hendgrow.com

HOW TO INSTALL RT 5. ROBUST, HIGH VOLUME TICKETING SYSTEM! UBUNTU 20.04 WITH MARIADB AND APACHE2!

This walk-through aims to guide you through the process of Installing the world class, industry tested ticket system known as Request Tracker or RT. We start with a solid Ubuntu 20.04 base as the server combined with MariaDB for the Database and Apache2 as the web server.

You will need a base install of Ubuntu 20.04. Once complete ssh to your Ubuntu 20.04 server.

```
root@hgrt5srvdemo:~# uname -a
Linux hgrt5srvdemo 5.4.0-47-generic #51-Ubuntu SMP Fri Sep 4 19:50:52 UTC 2020 x86_64 x86_64 x86_64 GNU/Linux
root@hgrt5srvdemo:~#
```

ssh to the Ubuntu server you have provisioned. Ubuntu 20.04 was used for this walk-through.

ssh username@your_servers_ip

Installing the some system base packages.

1. Ensure the system is up to date.

sudo apt-get update

1.1 Install the some system base packages

sudo apt install build-essential apache2 libapache2-mod-fcgid libssl-dev libexpat1-dev libmysqlclient-dev libcrypt-ssleay-perl liblwp-protocol-https-perl mariadb-server mariadb-client

1.3 Installing some Perl modules

sudo /usr/bin/perl -MCPAN -e shell

1.3.1 When prompted with the below, input **yes** then **q** to quit.

Would you like to configure as much as possible automatically? [yes]

1.3.2 Installing the required Perl modules

sudo cpan install Parallel::Perforce
sudo cpan install HTML::FormatText

sudo cpan install HTML::TreeBuilder

sudo cpan install HTML::FormatText::WithLinks

sudo cpan install HTML::FormatText::WithLinks::AndTables

sudo cpan install DBD::mysql

sudo cpan install LWP::Protocol::https

General RT5 Installation

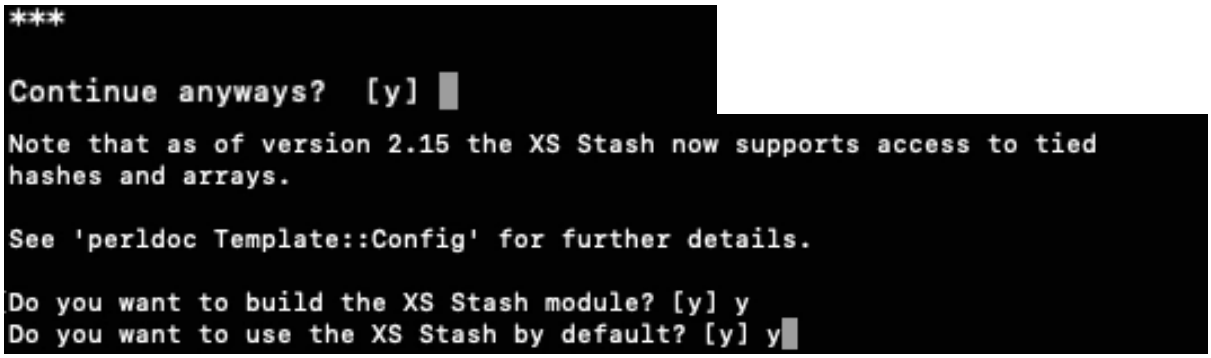
2. Download and unpack the RT5 tar file to a temporary location.

wget *https://download.bestpractical.com/pub/rt/release/rt-5.0.0.tar.gz*
2.1 Extract / unpack the file to /tmp and run the ./configure script provided.

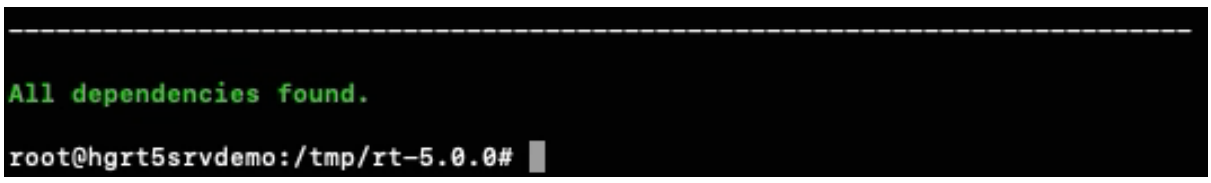
tar xzvf rt-5.0.0.tar.gz -C /tmp
cd /tmp/rt-5.0.0/
sudo ./configure
2.2 Ensure the required Perl and system libraries are installed with the command below.

sudo make testdeps
2.2.1 If the script reports any missing dependencies run the fixdeps command.

sudo make fixdeps
2.2.2 During our demo install we were promoted with the following three questions while running the fixdeps script. We opted to answer yes.



Once the fixdeps script is complete validate all dependencies are present by running the testdeps script to confirm. You should see the below.



