Install and configure phpMyAdmin

support.rackspace.com/how-to/install-and-configure-phpmyadmin

phpMyAdmin® is a free and open source administration tool for MySQL® and MariaDB®. As a portable web application written primarily in PHP, phpMyAdmin has become one of the most popular MySQL administration tools, especially for web hosting services.

This article describes how to install and configure phpMyAdmin on your web server for CentOS® 7, Red Hat® Enterprise Linux® (RHEL) 7, and Ubuntu® 16.04 LTS.

Prerequisites

Before you can install phpMyAdmin, you must have the following installed on your server:

- A web server, such as Apache® or NGINX®
- PHP

Check whether a web server is installed

Use the commands in the following table to check whether a web server is installed:

Operating system	Web server	Command
CentOS and RHEL	Apache	`rpm -qa | grep httpd`
CentOS and RHEL	NGINX	`rpm -qa | grep nginx`
Ubuntu	Apache	`dpkg -l | grep apache`
Ubuntu	NGINX	`dpkg -l | grep nginx`

Check whether PHP is installed

Use the following command to check whether PHP is installed on CentOS or RHEL:

```
rpm -qa | grep php
```

Use the following command to check whether PHP is installed on Ubuntu:

```
dpkg -l | grep php
```

Install phpMyAdmin

Use the instructions in the following sections to install phpMyAdmin.

CentOS and RHEL

Install phpMyAdmin by using the following command:

The output should be similar to the following example:

```
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: mirror.mhd.uk.as44574.net
 * epel: mirror.freethought-internet.co.uk
 * extras: mirror.mhd.uk.as44574.net
 * updates: mirror.mhd.uk.as44574.net
Resolving Dependencies
--> Running transaction check
---> Package phpMyAdmin.noarch 0:4.4.15.10-3.el7 will be installed
--> Processing Dependency: php-mysqli >= 5.3.7 for package: phpMyAdmin-4.4.15.10-3.el7.noarch
--> Processing Dependency: php-mbstring >= 5.3.7 for package: phpMyAdmin-4.4.15.10-3.el7.noarch
--> Processing Dependency: php-gd >= 5.3.7 for package: phpMyAdmin-4.4.15.10-3.el7.noarch
--> Processing Dependency: php-xmlwriter for package: phpMyAdmin-4.4.15.10-3.el7.noarch
--> Processing Dependency: php-tcpdf-dejavu-sans-fonts for package: phpMyAdmin-4.4.15.10-
3.el7.noarch
--> Processing Dependency: php-tcpdf for package: phpMyAdmin-4.4.15.10-3.el7.noarch
--> Processing Dependency: php-php-gettext for package: phpMyAdmin-4.4.15.10-3.el7.noarch
--> Running transaction check
```

Ubuntu

Install phpMyAdmin by using the following command:

```
apt-get install php phpmyadmin
```

The output should be similar to the following example:

```
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  dbconfig-common dbconfig-mysql fontconfig-config fonts-dejavu-core javascript-common
libfontconfig1 libgh3 libjbig0 libjpeg-turbo8 libjpeg8 libjs-jquery libjs-sphinxdoc libjs-
underscore libtiff5 libvpx3 libxpm4 libxslt1.1 php-gd php-gettext php-mbstring php-pear php-
phpseclib php-tcpdf php-xml php7.0-gd php7.0-mbstring php7.0-xml
Suggested packages:
  libgd-tools php-libsodium php-gmp php-imagick www-browser
The following NEW packages will be installed:
  dbconfig-common dbconfig-mysql fontconfig-config fonts-devaju-core javascript-common
libfontconfig1 libgd3 libjbig0 libjpeg-turbo8 libjpeg8 libjs-jquery libjs-sphinxdoc libjs-
underscore libtiff5 libvpx3 libxpm4 libxslt1.1 php-gd php-gettext php-mbstring php-pear php-
phpseclib php-tcpdf php-xml php7.0-gd php7.0-mbstring php7.0-xml phpmyadmin
0 upgraded, 28 newly installed, 0 to remove and 6 not upgraded.
Need to get 16.3 MB of archives.
After this operation, 61.5 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

Press **Y** and then press **Enter** to continue to the configuration process. See the **Configure phpMyAdmin on Ubuntu** section for further instructions.

Configure phpMyAdmin on CentOS and RHEL

After you have installed phpMyAdmin on your web server, use the instructions in the following sections to configure phpMyAdmin.

Apache web server

You first need to add the Internet Protocol (IP) address that you want to use to access phpMyAdmin to the **/etc/phpMyAdmin/config.inc.php** configuration file.

1. Open the **/etc/phpMyAdmin/config.inc.php** file in a text editor.
2. In the section beginning with the line `<IfModule !mod_authz_core.c>` , add the IP address as shown in the following example:

```
<IfModule !mod_authz_core.c>
# Apache 2.2
Order Deny,Allow
Deny from All
Allow from 127.0.0.1
Allow from ::1
Allow from
Require ip 94.236.7.190
</IfModule>
</Directory>
```

3. Save and close the file.

Set a URL alias (optional)

The standard URL for a phpMyAdmin installation is **http://ipaddress/phpMyAdmin**, where **ipaddress** is the IP address that you added to the configuration file in the previous section. If you want to change the URL, you can set an alias.

1. Open the **/etc/httpd/conf.d/phpMyAdmin.conf** file in a text editor.
2. Find the lines beginning with `Alias` and change `/phpMyAdmin` to the alias of your choice, as shown in the following example:

```
Alias /NewName /usr/share/phpMyAdmin
Alias /newname /usr/share/phpMyAdmin
```

3. Save and exit the file.

Database configuration file

If the MySQL or MariaDB database server that you want to use with phpMyAdmin is not located on the same server as your web server, you must edit the database configuration file to define the database server location.

There are two configuration options:

1. MySQL host or IP address
2. MySQL/MariaDB port

Use the following steps to define the location of your database server:

1. Open the **/etc/phpMyAdmin/config.inc.php** file in a text editor.
2. Edit the file as shown in the following example:

```
$cfg['Servers'][$i]['host']          = 'localhost'; // MySQL hostname or IP address
$cfg['Servers'][$i]['port']          = '';          // MySQL port - leave blank for default
port
$cfg['Servers'][$i]['socket']        = '';          // Path to the socket - leave blank for
default socket
$cfg['Servers'][$i]['connect_type']  = 'tcp';       // How to connect to MySQL server ('tcp'
or 'socket')
$cfg['Servers'][$i]['extension']     = 'mysqli';    // The php MySQL extension to use
('mysql' or 'mysqli')
$cfg['Servers'][$i]['compress']      = FALSE;       // Use compressed protocol for the MySQL
connection
                                                    // (requires PHP >= 4.3.0)
$cfg['Servers'][$i]['controluser']   = '';          // MySQL control user settings
                                                    // (this user must have read-only
$cfg['Servers'][$i]['controlpass']   = '';          // access to the "mysql/user"
                                                    // and "mysql/db" tables).
```

3. Save and exit the file.

To make the changes live, you must check the syntax of the web engine daemon and then gracefully restart or reload it.

Check the syntax by using the following command:

```
apachectl configtest
```

If there are no errors in the configuration file, you should see `Syntax OK` in the output.

Reload the Apache web server by using the following command:

CentOS and RHEL 6

```
service httpd graceful
```

CentOS and RHEL 7

```
systemctl status httpd
```

Check the status of the httpd service to ensure that it is functioning as expected by using the following command:

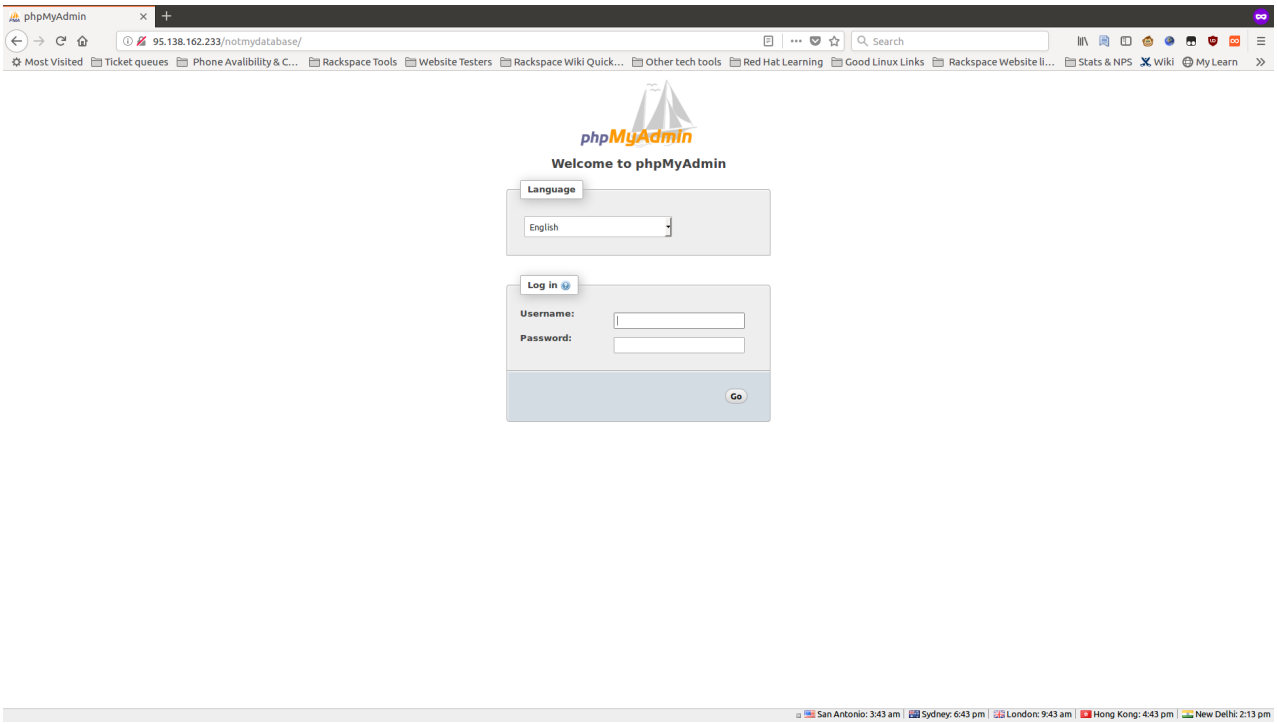
CentOS and RHEL 6

