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# Improve Website Performance – Install Memcached on RHEL 9

Ravi Saive | Last Updated: June 19, 2024 | Read Time: 3 mins | CentOS, Security | 15 Comments

**Memcached** is an open-source distributed memory object caching program that allows us to improve and speed up the performance of dynamic web applications by caching data and objects in Memory.

**Memcached** is also used to cache entire database tables and queries to improve the performance of the database. It is the only caching system available freely and used by many big sites like **YouTube**, **Facebook**, **Twitter**, **Reddit**, **Drupal**, **Zynga**, etc.

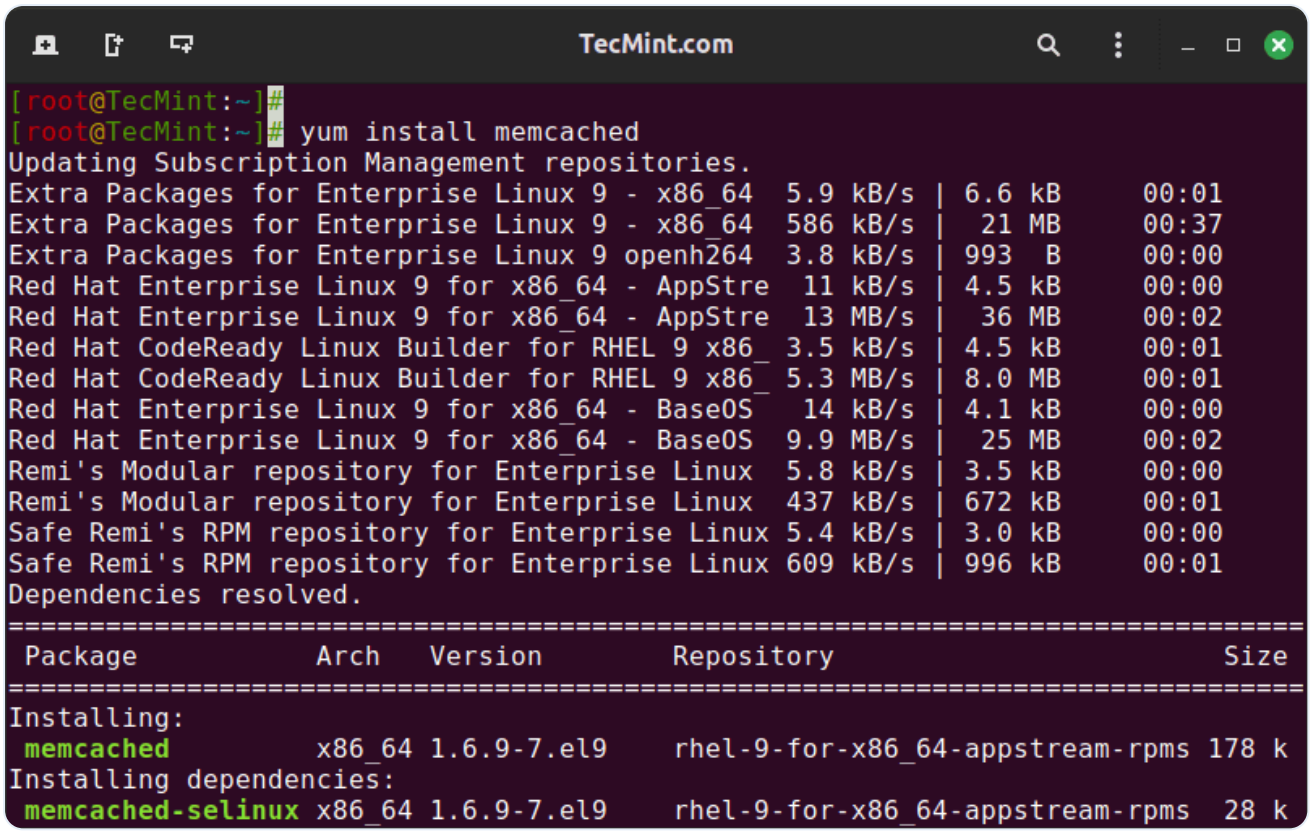
*[ You might also like: How to Install and Configure Memcached on CentOS 8 ]*

**Memcached** can commit to denial of service attacks if not correctly configured. In this article, we will explain how to install and secure your **Memcached** server on RHEL-based Linux distributions such as **Rocky Linux**, **AlmaLinux**, and **Fedora**.

