IsaacRT Ticketing System Guide

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Access

The ticketing system is currently hosted on op-bit.nz DNS zone through Azure, giving the ticketing system the URL of isaacrt.op-bit.nz. This is located within the OP-DNS resource group. It's important that the IP address of 20.193.69.242 is continuously reserserved for the RT20.04 virtual machine. If this IP address is changed, the value field on the op-bit.nz must be updated to reflect the new IP address, otherwise website will not be accessible via URL.

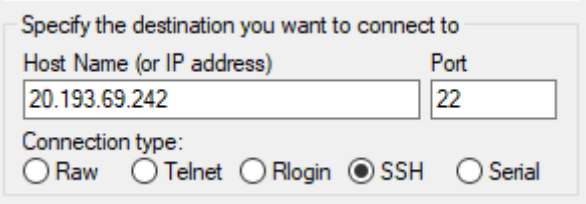
Hosting

IsaacRT is hosted on a Linux virtual machine called RT20.04, hosted within the student_ops resource group, located in Australia East. This Virtual Machine is running Ubuntu 20.04 with the Standard B1ms offer, giving 2GB ram and 4GB of storage space.

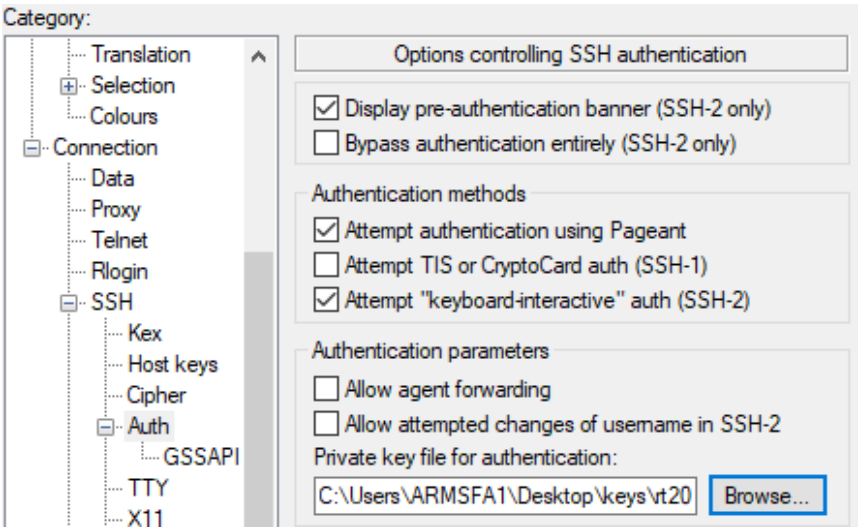
Connecting

There are two methods in which to access the RT20.04 virtual machine. These being the command line and Putty, however Putty is the recommended method.

1. Open Putty and enter 20.193.69.242 OR isaacrt.op-bit.nz within the 'Host Name' field. Set the port to 22 and ensure the 'Connection type' is set to SSH.



2. On the 'Category' panel navigate through Connection -> SSH -> Auth. Under 'Private key file for authentication:' select browse and navigate to the folder where the private and public keys are stored on your system. These will be available for download on _____, alternatively if this is not available you're able to generate new public and private keys and assign them via Azure under the 'Reset Password' tab for the virtual machine.



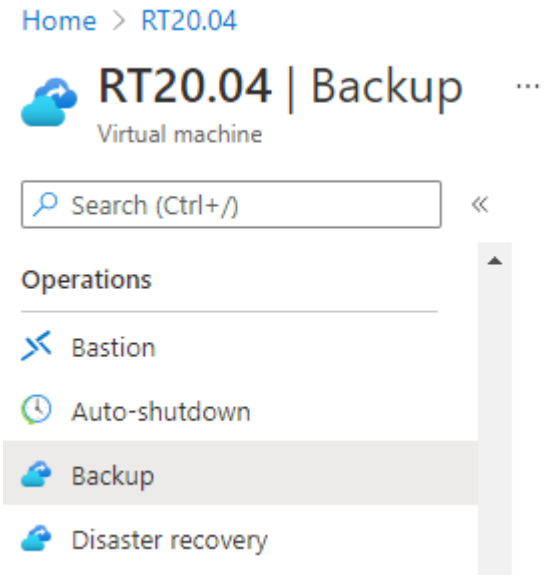
3. For admin access enter the Username RT-Admin and use the relevant password stored within the DevOps KeePass vault, ITPOperations.kdbx. Documentation for this vault can be found on the DevOps team group within the Files tab, under Documents > General > DevOps Documentation > Guides titled 'Keepass credentials.docx'.

