

# Ticketing Service

## 1 Request Tracker (RT) Installation and Configuration

### 1.1 Notes:

- This lab note is taken from NSRC Workshop LAB, therefore requested to change pcX.ws.nsrc.org with your domain.
- Commands preceded with "\$" imply that you should execute the command as a general user - not as root.
- Commands preceded with "#" imply that you should be working as the root user.
- Commands with more specific command lines (e.g. RTR-GW> or mysql>) imply that you are executing commands on remote equipment, or within another program.
- If a command line ends with "" this indicates that the command continues on the next line and you should treat this as a single line.

## 2 Exercises

### 2.1 Exercise 0

Log in to your virtual machine as the sysadm user.

### 2.2 Exercise 1

Install the necessary packages for RT. You should have mysql-server already, but we do the install just in case. This won't cause problems.

Copy the "sudo apt-get install" line below, minus the "\$" and paste this in to your terminal session on your virtual machine.

```
$ sudo apt-get install rt4-apache2 rt4-clients rt4-db-mysql  
request-tracker4 \  
libapache2-mod-fastcgi libfcgi-perl mutt
```

Respond "Yes" when prompted if you wish to install the packages.

If it complains about MySQL, pls. do the following

```
$ sudo dpkg -l maria*
```

See what mariadb components are already installed in your system and then do

```
$ sudo apt-get purge maria*
```

And press Y when required to remove all related software. Check whether it did the desired

work for by issuing the earlier command.

```
$ sudo dpkg -l maria*
```

Install MySQL server for use with RT

```
$ sudo apt-get install mysql-server
$ sudo service mysql restart
```

Now back to our RT installation once again.

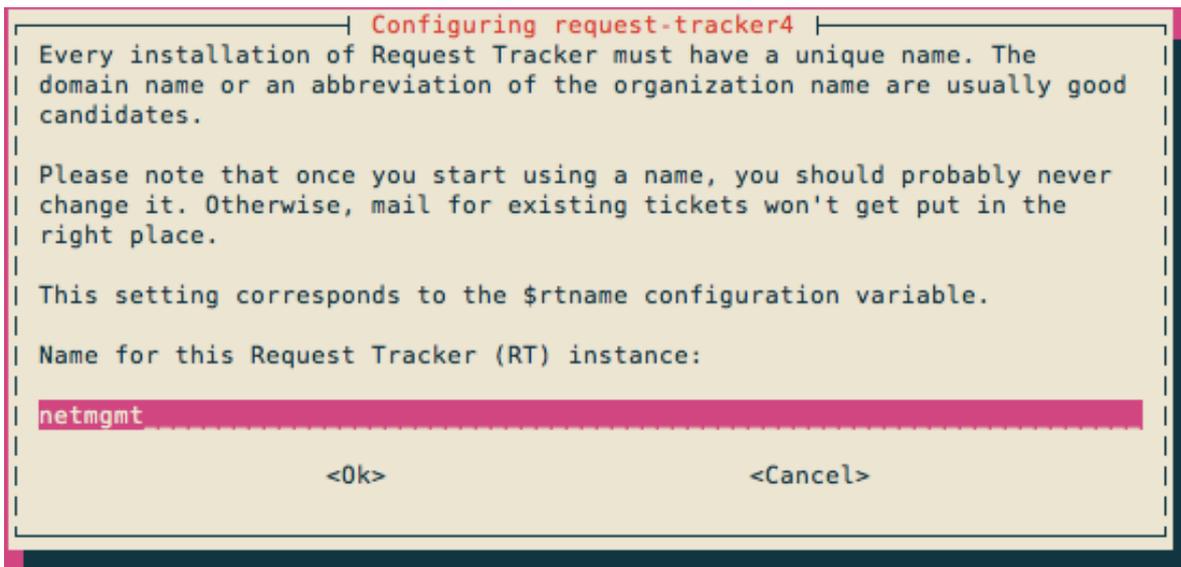
```
$ sudo apt-get install rt4-apache2 rt4-clients rt4-db-mysql
request-tracker4 \
  libapache2-mod-fastcgi libfcgi-perl mutt
```

Respond "Yes" when prompted if you wish to install the packages.

You will now be presented with several windows. Read the following instructions to see how to respond:

### **Name for this Request Tracker (RT) instance:**

Remove what is shown and replace with "netmgmt", then select **<Ok>** and press **ENTER** to continue.



*RT installation name*

### **Handle RT\_SiteConfig.pm permissions?**

- Select **<Yes>** and press **ENTER** to continue.

### **Configure database for request-tracker4 with dbconfig-common?**

- Select **<Yes>** and press **ENTER** to continue.

```
| Configuring request-tracker4 |
|
| The RT web interface needs access to the database password, stored in
| the main RT configuration file. Because of this, the file is made
| readable by the www-data group in normal setups. This may have security
| implications.
|
| If you reject this option, the file will be readable only by root, and
| you will have to set up appropriate access controls yourself.
|
| With the SQLite backend, this choice will also affect the permissions of
| automatically-generated local database files.
|
| Handle RT_SiteConfig.pm permissions?
|
| <Yes> <No>
```

*DB configuration*

### Password of the database's administrative user:

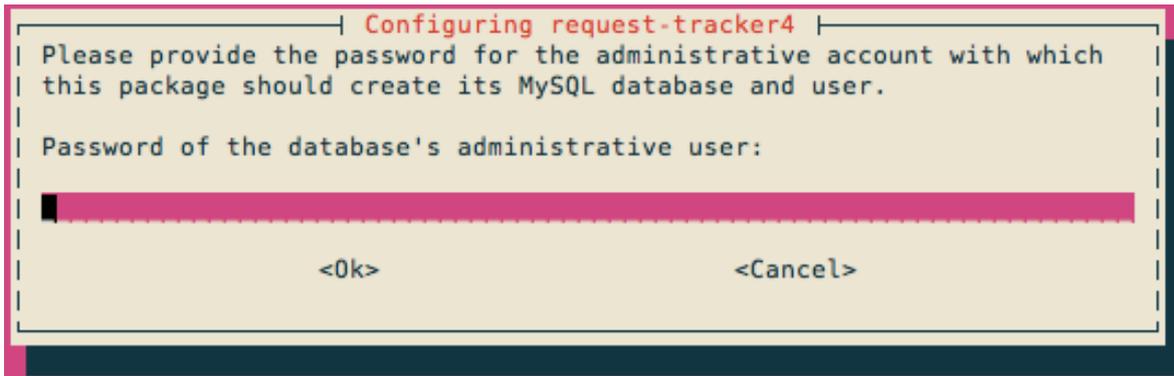
Enter the MySQL **root** or **admin** password. This was set earlier in the workshop (probably when you installed Cacti). If you do not remember what this is, or if it's not written at the front of the classroom, ask an instructor for help.

```
| Configuring request-tracker4 |
|
| The request-tracker4 package must have a database installed and
| configured before it can be used. This can be optionally handled with
| dbconfig-common.
|
| If you are an advanced database administrator and know that you want to
| perform this configuration manually, or if your database has already
| been installed and configured, you should refuse this option. Details
| on what needs to be done should most likely be provided in
| /usr/share/doc/request-tracker4.
|
| Otherwise, you should probably choose this option.
|
| Configure database for request-tracker4 with dbconfig-common?
|
| <Yes> <No>
```

