



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.

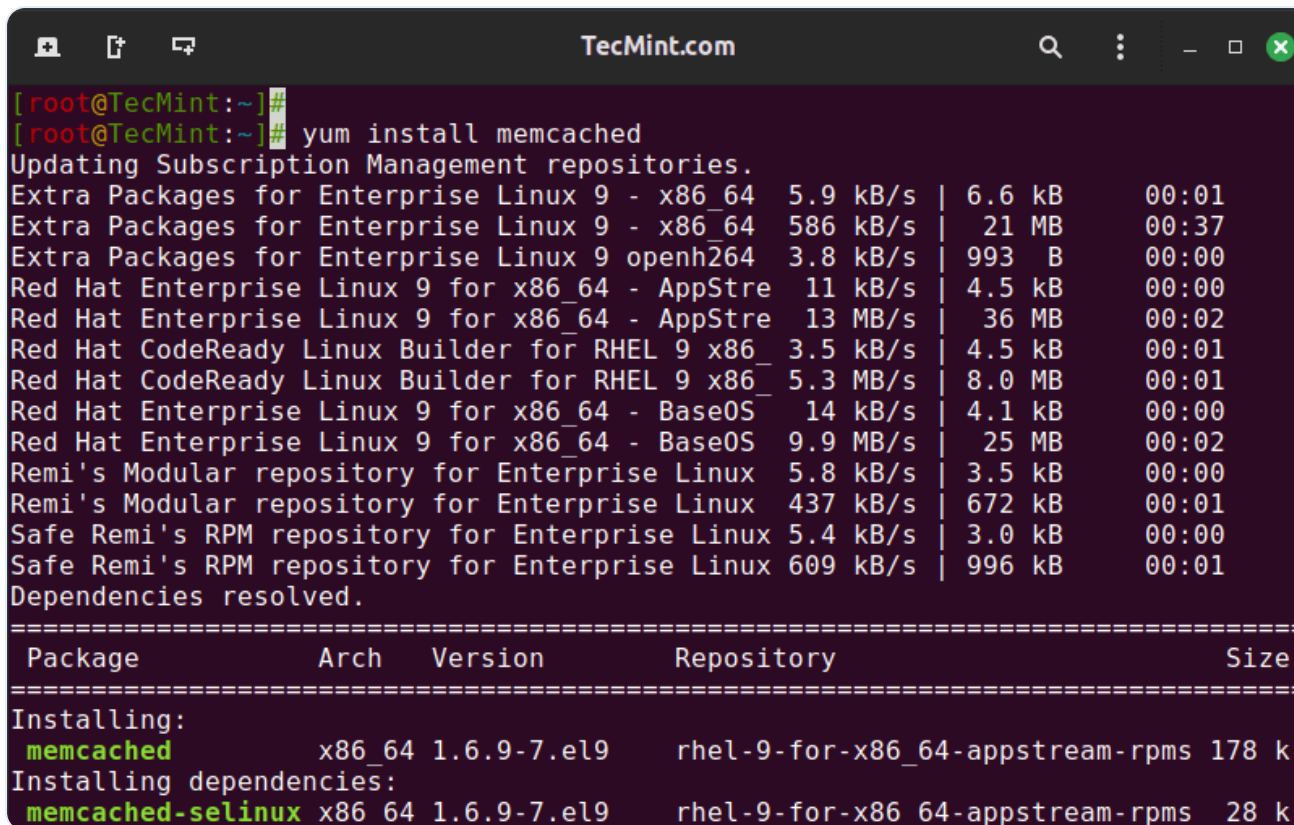
[You might also like: [How to Install and Configure Memcached on CentOS 8](#)]