```
service httpd status
```

CentOS and RHEL 7

```
systemctl status httpd
```

You should now be able to view phpMyAdmin through a web browser, as shown in the following image:



NGINX web server

On NGINX, the phpMyAdmin package doesn't come with a configuration file, so you have to create a server block to point at the phpMyAdmin configuration file.

1. Open a text editor and create the file **/etc/nginx/conf.d/phpMyAdmin.conf**.
2. Enter the following configuration settings:

```
server {
listen 80;
server_name 95.138.162.233;
root /var/www;
location /phpMyAdmin {
    root /usr/share/;
    index index.php;

# auth_basic "phpMyAdmin Login";               # uncomment if using .htaccess & .htpasswd
security
# auth_basic_user_file /etc/nginx/.pma_pass;    # uncomment if using .htaccess & .htpasswd
security

    location ~\.php$ {
        try_files $uri =404;
        fastcgi_pass 127.0.0.1:9000;
        fastcgi_index index.php;
        fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
        include /etc/nginx/fastcgi_params;
        }

    location ~* ^/phpmyadmin/(.+\.(jpg|jpeg|gif|css|png|js|ico|html|xml|txt))$ {
     root /usr/share/;
        }
    }

location /phpmyadmin {
    rewrite ^/* /phpMyAdmin last;
    }
}
```

3. Save and exit the file.

To make the changes live, you must check the syntax of the web engine daemon and then gracefully restart or reload it.

Use the following command to check the syntax:

```
nginx -t
```

If there are no errors in the configuration file, you should see `Syntax OK` in the output.

Reload the NGINX web server by using the following command:

CentOS and RHEL 6

```
service nginx graceful
```

CentOS and RHEL 7

```
systemctl reload nginx
```

Check the status of the NGINX service to ensure that it is functioning as expected by using the following command:

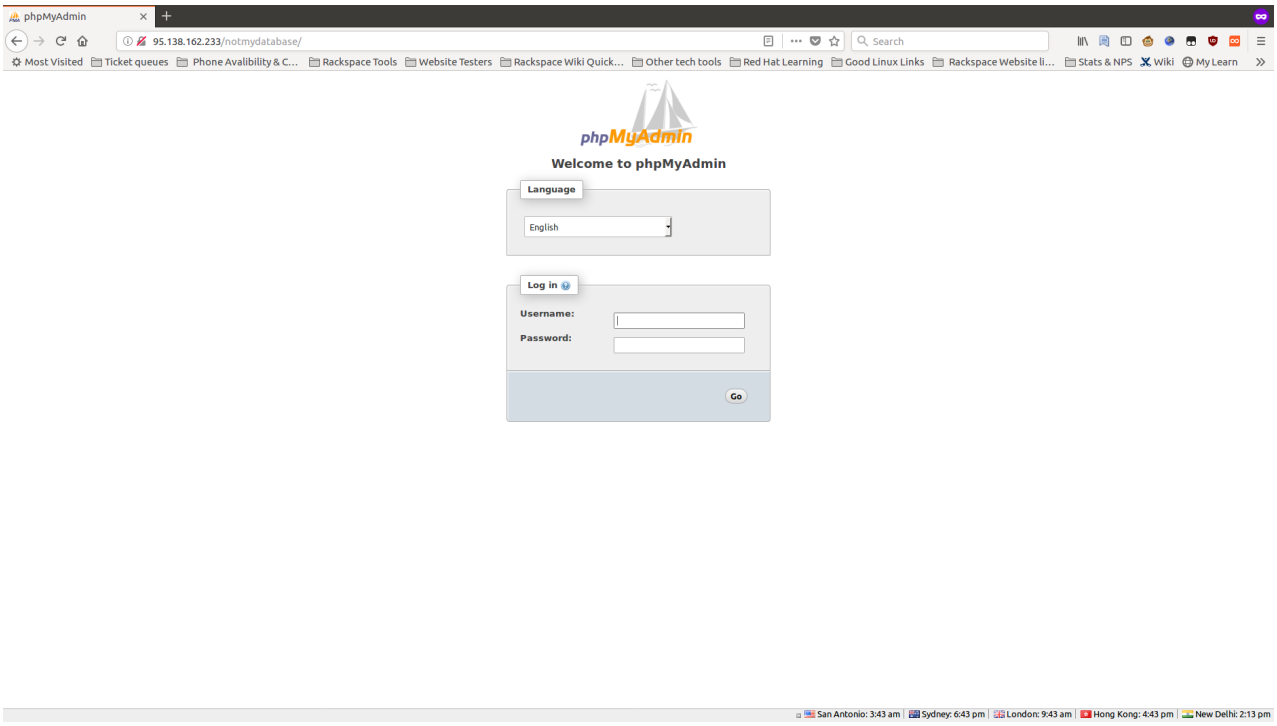
CentOS and RHEL 6

