## RT basic lab

## 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

The Request Tracker software has already been installed on your server. You may refer to the RT Install Guide in your course Agenda for details on how to install Request Tracker on your own.

## Exercise 1

This exercise should be done by each person in your group as you will create separate userids on the RT instance your shared srv1 server.

Log in to RT as the root User on your shared srv1 server.
If you go to http://oob.srv1.campusY.ws.nsrc.org/rt/ (http://oob.srv1.campusY.ws.nsrc.org/rt) you will see the RT login screen:

| Not logged in. | RT for netmgmt 》\|<<< ${ }_{\text {PRACTIC }}^{\text {BEST }}$ |
| :---: | :---: |
| Login |  |



Login screen
Enter the following information to log in as root on RT:
Username: root
Password: []

## Exercise 2

## RT Configuration: Create your 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-hostX, where" $X$ " is the number of your host.

On the top of the screen choose Admin => Users => Create 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@ hostX.CampusY .ws.nsrc.org - Replace $X$ with your host number and " $Y$ " with your campus number.



User creation form
Use the same password for sysadm-hostX 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:

## Modify the user sysadm-host1

Users * Basics Memberships History

## User created <br> Password set

User created

## Exercise 3

## RT Configuration: Create a Group

- At the top, choose the menu item Admin => Groups => Create


Create group

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

| Create a new group | New tic: |
| :--- | :--- |

Name: netmgmt
Description: Network Management Administrators

- Enabled (Unchecking this box disables this group)


## Reset

Create group form

- You should see the following result:

| Modfy the group netmgmt |  | New ticket in | General |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

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

```
            Name: netmgmt
    Description: Network Management Administrators
    Enabled (Unchecking this box disables this group)
Reset
```

Group created

- Click on Members (top menu)



## Group netmgmt: Description changed from 'Network Management Administrator' to 'Network Manag by root

Name: netmgmt
Description: Network Management Administrators
$\checkmark$ Enabled (Unchecking this box disables this group)

## Reset

Group members

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

$\wedge$ Editing membership for group netmgmt


## Current members Add members

(No members)
Add user: sysadm-host X
Add group:
(Check box to delete)
Reset
Modify Members

Add member

- You should see this:

Modify the group netugmt
Groups ~ Basics Members

Member added: sysadm-host1

Member added
No repeat this for each member of your group until you have added all users.

## Exercise 4

(Only one person should do this)

## RT Configuration: Create a New Queue

- At the top, choose the menu item Admin $=>$ Queues $=>$ Create

| Home - Search - Articles - Tools * | Admin - L | Logged | as root RT for | for rt.db-ma | ter.lxd $\gg \mid<$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Modify the group netingmt | Users <br> Groups | , | New ticket in | General | ง s |
|  |  |  |  |  |  |
| Groups * B | Queues | , | Select oup | oup Rights | User Rights |
| Member added: sysadm-host1 | Custom Fields | S | Create |  |  |
|  | Scrips | , |  |  |  |
|  | Global | * |  |  |  |
|  | Articles | , |  |  |  |
| $\wedge$ Editing membership for group netn | Tools | , |  |  |  |

Current members

Users

- sysadm-host1 (Ssytem Admin Host 1)

Groups

## Add members

Add user: sysadm-hostX
Add group: $\qquad$

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@srv1.campusY.ws.nsrc.org
Comment Address: net-comment@srv1.campusY.ws.nsrc.org

| Greate a queue | New ticket in | General | $\hat{\boldsymbol{v}}$ | Search... |
| :--- | :--- | :--- | :--- | :--- |
|  | Select | Create |  |  |



Queue create form
Note: Remember to replace " $Y$ " with your campus number.
You should see this:

## Queue created

Queue net: Description changed from (no value) to "Network Problems"
Queue net: CorrespondAddress changed from (no value) to "net@srv1.campus5.ws.nsrc.org"
Queue net: CommentAddress changed from (no value) to "net-comment@srv1.campus5.ws.nsrc.org"
Queue net: SubjectTag changed from (no value) to "RT:NET"
Queue created

## Exercise 5

(Only one person should do this)

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

From the top menu, select Admin => Queues => Select

You should see:

## Enabled Queues

| Name | $\Delta$ |
| :--- | :--- | :--- |
| $\square$ |  |

$\square$ Include disabled queues in listing.