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
```



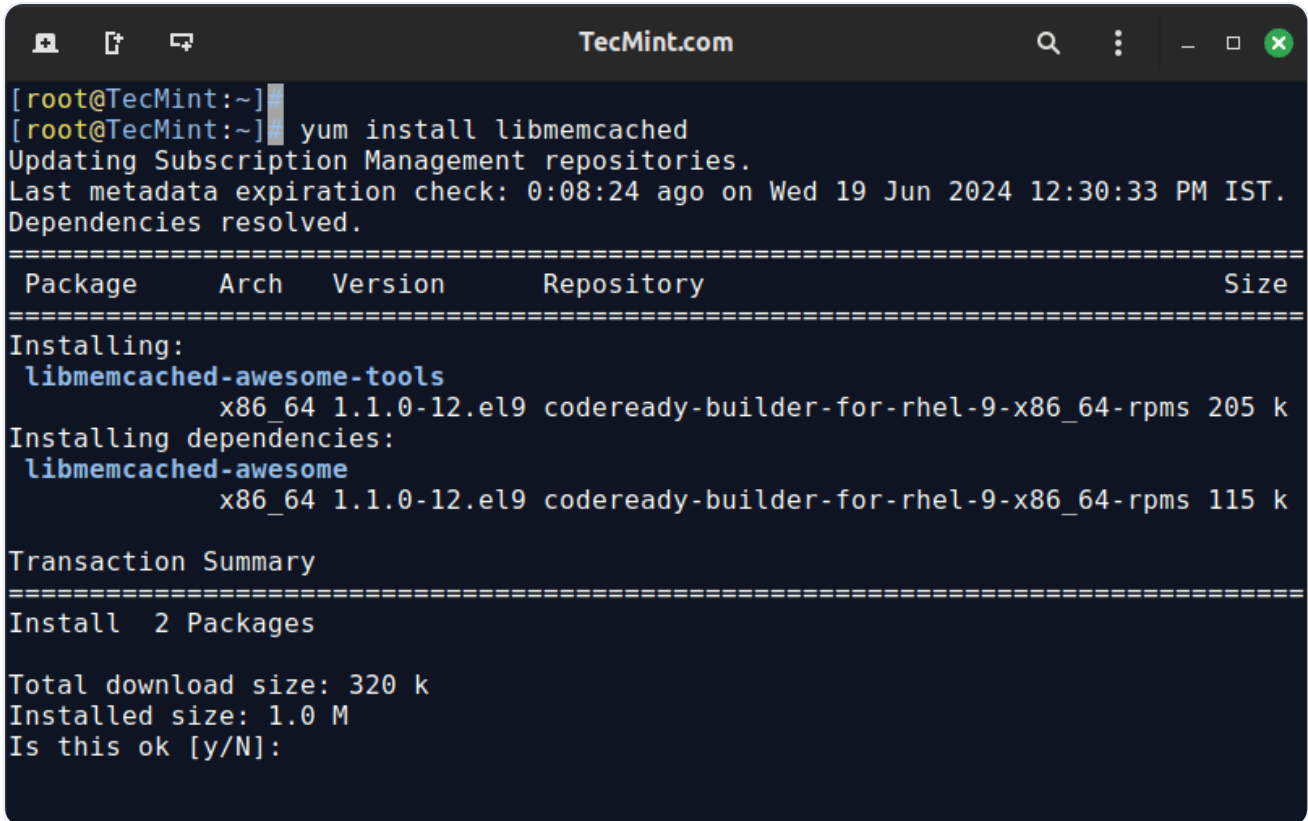
```
[root@TecMint:~]#  
[root@TecMint:~]# yum install memcached  
Updating Subscription Management repositories.  
Extra Packages for Enterprise Linux 9 - x86_64 5.9 kB/s | 6.6 kB 00:01  
Extra Packages for Enterprise Linux 9 - x86_64 586 kB/s | 21 MB 00:37  
Extra Packages for Enterprise Linux 9 openh264 3.8 kB/s | 993 B 00:00  
Red Hat Enterprise Linux 9 for x86_64 - AppStre 11 kB/s | 4.5 kB 00:00  
Red Hat Enterprise Linux 9 for x86_64 - AppStre 13 MB/s | 36 MB 00:02  
Red Hat CodeReady Linux Builder for RHEL 9 x86_ 3.5 kB/s | 4.5 kB 00:01  
Red Hat CodeReady Linux Builder for RHEL 9 x86_ 5.3 MB/s | 8.0 MB 00:01  
Red Hat Enterprise Linux 9 for x86_64 - BaseOS 14 kB/s | 4.1 kB 00:00  
Red Hat Enterprise Linux 9 for x86_64 - BaseOS 9.9 MB/s | 25 MB 00:02  
Remi's Modular repository for Enterprise Linux 5.8 kB/s | 3.5 kB 00:00  
Remi's Modular repository for Enterprise Linux 437 kB/s | 672 kB 00:01  
Safe Remi's RPM repository for Enterprise Linux 5.4 kB/s | 3.0 kB 00:00  
Safe Remi's RPM repository for Enterprise Linux 609 kB/s | 996 kB 00:01  
Dependencies resolved.  
=====
```

Package	Arch	Version	Repository	Size
Installing:				
memcached	x86_64	1.6.9-7.el9	rhel-9-for-x86_64-appstream-rpms	178 k
Installing dependencies:				
memcached-selinux	x86_64	1.6.9-7.el9	rhel-9-for-x86_64-appstream-rpms	28 k

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
```



```
[root@TecMint:~]# yum install libmemcached
Updating Subscription Management repositories.
Last metadata expiration check: 0:08:24 ago on Wed 19 Jun 2024 12:30:33 PM IST.
Dependencies resolved.
=====
Package      Arch    Version      Repository                                Size
=====
Installing:
libmemcached-awesome-tools
      x86_64 1.1.0-12.el9 codeready-builder-for-rhel-9-x86_64-rpms 205 k
Installing dependencies:
libmemcached-awesome
      x86_64 1.1.0-12.el9 codeready-builder-for-rhel-9-x86_64-rpms 115 k
Transaction Summary
=====
Install 2 Packages

Total download size: 320 k
Installed size: 1.0 M
Is this ok [y/N]:
```