```
service nginx status
```

CentOS and RHEL 7

```
systemctl status nginx
```

You should now be able to view phpMyAdmin through a web browser, as shown in the following image:



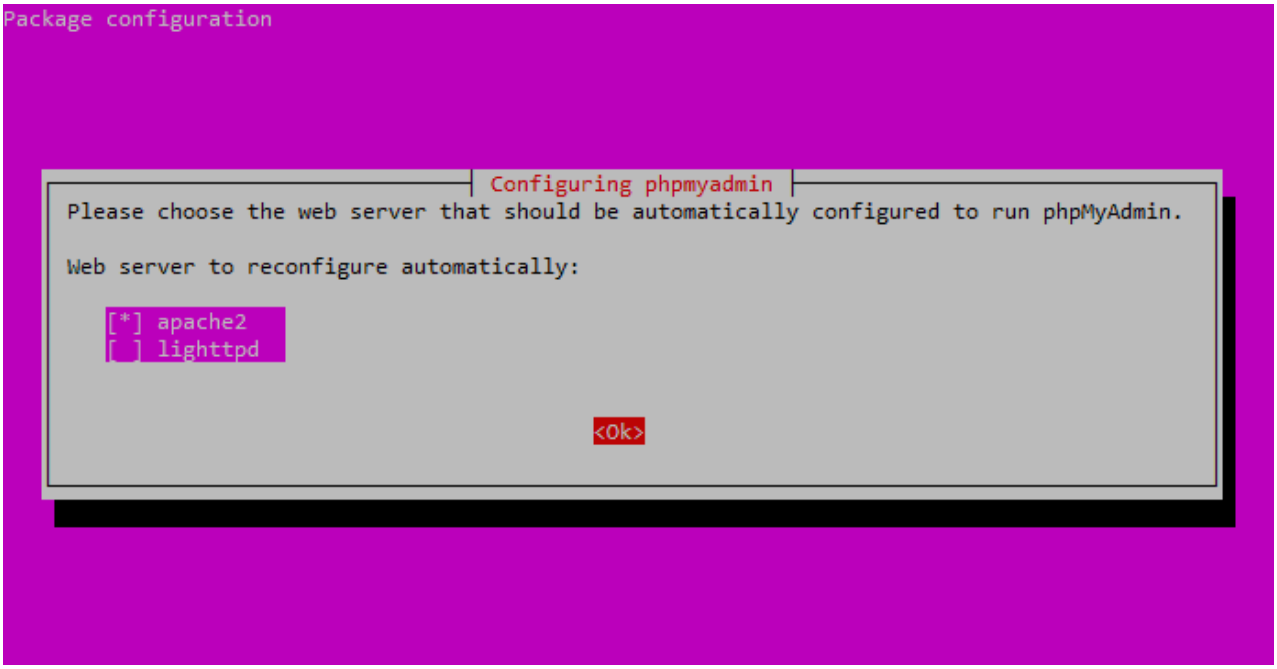
Configure phpMyAdmin on Ubuntu

Use the steps in the following sections to configure phpMyAdmin on Ubuntu.

The installation process adds the phpMyAdmin Apache configuration file to the **/etc/apache2/conf-enabled/** directory, where it is read automatically. The only thing you need to do is to enable the `mbstring` PHP extension, which you can do by running the following command:

```
sudo phpenmod mbstring
```

After installing phpMyAdmin, the package configuration screen displays, as shown in the following image.



Use the space bar to select **apache2**, press **Tab** to select **Ok**, and then press **Enter**.

The installation process continues until another configuration screen displays that prompts you to confirm if you want to configure your database for phpMyAdmin by using `dbconfig-common` .

Select **Yes**, and then press **Enter**.

You are prompted for your database administrator password. Input your password, press **Tab** to select **Ok**, and then press **Enter**.

Next, enter a password for the phpMyAdmin application itself, press **Tab** to select **Ok**, and then press **Enter**.

Confirm the password by selecting **Ok**, and then press **Enter**.

After the installation process is complete, the phpMyAdmin configuration file is added to **/etc/apache2/conf-enabled/phpmyadmin.conf**.

If this file doesn't exist after the installation is complete, you can copy it from **/etc/phpmyadmin/apache.conf** to **/etc/apache2/conf-enabled**. If that file doesn't exist, you must create a virtual host for phpMyAdmin with the following settings:

```
server {
       listen 80;
       server_name example.com www.example.com;
       root /var/www/vhosts/example.com;
       ..

       location /phpMyAdmin {
           root /usr/share/;
           index index.php;

           # auth_basic "phpMyAdmin Login";                                # uncomment if using
.htaccess & .htpasswd security
           # auth_basic_user_file /etc/phpMyAdmin/.phpmyadmin-htpasswd;    # uncomment if using
.htaccess & .htpasswd security

           location ~\.php$ {
                   try_files $uri =404;
                   fastcgi_pass unix:/var/run/php-fpm.sock;
                   fastcgi_index index.php;
                   fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
                   include /etc/nginx/fastcgi_params;
           }
           location ~* ^/phpmyadmin/(.+\.(jpg|jpeg|gif|css|png|js|ico|html|xml|txt))$ {
                   root /usr/share/;
           }
    }
    location /phpmyadmin {
           rewrite ^/* /phpMyAdmin last;
    }
    ...
}
```

If at any time you need to reconfigure phpMyAdmin, you can use the following command:

```
dpkg-reconfigure phpmyadmin
```

Remote database configuration

If the database server that you want to manage with phpMyAdmin is remote, you must configure phpMyAdmin differently. The configuration files are located in the **/etc/phpmyadmin** directory. The main configuration file is **/etc/phpmyadmin/config.inc.php**, which contains the configuration options that apply globally to phpMyAdmin.

To use phpMyAdmin to administer a MySQL database hosted on another server, open **/etc/phpmyadmin/config.inc.php** in a text editor and then edit the following line:

Old line	New line
`$cfg['Servers'][$i]['host'] = '$dbserver';`	`$cfg['Servers'][$i]['host'] = '192.168.71.21';`

Note: Replace `$dbserver` with the actual remote database server name or IP address. Also, ensure that the phpMyAdmin host has permissions to access the remote database.

The other configuration file that you must edit is **/etc/phpmyadmin/apache.conf**. This file is linked symbolically to **/etc/apache2/conf-available/phpmyadmin.conf**. After it is enabled, it is used to configure Apache2 to serve the phpMyAdmin site. The file contains directives for loading PHP, directory permissions, and so on.

Run the following command to enable the configuration file, and then reload the service:

```
sudo ln -s /etc/phpmyadmin/apache.conf /etc/apache2/conf-available/phpmyadmin.conf sudo a2enconf
phpmyadmin.conf sudo systemctl reload apache2.service
```

Now that phpMyAdmin is installed on the client computer, connect to the remote server where the MySQL or MariaDB database is installed. Open the file **/etc/mysql/mysql.conf.d/mysql.cnf** and edit the following line:

```
bind-address            =               0.0.0.0
```

Replace `0.0.0.0` with the IP address of the remote server, and then save and exit the file.

Run the following command to allow the root user to access the server from the client computer:

```
sudo mysql -u root -p GRANT ALL PRIVILEGES ON *.* TO 'root'@'192.168.71.20' IDENTIFIED BY
'root_password_here' WITH GRANT OPTION;
```

Replace the IP address with the address of the remote server, and `root_password_here` with the root user password.

After you edit the configuration settings, open a browser and navigate to **http://clientPC/phpmyadmin**, using the client computer IP address or host name. You should be able to log on remotely to the server from the client phpMyAdmin web portal.

Reload the web server

To make the changes to the configuration files live, you must first check the syntax of the file and then gracefully restart or reload the web server.

Use the following command to check the syntax of the configuration files:

```
apache2ctl configtest
```

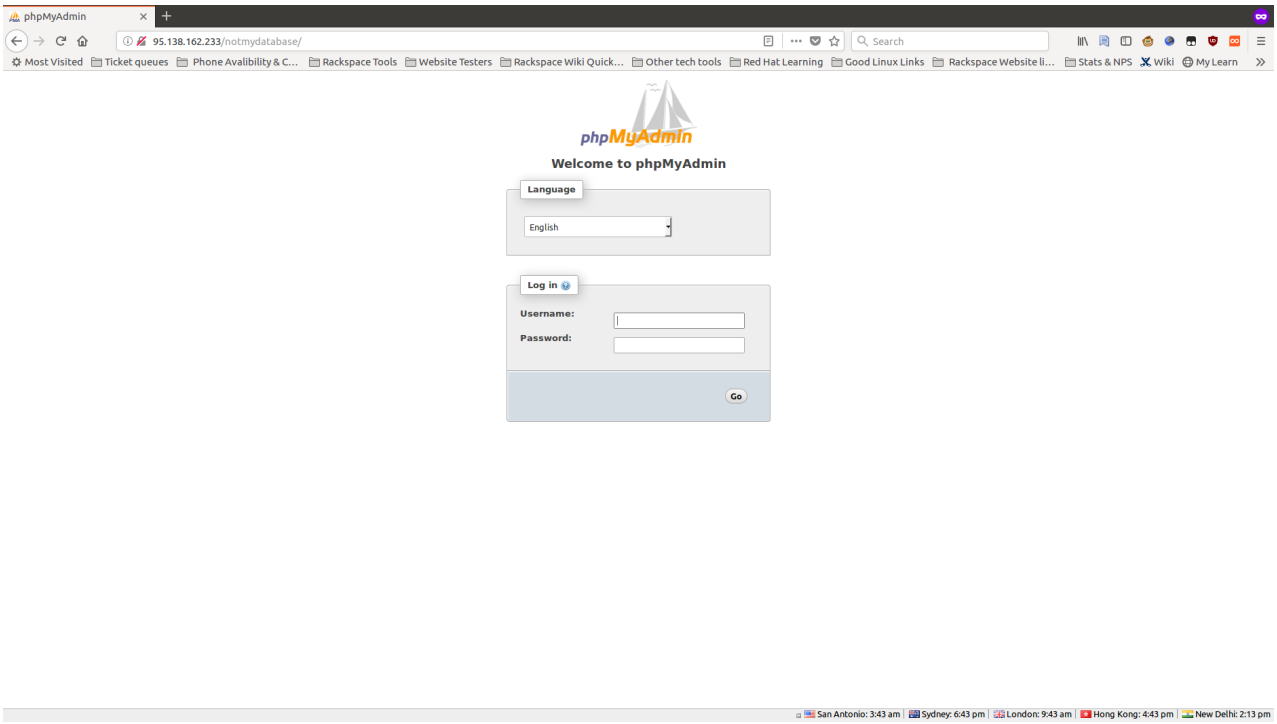
Then reload the Apache web server by running the following command:

```
systemctl reload apache2
```

Check the status of the service to ensure that it is functioning as expected by running the following command:

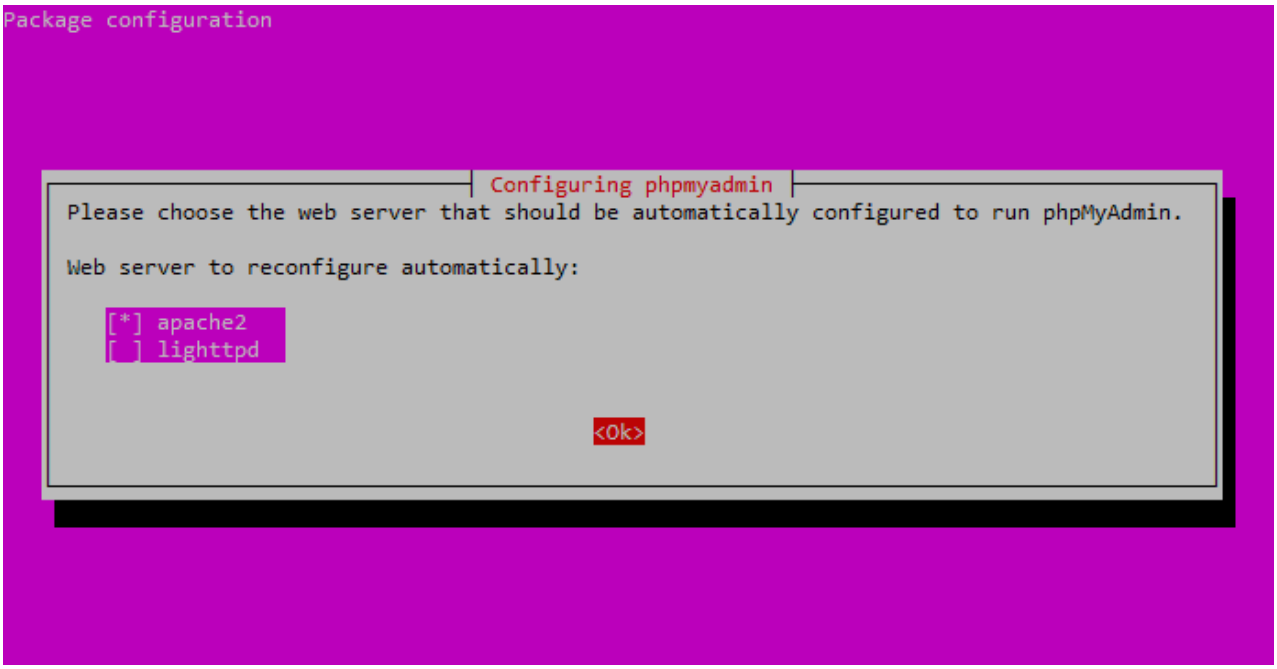
```
system status apache2
```

You should now be able to view phpMyAdmin through a web browser, as shown in the following image:



NGINX web server

After installing phpMyAdmin, the package configuration screen displays, as shown in the following image:



Use the space bar to select **apache2**, press **Tab** to select **Ok**, and then press **Enter**.

The installation process continues until another configuration screen displays that prompts you to confirm if you want to configure your database for phpMyAdmin by using `dbconfig-common`.

Select **Yes**, and then press **Enter**.

You are prompted for your database administrator password. Input your password, press **Tab** to select **Ok**, and then press **Enter**.

Next, enter a password for the phpMyAdmin application itself, press **Tab** to select **Ok**, and then press **Enter**.

Confirm the password by selecting **Ok**, and then press **Enter**.

After the installation process is complete, you must create the phpMyAdmin configuration file here: **/etc/nginx/sites-enabled/phpmyadmin.conf**.

Enter the following information in the file and then save it:

```
server {
   listen 80;
   server_name 95.138.162.233;
   root /var/www;

   location /phpmyadmin {
             root /usr/share/;
             index index.php;
             try_files $uri $uri/ =404;

             # auth_basic "phpMyAdmin Login";   # uncomment if using .htaccess & .htpasswd
security

             # auth_basic_user_file /etc/nginx/.pma_pass;  # uncomment if using .htaccess &
.htpasswd security


    location ~ ^/phpmyadmin/(doc|sql|setup)/ {
           deny all;
    }

    location ~ /phpmyadmin/(.+\.php)$ {
         fastcgi_pass unix:/run/php/php7.0-fpm.sock;
         fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
         include fastcgi_params; include snippets/fastcgi-php.conf;
   }
  }
}
```

Your phpMyAdmin files are located in the **/usr/share/phpmyadmin/** directory. The configuration above tells NGINX that if visitors enter **http://ip_address/phpmyadmin** in the browser address bar, it should find the **index.php** file in the **/usr/share/phpmyadmin/** directory and display it.

Reload the web server

To make the changes to the configuration files live, you must first check the syntax of the file and then gracefully restart or reload the web server.

Use the following command to check the syntax of the configuration files:

```
nginx -t
```

Then reload the Apache web server by running the following command:

RHEL and CentOS 6

```
service nginx graceful
```

RHEl and CentOS 7

```
systemctl reload nginx
```

Check the status of the service to ensure that it is functioning as expected by running the following command:

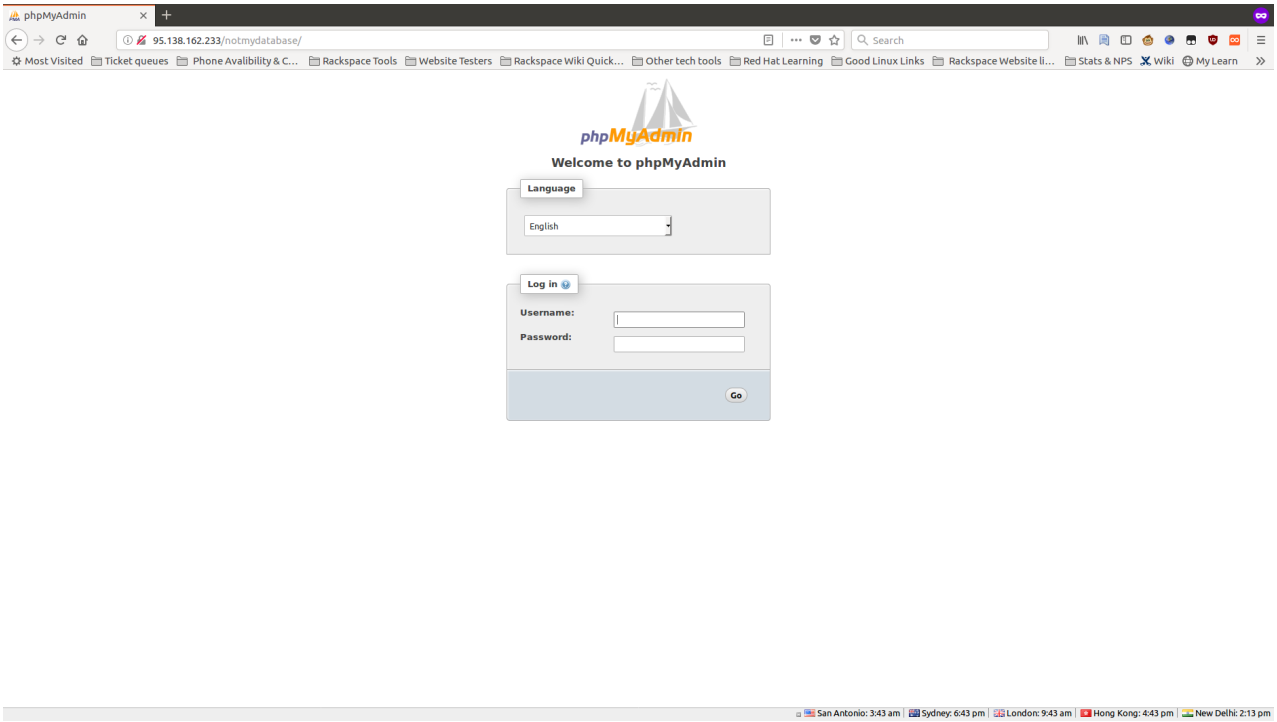
RHEL and CentOS 6

