

# Registry Operations Curriculum

## Request Tracker (RT) Installation and Configuration

### Notes:

- 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.

## Exercises

### Exercise 0

Log in to your PC or open a terminal window as the tladmin user.

### Exercise 1

Install the necessary packages for RT.

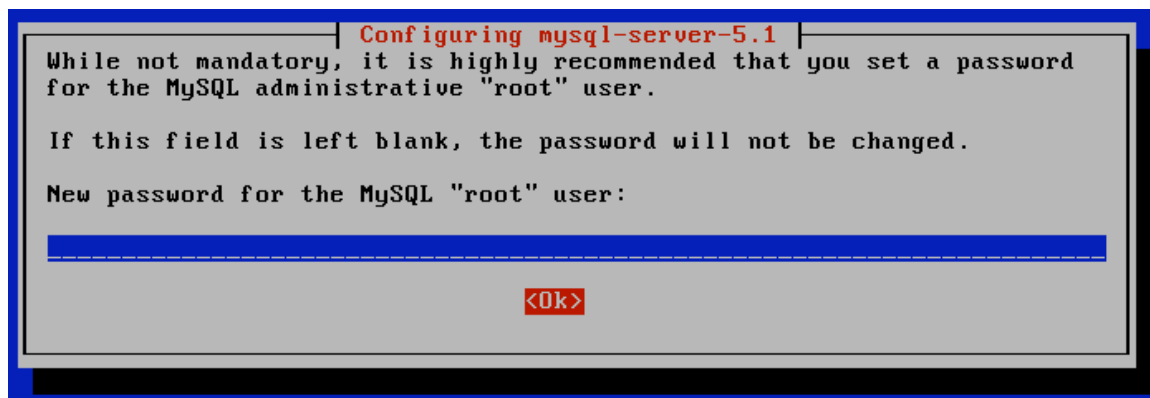
```
$ sudo apt-get install mysql-server-5.1
$ sudo apt-get install rt3.8-apache2
$ sudo apt-get install rt3.8-clients
$ sudo apt-get install rt3.8-db-mysql
$ sudo apt-get install request-tracker3.8
$ sudo apt-get install mutt
```

A quicker way to do this is to specify all the packages on a single line. (Hint, you can copy and paste this if you wish):

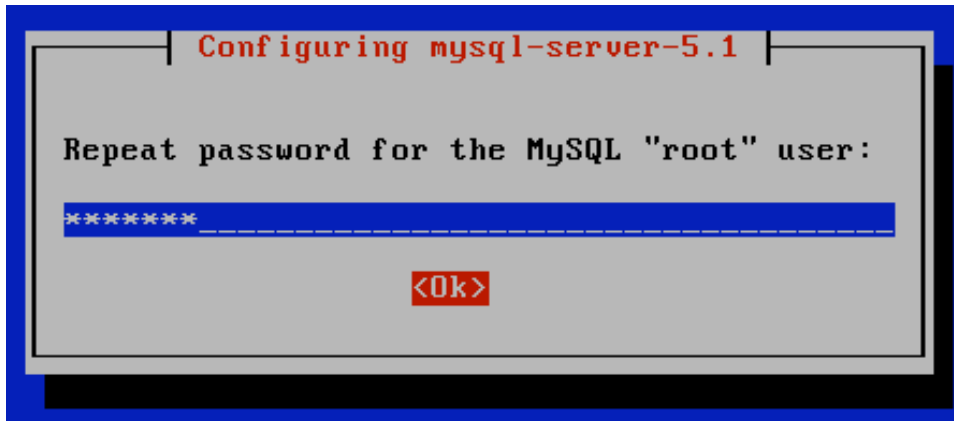
```
$ sudo apt-get install mysql-server-5.1 rt3.8-apache2 \
rt3.8-clients rt3.8-db-mysql request-tracker3.8 mutt
```