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"  
CACHE_SIZE="64"  
OPTIONS="-l 127.0.0.1,::1"
```



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

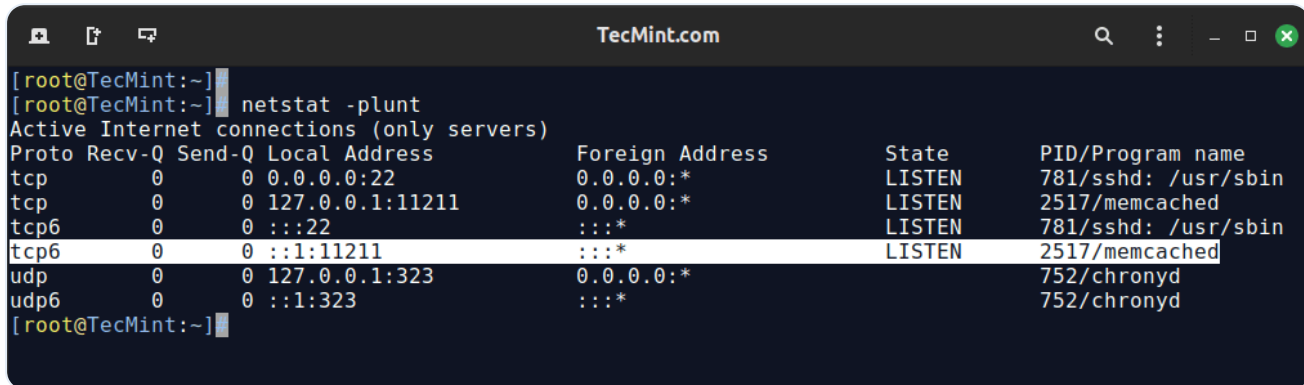
- **PORT** : The port used by Memcached to run.
- **USER** : The start-up daemon for the Memcached service.
- **MAXCONN** : The value used to set max simultaneous connections to 1024. For busy web servers, you can increase to any number based on your requirements.
- **CACHE_SIZE** : Set cache size memory 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
```

