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How Do I Enable Remote Access To MySQL Database Server?

by [Vivek Gite](#) on March 31, 2006 · [131 comments](#) · Last updated July 12, 2011

By default remote access to MySQL database server is disabled for security reasons. However, some time you need to provide remote access to database server from home or a web server. If you want to remotely access to the database server from the web server or home, follow this quick tutorial.



MySQL Remote Access

You need type the following commands which will allow remote connections.

Step # 1: Login Using SSH (if server is outside your data center)

First, login over ssh to remote MySQL database server:

```
1. ssh user@mysql.nixcraft.i
```

Step # 2: Edit my.cnf File

Once connected you need to edit the MySQL server configuration file my.cnf using a text editor such as vi.

- If you are using **Debian Linux** file is located at /etc/mysql/my.cnf location
- If you are using **Red Hat Linux/Fedora/Centos Linux** file is located at /etc/my.cnf location
- If you are using **FreeBSD** you need to create a file /var/db/mysql/my.cnf

Edit /etc/my.cnf, run:

```
# vi /etc/my.cnf
```

Step # 3: Once file opened, locate line that read as follows

```
[mysqld]
```

Make sure line skip-networking is commented (or remove line) and add following line

```
bind-address=YOUR-SERVER-IP
```

For example, if your MySQL server IP is 65.55.55.2 then entire block should be look like as follows:

```
[mysqld]
user      = mysql
pid-file  = /var/run/mysqld/mysqld.pid
socket    = /var/run/mysqld/mysqld.sock
port      = 3306
basedir   = /usr
datadir   = /var/lib/mysql
tmpdir    = /tmp
language  = /usr/share/mysql/English
bind-address = 65.55.55.2
# skip-networking
....
..
....
```

Where,

- **bind-address** : IP address to bind to.
- **skip-networking** : Don't listen for TCP/IP connections at all. All interaction with mysqld must be made via Unix sockets. This option is highly recommended for systems where only local requests are allowed. Since you need to allow remote connection this line should be removed from my.cnf or put it in comment state.

Step# 4 Save and Close the file

Restart the mysql server, enter:

```
# /etc/init.d/mysql restart
```

Step # 5 Grant access to remote IP address

Connect to mysql server:

```
$ mysql -u root -p mysql
```

Grant access to a new database

If you want to add a new database called foo for user bar and remote IP 202.54.10.20 then you need to type the following commands at mysql> prompt:mysql> CREATE DATABASE foo;

```
mysql> GRANT ALL ON foo.* TO bar@'202.54.10.20' IDENTIFIED BY 'PASSWORD';
```

How Do I Grant Access To An Existing Database?

Let us assume that you are always making connection from remote IP called 202.54.10.20 for database called webdb for user webadmin, To grant access to this IP address type the following command At mysql> prompt for existing database, enter:

```
mysql> update db set Host='202.54.10.20' where Db='webdb';
```

```
mysql> update user set Host='202.54.10.20' where user='webadmin';
```

Step # 5: Logout of MySQL

Type exit command to logout mysql:mysql> exit

Step # 6: Open port 3306

You need to open TCP port 3306 using iptables or BSD pf firewall.

A sample iptables rule to open Linux iptables firewall

```
/sbin/iptables -A INPUT -i eth0 -p tcp --destination-port 3306 -j ACCEPT
```

OR only allow remote connection from your web server located at 10.5.1.3:

```
/sbin/iptables -A INPUT -i eth0 -s 10.5.1.3 -p tcp --destination-port 3306 -j ACCEPT
```

OR only allow remote connection from your lan subnet 192.168.1.0/24:

```
/sbin/iptables -A INPUT -i eth0 -s 192.168.1.0/24 -p tcp --destination-port 3306 -j ACCEPT
```

Finally save all rules:

```
# service iptables save
```

A sample FreeBSD / OpenBSD pf rule (/etc/pf.conf)

```
pass in on $ext_if proto tcp from any to any port 3306
```

OR allow only access from your web server located at 10.5.1.3:

```
pass in on $ext_if proto tcp from 10.5.1.3 to any port 3306 flags S/SA synproxy state
```

Step # 7: Test it

From your remote system or your desktop type the following command:




```
$ mysql -u webadmin -h 65.55.55.2 -p
```

Where,


- -u webadmin: webadmin is MySQL username
- -h IP or hostname: 65.55.55.2 is MySQL server IP address or hostname (FQDN)
- -p : Prompt for password

You can also use telnet to connect to port 3306 for testing purpose:

```
$ telnet 65.55.55.2 3306
```

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[101](#) jessica January 7, 2011 at 11:41 pm

Hi,

I am trying to allow external connections to an existing database. When I issue the command:

```
update db set Host='202.54.10.20' where Db='webdb';
```

(I changed the IP to my host and webdb to my database name), I always get:
“ERROR 1046 (3D000): No database selected”.