*DB admin password*

### MySQL application password for request-tracker4:

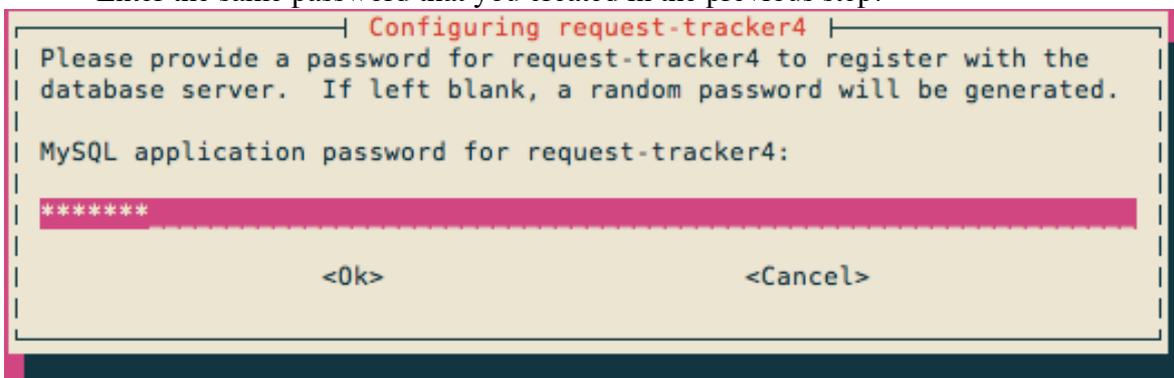
You may enter any password you wish. This will be used by Request Tracker to connect to MySQL. You generally do not need to remember this password. Pick something that cannot be guessed easily (i.e., don't use `rt`, `requesttracker`, `1234`, etc...).



*DB application password*

**Password confirmation:**

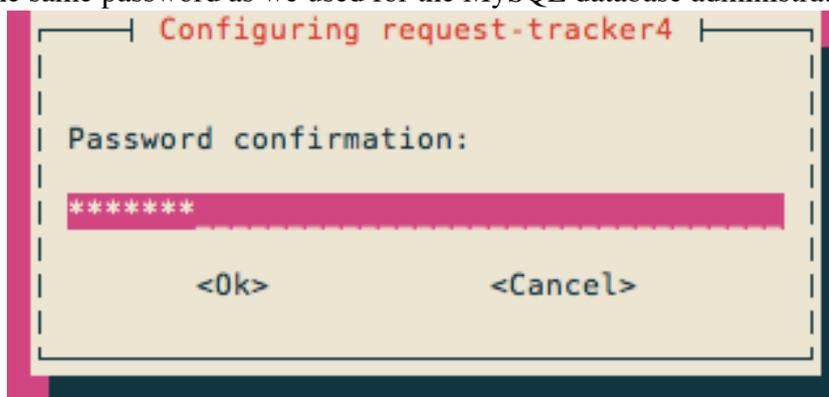
- Enter the same password that you created in the previous step.



*DB application password*

**Initial root password for RT system:**

- Use the same password as we used for the MySQL database administrative user.



*Initial root password*

Now you will see quite a bit of information go across your screen as the Request Tracker installation process completes - It's a big package.

## 2.3 Exercise 3

At this point you have installed Request Tracker version 4. In order to access RT via the

Apache web server you need to make a few small changes.

First let's update the Request Tracker (RT) configuration to improve the "From:" field format that will be used when RT sends out emails to users. In addition we will restrict attachment sizes and we will add our RT server to a whitelist to avoid cross site forgery error messages for legitimate RT usage.

Request Tracker maintains configuration files in the directory:

```
/etc/request-tracker4/RT_SiteConfig.d
```

We will go to this directory, create a new configuration file called 90-local and regenerate the RT RT\_SiteConfig.pm file using the update-rt-siteconfig command:

```
$ cd /etc/request-tracker4/RT_SiteConfig.d
$ sudo vim 90-local
```

Add the following two lines to the file 90-local:

```
Set($MaxAttachmentSize , 10000000);
```

```
Set(@ReferrerWhitelist, qw(x.x.x.x:80  SERVNAME:80));
```

In the ReferrerWhitelist entry x.x.x.x. is the IP address of your VM and SERVNAME is the name of your VM. That is, if you are on group9.group09.net you would enter:

```
Set(@ReferrerWhitelist, qw(61.45.254.9:80  group9.group09.net:
80));
```

Be sure to use the correct IP address and name for your VM, then save the file and execute the command:

```
$ sudo update-rt-siteconfig
```

Now we have one more change to the Apache web server configuration to make:

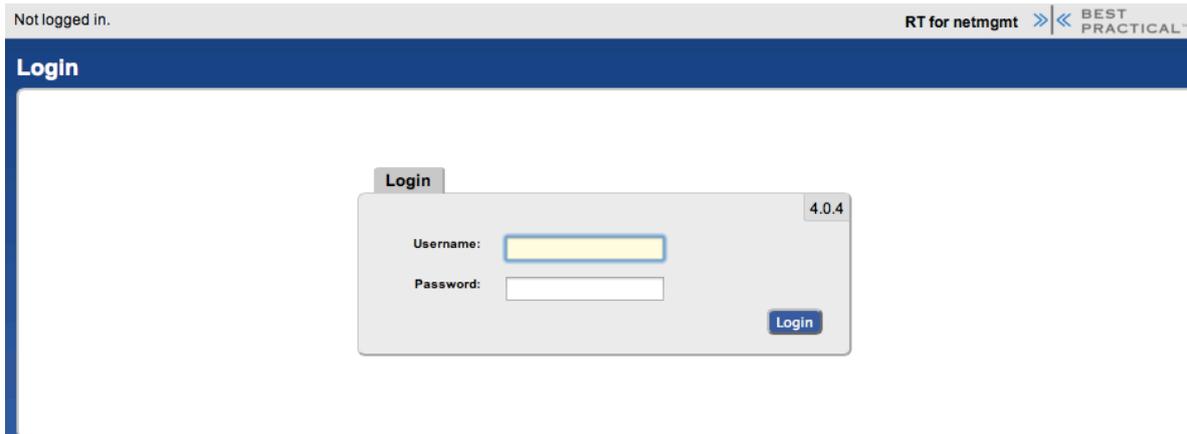
```
$ cd /etc/apache2/conf-available
$ sudo ln -s /etc/request-tracker4/apache2-modperl2.conf
rt4.conf
$ sudo a2enconf rt4
$ sudo service apache2 restart
```

The last step could take up to 30 seconds, so be patient! RT should now be up and running!

