



How to Install and Configure GitLab on Linux

Aaron Kili | Last Updated: October 16, 2023 | Read Time: 3 mins | [CentOS, RedHat](#) | [22 Comments](#)

Gitlab is an open-source, powerful, robust, scalable, secure, as well as efficient software development and collaboration platform for all stages of the DevOps lifecycle.

It allows you to plan your development process; code, and verify; package software, and release it with an in-built continuous delivery feature; automate configurations management, and monitor software performance.

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It has features such as an issue tracker, moving of issues between projects, time tracking, very powerful branching tools, file locking, merge requests, custom notifications, project roadmaps, burndown charts for project and group milestones, and so much more.

Gitlab is one of the [best alternatives to Github](#) for hosting your open-source projects, which you will find out there.

In this article, we will explain how to install and configure GitLab (Git-repository manager) on [RHEL-based](#) and [Debian-based](#) distributions.

Step 1: Install and Configure Required Dependencies

1. First, start by installing the following necessary dependencies using the [yum](#) or [apt](#) package manager as shown.

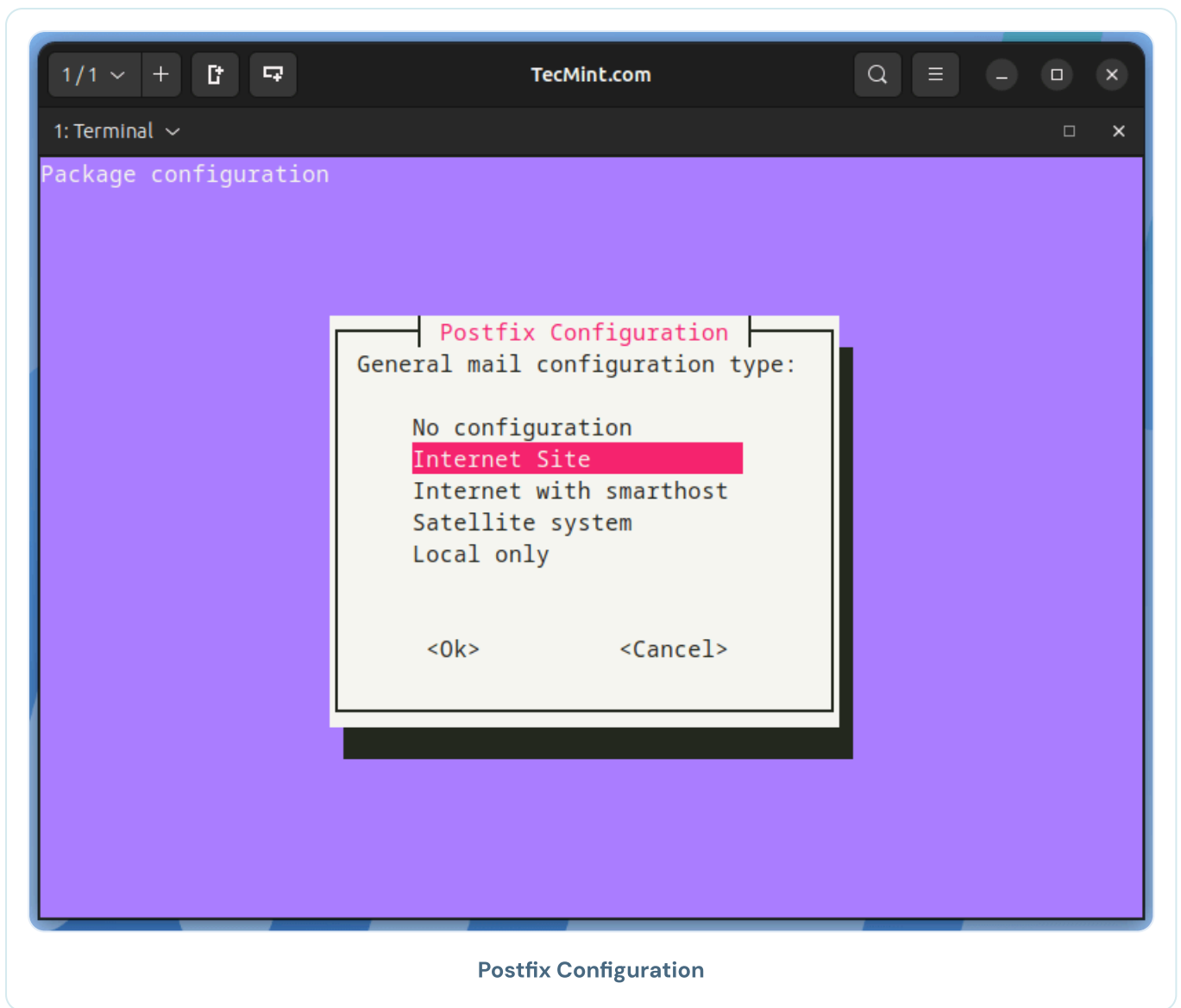
```
sudo yum install curl polycoreutils-python-utils [On RHEL-based]
sudo apt install curl polycoreutils-python-utils [On Debian-based]
```