Pricing

Pricing for the RT Ticketing system is calculated via each hour that the virtual machine is active for. Assuming that it's running 24/7 this will cost $15.11 monthly, resulting in $181.33 annually. However, this can be cut down significantly by keeping the virtual machine off during the off-hours for school. As the school year encompasses 38 weeks in total, this allows the annual cost of the ticketing system to go down to $132.26 annually, assuming proper protocol is followed.

Backups

Backups for the RT20.04 virtual machine are currently being stored within the recovery services vault, Vault697. This, however is a short term solution and should be updated during the backups implementation process, scheduled to happen during Semester 2 of 2021. Backups do not trigger automatically and must be done manually. This can be done via the Backups tab on Azure.

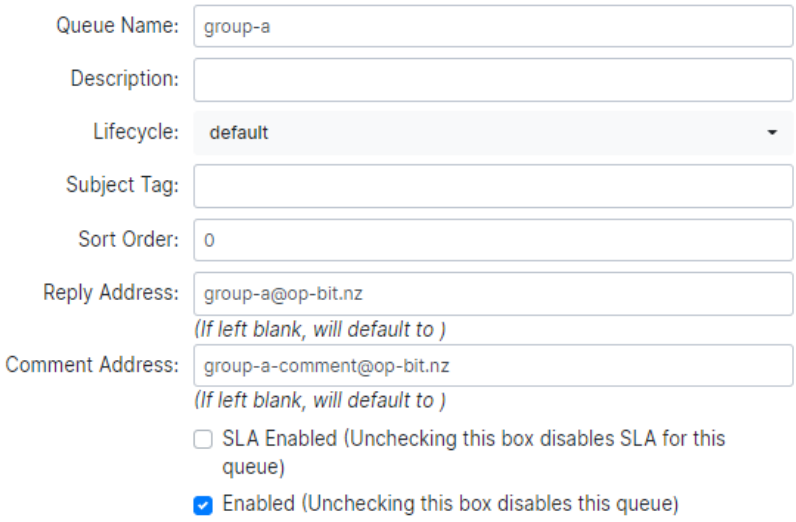


Queues

Queues are how different sectors of the ticketing system are defined. You can think of them like user groups. Users in one queue won't get alerts or be expected to work on tickets assigned to a different queue. Ideally the number of queues shouldn't fluctuate at all and you're expected to keep it to as

much of a minimum as you can. As of current, we have Project-Sys for the Ops project group as well as groups A through G, these are used in Operations Engineering 2 for the students work groups.

When creating a new queue, it's important that you follow the conventions shown in the picture below. This is to ensure that the postfix emailing service will route alerts through to the appropriate groups.