2.3 Run the make install with appropriate permissions to install RT5

sudo make install

3. Initialize the Database for RT5

sudo make initialize-database

3.1 If the initialization fails run ***make dropdb*** and then rerun ***make initialize-database***. Once completed successfully you should see the following.

```
Now inserting data.
Done inserting data.
Done.
root@hgrt5srvdemo:/tmp/rt-5.0.0#
```

3.1.1 Change the default password for the RT database user. (We recommend for production systems to also change the user.)

sudo mysql -u root -p
ALTER USER 'rt_user'@'localhost' IDENTIFIED BY 'your_new_rt_pass';
commit;
quit;

```
MariaDB [(none)]> ALTER USER 'rt_user'@'localhost' IDENTIFIED BY 'your_new_rt_pass';
Query OK, 0 rows affected (0.002 sec)

MariaDB [(none)]>
```

Although not covered in this guide, we recommend securing your MariaDB by running the below script.
sudo mysql_secure_installation

3.1.2 Update the **RT_Config.pm** config to reflect our password change we did for the RT database user **rt_user**.
sudo vi /opt/rt5/etc/RT_Config.pm
Edit the section as shown below:

Original Config – RT5 database user

```
Set($DatabaseUser, "rt_user");

=item C<$DatabasePassword>

The password the C<$DatabaseUser> should use to access the database.

=cut

Set($DatabasePassword, q{rt_pass});

=item C<$DatabaseName>

The name of the RT database on your database server. For Oracle, the
SID and database objects are created in C<$DatabaseUser>'s schema.

=cut

Set($DatabaseName, q{rt5});
```

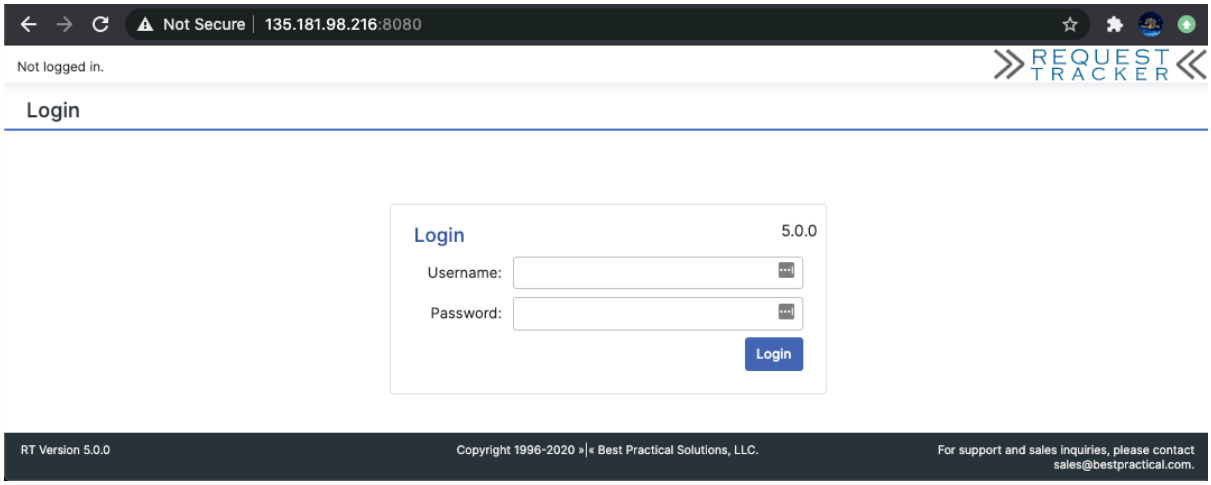
Updated Config – RT5 database user

```
Set($DatabaseUser, "rt_user");

=item C<$DatabasePassword>

The password the C<$DatabaseUser> should use to access the database.

=cut

Set($DatabasePassword, q{your_new_rt_pass});

=item C<$DatabaseName>

The name of the RT database on your database server. For Oracle, the
SID and database objects are created in C<$DatabaseUser>'s schema.

=cut

Set($DatabaseName, q{rt5});
"/opt/rt5/etc/RT_Config.pm" 4801L, 139885C written
```

3.2 Confirm we have a working RT instance running with the standalone rt-server.

sudo /opt/rt5/sbin/rt-server –port 8080

3.2.1 Open your web browser and navigate to your servers ip or FQDN and port 8080. For our demo server it is **http://135.181.98.216:8080/**. You should see the login page.



NOTE: If this a demo system you can stop here. For production use we recommended configuring RT to use a production ready web server like Apache2.

Configure RT5 to work with the Apache2 web server

4. Create a RT5 sites-available configuration file.

sudo vi /etc/apache2/sites-available/rt5.conf

4.1 Populate the file you just created with the information below. (link to conf file or image)

https://hendgrow.com/gitp/RT5/rt5.conf

```
<VirtualHost *:80>
        ### Optional apache logs for RT
        # Ensure that your log rotation scripts know about these files
        # ErrorLog /opt/rt5/var/log/apache2.error
        # TransferLog /opt/rt5/var/log/apache2.access
        # LogLevel debug

        AddDefaultCharset UTF-8

        ScriptAlias / /opt/rt5/sbin/rt-server.fcgi/

        DocumentRoot "/opt/rt5/share/html"
        <Location />
            Require all granted
            Options +ExecCGI
            AddHandler fcgid-script fcgi
        </Location>
</VirtualHost>
```