## 2.4 Exercise 3

Log in to RT as the root User

If you go to <http://groupN.groupxx.net/rt/> you will see the RT login screen:



*Login screen*

Enter the following information to log in as **root** on RT:

**Username:** root

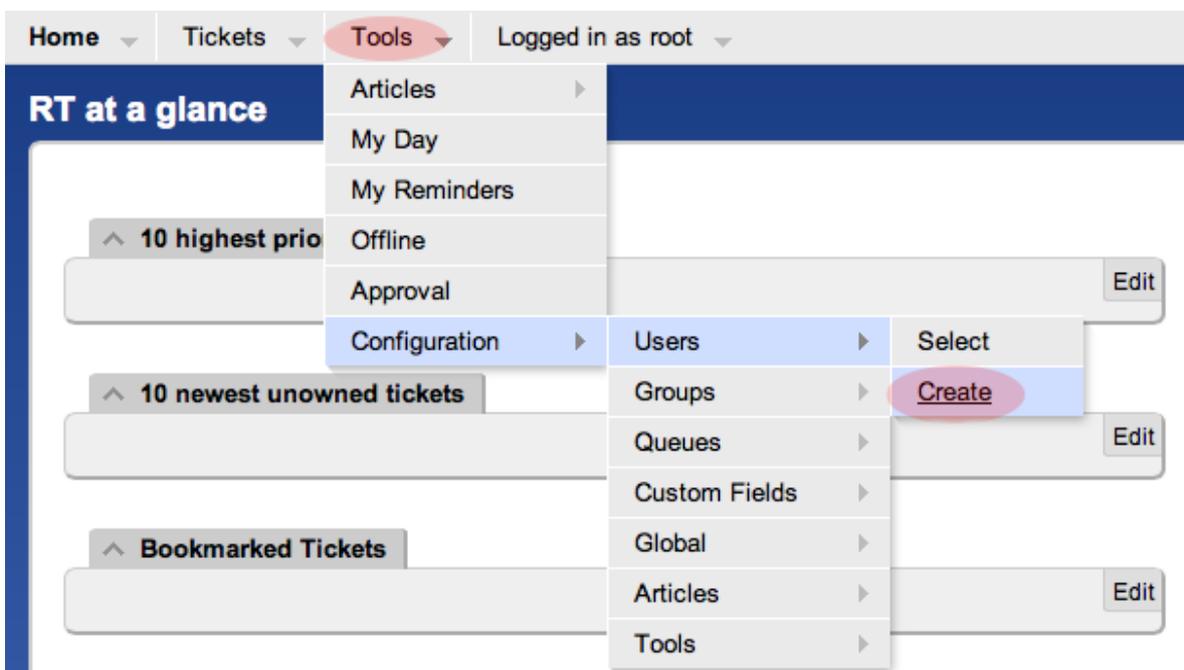
**Password:** [SELECTED AT INSTALL TIME]

## 2.5 Exercise 4

### RT Configuration: Create a User

Now that you are logged in we will create a new user for the rest of these exercises. The user you will create is "sysadm".

On the top of the screen choose Tools => Configuration => Users and then click on the **Create** item in the menu.



*Create User*

You will now be presented with the following dialogue. Fill in the fields, and make sure the

checkbox **Let this user be granted rights** is checked. Set your email to **sysadm@groupx.groupxx.net** (X = your VM)

The screenshot shows the 'Create a new user' form in RT for groupxxRT. The form is divided into several sections:

- Identity:** Username: sysadm (required), Email: sysadm@group09.net, Real Name: System Admin, Nickname: , Unix login: , Language: , Extra info: .
- Location:** Organization: , Address1: , Address2: , City: , State: , Zip: , Country: .
- Access control:**  Let this user access RT,  Let this user be granted rights (Privileged), root's current password: , New password: , Retype Password: .
- Phone numbers:** Home: , Work: , Mobile: , Pager: .
- Custom Fields:** .

Red arrows point to the 'Username' field, the 'Email' field, the 'Let this user be granted rights (Privileged)' checkbox, and the 'Create' button at the bottom right.

### *User creation form*

Use the same password for **sysadm** as you are using in class. Be sure you check **Let this user be granted rights**. Once done, scroll down the page and click on the **Create** button (bottom right). You should see this:

The screenshot shows the 'Modify the user sysadm' page in RT. The page has a yellow 'Results' box with the following content:

- User created
- Password set

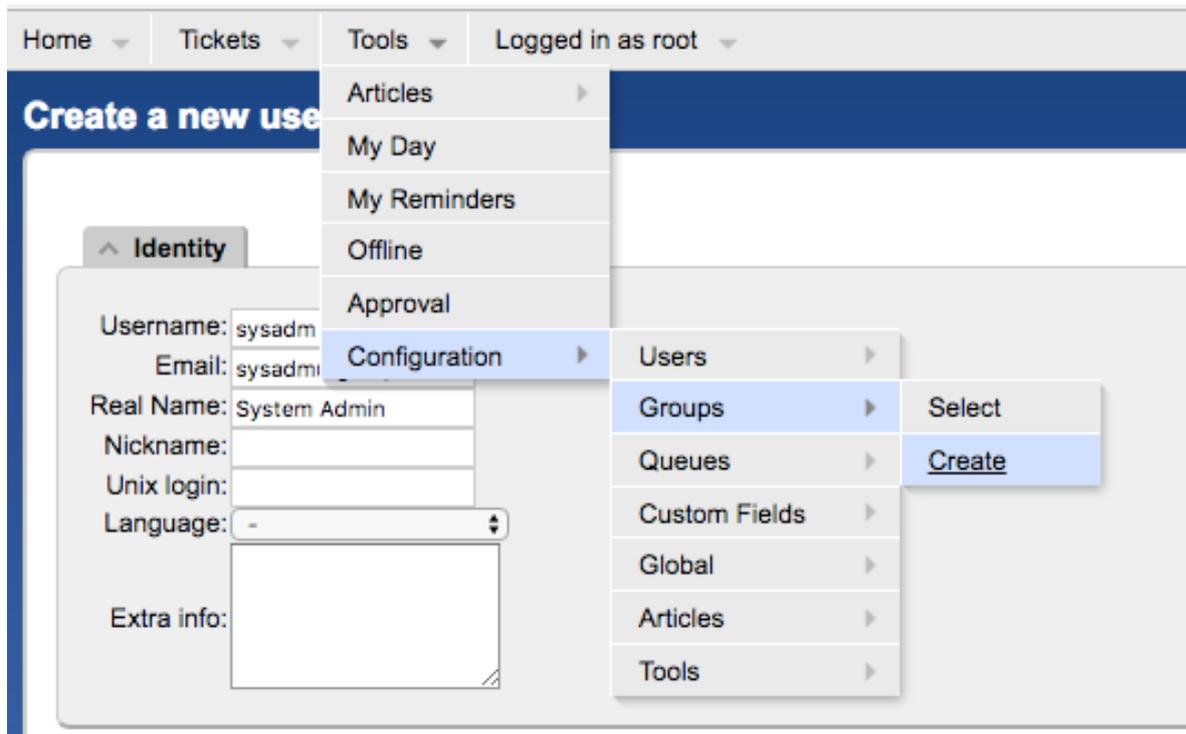
The page also has navigation tabs for 'Users', 'Basics', 'Memberships', 'History', and 'RT at a glance'.

### *User created*

## 2.6 Exercise 5

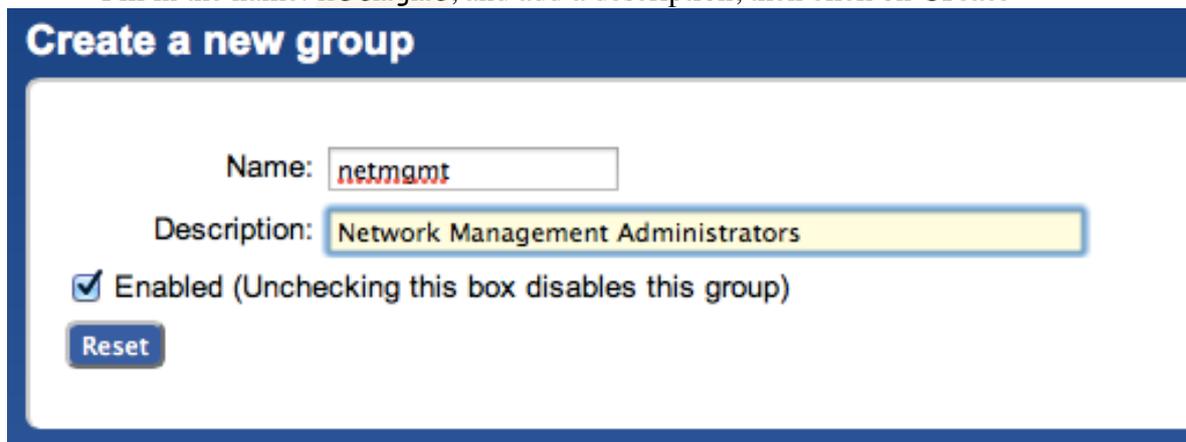
### RT Configuration: Create a Group

- At the top, choose the menu item **Tools => Configuration => Group => Create**



*Create group*

- Fill in the name: `netmgmt`, and add a description, then click on **Create**



*Create group form*

- You should see the following result:

**Modify the group netmgmt** New ticket in Ge

Groups ▾ Basics Members Group f

^ **Results**

- Group created
- Group netmgmt: Description changed from (no value) to 'Network Management Administrators' by root

Name:

Description:

Enabled (Unchecking this box disables this group)

*Group created*

- Click on Members (top menu)

**Modify the group netmgmt** New ticket in General

Groups ▾ Basics **Members** Group Rights

^ **Results**

- Group created
- Group netmgmt: Description changed from (no value) to 'Network Management Administrators' by root

Name:

Description:

Enabled (Unchecking this box disables this group)

*Group members*

- In the **Add members** field (right), type in the name of the user you created in step 3. This is the **sysadm** user. Then click on **Modify Members** (bottom right):

**Modify the group netmgmt** New ticket in General Search...

Groups ▾ Basics **Members** Group Rights User Rights History

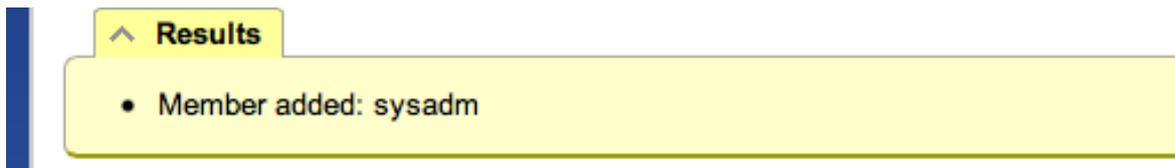
^ **Editing membership for group netmgmt**

Current members	Add members
(No members)	Add user: <input type="text" value="sysadm"/>
	Add group: <input type="text"/>

(Check box to delete)

*Add member*

- You should see this:

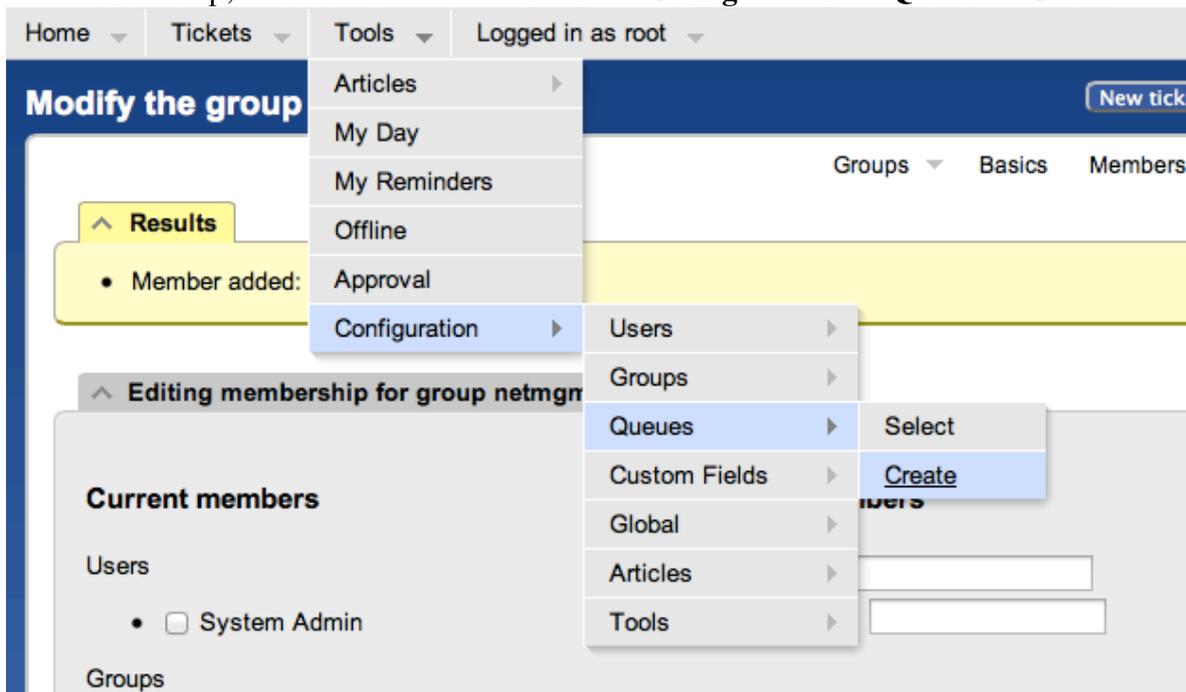


*Member added*

## 2.7 Exercise 6

### RT Configuration: Create a New Queue

- At the top, choose the menu item **Tools => Configuration => Queue => Create**



*Create queue*

- Fill in the fields. Let's use the following values and then click on **Create**:

**Queue Name:** net

**Description:** Network Problems

**Subject Tag:** RT: NET

**Reply Address:** net@group09.net

**Comment Address:** net-comment@group09.net

**Create a queue** New ticket in | General | Search...

Queue Name:  Select Create

Description:

Lifecycle:

Subject Tag:

Reply Address:  Comment Address:

(If left blank, will default to rt@...) (If left blank, will default to rt-comment@...)

Priority starts at:  Over time, priority moves

toward: requires running rt-crontool

Requests should be due in:  days.

Sign by default  Encrypt by default

Enabled (Unchecking this box disables this queue)

GnuPG private key(s) for rt@...

GnuPG private key(s) for rt-comment@...

**Create**

*Queue create form*

**Note:** Remember to replace pcX with the correct number of your machine

You should see this:

**Results**

- Queue created
- Queue net: Description changed from (no value) to "Network Problems"
- Queue net: CorrespondAddress changed from (no value) to "net@pc36.ws.nsrc.org"
- Queue net: CommentAddress changed from (no value) to "net-comment@pc36.ws.nsrc.org"
- Queue net: SubjectTag changed from (no value) to "Request Tracker: NET"

*Queue created*

## 2.8 Exercise 7

### RT Configuration: Give Rights to our Group on the Queue

From the top menu, select **Tools => Configuration => Queue => Select**

You should see:

#### Enabled Queues

Select a queue:

#	Name	Description	Address	Priority	DefaultDueln	
1	General	The default queue	-/	0-0	0	Enabled
3	net	Network Problems	net@pc36.ws.nsrc.org/net-comment@pc36.ws.nsrc.org	0-0	0	Enabled

*Enabled Queues*

- Select **net** (click on it) then choose **Group Rights** (top right)



**Modify group rights for queue net**

Queues ▾ Basics Watchers Templates ▾ Scripts ▾ Ticket Custom Fields Trans

**SYSTEM**  
**Everyone**  
 Privileged  
 Unprivileged

**ROLES**  
 AdminCc  
 Cc  
 Owner  
 Requestor

**USER GROUPS**

**ADD GROUP**

**Everyone**

**General rights** Rights for Staff Rights for Administrators

- Comment on tickets
- Create tickets
- Reply to tickets
- Sign up as a ticket Requestor or ticket or queue Cc
- View custom field values
- View queue
- View ticket summaries

*Modify group rights*

Now, click **Save Changes** (bottom right) to make sure the changes are applied.