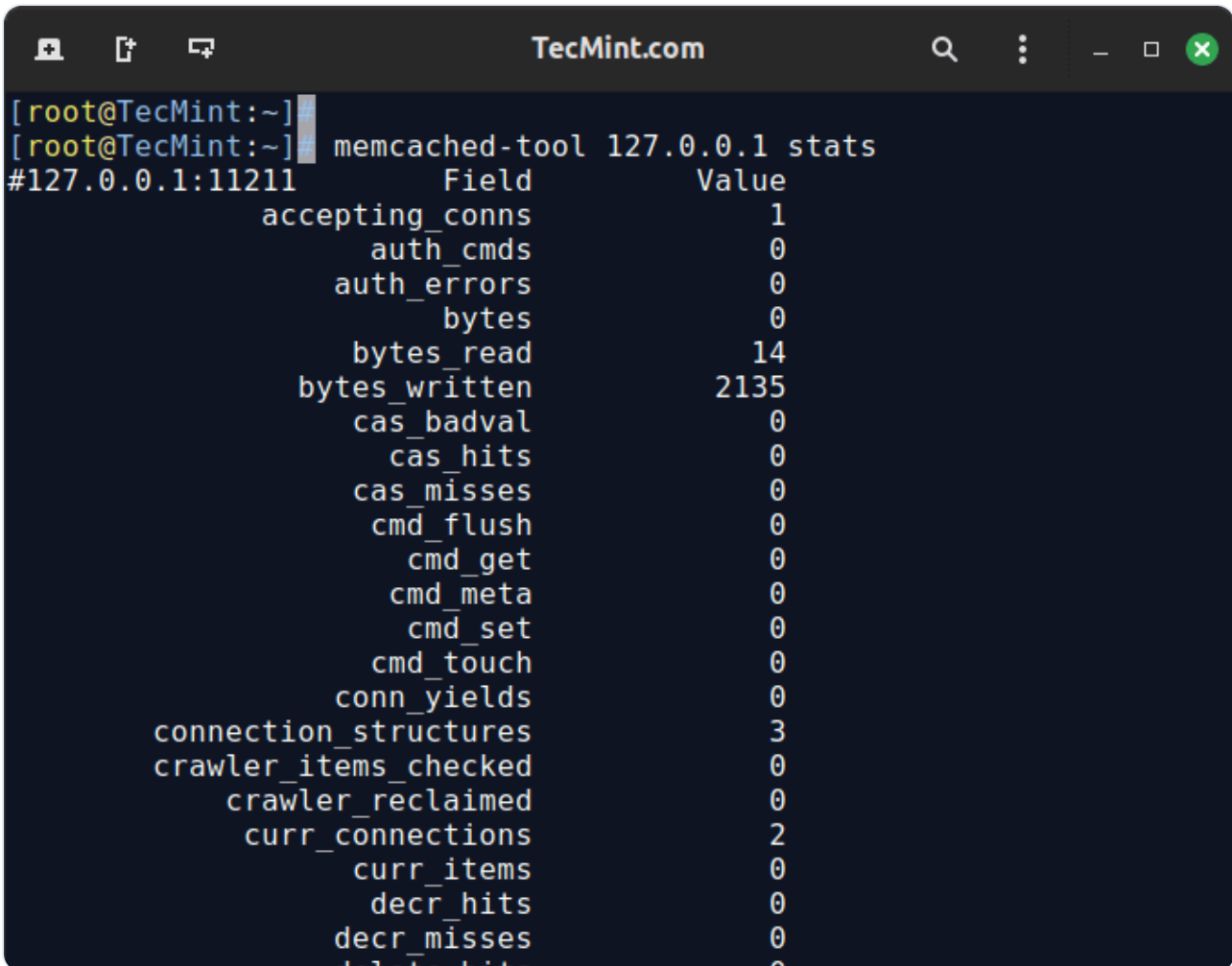


```
[root@TecMint:~]# netstat -plunt
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 0.0.0.0:22              0.0.0.0:*               LISTEN      781/sshd: /usr/sbin
tcp        0      0 127.0.0.1:11211         0.0.0.0:*               LISTEN      2517/memcached
tcp6       0      0 :::22                  :::*                    LISTEN      781/sshd: /usr/sbin
tcp6       0      0 :::1:11211             :::*                    LISTEN      2517/memcached
udp        0      0 127.0.0.1:323          0.0.0.0:*               *          752/chronyd
udp6       0      0 :::1:323               :::*                    *          752/chronyd
[root@TecMint:~]#
```