4.2 Edit the apache2.conf file and add the information below. (link to conf file or image)

sudo vi /etc/apache2/apache2.conf

https://hendgrow.com/gitp/RT5/RT5_apache2.conf_add.txt

4.2.1 Add the following

```
# Sets the default security model of the Apache2 HTTPD server. It does
# not allow access to the root filesystem outside of /usr/share and /var/www.
# The former is used by web applications packaged in Debian,
# the latter may be used for local directories served by the web server. If
# your system is serving content from a sub-directory in /srv you must allow
# access here, or in any related virtual host.
<Directory />
        Options FollowSymLinks
        AllowOverride None
        Require all denied
</Directory>

<Directory /usr/share>
        AllowOverride None
        Require all granted
</Directory>

<Directory /var/www/>
        Options Indexes FollowSymLinks
        AllowOverride None
        Require all granted
</Directory>

<Directory /opt/rt5/share/html>
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
</Directory>

#<Directory /srv/>
#       Options Indexes FollowSymLinks
#       AllowOverride None
#       Require all granted
-- INSERT --
```

4.3 Enable the RT5 site

sudo a2ensite rt5

4.3.1 Disable the default site

sudo a2dissite 000-default

4.3.2 Check the config

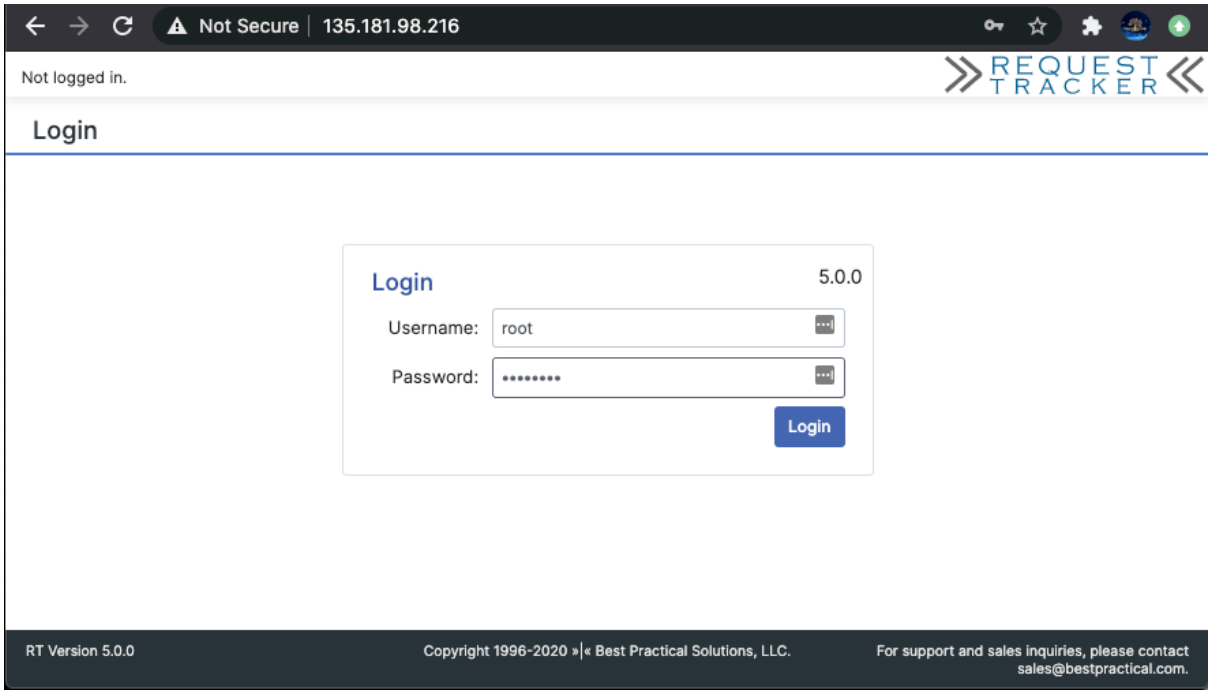
sudo apachectl configtest

4.3.3 Restart Apache

sudo systemctl restart apache2

4.4 Open your web browser and navigate to your servers ip or FQDN. For our demo server it is **http://135.181.98.216**. You should see the login page.

4.4.1 You should see the login page.



NOTE: The default credentials for RT5 are:
User: root | Password: password

Your first step once logged in is to change the root password! **It is a SECURITY risk!**

This guide does not cover server / application hardening and security as it is a broad topic and not the aim of this guide. You should always harden your servers.

Some useful links:

Secure your MariaDB installation
– https://mariadb.com/kb/en/mysql_secure_installation/
Apache2 Security Tips – https://httpd.apache.org/docs/2.4/misc/security_tips.html
Ubuntu Security and Server hardening – https://ubuntu.com/security

---

This guide stops here.

There still is allot to do like configuring an RT email gateway, task scheduler, full text search and general system security etc. That's potentially for a future guide should there be demand.

youtube.com/HendGrow Subscribe if you found this valuable!