If I select my database first (by doing “use mydb”;), and issue the above command again, then I get:
“ERROR 1146 (42S02): Table ‘mydb.db’ doesn’t exist”

What am I missing?

[102](#) Satya January 19, 2011 at 6:37 am

Yes ! without configuring /etc/my.cnf aslo it can work . It'll help to update remote host mysql db .

Best Regards,
Satya.M

[103](#) Shaul Amran March 6, 2011 at 10:09 am

Thank you for this tutorial!
I followed every single step and it worked!

[104](#) gumuruh March 11, 2011 at 10:21 am

and.... how could I grant all ip address range 192.168.1.20 – 192.168.1.30
to connect into that mysql server?
Don't say to me repeat that command over 10 times. That's not the answer, tough.

[105](#) koniak March 22, 2011 at 4:43 pm

Hello admin... just U save my life I was found how to access to my mysql BD for the enterily day and
finally I found this page... It's so clear and really helpful so thanks

[106](#) Chris April 7, 2011 at 12:14 pm

Hi there, I have a query that needs your support.

This is the ERROR I get while creating a NEW SERVER INSTANCE: in Windows.

```
1..... error .....  
Connecting to MySQL server localhost...  
Cannot start SSH tunnel manager  
Connecting to MySQL server localhost...
```

Cannot start SSH tunnel manager
 Connecting to MySQL server localhost...
 Cannot start SSH tunnel manager

.....

And also

2.

In order to manage a MYSQL server it must be installed as a service.

The wizard could not find MYSQL service on the target machine, hence the server instance cannot be created.

.....

Question

How do I make sure that MYSQL 5.1 is running before I use the MYSQL Administrator to configure new Server Instance.

I will be grateful to be answered the above question in reference to the errors the program is giving me in the Windows environment.

[107](#) [stephen white](#) April 21, 2011 at 12:35 am

I know this article is not about SSH but I just wanted to mention that those that are confused with these condifuration changes or skittish about doing them can just use an SSH client (I use Putty) and use tunneling to then access MySQL data as 'localhost'. Keeps everything locked down and I use the MySQL administrator and Query Browser without any issues on a windows 7 machine. I do have a local dev MySQL server running on my machine so I do have to stop that service when I tunnel in to the remote MySQL debian linux machines. If I forget the user/pass's will trip me up so not a serious mistake waiting to happen :-)

[108](#) [Bruce](#) May 11, 2011 at 1:23 am

everything seem to work fine but Step # 6: Open port 3306

/sbin/iptables -A INPUT -i eth0 -p tcp --destination-port 3306 -j ACCEPT ??

[109](#) [Caleb](#) May 15, 2011 at 11:48 pm

The variable skip-name-resolve will also keep remote access from working. Was pulling my hair out trying to get this to work, comment out that variable and viola.

[110](#) [albin](#) July 1, 2011 at 9:58 am

i have configured multiple instance of mysql having new instance port 3307. But am not able to connect to this port from a mysql client. Where should i change the configuration?

[111](#) [Cecil](#) August 26, 2011 at 4:24 am

Thanks for this excellently written article. I was going to write my own, but I think I'll just link to yours.

[112](#) [Vijay Kumar](#) August 28, 2011 at 1:56 pm

Hello To all,
mysql is work properly, but for remotely access i make file as you write but after this changes mysql is not start, i am using centos 5
/etc/init.d/mysqld restart
so please help me. As Soon as possible.

[113 Kevinal](#) September 13, 2011 at 8:56 am

How to allow multiple users in local network to share a single MySQL database

[114 Rahul Gamit](#) October 4, 2011 at 8:14 am

Sachid: can you please tell me how can i configure without updating my.cnf file ?