2. Next, install the Postfix service to send notification emails, and enable it to start at system boot, then check if it is up and running using the following commands.

```
sudo yum install postfix      [On RHEL-based]
sudo apt install postfix      [On Debian-based]

sudo systemctl start postfix
sudo systemctl enable postfix
sudo systemctl status postfix
```

During Postfix installation a configuration window may appear. Select 'Internet Site' and use your server's external DNS for 'mail name' and press enter. If extra screens appear, continue to press enter to accept the defaults.



Postfix Configuration

Step 2: Add GitLab Repository and Install Package

3. Now add the GitLab package repository to your system by running the following script.

On RHEL-based systems:

```
curl https://packages.gitlab.com/install/repositories/gitlab/gitlab-ce/scri
```

On Debian-based systems:

```
curl https://packages.gitlab.com/install/repositories/gitlab/gitlab-ee/scri
```

4. Next, install the GitLab Community Edition package using the following command and make sure to change 'https://gitlab.tecmint.com' to the URL at which you want to access your GitLab instance from a web browser.

On RHEL-based systems:

```
sudo EXTERNAL_URL="https://gitlab.tecmint.com" yum install -y gitlab-ce
```

On Debian-based systems:

```
sudo EXTERNAL_URL="https://gitlab.tecmint.com" apt install -y gitlab-ee
```

Note: If you want to change your main URL, you can configure it in the GitLab main configuration file `/etc/gitlab/gitlab.rb` in the `external_url` section. Once changed, don't forget to reconfigure gitlab to apply the recent changes in the configuration file using the following command.

```
sudo gitlab-ctl reconfigure
```

5. If you have a system firewall enabled, you need to open ports 80 (HTTP) and 443 (HTTPS) to allow connections in the system firewall.

On RHEL-based systems:

```
sudo firewall-cmd --permanent --add-service=80/tcp  
sudo firewall-cmd --permanent --add-service=443/tcp  
sudo# systemctl reload firewalld
```

On Debian-based systems:

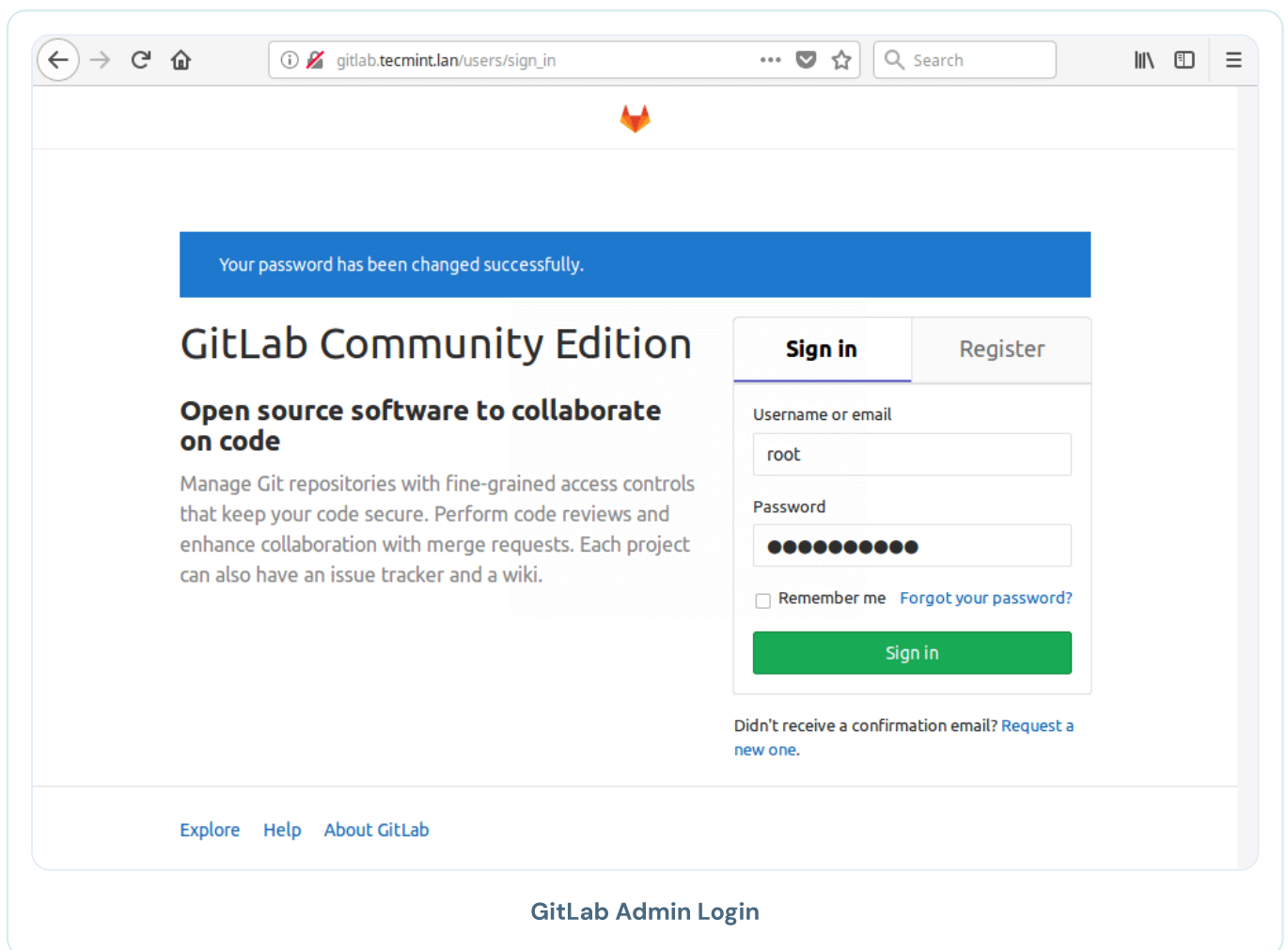
```
sudo ufw allow http  
sudo ufw allow https  
sydo ufw reload
```