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

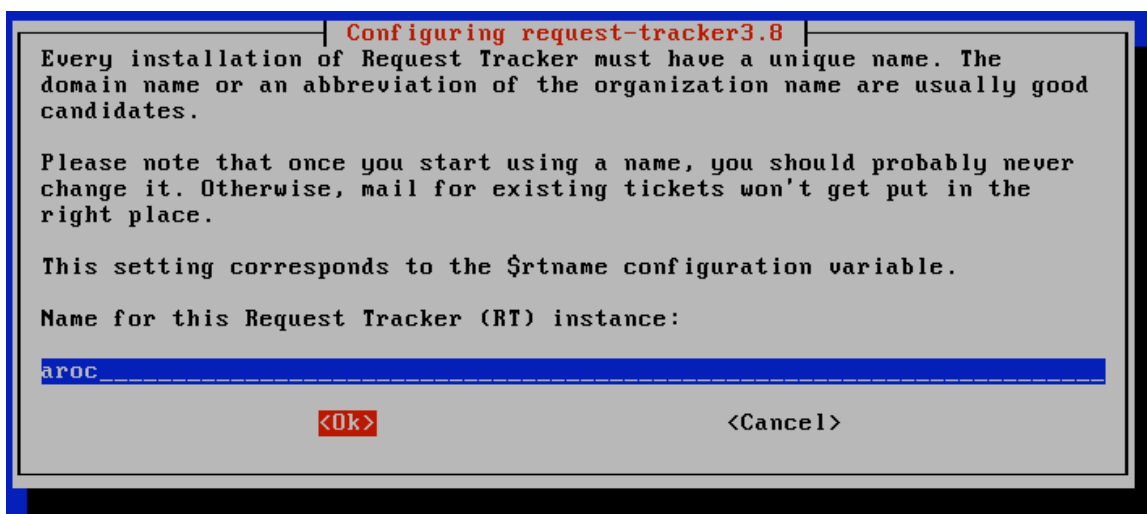
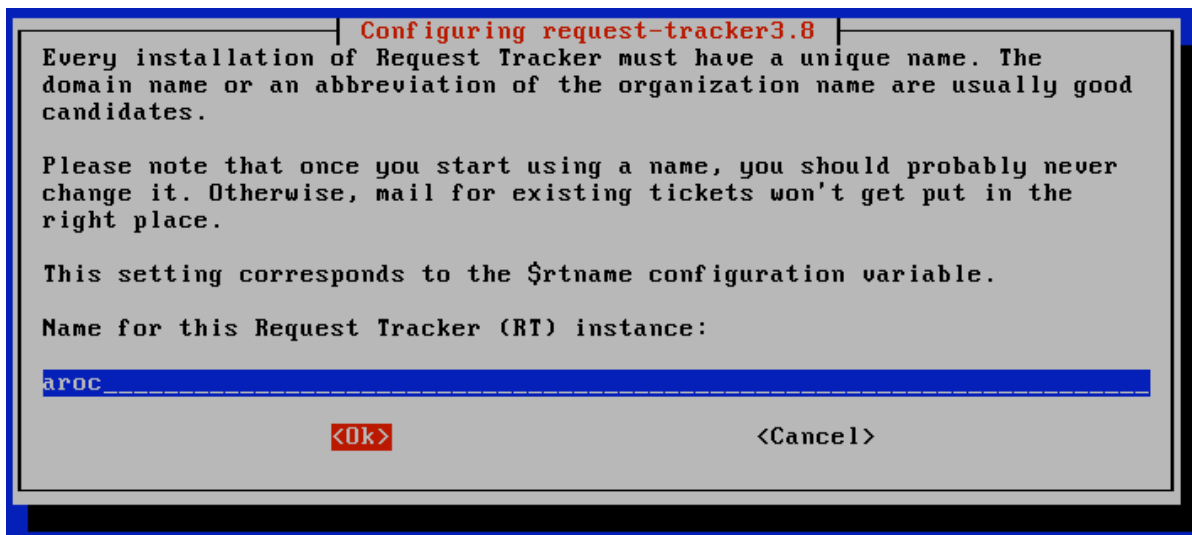
You will now be presented with several windows. Read the instructions below each item to see how to respond:



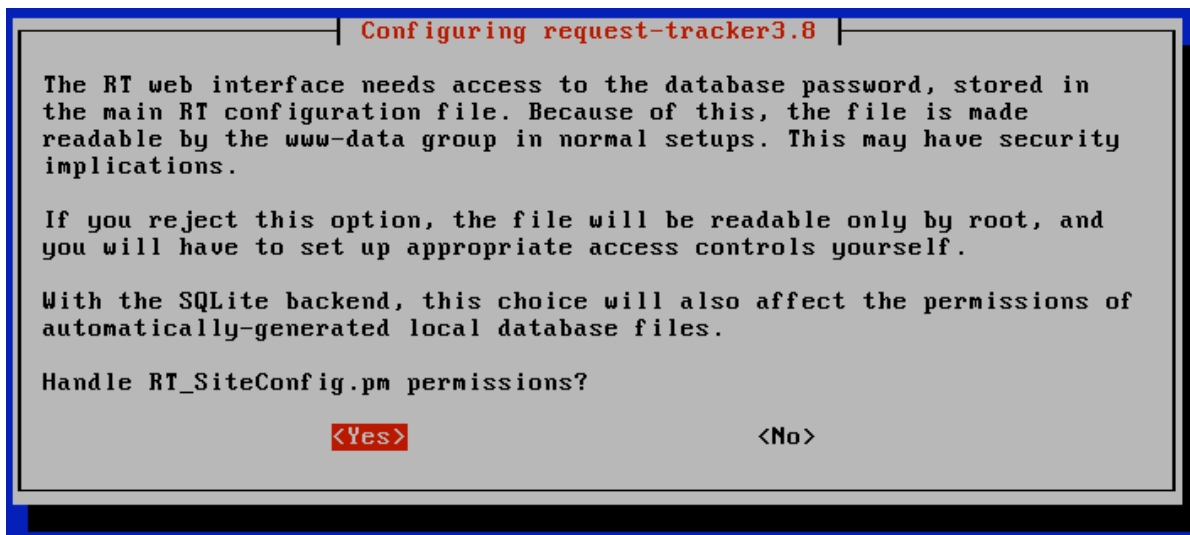
If you enter nothing, then you will receive this prompt again. Please use the administrative password you have been given in class for your machine. If you do not know what this is, then ask your instructor.



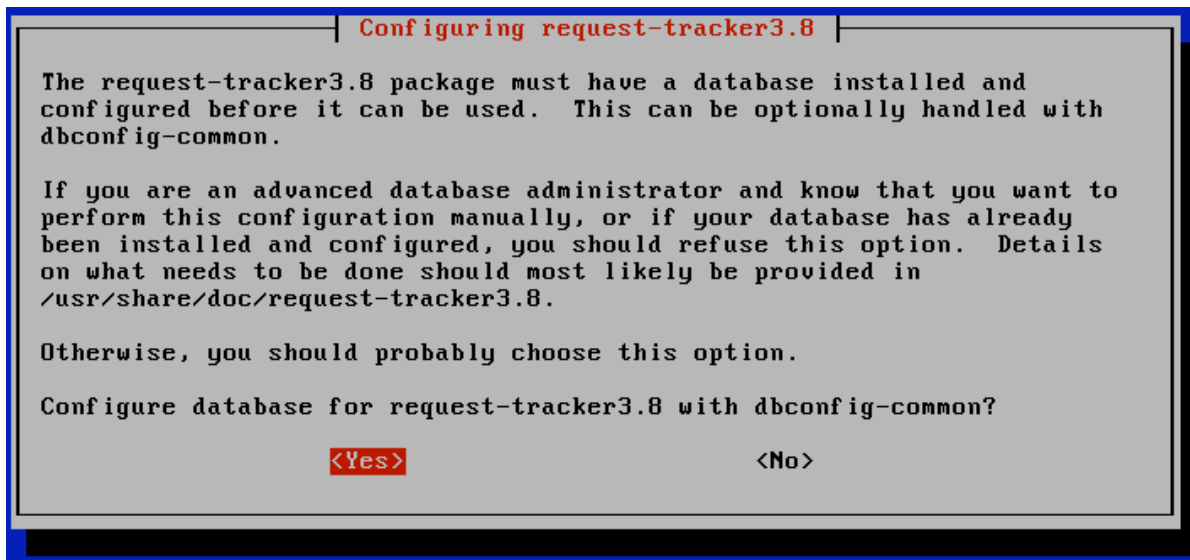
Enter the same password again.