## Installing Memcached in Linux

First, update your local software package index and then install **Memcached** from the official repositories using the following yum commands as root administrative user.

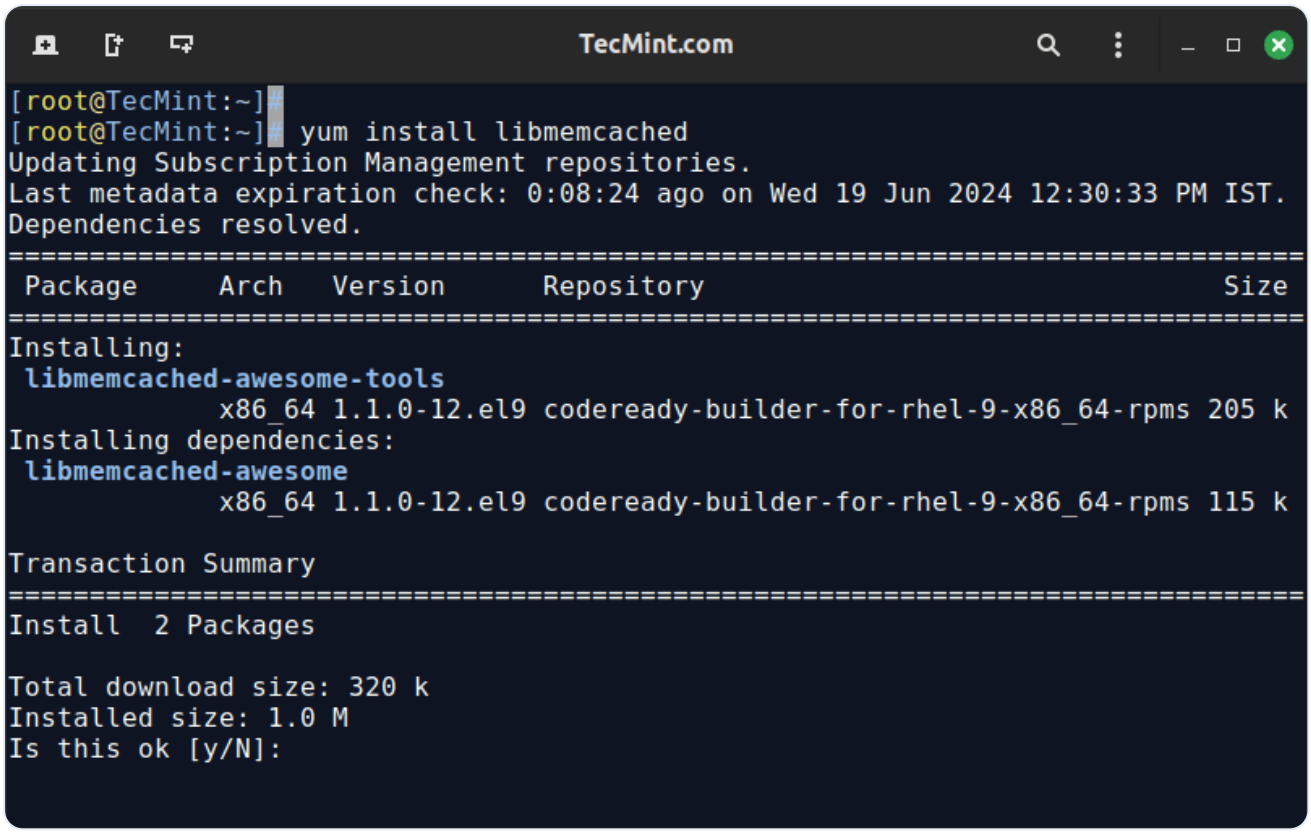
```
yum update
yum install memcached
```




Install Memcached in RHEL 9

Next, we will install **libmemcached** – a client library that offers a couple of tools to manage your Memcached server.

```
yum install libmemcached
```




Install libmemcached in RHEL

Memcached should now be installed on your system as a service, along with the tools that require you to test its connectivity. Now we can proceed further to secure its configuration settings.