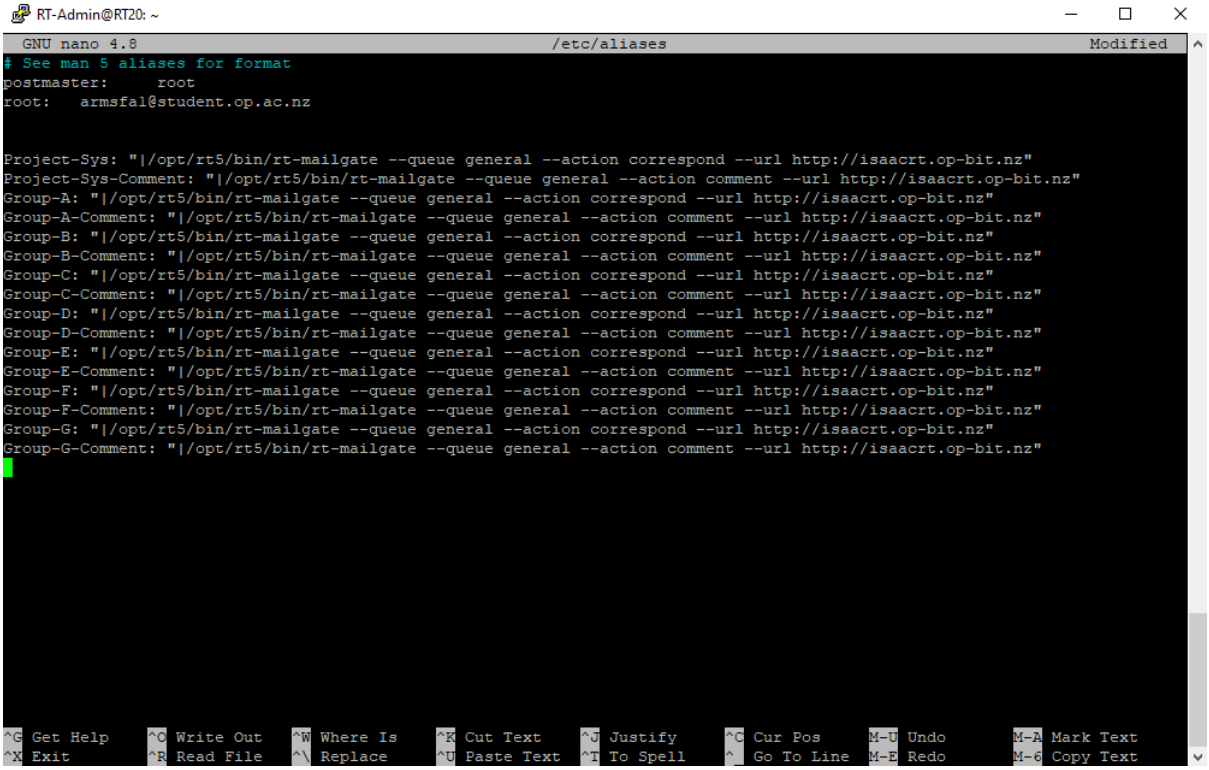
Once you've created a new group, you need to edit the aliases file on the virtual machine, this is to create aliases for the addresses you just entered in. This is to allow RT to properly pipe it through to PostFix and then out to the user. This document can be edited with the command;

sudo nano /etc/aliases

The convention should be self-explanatory, simply copy what already exists, each line should be functionally identical aside from the prefix. For each queue you'll need to add the following with the-queue-name substituted out for whatever you named your queue;

The-Queue-Name "|/opt/rt5/bin/rt-mailgate --queue general --action correspond --url http://isaacrt.op-bit.nz"

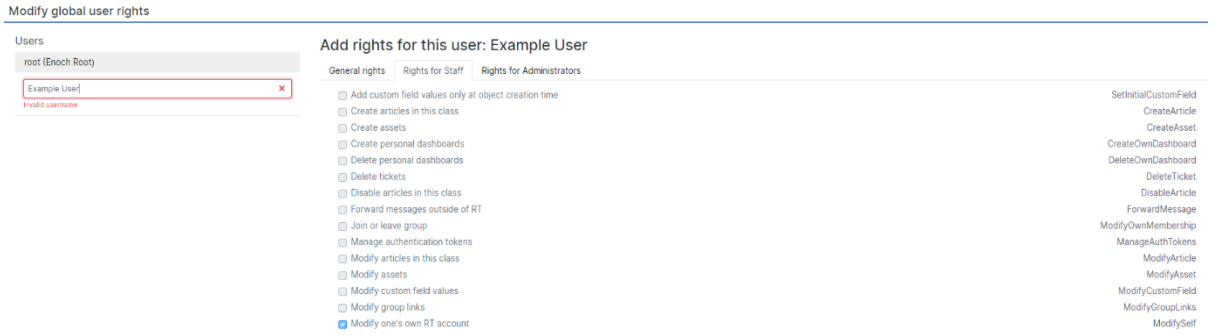
The-Queue-Name-Comment: "|/opt/rt5/bin/rt-mailgate --queue general --action comment --url http://isaacrt.op-bit.nz"



You should also change the root email address off of my school email address to whoever takes over management.