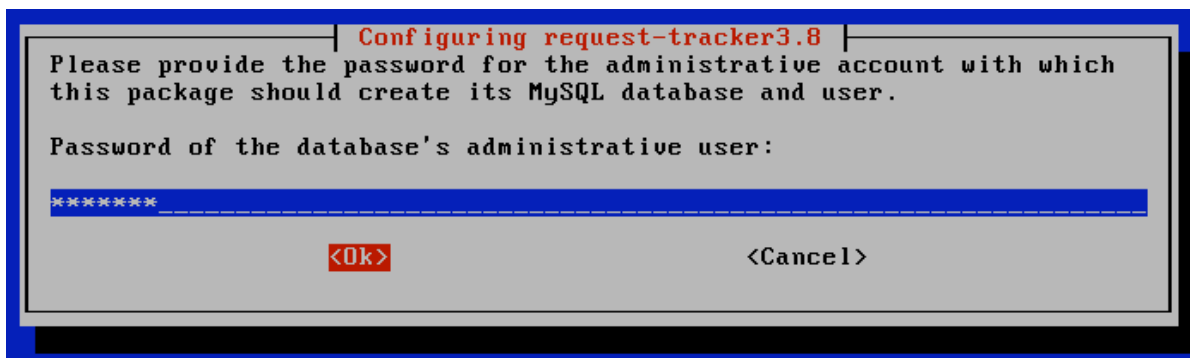
Use the name "aroc" for this instance of RT.



Choose “Yes” – Be aware of this issue. You may wish to manually go and change the permissions for the RT configuration file at a later time.



Choose “Yes”



To keep our installation simple, please use the same password as you did for the MySQL “root” user. You will be prompted either one or two times more for the same password. Please enter it again and select “<OK>” to continue.

At this point you have installed Request Tracker version 3.8. In order to access RT via the Apache web server you need to make one small change.

```
$ cd /etc/apache2/conf.d
$ sudo ln -s /etc/request-tracker3.8/apache2-speedycgi.conf .
$ sudo /etc/init.d/apache2 reload
```

RT is now running and available on your machine.

## **Exercise 2**

### **RT Configuration: root User Password Change**

Open a web browser and point it to the IP address of the machine where you installed RT.

For example open the link:

<http://MyMachine/rt/>

You will now see the opening RT screen. You should log in using the default username and password for a new installation. These are “root” and “password” -

RT for aroc Not logged in.

3.8.4

Username: root

Password: .....

Login

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To inquire about support, training, custom development or licensing, please contact [sales@bestpractical.com](mailto:sales@bestpractical.com).

Once you have logged in let's update the password for the root RT user. To do this click on **Configuration** in the left menu, then click on the **Users** entry.

RT for aroc Logged in as root | Preferences | Logout

RT Administration New ticket in General Search...

Home Simple Search Tickets Tools **Configuration** Preferences Approval

Users · Groups · Queues · Custom Fields · Global · Tools

**Users**  
Manage users and passwords

**Groups**  
Manage groups and group membership

**Queues**  
Manage queues and queue-specific properties

**Custom Fields**  
Manage custom fields and custom field values

**Global**  
Manage properties and configuration which apply to all queues

**Tools**  
Use other RT administrative tools

Once you've clicked on **Users** you should see a screen like the one below:

RT for aroc Logged in as root | Preferences | Logout

Select a user New ticket in General Search...

Select · Create

**Privileged users**

Select a user:

#	Name	RealName	EmailAddress
12	root	Enoch Root	root@localhost

( Download as a tab-delimited file )

Find all users whose User Id matches

☐ Include disabled users in search.

Go!

Click on the **root** entry and you will now see a detail screen for this user:

RT for aroc Logged in as root | Preferences | Logout

---

**Modify the user root** New ticket in General Search...

Basics · History · Memberships · RT at a glance

Home

Simple Search

Tickets

Tools

**Configuration**

Users

Select

Create

**root**

Groups

Queues

Custom Fields

Global

Tools

Preferences

Approval

**Identity**

Username: root (required)

Email: root@localhost

Real Name: Enoch Root

Nickname:

Unix login: root

Language: -

Extra info:

**Location**

Organization:

Address1:

Address2:

City:

State:

Zip:

Country:

**Access control**

☒ Let this user access RT

☒ Let this user be granted rights

New Password:

Retype Password:

**Phone numbers**

Home:

Work:

Mobile:

Pager:

**Custom Fields**

Change the password for the root user to the administrative password that you are using in class. Once you have done this press the **Save Changes** button at the bottom of the screen (not visible in our screen capture). You'll see this at the top of the page if all goes well:

**Results**

- Password changed

### Exercise 3

#### RT Configuration: Create a User

You should already be logged in to RT as the “root” user. If not, log back in as root.