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
```



```
[root@TecMint:~]# memcached-tool 127.0.0.1 stats
#127.0.0.1:11211
Field Value
accepting_conns 1
auth_cmds 0
auth_errors 0
bytes 0
bytes_read 14
bytes_written 2135
cas_badval 0
cas_hits 0
cas_misses 0
cmd_flush 0
cmd_get 0
cmd_meta 0
cmd_set 0
cmd_touch 0
conn_yields 0
connection_structures 3
crawler_items_checked 0
crawler_reclaimed 0
curr_connections 2
curr_items 0
decr_hits 0
decr_misses 0
decr_hits 0
```

Check Memcached Running Status

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

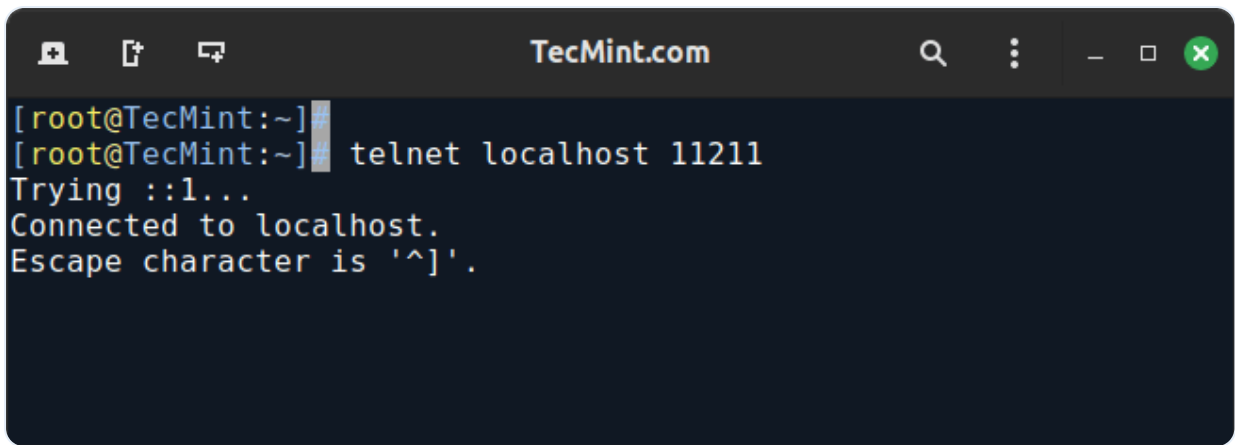
```
firewall-cmd --permanent --zone=public --add-port=11211/tcp
```

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:

A terminal window with a dark background and light-colored text. The window title bar shows 'TecMint.com' and standard window controls. The terminal output shows a root user at TecMint:~ prompt, followed by the command 'telnet localhost 11211'. The output shows 'Trying ::1...', 'Connected to localhost.', and 'Escape character is '^['.'.