[115 Asif](#) October 18, 2011 at 9:54 am

Hi, I have edited my.cnf according to your Step-3. But while restarting it says "MySQL Daemon failed to start.". Just for the note, my server is running on amazon ec2. Any idea what went wrong?

[116 risdiyanto](#) January 12, 2012 at 8:11 am

you can comment bind-address:
#bind-address

to skip networking

[117 premiso](#) January 19, 2012 at 11:24 pm

Why do all this...if you have SSH Access, just setup a tunnel, unless you need people without SSH Access to access the database. But an SSH tunnel will be way more secure than opening it up to the world, and you don't have to do any of this simply:

```
ssh -L 3307:localhost:3306 you@yourhost.com
```

Using 3307, incase you have a local MySQL server installed.

[118 Remote database mad](#) January 29, 2012 at 1:44 am

Very nice article, the series of comments which has went over here, made many things clear. Thanks for sharing

[119 subhash](#) February 7, 2012 at 7:50 am

How to connect mysql database in php with use the ip address

Thnx in advance

[120 swapan paul](#) February 7, 2012 at 8:32 am

Try this:
mysql_connect(, 'admin', 'admin') or die ("Could not connect: ".mysql_error());

[121 swapan paul](#) February 7, 2012 at 11:03 am

Here it is:
mysql_connect('ip address', 'admin', 'admin') or die ("Could not connect: ".mysql_error());

[122 subramanian](#) March 1, 2012 at 5:28 am

This is for ubuntu 11.10
create a user in mysql as root@staticip
root@franchexpress-2010:~# sudo ufw allow 22
root@franchexpress-2010:~# sudo ufw allow 3306
root@franchexpress-2010:~# mysql -u root -p
mysql>GRANT ALL PRIVILEGES ON *.* to 'root'@'%' IDENTIFIED BY 'mysql password';
mysql>update user set Host='180.151.52.42' where user='root';
mysql>update db set Host='180.151.52.42' where Db='franch_co';

[123](#) Michael March 27, 2012 at 8:25 am

You need to issue a FLUSH PRIVILEGES command on SQL server after you grant access to whatever. otherwise the new permissions are not yet valid.

[124](#) Nicolas May 19, 2012 at 6:04 pm

If you are using FreeBSD you need to create a file /var/db/mysql/my.cnf

How?

[125](#) [Vivek Gite](#) May 19, 2012 at 8:33 pm

@Nicolas,

Use a text editor such as vi. The default files are located in /usr/local/share/mysql/ directory. In this example copy /usr/local/share/mysql/mysql-large.cnf to /usr/local/etc/my.cnf and edit using vi:

```
## copy it ##  
cp /usr/local/share/mysql/mysql-large.cnf /usr/local/etc/my.cnf  
## edit it ##  
vi /usr/local/etc/my.cnf  
## restart the server ##  
/usr/local/etc/rc.d/mysql-server restart
```

Hope this helps!

[126](#) Nicolas May 22, 2012 at 8:40 am

@Vivek

I actually do not have any mysql directory under /usr/local/share..do you know where else it could be?
:/

[127](#) Nicolas May 22, 2012 at 6:32 pm

Ok, I think i found mysql-large.cnf (though mine is called my-large.cnf). But i don't have a etc folder at /usr/local/etc. Even tough I have one at /usr/etc, it haven't got rc.d in it.. Help please!

[128](#) Eric Nguyen May 29, 2012 at 6:38 pm

bind-address should be set to the IP address from which the database is going be access, not IP address of the server itself.

Setting bind-address to IP address of the server will cause mysql daemon fail to start and setting bind-address=0.0.0.0 (accepting all IP addresses) should solve the problem. Based on your example, bind-address could be set to 202.54.10.20 too.

This is at least true to MySQL servers on Amazon EC2 (Centos) instances.

Please update your tutorial if you agree with my comment.

Thanks a lot for your detailed and useful tutorial anyway :)

[129](#) [Eric](#) June 10, 2012 at 3:53 am

How about if my client IP dinamic? How to set to mysql allow all IP?

[130](#) [Arun](#) June 18, 2012 at 6:24 am

Thanks you solve my problem. Your blog is very nice. Thanks once again.

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Solve the simple math so we know that you are a human and not a bot.

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