## Securing Memcached Configuration Settings

To make assure that the installed Memcached service is listening on the `127.0.0.1` local interface, we will alter the `OPTIONS` variable in the `/etc/sysconfig/memcached` configuration file.

```
vi /etc/sysconfig/memcached
```

Search for the `OPTIONS` variable, and add the `-l 127.0.0.1,::1` to `OPTIONS` variable. These configuration settings will protect our server from denial-of-service attacks.

/etc/sysconfig/memcached

```
PORT="11211"
USER="memcached"
MAXCONN="1024"
CACHESIZE="64"
OPTIONS="-l 127.0.0.1,::1"
```

Secure Memcached in RHEL

Let's discuss each of the above parameters in detail.

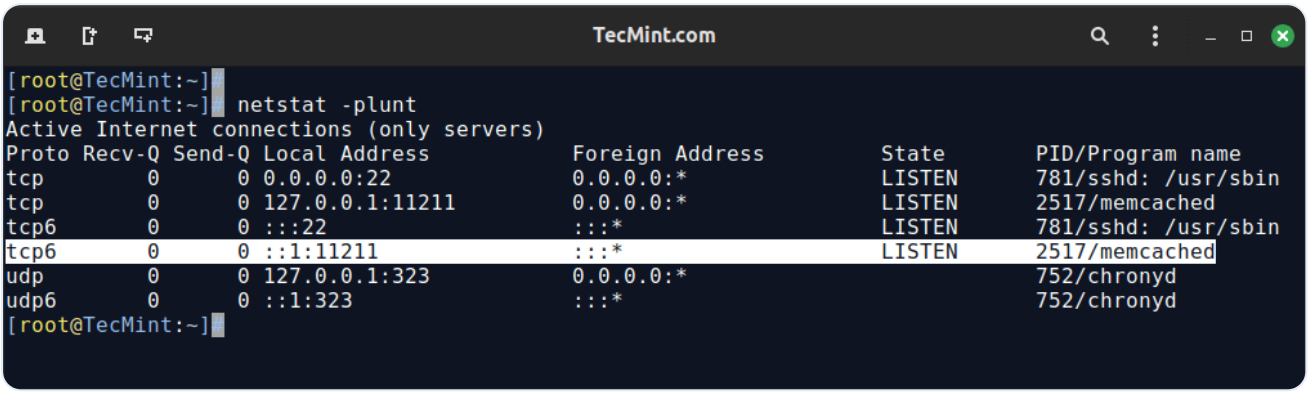
- PORT : The port used by Memcached to run.
- USER : The start-up daemon for the Memcached service.
- MAXCONN : The value used to set max simultaneous connections to 1024. For busy web servers, you can increase to any number based on your requirements.
- CACHESIZE : Set cache size memory to 2048. For busy servers, you can increase up to 4GB.
- OPTIONS : Set the IP address of the server, so that Apache or Nginx web servers can connect to it.

Restart and enable your Memcached service to apply your configuration changes.

```
systemctl restart memcached
systemctl enable memcached
```

Once started, you can confirm that your **Memcached** service is bound to the local interface and listening only on TCP connections using following [netstat command](#).