Step 3: Perform Initial Gitlab Setup

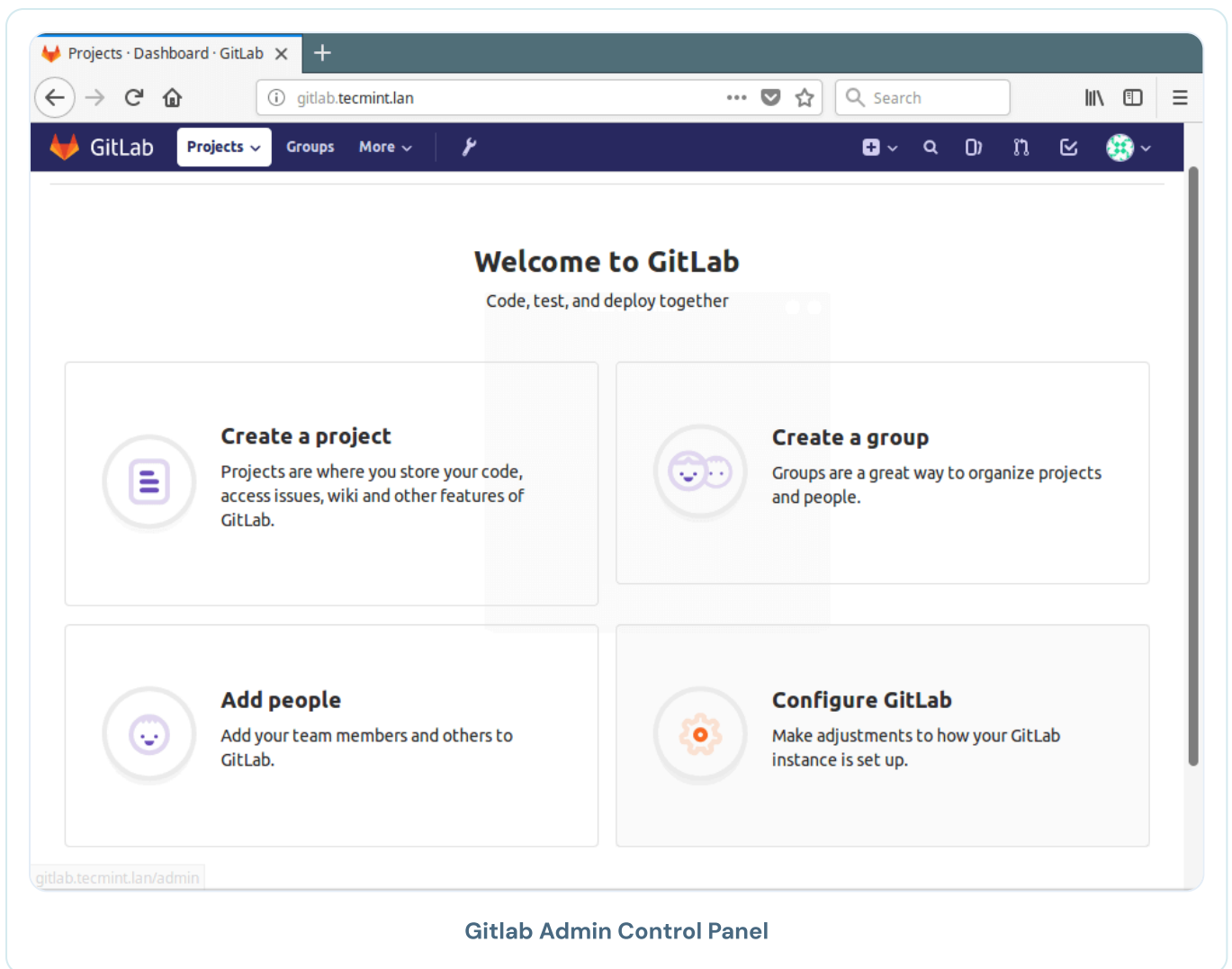
6. Now, open a web browser and access your gitlab instance using the following URL you set during installation.

```
https://gitlab.tecmint.com
```

7. On your first visit, you'll be redirected to a password reset screen, create a new password for your new admin account and click "Change your password". Once you set it, it will be redirected back to the login screen, and log in with the username root and the password you set.



8. After a successful login, it should take you to the admin user account as shown in the screenshot. From, here, you can create an object, create a group, add people, or configure your gitlab instance as you wish. You can also edit your user profile, configure your email, add SSH keys to your gitlab instance, and more.



For more information, go to Gitlab About Page: <https://about.gitlab.com/>

That's all for now! In this article, we have explained how to install and configure a Gitlab (Git-repository manager) on RHEL-based and Debian-based Linux distributions. If you have any questions or thoughts to add to this guide, use the comment form below to reach us.