RT for aroc Logged in as root | Preferences | Logout

---

**Select a user** New ticket in General Search...

**Select** **Create**

**Privileged users**

Select a user:

On the left of the screen click **Configuration** → **Users** and then click on the **Create** item in the upper-left of the screen.

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.

RT for aroc

Logged in as root | Preferences | Logout

**Create a new user** New ticket in General Search...

Select · Create

**Identity**

Username: tldadmin (required)

Email: tldamin@localhost

Real Name: AROC Admin Account

Nickname:

Unix login:

Language: English

Extra info:

**Location**

Organization:

Address1:

Address2:

City:

State:

Zip:

Country:

**Access control**

☒ Let this user access RT

☒ Let this user be granted rights

New Password: .....

Retype Password: .....

**Phone numbers**

Home:

Work:

Mobile:

Pager:

**Custom Fields**

Use the same password for “sysadmin” as you are using in class. Once done, scroll down the page and click on the **Create** button (bottom right). You should see this:

**Modify the user tldadmin** New ticket in General Search...

Basics · History · Memberships · RT at a glance

**Results**

- User created
- Password set

**Identity**

**Location**

## Exercise 4

### RT Configuration: Create a Group

1. Click on **Configuration** (left menu), then **Groups** (middle of screen).
2. Click on **Create** (top menu)

Home  
Simple Search  
Tickets  
Tools  
Configuration  
Users  
Groups

## Select a group

Select · Create

User-defined groups:  
No groups matching search criteria found.

☐ Include disabled groups in listing.

Find groups whose  matches

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

RT for aroc Logged in as root | Preferences | Logout

## Create a new group

Select · Create

New ticket in General Search...

Name:

Description:

☒ Enabled (Unchecking this box disables this group)

Reset Create

RT for aroc Logged in as root | Preferences | Logout

## Modify the group netmgmt

Basics · Members · Group Rights · User Rights · History

New ticket in General Search...

Results

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

Name:

Description:

☒ Enabled (Unchecking this box disables this group)

Reset Save Changes

## Exercise 5

### RT Configuration: Add Members to a Group

- Click on **Configuration** (left menu), then **Groups** (center menu)
- Click on "netmgmt" (the group you just created)
- Click on **Members** (top menu)



RT for aroc Logged in as root | Preferences | Logout

---

- Home
- Simple Search
- Tickets
- Tools
- Configuration
- Users
- Groups**
- Select
- Create
- netmgmt

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

Basics **Members** Group Rights · User Rights · History

Name:

Description:

☒ Enabled (Unchecking this box disables this group)

7. In the "Add members" list (right), select the user you created in step 3. This is the "sysadmin" user, with the description "AROC Admin Account.":

RT for aroc Logged in as root | Preferences | Logout

---

- Home
- Simple Search
- Tickets
- Tools
- Configuration
- Users
- Groups**
- Select
- Create
- netmgmt
- Queues
- Custom Fields
- Global
- Tools
- Preferences
- Approval

**RT/Admin/Edit the group netmgmt**
New ticket in General Search...

Basics · **Members** · Group Rights · User Rights · History

Editing membership for group netmgmt

**Current members**

(No members)

**Add members**

**Users**

AROC Admin Account

Enoch Root

**Groups**

(Check box to delete)

**Results**

- Member added: tldadmin

## Exercise 6

### RT Configuration: Create a New Queue

1. Click on **Configuration** (left menu), then **Queues** (center menu)
2. Click on **Create** (top menu)

RT for arocl Logged in as root | Preferences | Logout

Home Simple Search Tickets Tools Configuration Users Groups **Queues** Custom Fields Global Tools Preferences Approval

**Admin queues** New ticket in General Search...

Select **Create**

### Enabled Queues

Select a queue:

#	Name	Description	Address	Priority	DefaultDueln	
1	General	The default queue	-/-	0-0	0	Enabled

☐ Include disabled queues in listing.