^ **Results**

- Right Granted
- Right Granted
- Right Granted
- Right Granted

*Saved rights*

Staying on the same page, we're going to now give the **netmgmt** Group all rights...

To do this, first type in the name of the group in the **ADD GROUP** field in the lower left:

**SYSTEM**  
 Everyone  
 Privileged  
 Unprivileged

**ROLES**  
 AdminCc  
 Cc  
 Owner  
 Requestor

**USER GROUPS**

**ADD GROUP**

**Add rights for this group: netmgmt**

**General rights** Rights for Staff Rights for Administrators

- Comment on tickets
- Create tickets
- Reply to tickets
- Sign up as a ticket Requestor or ticket or queue Cc
- View custom field values
- View queue
- View ticket summaries

*Add rights to group*

Now check **ALL** the boxes in **General Rights**, **Rights for Staff**, **Rights for Administrators**.

**SYSTEM**  
Everyone  
Privileged  
Unprivileged

**ROLES**  
AdminCc  
Cc  
Owner  
Requestor

**USER GROUPS**

**ADD GROUP**

**Add rights for this group: netmgmt**

General rights | **Rights for Staff** | Rights for Administrators

- Delete tickets
- Forward messages outside of RT
- Modify custom field values
- Modify tickets
- Own tickets
- Sign up as a ticket or queue AdminCc
- Steal tickets
- Take tickets
- View exact outgoing email messages and their recipients
- View ticket private commentary

*All rights selected*

Once this is done, press the **Save Changes** button on the bottom right of the page. You should see:

This is after having selected items. Remember to press **Modify Group Rights** after selecting the new rights. Once you press the **Modify Group Rights** button you will see a bunch of this:

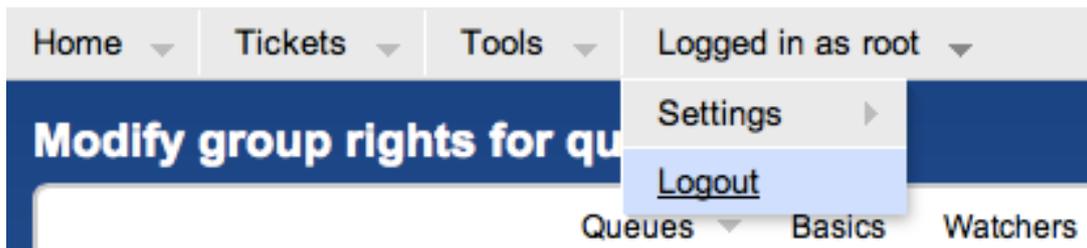


*Rights granted*

## 2.9 Exercise 8

**RT Configuration: Log in as sysadm**

Log out of RT (top menu, select the item **Logged in as root => Logout**)



*Logging out*

Now log back in as the **sysadm** user you have created:

*Logging in as `sysadm`*

You should see the following:

*Main page view for `sysadm`*

At this point RT has been properly configured for initial operation. Now we must configure email properly to talk with our new `net` queue in RT.

## 2.10 Exercise 9

### RT Configuration: Email

RT will work with the MTA (Mail Transfer Agent) of your choice. In our case we are using Postfix configured to run as an MTA for an <<Internet Site>> - that is, to deliver email locally and remotely using SMTP.

Edit the file `/etc/aliases`

```
$ sudo editor /etc/aliases
```

Add the following two lines at the end of the file (copy and paste!):

```
net-comment: "|usr/bin/rt-mailgate --queue net \  
--action comment --url http://localhost/rt/"  
net:         "|usr/bin/rt-mailgate --queue net \  
--action correspond --url http://localhost/rt/"
```

Save the file and exit. Some editors might cause the above-lines to become multiple lines. Be sure that you only have two new lines in your `/etc/aliases` file after copying and pasting in the text above.

Now run the command:

```
$ sudo newaliases
```

## 2.11 Exercise 10

### RT Configuration: Create an Email and Tickets

Let's create an email and send it to the RT `net` queue. Do this as the `sysadm` user (not as `root!`):

If you are currently `root`:

```
# su - sysadm
```

```
$ echo "Problem with my router" | mail -s "Router problem"  
net@group09.net
```

Remember to replace `pcX` with the correct name of your server.

Now check that you have received email:

```
$ mutt
```

You should see an email from Request Tracker acknowledging that your ticket has been created.

The mail should say something similar to this:

```
Date: Fri, 9 Nov 2012 00:29:27 +0000  
From: Network Problems via RT <net@group09.net>  
To: sysadm@group09.net  
Subject: [Request Tracker: NET #1] AutoReply: Router problem
```

Greetings,

This message has been automatically generated in response to the creation of a trouble ticket regarding:  
"Router problem",  
a summary of which appears below.

There is no need to reply to this message right now. Your ticket has been assigned an ID of [Request Tracker: NET #1].

Please include the string:

```
[Request Tracker: NET #1]
```

in the subject line of all future correspondence about this issue. To do so, you may reply to this message.

Thank you,

net@group09.net

If, for some reason, you do not see mail try taking these steps, and then send the mail again:

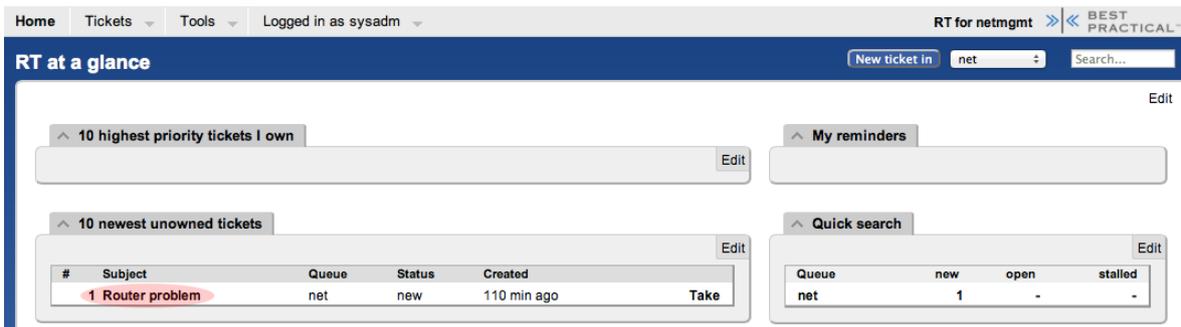
```
$ sudo touch /var/mail/sysadm
$ sudo chown sysadm:mail /var/mail/sysadm
```

## 2.12 Exercise 11

### RT Configuration: View, Reply, Resolve, Reopen Tickets in Request Tracker

Go back to your web browser where you are logged in to RT as the sysadm user and click on the **Home** menu item (top left).