```
[root@TecMint:~]#  
[root@TecMint:~]# telnet localhost 11211  
Trying ::1...  
Connected to localhost.  
Escape character is '^['.
```

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.

Hey TecMint readers,

Exciting news! Every month, our top blog commenters will have the chance to win fantastic rewards, like free Linux eBooks such as RHCE, RHCSA, LFCS, Learn Linux, and Awk, each worth \$20!

Learn [more about the contest](#) and stand a chance to win by [sharing your thoughts below!](#)

GIVEAWAY!

Win eBooks



www.tecmint.com

PREVIOUS ARTICLE:

[zzUpdate – Fully Upgrade Ubuntu to Latest Newer Release](#)

NEXT ARTICLE:

[How to Disable and Remove Unnecessary Services on Linux](#)



Ravi Saive

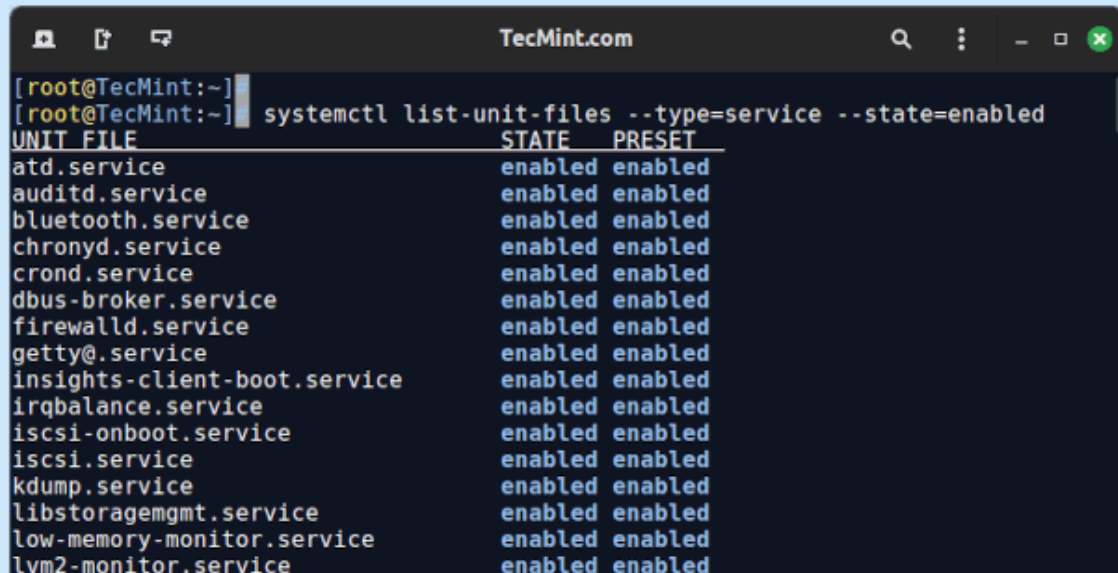
I am an experienced GNU/Linux expert and a full-stack software developer with over a decade in the field of Linux and Open Source technologies

Each tutorial at TecMint is created by a team of experienced Linux system administrators so that it meets our high-quality standards.

Join the [TecMint Weekly Newsletter](#) (More Than 156,129 Linux Enthusiasts Have Subscribed)

Was this article helpful? Please [add a comment](#) or [buy me a coffee](#) to show your appreciation.

Related Posts



```
[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

How to Disable and Remove Unnecessary Services on Linux



How to Migrate CentOS 7 to Rocky Linux 9



How to Reset Forgotten Root Password in RHEL Systems

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

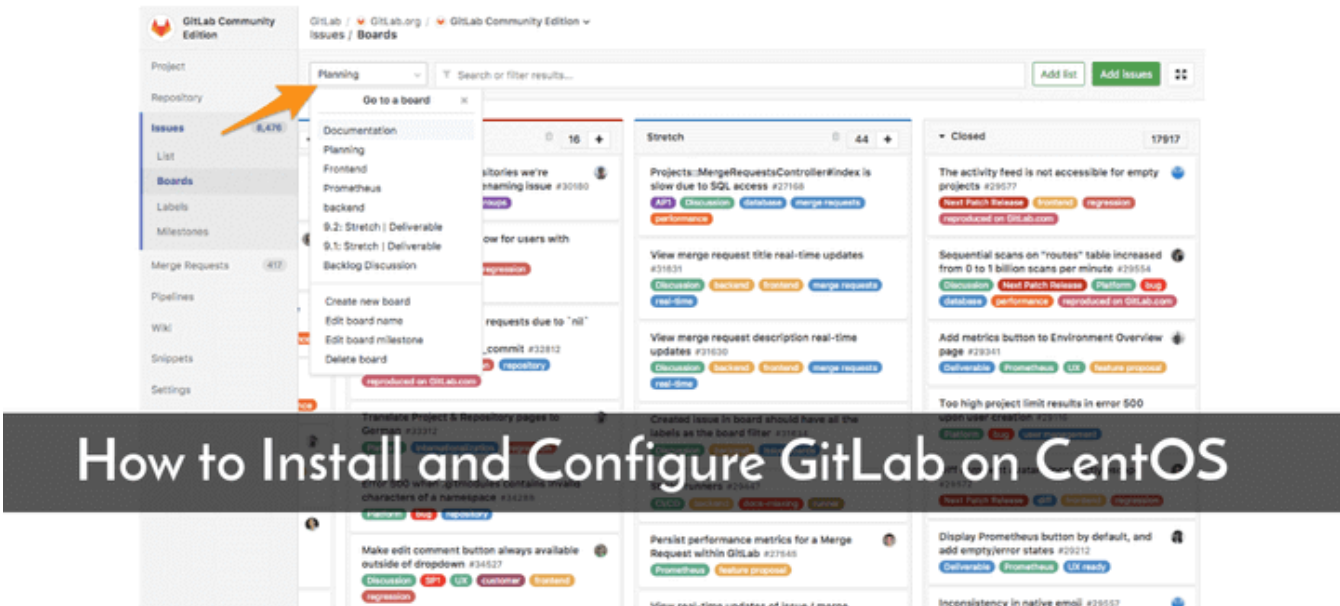
^? time.cloudflare.com	0	6	0	-	+0ns[+0ns]	+/-	0ns
^+ ntp.ges.net.pk	3	6	7	30	+4490us[+2529us]	+/-	198ms
^+ ns1.ads.net.id	2	6	7	28	-9806us[-12ms]	+/-	134ms
^* ec2-51-16-77-36.il-centr>	3	6	7	28	+3964us[+2003us]	+/-	74ms