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Aaron Kili

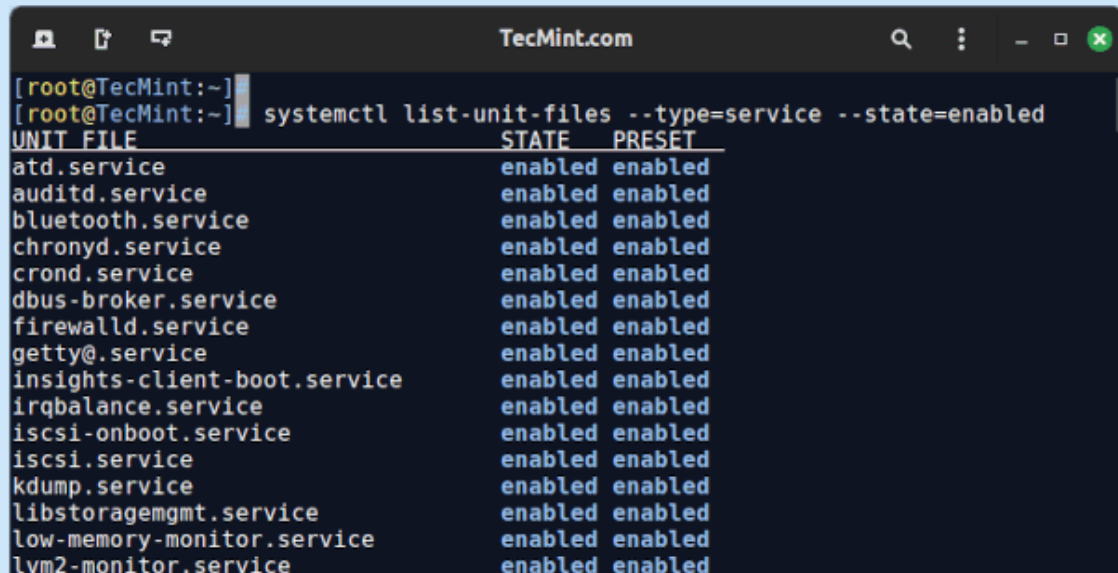
Aaron Kili is a Linux and F.O.S.S enthusiast, an upcoming Linux SysAdmin, web developer, and currently a content creator for TecMint who loves working with computers and strongly believes in sharing knowledge.

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```
[root@TecMint:~]
[root@TecMint:~] systemctl list-unit-files --type=service --state=enabled
UNIT FILE                                STATE   PRESET
atd.service                             enabled enabled
auditd.service                           enabled enabled
bluetooth.service                        enabled enabled
chronyd.service                          enabled enabled
crond.service                            enabled enabled
dbus-broker.service                      enabled enabled
firewalld.service                        enabled enabled
getty@.service                           enabled enabled
insights-client-boot.service              enabled enabled
irqbalance.service                       enabled enabled
iscsi-onboot.service                     enabled enabled
iscsi.service                             enabled enabled
kdump.service                             enabled enabled
libstoragemgmt.service                    enabled enabled
low-memory-monitor.service                enabled enabled
lvm2-monitor.service                      enabled enabled
```

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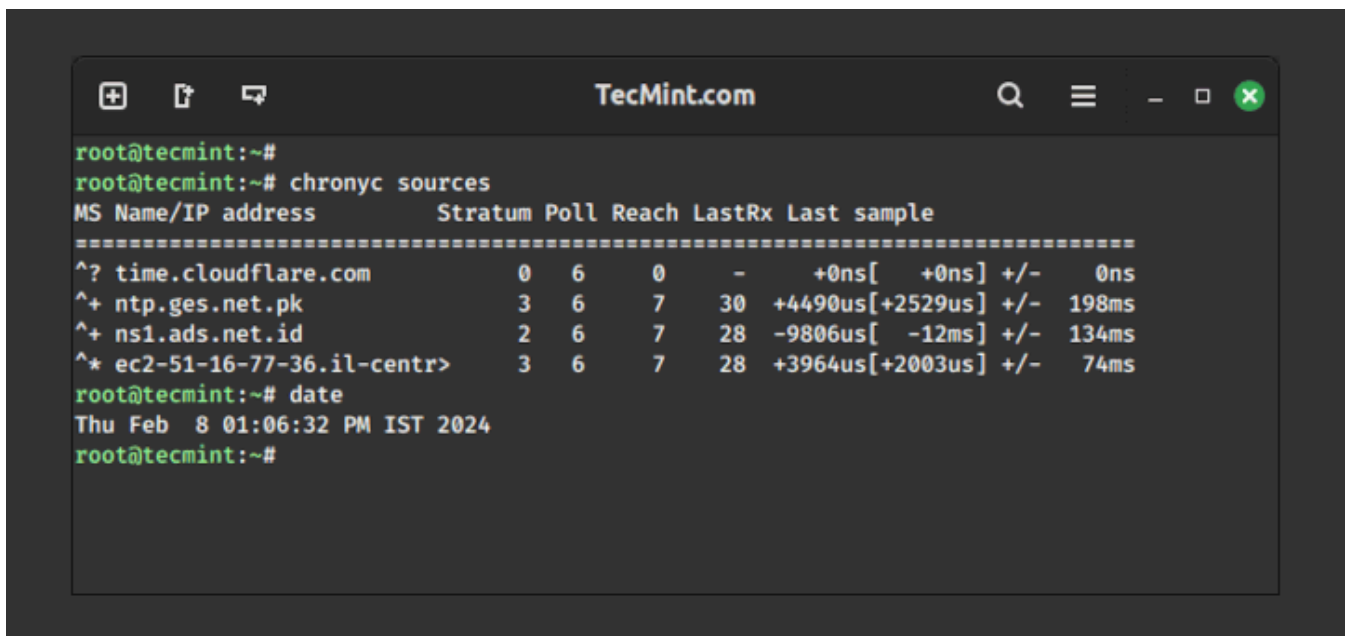
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```
root@tecmint:~#  
root@tecmint:~# chronyc sources  
MS Name/IP address         Stratum Poll Reach LastRx Last sample  
=====
```