You should then be presented with an updated view with the current ticket:



The screenshot shows the RT main page with the following components:

- Navigation: Home, Tickets, Tools, Logged in as sysadm
- Page Title: RT for netmgmt
- Buttons: New ticket in, net, Search...
- Sections:
  - 10 highest priority tickets I own (Edit)
  - My reminders (Edit)
  - 10 newest unowned tickets (Edit)
  - Quick search (Edit)
- Table of unowned tickets:

#	Subject	Queue	Status	Created	
1	Router problem	net	new	110 min ago	Take
- Quick search table:

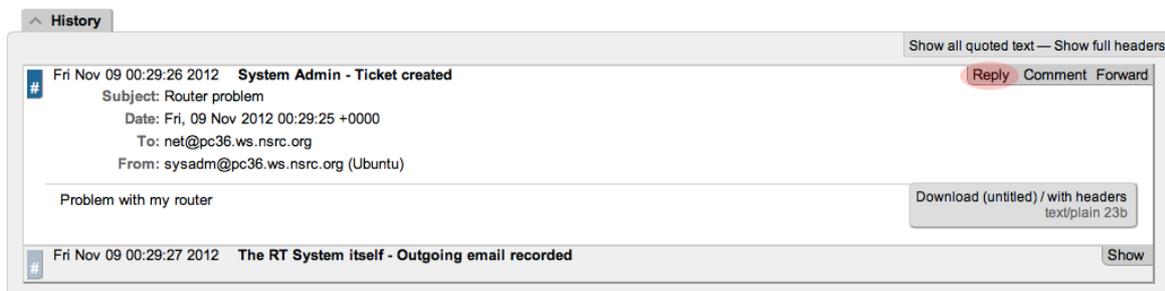
Queue	new	open	stalled
net	1	-	-

*Main page - ticket overview*

Now, click on the ticket subject.

You will see many pieces of information about the ticket. Scroll to the bottom of the page.

Here you can **Reply** to the ticket:

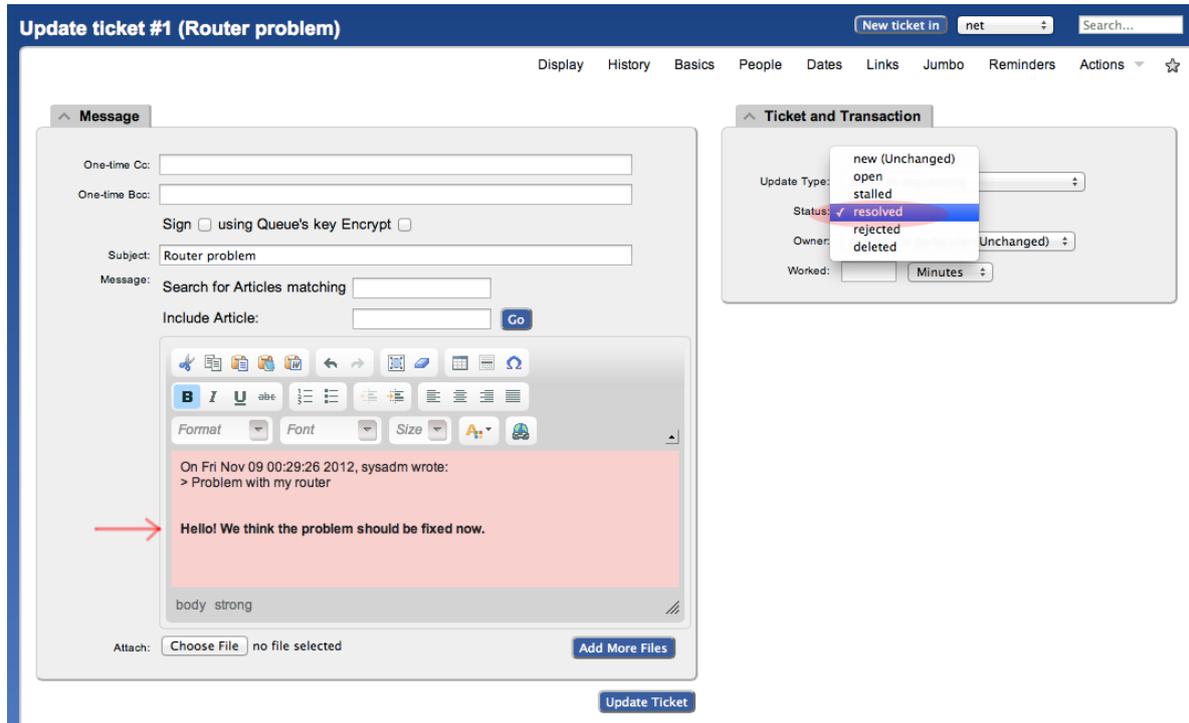


The screenshot shows the RT ticket history page with the following components:

- Section: History
- Buttons: Show all quoted text, Show full headers
- Message 1:
  - Date: Fri Nov 09 00:29:26 2012
  - System Admin - Ticket created
  - Subject: Router problem
  - Date: Fri, 09 Nov 2012 00:29:25 +0000
  - To: net@pc36.ws.nsrc.org
  - From: sysadm@pc36.ws.nsrc.org (Ubuntu)
  - Content: Problem with my router
  - Buttons: Reply, Comment, Forward
  - Download (untitled) / with headers (text/plain 23b)
- Message 2:
  - Date: Fri Nov 09 00:29:27 2012
  - The RT System itself - Outgoing email recorded
  - Button: Show

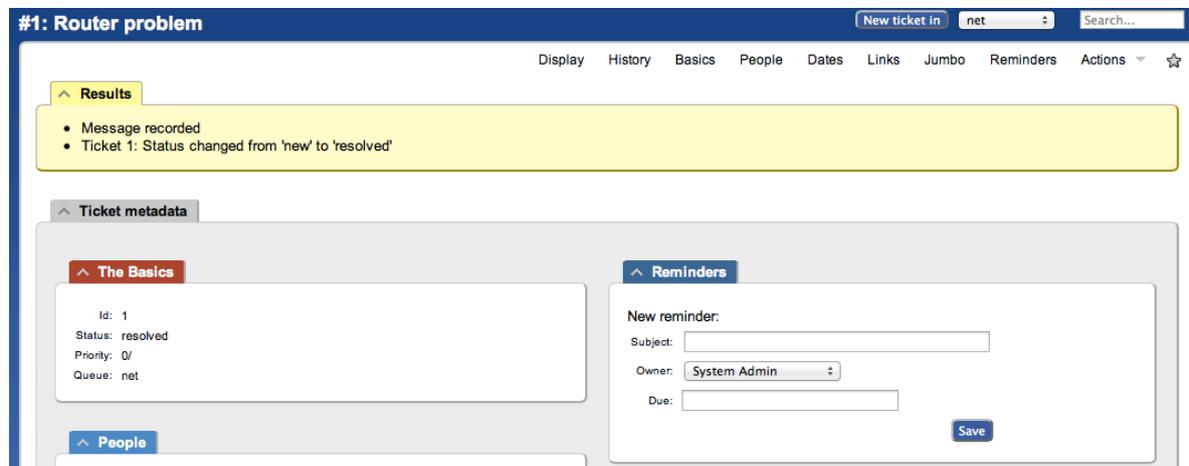
*Display ticket*

Go ahead and type in a reply, set the **Status** of the ticket to **Resolved** (upper-right drop-down menu), and then click on **Update Ticket** (bottom-right):