Select a queue:

| \# Name | Description | Address | Priority DefaultDueln Lifecycle SubjectTag Status |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 General | The default queue | -/- | 0-0 | 0 | default |  | Enabled |
| 3 net | Network <br> Problems | net@srv1.campus5.ws.nsrc.org/netcomment@srv1.campus5.ws.nsrc.org | 0-0 | 0 | default | RT:NET | Enabled |

Enabled Queues

- Click on net then choose Group Rights (top right)


| Queue Name: | net |
| ---: | :--- |
| Description: | Network Problems |
| Lifecycle: | default $A$ |
| Subject Tag: | RT: NET |

Group rights
The following page should look like this:

| Modily group rights for queue net |  |  |  |  |  |  | tic | in | General | ง | Search... |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Queues | Basics | Watchers | Templates | Scrips | $\checkmark$ | Custom Fields | $\checkmark$ | Grou | Rights | User Rights | History |

## SYSTEM

Everyone
Privileged
Unprivileged

## ROLES

AdminCc
Cc
Owner
Requestor
USER GROUPS
ADD GROUP

## Everyone

| General rights | Rights for Staff | Rights for Administrators |  |
| :---: | :---: | :---: | :---: |
| $\square$ Comment on tickets |  |  | CommentOnTicket |
| $\square$ Create tickets |  |  | CreateTicket |
| $\square$ Reply to tickets |  |  | ReplyToTicket |
| $\square$ Sign up as a ticket Requestor or ticket or queue Cc |  |  | Watch |
| $\square$ View custom field values |  |  | SeeCustomField |
| $\square$ View queue |  |  | SeeQueue |
| $\square$ View ticket summaries |  |  | ShowTicket |

Group rights overview
Note the three categories: General rights, Rights for Staff, Rights for Administrators
Here, we want to give Everyone (including people who are not yet known to RT) some privileges, but only the minimum required. These are found under General Rights, and are the following:

- Create tickets (CreateTicket)
- Reply to tickets (ReplyToTicket)
- View queue (SeeQueue)
- View ticket summaries (ShowTicket)

So start by selecting these 4 privileges by checking the 4 boxes in your browser.
Notice that Everyone on the left is already highlighted.



Everyone

| General rights | Rights for Staff | Rights for Administrators |  |
| :---: | :---: | :---: | :---: |
| $\square$ Comment on tickets |  |  | CommentOnTicket |
| $\checkmark$ Create tickets |  |  | CreateTicket |
| $\checkmark$ Reply to tickets |  |  | ReplyToTicket |
| $\square$ Sign up as a ticket Requestor or ticket or queue Cc |  |  | Watch |
| $\square$ View custom field values |  |  | SeeCustomField |
| - View queue |  |  | SeeQueue |
| ( View ticket summaries |  |  | ShowTicket |

## Modify group rights

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

## 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 <br> Everyone <br> Privileged | Add rights for this group: netmgmt |  |  |
| :--- | :--- | :--- | :--- |
| Unprivileged | General rights | Rights for Staff | Rights for Administrators |

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 |
| netmgmt |

Add rights for this group: netmgmt

| General rights | Rights for Staff | Rights for Administrators |  |
| :---: | :---: | :---: | :---: |
| $\checkmark$ Delete tickets |  |  | DeleteTicket |
| $\checkmark$ Forward messages outside of RT |  |  | ForwardMessage |
| $\checkmark$ Modify custom field values |  |  | ModifyCustomField |
| $\checkmark$ Modify ticket owner on owned tickets |  |  | ReassignTicket |
| $\checkmark$ Modify tickets |  |  | ModifyTicket |
| $\checkmark$ Own tickets |  |  | OwnTicket |
| $\checkmark$ Sign up as a ticket or queue AdminCc |  |  | WatchAsAdminCc |
| $\checkmark$ Steal tickets |  |  | StealTicket |
| - Take tickets |  |  | TakeTicket |
| $\checkmark$ View exact outgoing email messages and their recipients |  |  | ShowOutgoingEmail |
| $\checkmark$ View ticket private commentary St |  |  | howTicketComments |

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

Right Granted
Right Granted
Right Granted
Right Granted
Right Granted
Right Granted
Right Granted
Right Granted
Right Granted
Right Granted
Right Granted
Rights granted

## Exercise 6

(Everyone does this exercise)

## RT Configuration: Log in as sysadm-hostX

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


## Logging out

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

## Login

| Login |  |  |  |
| :--- | :--- | :--- | ---: |
|  |  |  |  |
|  | Username: | sysadm-hostX |  |
|  | Password: | $\cdots \cdots \cdots$ |  |
|  |  |  | Login |
|  |  |  |  |

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.

## Exercise 7

(Only one person does this exercise)

## 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.

First, we need to verify that the file /etc/mailname has the correct entry.

```
$ sudo editor /etc/mailname
```

Be sure that the only entry in this file is:

```
srv1.campusY.ws.nsrc.org
```

Where " $Y$ " is your campus number. Once you have updated the file or verified it is correct save your changes (if any) and exit from the file.