MS Name/IP address	Stratum	Poll	Reach	LastRx	Last sample
^? time.cloudflare.com	0	6	0	-	+0ns[+0ns] +/- 0ns
^+ ntp.ges.net.pk	3	6	7	30	+4490us[+2529us] +/- 198ms
^+ ns1.ads.net.id	2	6	7	28	-9806us[-12ms] +/- 134ms
^* ec2-51-16-77-36.il-centr>	3	6	7	28	+3964us[+2003us] +/- 74ms

```
root@tecmint:~# date  
Thu Feb  8 01:06:32 PM IST 2024  
root@tecmint:~#
```

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DILEEP M.G

December 9, 2022 at 11:46 am

Hi,

How to enable https eg: `https://gitlab.tecmint.com` in Gitlab?

[Reply](#)

Admin



Ravi Saive

December 9, 2022 at 12:27 pm

@Dileep,

Use certbot to enable free HTTPS on-site as explained here –

<https://docs.gitlab.com/omnibus/settings/ssl/>

[Reply](#)

mahendra

April 5, 2022 at 5:53 pm

After the new installation of GitLab 14.9, add member Tab not visible in project->repository-> setting.

[Reply](#)

Marek

April 30, 2020 at 10:29 pm

Hi! Thank you for this awesome tutorial. I stumbled upon an issue – after installing GitLab runs on `domain.com` not on `gitlab.domain.com`, even though I've specified `EXTERNAL_URL` to be `gitlab.domain.com`.

Do I need to set up DNS to redirect `gitlab.domain.com` to some IP address? Do I need to get an additional public IP address to handle that subdomain? I'm new to this and might be doing something stupid

[Reply](#)

Vicente

December 6, 2019 at 8:10 pm

Does someone manage to install in CentOS 8? I couldn't find a way to get this working in CentOS 8.

[Reply](#)

David

November 21, 2019 at 5:45 pm

`polycoreutils-python` isn't included in any of the default repos, what repo was added to enable this?

[Reply](#)

Admin



Ravi Saive

November 25, 2019 at 10:18 am

@David,

Try to install the EPEL repository and see the package `polycoreutils-python` available.

[Reply](#)

David Wright

October 24, 2019 at 1:27 am

Hi, I have a development server running Redhat 7 I have Apache, PHP and MariaDB installed and working I am currently using port 443 for testing. Because this is a development server it is not accessible to the public it is only used to write new code on and test.