*Replying to ticket*

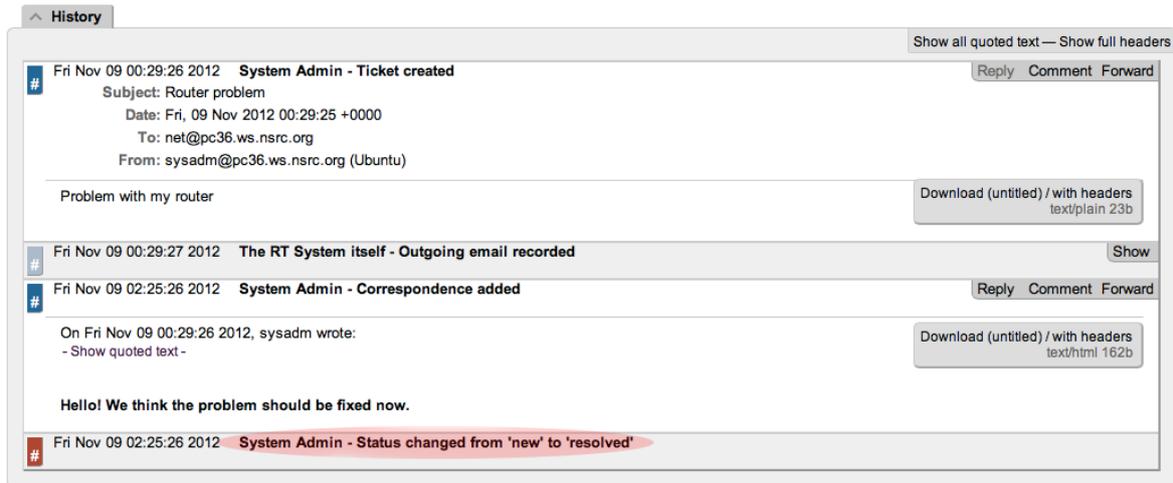
**You should see this:**



*Reply sent*

The ticket is currently Resolved but you can reopen the ticket via the RT web interface at any time, or if the original ticket creator (**sysadm** in this case) replies to the resolution email RT sent, then the ticket will be reopened.

View the history at the bottom of the page to see that the ticket is currently resolved:



### View history

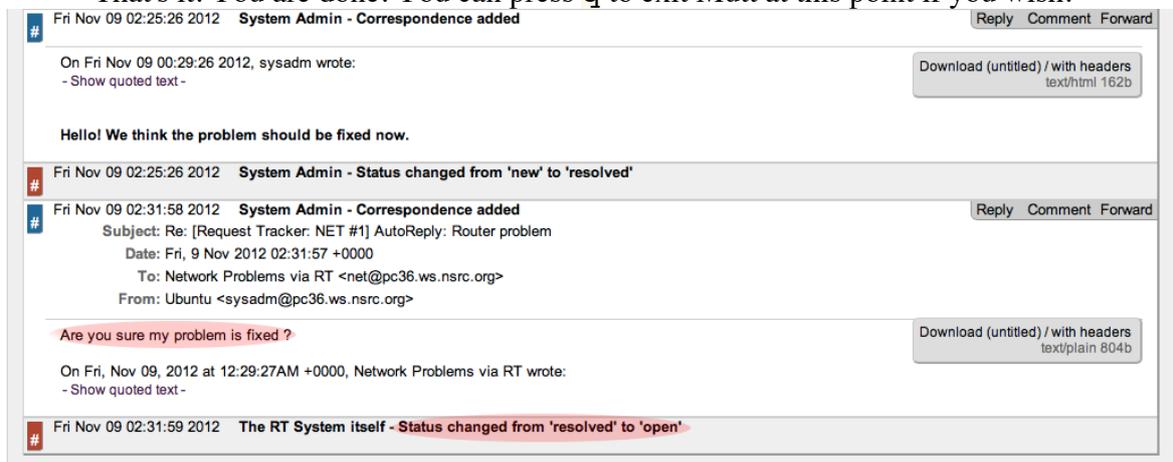
If you went back to your terminal session as the sysadm user and typed:

```
$ mutt
```

and responded to the email generated from Request Tracker, then your ticket status will change. You can see this by reloading the RT web page for the ticket and viewing the history at the bottom of the page:

### Using Mutt to Reply to an Email

- After typing **mutt**, select the message you want to respond to using the arrow keys
- Press the `<<*_r*>` key for `<<*_r*>reply`.
- At the bottom of the page you will see, **To: System Admin via RT <net@localhost>** - Press ENTER to continue
- Next you'll see a suggested `<` line. Press ENTER to choose what is shown.
- When you see, **Include message in reply? ([yes]/no):** press ENTER to include the message.
- Now you will be placed in an editor - possibly **vi**. Type in your response. We suggest to answer below the original message.
- Save and exit from the text editor (**:wq** in **vi**).
- The next screen to appear looks complicated but simply press the **y** key to send the message.
- That's it. You are done. You can press **q** to exit Mutt at this point if you wish.



### *Ticket history showing reply*

You now have a functioning RT instance with email integration!

You can experiment a bit. Now, this is not a very realistic setup, since you are communication with yourself! But in fact, other users in the classroom can send you email:

- Make sure they have configured their mail software (`sudo apt-get install postfix` then accept the defaults)
- Have the users send a mail to you, for example:

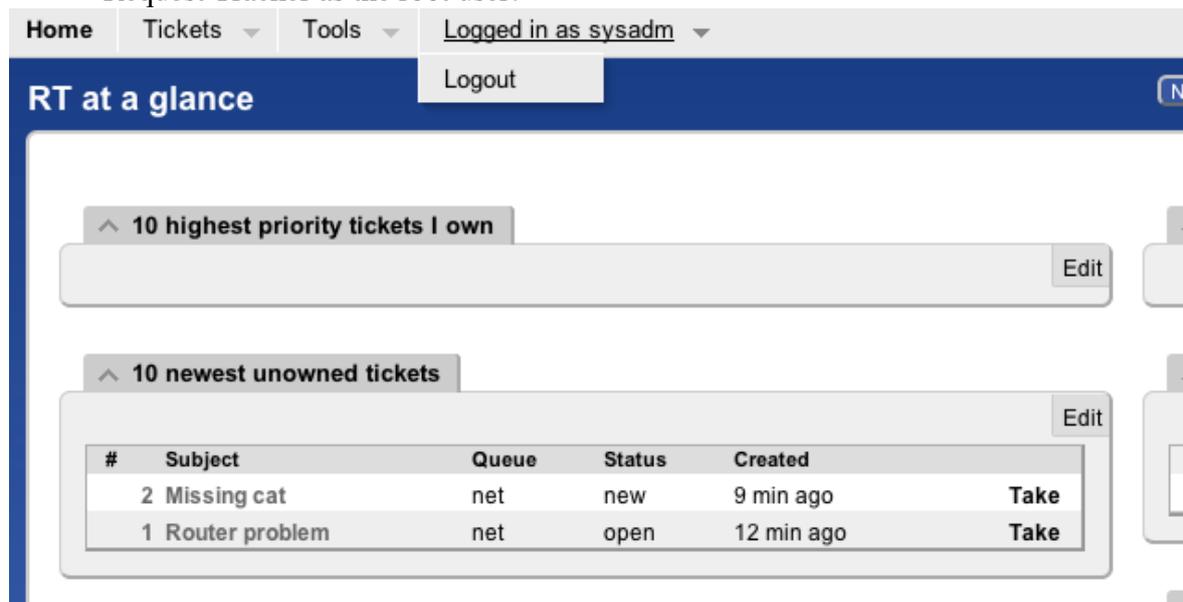
```
echo "Where is my cat ?" | mail -s "Missing cat" net@group09.net
```

- This should automatically create tickets in the **net** queue on your pc "pcX" - verify that you do receive the tickets!

## 2.13 Adding Watchers to a Queue

We are still missing an important feature: it's not practical to have to log into RT to check if tickets have arrived. It would be much more convenient if we received an email every time a problem request had been submitted, no?