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

How to Install and Configure NTP in RHEL Systems



How to Install Terraform (Infrastructure as Code) in Linux



How to Install and Configure GitLab on Linux

 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 "-l" 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](#)

**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](#)

Got Something to Say? Join the Discussion...

Thank you for taking the time to share your thoughts with us. We appreciate your decision to leave a comment and value your contribution to the discussion. It's important to note that we moderate all comments in accordance with our [comment policy](#) to ensure a respectful and constructive conversation.

Rest assured that your email address will remain private and will not be published or shared with anyone. We prioritize the privacy and security of our users.

☐ Save my name, email, and website in this browser for the next time I comment.

Post Comment

Do You Enjoy My Blog?

Support from readers like YOU keeps this blog running. Buying me a cup of coffee is a simple and affordable way to show your appreciation and help keep the posts coming!

Buy Me a Coffee

Linux Commands and Tools

[How to Set Static IP Address and Configure Network in Linux](#)

[Linux Fun – How to Create ASCII Text Banners in Terminal](#)

[Trash-cli – A Trashcan Tool to Manage ‘Trash’ from Linux Command Line](#)

[How to Delete HUGE \(100–200GB\) Files in Linux](#)

[3 Command Line Tools to Install Deb Packages in Ubuntu](#)

[Goto – Quickly Navigate to Aliased Directories with Auto-Completion Support](#)

Linux Server Monitoring Tools

[How to Monitor Linux Commands Executed by System Users in Real-time](#)

[Pyinotify – Monitor Filesystem Changes in Real-Time in Linux](#)

[iftop – A Real Time Linux Network Bandwidth Monitoring Tool](#)

[VnStat PHP: A Web Based Interface for Monitoring Network Bandwidth Usage](#)

[Monitorix – A Linux System and Network Monitoring Tool](#)

[Suricata – A Intrusion Detection, Prevention, and Security Tool](#)

Learn Linux Tricks & Tips

[How to Create a Password Protected ZIP File in Linux](#)

[2 Ways to Create an ISO from a Bootable USB in Linux](#)

[How to List Files Installed From a RPM or DEB Package in Linux](#)

[How to Recover a Deleted File in Linux](#)

[How to Change Linux Partition Label Names on EXT4 / EXT3 / EXT2 and Swap](#)

[How to Create a Virtual HardDisk Volume Using a File in Linux](#)

Best Linux Tools

[Top 6 Command Line Music Players for Linux Users](#)

[10 Best Linux File and Disk Encryption Tools \(2024\)](#)

[10 Best PuTTY Alternatives for SSH Remote Connection](#)

[15 Best Kali Linux Web Penetration Testing Tools](#)

[8 Best IRC Clients for Linux in 2024](#)

[23 Best Open Source Text Editors for Linux in 2024](#)

Tecmint: Linux Howtos, Tutorials & Guides © 2024. All Rights Reserved.

The material in this site cannot be republished either online or offline, without our permission.

Hosting Sponsored by : [Linode Cloud Hosting](#)