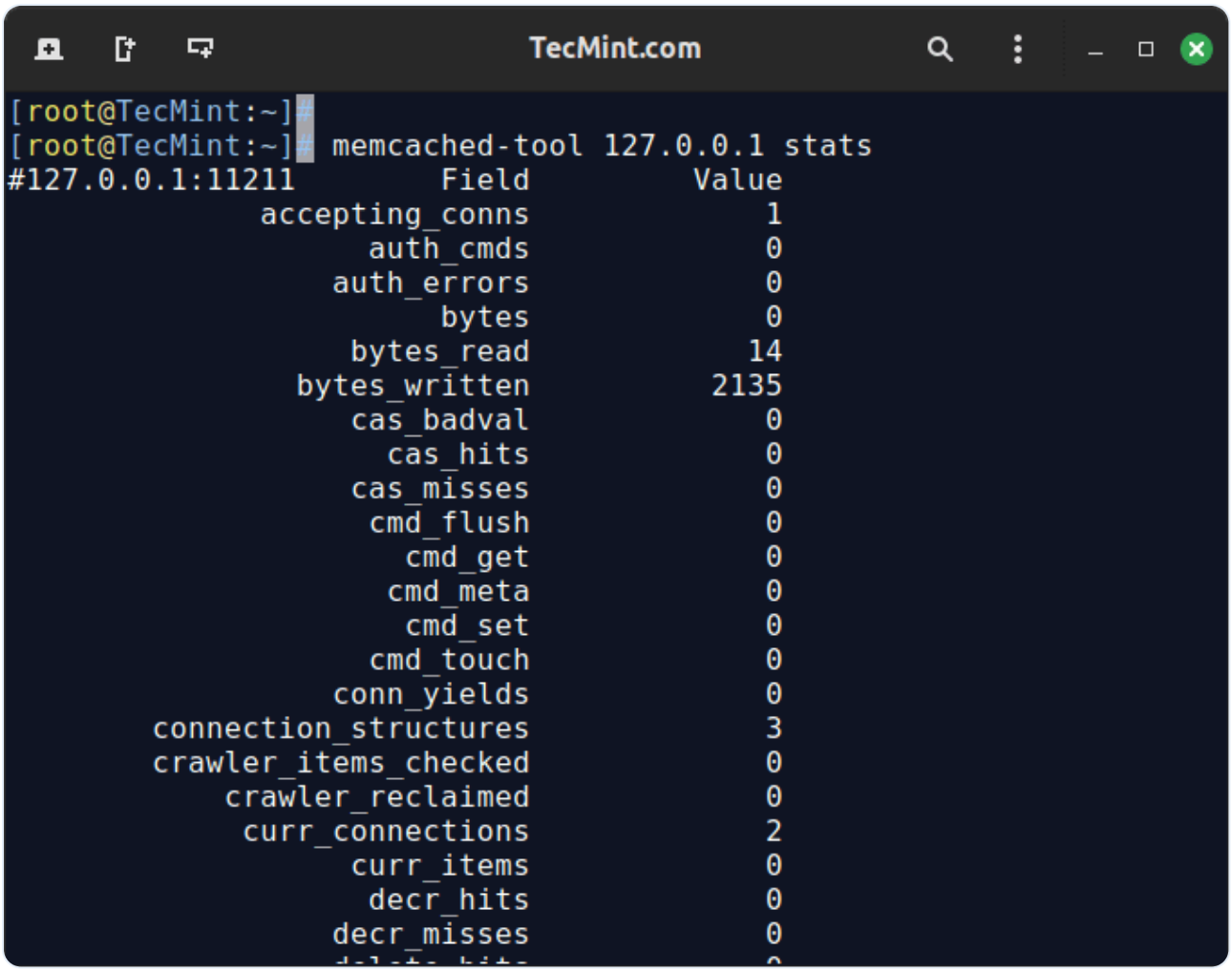
```
netstat -plunt
```




Check Memcached Server

You can also check the status of the server using the **memcached-tool** as shown.

```
memcached-tool 127.0.0.1 stats
```




Check Memcached Running Status

Now make sure to allow access to the **Memcached** server by opening a port `11211` on your firewall as shown.

```
firewall-cmd --permanent --zone=public --add-port=11211/tcp
```

## Test Memcached Installation

To verify that **Memcached** is working properly, you can connect to it using the **telnet** command.

```
telnet localhost 11211
```

If the connection is successful, you'll see a prompt similar to this:

Test Memcached Server

## Install Memcached PHP Extension

To install the **Memcached** PHP extension and integrate it with **Perl**, **Python**, **Apache**, and **Nginx** on a Linux system, you'll need to follow specific steps for each component.