- To do these exercises you need to log out as the sysadm user and log back in to Request Tracker as the root user.



The screenshot shows the RT web interface. At the top, there is a navigation bar with 'Home', 'Tickets', and 'Tools' menus. A dropdown menu is open showing 'Logged in as sysadm' and a 'Logout' button. Below the navigation bar, the main content area is titled 'RT at a glance'. There are two sections: '10 highest priority tickets I own' and '10 newest unowned tickets'. The '10 newest unowned tickets' section contains a table with the following data:

#	Subject	Queue	Status	Created	
2	Missing cat	net	new	9 min ago	Take
1	Router problem	net	open	12 min ago	Take

*Logout as sysadm*

- Now log back in as root:

**Login** 4.0.4

Username:

Password:

[Login](#)

*Log in as root*

Now to receive an email every time a request is submitted we're going to modify the Queue settings for **net**:

- From the top menu, select **Tools => Configuration => Queue => Select**

The screenshot shows the RT interface with the following elements:

- Top navigation: Home, Tickets, Tools, Logged in as root
- Left sidebar: RT at a glance, 10 highest prio, 10 newest unowned tickets, Bookmarked Tickets
- Main content area:
 

#	Subject	Queue
2	Missing cat	net
- Right sidebar: Configuration menu (Users, Groups, Queues, Custom Fields, Global, Articles, Tools) and a sub-menu (Select, Create) for the 'Queues' item.

*Select queue*

From the **Queue** page, select the **net** queue by clicking on its name, and you select the **Watchers** menu option at the top:

## Configuration for queue net

Queues ▾ Basics **Watchers** Templates ▾ Scripts ▾

Queue Name:

Description:

Lifecycle:

Subject Tag:

Reply Address:  Comm  
*(If left blank, will default to rt@pc36.ws.nsrc.org)*

Priority starts at:  Over time, priority m

Requests should be due in:  days.

Sign by default

Enabled (Unchecking this box disables this queue)

*Queue watchers*

You should now see this:

### People related to queue net

New ticket in General ▾ Search...

Queues ▾ Basics **Watchers** Templates ▾ Scripts ▾ Ticket Custom Fields Transaction Custom Fields Group Rights User Rights

**Current watchers**

Cc:

- none

*(Check box to delete)*

AdminCc:

- none

*(Check box to delete)*

**New watchers**

Find people whose

matches

Find groups whose

matches

Add new watchers:

**Users**  
No principals selected.

**Groups**  
No principals selected.

If you've updated anything above, be sure to

*Modify queue watchers*

Under **New watchers**, enter the group name **netmgmt** in the field: <>, as such:

## New watchers

Find people whose

Username matches  Go!

Find groups whose

Name matches netmgmt Go!

Add new watchers:

### Users

*No principals selected.*

### Groups

*No principals selected.*

*New watchers*

And click on **Go!**

RT will search for all groups matching **netmgmt**. Of course there is only one right now, which we created earlier. RT finds it and displays the following:

## New watchers

Find people whose

Username matches  Go!

Find groups whose

Name matches  Go!

Add new watchers:

### Users

*No principals selected.*

### Groups

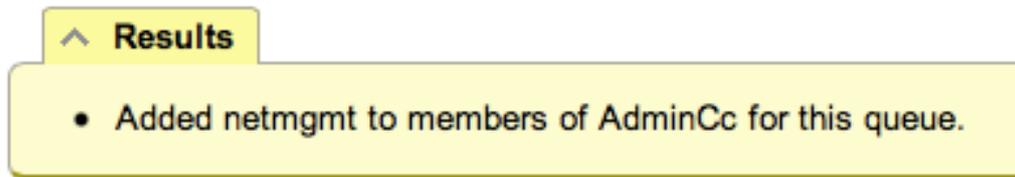
• ✓ - netmgmt (Network Management Administrators)  
Cc  
AdminCc

*Matched groups*

Notice how we select **AdminCc** from the pull down menu **Groups** next to **netmgmt**. Do

this and click on **Save Changes** at the bottom right.

The result should look like this:



*Watchers modified*

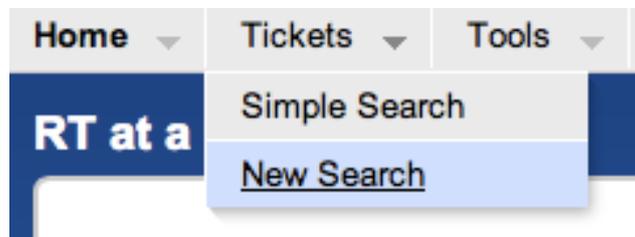
What does it mean ? Well, ask another user to send you a mail, like before, but this time you should receive a mail from RT with the ticket notification - run `mutt` as `sysadm`.

A bit later we will extend the use of RT by integrating it with other Network Monitoring software using the `rt-mailgate` facility that we have already configured in the `/etc/aliases` file.

## 2.14 Exercise 12

### Finding a ticket once it's closed.

After a ticket has been resolved or closed may notice that it disappears from your Queue. Actually finding a closed ticket requires a few steps. First, click on **Tickets => New Search** on the top menu in RT:



*Search tickets*

and you will see a screen like this:

The screenshot shows the RT Query Builder interface. The 'Add Criteria' section on the left contains several filter fields: 'id' (less than), 'Subject' (matches), 'Queue' (is), 'Status' (is), 'Owner' (is), 'Requestor E' (matches), 'Created' (before), 'Time Worked' (less than), 'Priority' (less than), and 'HasMember' (is). Below these is an aggregator set to 'AND'. The 'Current search' section on the right is empty. At the bottom, there are sections for 'Sorting' and 'Display Columns'.

*Ticket search form*

If you are going to search for items in a queue and there are already items in the <<Current search>> box, then you should delete the items from the <<Current search>> box first. Next in the <<Add Criteria>> box in the <<Queue>>" choice select the <<net>> queue from the drop-down menu (see below):

This screenshot shows the same RT Query Builder interface but with annotations. In the 'Add Criteria' section, the 'Queue' dropdown menu is highlighted with a red circle and labeled '1', and it contains the text 'net'. Below the 'Add Criteria' section, the 'Add these terms' button is highlighted with a red oval and labeled '2'. In the 'Current search' section, the text 'Queue = 'net'' is displayed in red, with a red circle around it and the number '3' below it.

*Adding search terms*

Click on <<Add these terms>> or <<Add these terms and Search>> - If you just do <<Add these terms>> then go to the bottom of the page and click on <<Update format and Search>> - RT will keep the search terms until you delete them at a later time.

Display Columns
^

**Add Columns:**

- id
- QueueName
- Subject
- Status
- ExtendedStatus
- UpdateStatus

**Format:**

Link:

Title:

Size:

Style:

**Show Columns:**

- id
- Subject
- Status
- QueueName

*Execute search*

And the results of your search will look something like this and you will be able to view tickets that have been closed, resolved, etc. Clearly there will be more tickets in the results over time:

Home
Tickets
Tools
Logged in as root

Found 3 tickets
New ticket in

#	Subject Requestors	Status Created	Queue Told	Owner Last Updated
1	Router problem sysadm@pc36.ws.nsrc.org	resolved 3 hours ago	net	Nobody 49 min ago
2	Missing cat nsrc@noc.ws.nsrc.org	new 45 min ago	net	Nobody 45 min ago
3	Missing cat nsrc@noc.ws.nsrc.org	new 10 min ago	net	Nobody 10 min ago

*Search results*