```
service nginx status
```

RHEL and CentOS 7

```
systemctl status nginx
```

You should now be able to view phpMyAdmin through a web browser, as shown in the following image:



Configure additional security (optional)

`htpasswd` is used to create and update the flat files that store usernames and passwords for the basic authentication of HTTP users. If `htpasswd` cannot access a file (cannot write to the output file or read the file in order to update it), it returns an error status and makes no changes.

Use the steps in the following sections to set up basic authentication on a web server running phpMyAdmin.

Apache web server

By default, Apache does not allow the use of `.htaccess`. You must configure Apache to allow `.htaccess` -based authentication.

Open the Apache configuration file in a text editor and find the section that begins with `<Directory "/var/www/html">`.

For RHEL and CentOS, the configuration file is **/etc/httpd/conf/httpd.conf**.

For Ubuntu, the configuration file is **/etc/apache2/conf/httpd.conf**.

Change the line from `AllowOverride none` to `AllowOverride AuthConfig`.

Note: If this line reads `AllowOverride All`, then no change is required.

The `htpasswd` command is used to create and update the files that store usernames and passwords for the basic authentication of Apache users. Use the following command to create a hidden file to store the username and encrypted password for each user:

```
htpasswd -c /etc/phpMyAdmin/.phpmyadmin-htpasswd username
```

After you create a user, run the following command to see the username and password in the **/etc/phpMyAdmin/.phpmyadmin-htpasswd** file:

```
cat /etc/phpMyAdmin/.phpmyadmin-htpasswd
```

The output should be similar to the following example:

```
user1:$apr1$0r/2zNGG$jopiWY3DEJd2FvZxTnugJ/
user2:$apr1$07FYIyjx$7Zy1qcBd.B8cKqu0wN/MH1
```

Now you need to allow the `apache` user to read the `.htpasswd` file by running the following commands:

```
chown apache:apache /etc/phpMyAdmin/.phpmyadmin-htpasswd
chmod 0660 /etc/phpMyAdmin/.phpmyadmin-htpasswd
```

Finally, you must uncomment the following lines from the phpMyAdmin configuration files:

```
# auth_basic "phpMyAdmin Login";   # uncomment if using .htaccess & .htpasswd security
# auth_basic_user_file /etc/phpMyAdmin/.phpmyadmin-htpasswd;   # uncomment if using .htaccess &
.htpasswd security
```

NGINX web server

The `htpasswd` command is used to create and update the files that store usernames and passwords for the basic authentication of Apache users. Use the following command to create a hidden file to store the username and encrypted password for each user:

```
htpasswd -c /etc/nginx/.pma_pass username
```

After you create a user, run the following command to see the username and password in the **/etc/nginx/.pma_pass** file:

```
cat /etc/nginx/.pma_pass
```

The output should be similar to the following example:

```
user1:$apr1$0r/2zNGG$jopiWY3DEJd2FvZxTnugJ/
user2:$apr1$07FYIyjx$7Zy1qcBd.B8cKqu0wN/MH1
```

Now you need to allow the `apache` user to read the `.htpasswd` file by running the following commands:

```
chown nginx:nginx /etc/nginx/.pma_pass
chmod 0660 /etc/nginx/.pma_pass
```

Finally, you must uncomment the following lines from the phpMyAdmin configuration files:

```
# auth_basic "phpMyAdmin Login";   # uncomment if using .htaccess & .htpasswd security
# auth_basic_user_file /etc/phpMyAdmin/.phpmyadmin-htpasswd;   # uncomment if using .htaccess &
.htpasswd security
```

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