Next we will 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
```


## Exercise 8

## RT Configuration: Create an Email and Tickets

(Only one person does this)
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@srv1.campusY.ws.nsrc.org
```

Remember to replace the "Y" in "campusY" with your campus number.
If you get an error about mail not being installed, then do

```
$ sudo apt install mailutils
```

And run the "echo" command above again.
Now check that you have received email:

```
$ mutt
```

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

## Select that email and press

The mail should say something similar to this:

```
Date: Fri, 24 Feb 2017 00:21:19 +0000
From: Network Problems via RT <net@srv1.campusY.ws.nsrc.org>
To: sysadm@srv1.campusY.ws.nsrc.org
Subject: [RT: NET #2] 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 [RT: NET #2].
Please include the string [RT: NET #2] in the subject line of all future
correspondence about this issue. To do so, you may reply to this message.
Thank you,
net@srv1.campusY.ws.nsrc.org
--------------------------------------------------------------------------------
Problem with my router
```

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
```

Once you read the mail press the "q" key twice to exit from mutt.

## Exercise 9

(Select one member of your group to do this. Everyone can see the ticket, but only one person should edit it at one time).

## 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-hostX user and click on the Home menu item (top left).

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



| Quick search |  |  | Edit |
| :--- | ---: | ---: | ---: |
| Queue | new | open | stalled |
| General | 1 | - | - |
| 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:


## Display ticket

Go ahead and type in a reply and then click on Update Ticket (bottom-right):


Replying to ticket

## You should see this:

## Correspondence added

^ Ticket metadata

| A The Basics | A Remind | ers |
| :---: | :---: | :---: |
| Id: 1 | New reminder: |  |
| Status: open | Subject: |  |
| Priority: 0/ | Owner: | sysadm-host1 (Ssytem Admin Host 1) ${ }_{\text {¢ }}$ |
| Queue: net | Due: |  |

Reply sent
The ticket is still open. Let's resolve it using Actions => Resolve:


Click on "Update Ticket" at the bottom of the screen to finish resolving the ticket.


Update Ticket
View history
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:

| Thu Feb 22 17:52:28 2018 | The RT System itself - Outgoing email recorded | Show |
| :--- | :--- | :--- | :--- |
| Thu Feb 22 17:52:28 2018 | The RT System itself - Status changed from 'new' to 'open' |  |
| Thu Feb 22 17:56:01 2018 | sysadm-host1 (Ssytem Admin Host 1) - Status changed from 'open' to 'resolved' |  |
| Thu Feb 22 17:56:01 2018 | The RT System itself - Outgoing email recorded | Show |

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 $\mathbf{r}$ key for reply.
- At the bottom of the page you will see, To: System Admin via RT [net@srv1.campusY.ws.nsrc.org](mailto:net@srv1.campusY.ws.nsrc.org) - Press ENTER to continue
- Next you'll see a suggested <[Subject:](Subject:)> 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 nano . Type in your response. We suggest to answer below the original message.
- Save and exit from the text editor (: wq in vi, ctrl-x and <ENTER> in nano).
- The next screen to appear looks complicated but simply press the $y$ to send the message.
- That's it. You are done. You can press $q$ twice to exit Mutt at this point if you wish.

If you go back to RT, select the Home you will see the ticket listed. Click on the ticket and scroll to the bottom of the history and you will see something like this:


Thu Feb 22 18:00:36 2018
The RT System itself - Status changed from 'resolved' to 'open'

Ticket history showing reply
You now have a functioning RT instance with email integration!
Try having users from the other hosts in your campus send email to your RT ticket queue on the srv1 shared server.

- Make sure they have configured their mail software ( sudo apt install postfix then accept the defaults and be sure to set /etc/mailname to the correct value.)
- Have the users ([host1-6].campusY.ws.nsrc.org) send a mail to you, for example (from a host other than srv1.campusY.ws.nsrc.org) do:

```
echo "Where is my cat ?" | mail -s "Missing cat" net@srv1.campusY.ws.nsrc.org
```

- This should automatically create tickets in the net queue on your server "srv1.campus $Y$ " - verify that you do receive the tickets by checking in RT on your shared srv1.campusY.ws.nsrc.org instance!


## Adding Watchers to a Queue

(Only one person should do this)
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-hostX user and log back in to Request Tracker as the root user.


Logout as sysadm

- Now log back in as root:

| Login |  |  |  |
| :--- | :--- | :--- | ---: |
|  |  | $4.2 .12-5$ |  |
|  | Username: | root |  |
|  | Password: | $\ldots \ldots \ldots$ | 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 Admin => Queues => Select


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:


Queue watchers

You should now see this:


| Current watchers | New watchers |  |  |
| :---: | :---: | :---: | :---: |
| AdminCc: | Find people whose |  |  |
| - none | Username 0 matches $\hat{\sim}$ | Go! |  |
|  | Find groups whose |  |  |
| (Check box to delete) | Name $\hat{\text { matches }}$ * | Go! |  |
| Cc: |  |  |  |
| - none | Add new watchers: |  |  |
|  |  |  |  |
| (Check box to delete) | No principals selected. |  |  |
|  | Groups <br> No principals selected. |  |  |
| Reset |  | updated anything above, be sure to | Save Changes |

Modify queue watchers
Under New watchers, enter the group name netmgmt in the field: <Find groups whose [NAME] [matches] >, as such:

## New watchers



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


Add new watchers:
Users
No principals selected.

## Groups

 netmgmt (Network Management Administrators)

If you've updated anything above, be sure to Save Changes

## Matched groups

Notice how we select AdminCc from the pull down memu Groups next to netmgmt. Do this and click on Save Changes at the bottom right.

The result should look like this:

## Added netmgmt to members of AdminCc for this queue.

Watchers modified
What does it mean ? Well, ask another user to send a mail to net@srv1.campusY.ws.nsrc.org to create a ticket, like before, but this time everyone who is a member of the net queue should receive a mail from RT with the ticket notification.

You can test this by issuing this command as the sysadm user on srv1.campusY.ws.nsrc.org:

```
$ echo "Yet more problems with my router" | mail -s "More Router Problems"
net@srv1.campusY.ws.nsrc.org
```

Remember to change " $Y$ " to your campus number.
Now log in to the other machines in your group and see if each sysadm user has received an email with this subject and text.
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.

## Exercise 12

(Anyone in the group can do this)

## 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.

You would need to close one of the tickets in your net queue before this search will provide you with any results. Right now you should have two open tickets. In your RT screen click on "Home" (upper-right of the screen) and you should see something like this:

| ^ 10 newest unowned tickets |  |  | Edit |  |
| :--- | :--- | :--- | :--- | :--- |
| \# Subject | Queue | Status | Created |  |
| $\mathbf{3}$ More Router Problems | net | new | 6 minutes ago | Take |
| $\mathbf{2}$ Router problem | net | open | 60 minutes ago | Take |


| ^ Quick search |  | Edit |  |
| :--- | ---: | ---: | ---: |
| Queue | new | open | stalled |
| General | $\mathbf{1}$ | - | - |
| net | $\mathbf{1}$ | $\mathbf{1}$ | - |
|  |  |  |  |
|  |  |  |  |

## Current Open Tickets

You should select one, or both, of these tickets and "resolve" them before continuing with this exercise (see previous exercises for resolving a ticket).

Now, click on Tickets => New Search on the top menu in RT:


Search tickets
and you will see a screen like this:



| Aggregator © AND OR |  |
| :---: | :---: |
|  |  |
|  | Add these terms |
|  | terms and Search |



Update format and Search
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):

| Query Builder |  |  | New ticket in | General | * | Search... |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Edt Search | Advanced | Show Results | Buk Update |  | Feeds |



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.


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 | Search - Articles * Tool | Logged in as root - |  |  | RT for rt.db-master.lxd 》\|<< BEST |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Found 3 tickets |  |  |  |  | New ticket in | General | $\stackrel{\uparrow}{*}$ | Search... |  |
|  |  |  | Edit Search | Advanced | Show Results | Bulk Update | Chart | Feeds | - |
|  | \# Subject | Status | Queue |  | Owner |  | Priority |  |  |
|  | Requestor | Created | Told |  | Last Updated |  | Time Left |  |  |
|  | 1 Router problem [sysadm@srv1.campus5.ws.nsrc.org](mailto:sysadm@srv1.campus5.ws.nsrc.org) | resolved <br> 55 minutes ago | net <br> 52 minutes |  | Nobody in particular <br> 1 minute ago |  | 0 |  |  |
|  | 2 Missing cat [root@host3.campus5.ws.nsrc.org](mailto:root@host3.campus5.ws.nsrc.org) | resolved <br> 38 minutes ago | net |  | Nobody in particular <br> 1 minute ago |  | 0 |  |  |
|  | 3 More Router Problems [root@srv1.campus5.ws.nsrc.org](mailto:root@srv1.campus5.ws.nsrc.org) | resolved <br> 4 minutes ago | net |  | Nobody in particular <br> 2 minutes ago |  | 0 |  |  |

$$
\text { Don't refresh this page. } \quad \underset{\sim}{\text { Change }}
$$

## Search results