But I need GIT so I can utilize version control. So I wanted to install GITLABS on this server instead of standing up a new server for this. Because I am not accessing this from External location . can you tell me how can I access locally instead of this command:

```
"EXTERNAL_URL="http://gitlab.tecmint.com" yum install -y gitlab-ce"
```

any help would be Appreciated

Dave

[Reply](#)

Admin



Ravi Saive

October 24, 2019 at 10:30 am

@David,

Setup a local domain and install the GitLab Community Edition package on that local URL. Just see if it works..

[Reply](#)



Aaron Kili

October 24, 2019 at 1:14 pm

@David

You can add your local domain in the `/etc/hosts` file like this (replace `192.168.56.100` and `gitlab.mylocaldomain.lan` with your dev server's IP address and local domain respectively):

```
192.168.56.100 gitlab.mylocaldomain.lan
```

Save the file and close it. Then run the installation command like this:

```
# EXTERNAL_URL="http://gitlab.mylocaldomain.lan" yum install -y gitlab-ce
```

After installation, you can use the following URL in the browser (check the image in the screenshot in the article):

```
http://gitlab.mylocaldomain.lan
```

[Reply](#)**ramesh**

October 18, 2019 at 11:09 pm

In my case, I'm having some issues with SELinux. I was running `gitlab-ctl reconfigure` and I'm getting below error. Can you please help.

There was an error running `gitlab-ctl reconfigure`:

```
execute[semodule -i /opt/gitlab/embedded/selinux/rhel/7/gitlab-7.2.0-ssh-keygen.pp] (gitlab::selinux line 20) had an error:
Mixlib::ShellOut::ShellCommandFailed: Expected process to exit with [0], but received '1'
---- Begin output of semodule -i
/opt/gitlab/embedded/selinux/rhel/7/gitlab-7.2.0-ssh-keygen.pp ----
STDOUT:
STDERR: Failed to resolve typeattributeset statement at
/etc/selinux/targeted/tmp/modules/400/gitlab-7.2.0-ssh-keygen/cil:1
semodule: Failed!
---- End output of semodule -i /opt/gitlab/embedded/selinux/rhel/7/gitlab-7.2.0-ssh-keygen.pp ----
Ran semodule -i /opt/gitlab/embedded/selinux/rhel/7/gitlab-7.2.0-ssh-keygen.pp returned 1
```

[Reply](#)**Jaime**

April 18, 2019 at 1:39 am

In my case, Apache is using port 80 and port 443. Where are gitlab pages stored so that I can point Apache to there?

[Reply](#)

Saurabh

February 27, 2019 at 12:20 am

Can we integrate LDAP with Gitlab for Auth process?

[Reply](#)



Aaron Kili

February 27, 2019 at 12:13 pm

@Saurabh

It should be possible.

[Reply](#)



Parag Borle

February 17, 2019 at 11:52 pm

Can we configure gitlab high availability using DRBD ?

[Reply](#)**Daniel**

October 17, 2018 at 8:08 pm

```
# firewall-cmd --permanent --add-service=http
# firewall-cmd --permanent --add-service=https
or
# firewall-cmd --permanent --add-port=80/tcp
# firewall-cmd --permanent --add-port=443/tcp
```

[Reply](#)**Aaron Kili**

October 18, 2018 at 2:55 pm

@Daniel

Ooops, many thanks for the heads up. We will correct this in the article.

[Reply](#)**Jimmy**

February 14, 2019 at 12:59 am

Still an issue in the article

[Reply](#)**Aaron Kili**

February 17, 2019 at 1:47 pm

@Jimmy

We'll correct it! Thanks for the useful feedback.

[Reply](#)**zainul**

October 4, 2018 at 9:09 am

Please share the guide on how to configure email setup (postfix) for gitlab ce on centos7.

[Reply](#)**shai**

September 15, 2018 at 12:59 am

Thanks alot.

Here should be yum install -y gitlab-ce and not ee.

[Reply](#)

Admin

**Ravi Saive**

September 17, 2018 at 10:27 am

@Shai,

Thanks for pointing out that typo, corrected in the article.

[Reply](#)

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