For PHP:

```
yum install php-memcached
```

You may need to restart **Apache**, **Nginx**, or PHP-FPM after installation:

```
systemctl restart httpd
systemctl restart nginx
systemctl restart php-fpm
```

For Perl:

```
yum install perl-Cache-Memcached
```

For Python:

```
yum install python3-memcached
```

Once installed, configure your PHP, Perl, or Python applications to utilize Memcached for caching. This involves modifying application code to connect to the Memcached server and store/retrieve cached data.

## Conclusion

In this article, we have explained how to install and secure your Memcached server for the local network interface, aiming to optimize the performance of dynamic web applications by reducing database load through efficient caching.

If you have faced any issues during installation, do ask for help in our comment section below.

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**Ravi Saive**

I am an experienced GNU/Linux expert and a full-stack software developer with over a decade in the field of Linux and Open Source technologies

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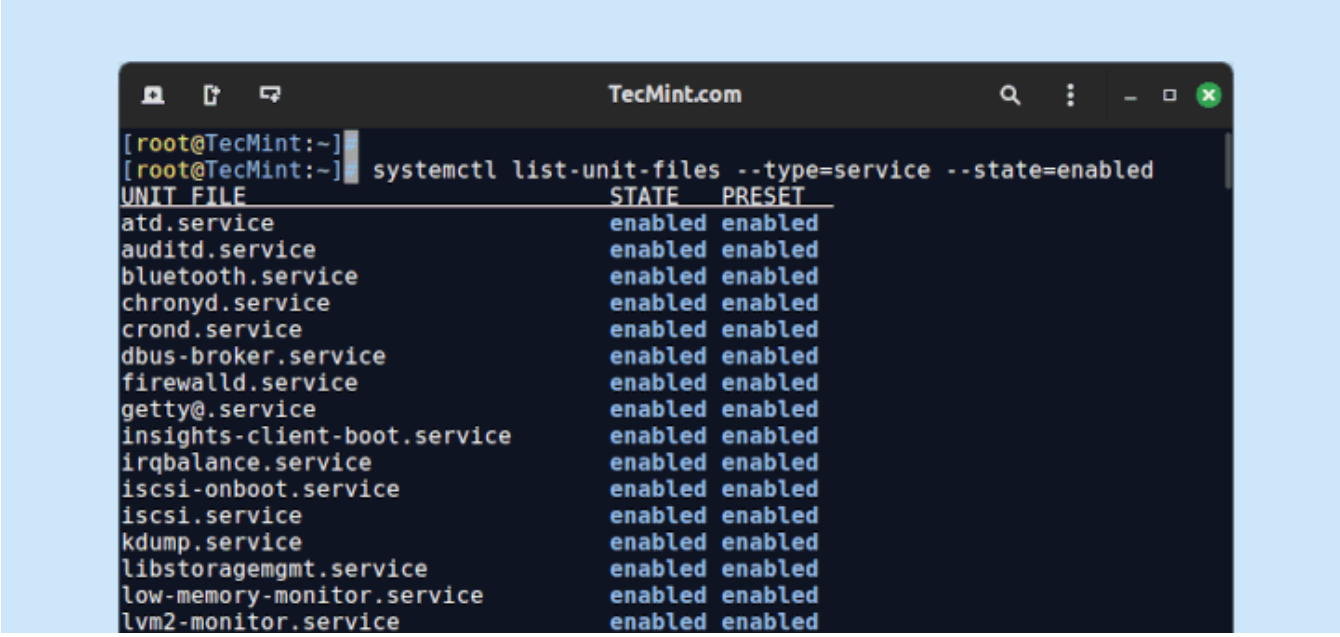