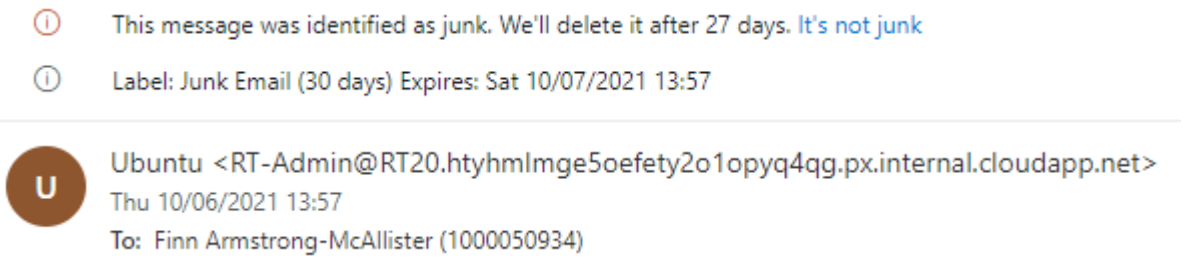
Users

Users will need to be created at the start of semester for each new student added to the Ops group. The process for this is relatively simple and straight forward to understand. The important parts here are ensuring that the username and email are correct as well as assigning the correct timezone (Pacific/Auckland +1200). I would recommend giving each user a temp P@ssw0rd. Once created, navigate to the Admin tab -> global -> user rights. Enter the username of the account you just created on the text box on the left hand side of the page, then under the 'Rights for Staff' tab check the value 'ModifySelf' and hit save changes. This will allow users to then change their password to whatever they wish.



Future Work Required

The email system currently has a strange DNS attached to it and is thus being directed into the users spam folder.



SSL

Installation Guide

This guide is written for Ubuntu 20.04 and is to be used with MariaDB for the Database and Apache2 as the web server.

Installing some 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

Install Perl modules

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

When prompted input yes and then q to quit.

Installing the required Perl modules

sudo cpan install HTML::FormatText HTML::TreeBuilder HTML::FormatText::WithLinks HTML::FormatText::WithLinks::AndTables DBD::mysql LWP::Protocol::https

Download the rt5 tar file to a temporary location

wget https://download.bestpractical.com/pub/rt/release/rt5.0.0.tar.gz

Extract 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

Ensure the required Perl and system libraries are installed

sudo make testdeps

If the script reports any missing dependencies

sudo make fixdeps

answer y to all three questions.

Run the make install command

sudo make install

Initialize the database for RT

sudo make initialize-database

If the initialization fails run make dropdb and then rerun sudo 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#
```

Change the default password for the RT database user

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

commit;

quit;

Update the RT_config.pm config to reflect the password change we did for the RT database user rt_user.

sudo vi /opt/rt5/etc/RT_Config.pm

Original

```
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

```
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
```

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

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

Open your web browser and navigate to your servers ip and port 8080. For example, http://20.193.69.242:8080/. You should see the login page.

Create a RT5 sites-available config file.

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

Populate with

```
<VirtualHost *:80>
        ### Optional apache logs for RT5 request tracker for HendGrow.com
Demo server
        # 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>
```

Edit the apache2.conf file and add the information below.

sudo vi /etc/apache2/apache2.conf

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

Enable the RT site

sudo a2ensite rt5

disable the default site

sudo a2dissite 000-default

Check the config

sudo apachectl configtest

Restart Apache

sudo systemctl restart apache2

Open your web browser and navigate to your servers ip. For example 20.193.69.242. You should see the login page.