Go!

1. Fill in the fields. Let's use the following values:  
**Queue Name:** net  
**Description:** Network Problems  
**Subject Tag:** Request Tracker: NET  
**Reply Address:** net@localhost  
**Comment Address:** net-comment@localhost

RT for arocl Logged in as root | Preferences | Logout

Home Simple Search Tickets Tools Configuration Users Groups **Queues** Custom Fields Global Tools Preferences Approval

**Editing Configuration for queue net** New ticket in General Search...

Basics · Watchers · Scripts · Templates · Ticket Custom Fields · Transaction Custom Fields · Group Rights · User Rights · History

Queue Name: net

Description: Network Problems

Subject Tag: Request Tracker: NET

Reply Address: net@localhost

Comment Address: net-comment@localhost

Priority starts at: 0

Over time, priority moves toward: 0

Requests should be due in: 0 days.

☒ Enabled (Unchecking this box disables this queue)

Create

2. Click on **Create**:

## Results

- Queue created
- Queue net: Description changed from (no value) to "Network Problems"
- Queue net: CorrespondAddress changed from (no value) to "net@localhost"
- Queue net: CommentAddress changed from (no value) to "net-comment@localhost"
- Queue net: SubjectTag changed to [RT NET]

If your Request Tracker box has a fully qualified domain name you can use this instead of "localhost".

## Exercise 7

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

1. Click on **Configuration** (left menu), then **Queues** (center menu).
2. Click on "**net**" (the queue that you just created).
3. Click on "**Group Rights**" (top menu).

RT for aroc Logged in as root | Preferences | Logout

Home Simple Search Tickets Tools Configuration Users Groups Queues Select Create net Custom Fields Global Tools Preferences Approval

Editing Configuration for queue New ticket in General Search...

Basics · Watchers · Scripts · Templates · Ticket Custom Fields · Transaction Custom Fields · **Group Rights** · User Rights · History

Queue Name: net

Description: Network Problems

Subject Tag: [RT NET]

Reply Address: net@localhost (If left blank, will default to rt@ubuntu.localdomain)

Comment Address: net-comment@localhost (If left blank, will default to rt-comment@ubuntu.localdomain)

Priority starts at: 0

Over time, priority moves toward: 0

Requests should be due in: 0 days.

☒ Enabled (Unchecking this box disables this queue)

Save Changes

The following menu is pretty long and complex. Here is what you should do:

In the "Everyone" Group, on the right side under **New Rights** select these three items. Use the SHIFT key (or Apple key on a Macintosh) to select multiple items:

- **CreateTicket**
- **ReplyToTicket**
- **SeeQueue**

In the **netmgmt** Group select everything except for the choice “no value” – You can use the shift key to do this. Once this is done, press the **Modify Groups Rights** button on the bottom right of the page.

## System groups

Unprivileged

### Current rights

No rights granted.

### New rights

StealTicket  
TakeTicket  
Watch  
WatchAsAdminCc  
(no value)

Privileged

### Current rights

No rights granted.

### New rights

StealTicket  
TakeTicket  
Watch  
WatchAsAdminCc  
(no value)

Everyone

### Current rights

No rights granted.

### New rights

OWNTicket  
ReplyToTicket  
SeeCustomField  
SeeQueue  
ShowACL  
ShowOutgoingEmail

## Roles

Requestor

### Current rights

No rights granted.

### New rights

StealTicket  
TakeTicket  
Watch  
WatchAsAdminCc  
(no value)

Owner

### Current rights

No rights granted.

### New rights

StealTicket  
TakeTicket  
Watch  
WatchAsAdminCc  
(no value)

Cc

### Current rights

No rights granted.

### New rights

StealTicket  
TakeTicket  
Watch  
WatchAsAdminCc  
(no value)

AdminCc

### Current rights

No rights granted.

### New rights

StealTicket  
TakeTicket  
Watch  
WatchAsAdminCc  
(no value)

## User defined groups

netmgmt

### Current rights

No rights granted.