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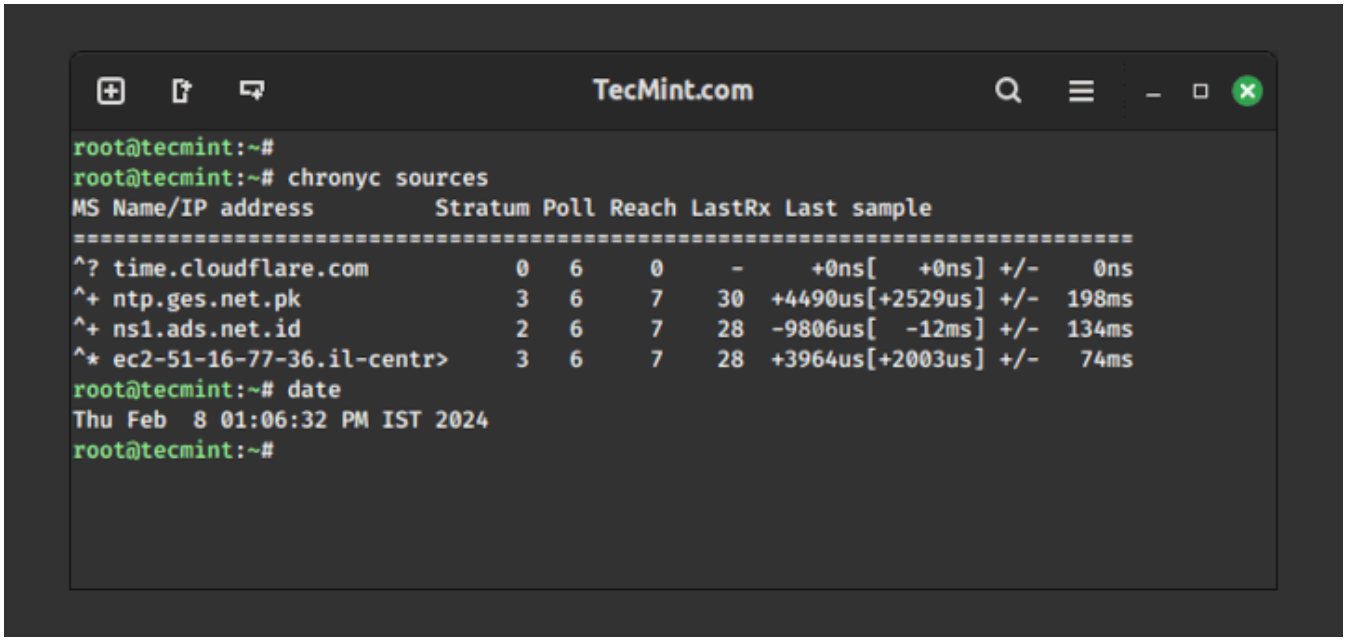


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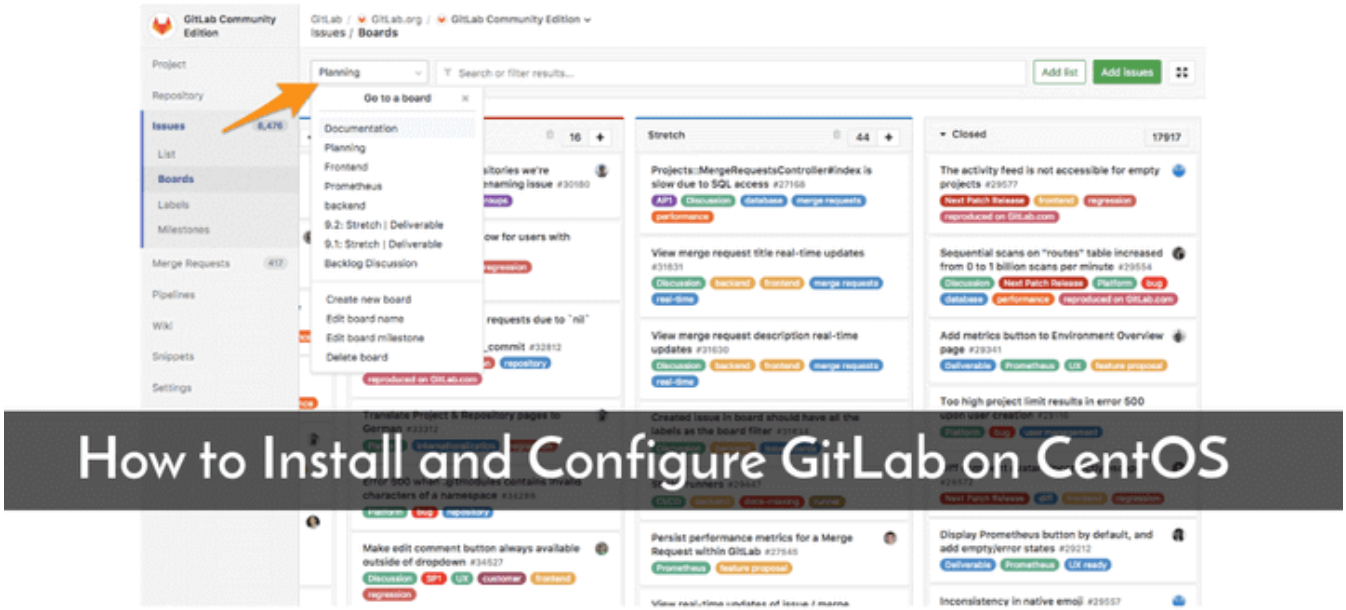


