name

JDK-8u221

☒ Install automatically



☒ Install Oracle Java SE Development Kit from the website



Version

Java SE Development Kit 8u221



☒ I agree to the Java SE Development Kit License Agreement



# Configure Global Security

## Authentication

☐ Disable remember me

## Security Realm

☐ Delegate to servlet container



☒ Jenkins' own user database



☐ Allow users to sign up



☐ LDAP



☐ Unix user/group database



☐ None

## Authorization

☐ Anyone can do anything



☐ Legacy mode



☒ Logged-in users can do anything



☐ Allow anonymous read access



☐ Matrix-based security



☐ Project-based Matrix Authorization Strategy



☒ Use SMTP Authentication



User Name

forjenkins1@gmail.com

Password

\*\*\*\*\*

☒ Use SSL



☐ Use TLS

SMTP Port



465

Reply-To Address

Charset

UTF-8

☒ Test configuration by sending test e-mail

Test e-mail recipient

forjenkins1@gmail.com

Email was successfully sent

Test configuration

## Test email #8 Входящие x



**address not configured yet** <forjenkins1@gmail.com>

кому: мне ▾

This is test email #8 sent from Jenkins

5. Install 6 Jenkins plugins (Scriptler, Green Balls, ChuckNorris, Multiple SCMs plugin, Email Extension Plugin, Role-based Authorization Strategy)

### Scriptler

Scriptler allows you to store/edit/execute Groovy scripts on any of the slaves/nodes... no need to copy paste Groovy code anymore. **3.4**

Beside administer your scripts, Scriptler also provides a way to share scripts between users via hosted script catalogs on the internet.

[Uninstall](#)

Enabled	Name	Version	Previously installed version	Uninstall
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### Green Balls

Because green is better than blue! For color blind support configure user property.



**1.15.1**

[Uninstall](#)

### ChuckNorris Plugin

ChuckNorris plugin displays a picture of Chuck Norris (instead of Jenkins the butler) and a random Chuck Norris 'The Programmer' fact on each build page. **1.4**

[Uninstall](#)

### Multiple SCMs plugin



This plugin enables the selection of multiple source code management systems for a build. For example, it enables checking out the source code from one SCM while checking out legacy or third-party code from another.

0.8

Uninstall

**This plugin is deprecated.** In general, this means that it is either obsolete, no longer being developed, or may no longer work. [Learn more.](#)

### Email Extension Plugin



This plugin is a replacement for Jenkins's email publisher. It allows to configure every aspect of email notifications: when an email is sent, who should receive it and what the email says

2.86

Uninstall

### Role-based Authorization Strategy



Enables user authorization using a Role-Based strategy. Roles can be defined globally or for particular jobs or nodes selected by regular expressions.

3.2.0

Uninstall

6. Remove anonymous access by configuring Role Strategy plugin.

Project-based Matrix Authorization Strategy

User/group	Overall	Credentials			Agent			Job			Run	View	SCM	Lockable Resources	Scriptler																				
	Administer	Read	Create	Delete	Update	View	Build	Configure	Connect	Create	Delete	Disconnect	Build	Cancel	Configure	Create	Delete	Discover	Move	Read	Workspace	Delete	Replay	Update	Configure	Create	Delete	Read	Tag	Reserve	Unlock	View	Configure	RunsScripts	
Anonymous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Authenticated Users	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kirill Yatsevich	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Different security realm has different conventions about group names. The best way to go about it is to login and see what group names you belong to, by going to [this diagnostics page](#).  
 (from [Matrix Authorization Strategy Plugin](#))

- Create free-style job with simple build step to output some message to console. Trigger build. Configure job to be build periodically.

## Console Output

```

Started by user Kirill Yatsevich
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/Job-1
[Job-1] $ /bin/bash /tmp/jenkins8736973235493188250.sh
Hello from Jenkins
Finished: SUCCESS
  
```

### Build Triggers

- ☐ Trigger builds remotely (e.g., from scripts)
- ☐ Build after other projects are built
- ☒ Build periodically

Schedule

H/10 \* \* \* \*

- Setup Jenkins job to build of any selected open-source project. Output should be some package (artifact). Project could be even archiving of random files – this will be enough for completion.

Execute shell

Command

```
#!/bin/bash
pwd
echo "Hello from jenkins" >> index.txt
```

See [the list of available environment variables](#)

Advanced...

Add build step ▾

Post-build Actions

Activate Chuck Norris

Archive the artifacts

Files to archive ?

index.txt

Advanced...

## Console Output

```
Started by user unknown or anonymous
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/Job-2
[Job-2] $ /bin/bash /tmp/jenkins4918590112157223552.sh
/var/lib/jenkins/workspace/Job-2
Archiving artifacts
Finished: SUCCESS
```