### New rights

StealTicket  
TakeTicket  
Watch  
WatchAsAdminCc  
(no value)

Reset

Modify Group Rights

You will see a bunch of this:

 **Results**

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

and all the rights that the Group “netmgmt” now has on the NET queue (bottom of page):

## User defined groups

netmgmt

### Current rights

*(Check box to revoke right)*

- ☐ AdminQueue
- ☐ AssignCustomFields
- ☐ CommentOnTicket
- ☐ CreateTicket
- ☐ DeleteTicket
- ☐ ForwardMessage
- ☐ ModifyACL
- ☐ ModifyCustomField
- ☐ ModifyQueueWatchers
- ☐ ModifyScripts
- ☐ ModifyTemplate
- ☐ ModifyTicket
- ☐ OwnTicket
- ☐ ReplyToTicket
- ☐ SeeCustomField
- ☐ SeeQueue
- ☐ ShowACL
- ☐ ShowOutgoingEmail
- ☐ ShowScripts
- ☐ ShowTemplate
- ☐ ShowTicket
- ☐ ShowTicketComments
- ☐ StealTicket
- ☐ TakeTicket
- ☐ Watch
- ☐ WatchAsAdminCc

### New rights

(no value)

## Exercise 8

### RT Configuration: Log in as sysadmin

Log out of RT and log back in as the sysadmin user you have created.

The screenshot shows the top of the RT interface. The header bar includes "Logged in as root | Preferences | Logout" (with "Logout" highlighted in yellow) and a "New ticket in" button. Below the header, there are links for "Transaction Custom Fields", "Group Rights", and "User Rights". The main content area has a blue background and a white box containing the login form. The login form is titled "Login" and has a version number "3.8.4" in the top right corner. It contains two input fields: "Username:" with the value "tldadmin" and "Password:" with masked characters ".....". A "Login" button is located at the bottom right of the form.

You should see this:

The screenshot shows the RT interface after logging in as "tldadmin". The header bar now says "Logged in as tldadmin | Logout". The main content area is titled "RT at a glance" and "Home". On the left, there is a sidebar with links: "Home", "Simple Search", "Tickets", "Tools", and "Approval". The main content area contains several widgets:

- 10 highest priority tickets I own** (with an "Edit" button)
- 10 newest unowned tickets** (with an "Edit" button)
- Bookmarked Tickets** (with an "Edit" button)
- Quick ticket creation**
- Reminders**
- Quick search** (with an "Edit" button)
- Dashboards** (with an "Edit" button")

The "Quick search" widget contains a table with the following data:

Queue	new	open	stalled
net	0	0	0

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.

## **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`

Add the following two lines at the end of the file:

```
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, then run the command:

```
$ sudo newaliases
```

## **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 sysadmin user (not as root!):

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

Now check that you have received email:

```
$ mutt -f /var/mail/sysadmin
```

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

## **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 sysadmin user and click on the ticket in the main view page (what you see when you first log in):



You will see a bunch of information about the ticket. Scroll to the bottom of the page. Here you can **Reply** to the ticket:

The screenshot shows the 'History' tab of a ticket. The first entry is: 'Thu Apr 22 18:45:52 2010 tldadmin@ubuntu.localdomain - Ticket created'. Below it, the subject is 'Router problem', to is 'net@localhost', date is 'Thu, 22 Apr 2010 18:45:49 -0700 (PDT)', and from is 'tldadmin@ubuntu.localdomain (AROC Class User)'. The message body says 'Problem with my router'. To the right of the message is a 'Download (untitled) / with headers text/plain 23b' button. Below the message is a second entry: 'Thu Apr 22 18:45:53 2010 RT\_System - Outgoing email recorded'. The 'Reply' button in the top right of the first entry is highlighted with a yellow circle.

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):

The screenshot shows the 'Update ticket #1 (Router problem)' form. The 'Status' dropdown menu is set to 'resolved' and is highlighted with a yellow circle. The 'Owner' is 'Nobody (Unchanged)'. The 'Update Type' is 'Reply to requestors'. The 'Subject' is 'Router problem'. The 'Message' field contains: 'On Thu Apr 22 18:45:52 2010, tldadmin@ubuntu.localdomain wrote: > Problem with my router. It's fixed! Your friendly network administrator.' The 'Update Ticket' button at the bottom right is highlighted with a yellow circle.

You should see this

The screenshot shows the 'Results' section of the ticket. It contains two bullet points: '• Message recorded' and '• Ticket 1: Status changed from 'open' to 'resolved''.

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



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

The screenshot shows the 'History' tab of a Request Tracker interface. It displays a list of events for a ticket. The first event is 'Ticket created' at 18:45:52 on April 22, 2010, by 'tldadmin@ubuntu.localdomain'. The subject is 'Router problem'. The email body shows a message from 'tldadmin@ubuntu.localdomain (AROC Class User)' to 'net@localhost' with the subject 'Problem with my router'. The second event is 'Outgoing email recorded' at 18:45:53. The third event is 'Correspondence added' at 19:13:24, showing a reply from 'tldadmin@ubuntu.localdomain' stating 'It's fixed!' and 'Your friendly network administrator.' The fourth event is another 'Outgoing email recorded' at 19:13:25. The fifth event is 'Status changed from 'new' to 'open'' at 19:13:25. The sixth event is 'Status changed from 'open' to 'resolved'' at 19:13:25. The seventh event is another 'Outgoing email recorded' at 19:13:25. The interface includes buttons for 'Reply', 'Comment', 'Forward', and 'Download' for each email entry.

History

Brief headers — Full headers

Thu Apr 22 18:45:52 2010 tldadmin@ubuntu.localdomain - Ticket created

Subject: Router problem

To: net@localhost

Date: Thu, 22 Apr 2010 18:45:49 -0700 (PDT)

From: tldadmin@ubuntu.localdomain (AROC Class User)

Problem with my router

Download (untitled) / with headers  
text/plain 23b

Thu Apr 22 18:45:53 2010 RT\_System - Outgoing email recorded

Show

Thu Apr 22 19:13:24 2010 tldadmin - Correspondence added

Reply Comment Forward

On Thu Apr 22 18:45:52 2010, tldadmin@ubuntu.localdomain wrote:

> Problem with my router

It's fixed!

Your friendly network administrator.

Download (untitled) / with headers  
text/html 187b

Thu Apr 22 19:13:25 2010 RT\_System - Outgoing email recorded

Show

Thu Apr 22 19:13:25 2010 RT\_System - Status changed from 'new' to 'open'

Thu Apr 22 19:13:25 2010 tldadmin - Status changed from 'open' to 'resolved'

Thu Apr 22 19:13:25 2010 RT\_System - Outgoing email recorded

Show

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

```
$ mutt -f /var/mail/sysadmin
```

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:

The screenshot shows the 'History' tab of a Request Tracker interface. It displays a list of events for a ticket. The first event is 'Correspondence added' at 19:17:33 on April 22, 2010, by 'tldadmin@ubuntu.localdomain'. The subject is 'Re: [Request Tracker: NET #1] Resolved: Router problem'. The email body shows a message from 'AROC Admin Account via RT <net@localhost>' to 'tldadmin@ubuntu.localdomain' with the subject 'Problem with my router'. The email body contains the text: 'On Thu, Apr 22, 2010 at 07:13:25PM -0700, AROC Admin Account via RT wrote: > According to our records, your request has been resolved. If you have any > further questions or concerns, please respond to this message. It's still wedged! Can you come out and have a look? Sincerely, Your ever-patient customer'. The second event is 'Status changed from 'resolved' to 'open'' at 19:17:33. The interface includes buttons for 'Reply', 'Comment', 'Forward', and 'Download' for each email entry.

Thu Apr 22 19:17:33 2010 tldadmin@ubuntu.localdomain - Correspondence added

Reply Comment Forward

Subject: Re: [Request Tracker: NET #1] Resolved: Router problem

Date: Thu, 22 Apr 2010 19:17:33 -0700

To: AROC Admin Account via RT <net@localhost>

From: AROC Class User <tldadmin@ubuntu.localdomain>

On Thu, Apr 22, 2010 at 07:13:25PM -0700, AROC Admin Account via RT wrote:

> According to our records, your request has been resolved. If you have any

> further questions or concerns, please respond to this message.

It's still wedged! Can you come out and have a look?

Sincerely,

Your ever-patient customer

Download (untitled) / with headers  
text/plain 310b

Thu Apr 22 19:17:33 2010 RT\_System - Status changed from 'resolved' to 'open'

You now have a functioning RT instance with email integration. 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.