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## 15 Comments

Leave a Reply

**chriz**

March 26, 2020 at 9:54 am

Hi, I try your guide to activate Memcache on moodle, but moodle cannot activate the plugin. Turns out I must do: "**yum install php-pecl-memcached**"(with "d"), while the guide only mention "**yum install php-pecl-memcache**" (without "d").

I think it's because when I try it, moodle 3.8 uses the newer version. nevertheless, moodle docs ( `https://docs.moodle.org/38/en/Caching` ) links to this page and I think you should know.

OS: Centos 7, apache, php-fpm, and moodle 3.8.1.

overall, thanks for the guide.

Reply

**Orazio**

May 25, 2019 at 4:13 pm

Hi Ravi,

I followed this fantastic guide and installed **memcache**. Now on my server, if I test it from the console, memcache is installed, but if i try from PHP info it is not installed. I need to speed up **Prestashop** but even from the control panel of **Prestashop** **Memcache** it is not seen. What am I doing wrong?

Reply

Author

**Ravi Saive**

May 27, 2019 at 12:31 pm

@Orazio,

Please install Memcached PHP extension to work with Memcached daemon.

```
# yum install php-pecl-memcache
```

Reply

**olidev**

May 11, 2017 at 9:00 pm

Nicely explained. Why some prefer CentOS over Debian? To me, Debian has been really easy to setup. It was also really easy to configure Memcached with PHP on Debian. Do you think it is because of performance or maybe security?

Reply

**landy**

May 26, 2016 at 3:29 pm

With server have 1G ram, how many config Cachesize=?

Reply

**De Nguyen**

March 5, 2015 at 1:11 pm

Could you show me how about the hardware requirement to install Memcache?

Reply

Author

**Ravi Saive**

March 5, 2015 at 1:13 pm

@De Nguyen,
Memcached can be installed any system which has minimum 1GB RAM.

Reply

**bala**

September 24, 2014 at 8:12 pm

when editing memchached file pls put -l local host that is not “-1” thats “l”

Reply

**RAJ**

March 10, 2014 at 9:46 am

Hi,

Every thing fine but now how can we route all the Users to Memcached server to avail the cache service?

Reply

**Umesh Gaire**

December 3, 2013 at 3:28 pm

Hi, I am a subscriber of your site. And I found a confusion; at the firewall you have inserted the IP ranges from 172.16.1.1 to 172.16.1.10 for Port 11211

what I need to put there ? should I need to insert there my vps' ip address or local ipaddress ? Please help me. What I need to put there ?

Reply

Author

**Ravi Saive**

December 3, 2013 at 3:48 pm

Yes define your own server IP addresses.

Reply

**FiFi**

November 7, 2013 at 8:36 am

In the Enable EPEL Repository section, under RHEL 5/CentOS 5 64-bit, the second command has an extra "wget" at the start. It should just be an "rpm" command like the second command in the other related sections, but it has "wget rpm ..." and the "wget " is extra.

Reply

Author

**Ravi Saive**

November 7, 2013 at 6:46 pm

Thanks, corrected now..

Reply

**Ravi**

July 15, 2013 at 3:24 pm

Good one ....

Reply

**BiBi**

October 18, 2012 at 9:43 pm

thanks

Reply

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