

# Local Internet Registry Training Course

## Exercise Booklet

January 2018



## Exercise 1: RIPE NCC Access Account

RIPE NCC Access enables you to sign into various RIPE NCC services using one password. It is also called SSO (Single Sign On).

You need to have a RIPE NCC Access Account if you want create or update objects in the RIPE Database and in the TEST Database.

In the RIPE NCC website:

1. Create a RIPE NCC Access Account (in case you don't have one yet).

Go to <https://access.ripe.net>

Manage IPs and ASNs > Analyse > Participate > Get Support > Publications > About Us >

You are here: Home > Access

### Sign in using your RIPE NCC Access account

If you don't have a RIPE NCC Access account, [click here to create one.](#)

**New: Two-step verification. [Learn more...](#)**

Email: john@example.net

Password: .....

[Sign in](#) [Forgot your password?](#)

2. Login with your new account into <http://www.ripe.net>

3. Find the following pages in the RIPE NCC web site and write down the URL:

- LIR Portal: \_\_\_\_\_
- RIPE Database Search / Query: \_\_\_\_\_
- RIPE NCC Academy: \_\_\_\_\_

## Introduction to Database Exercises

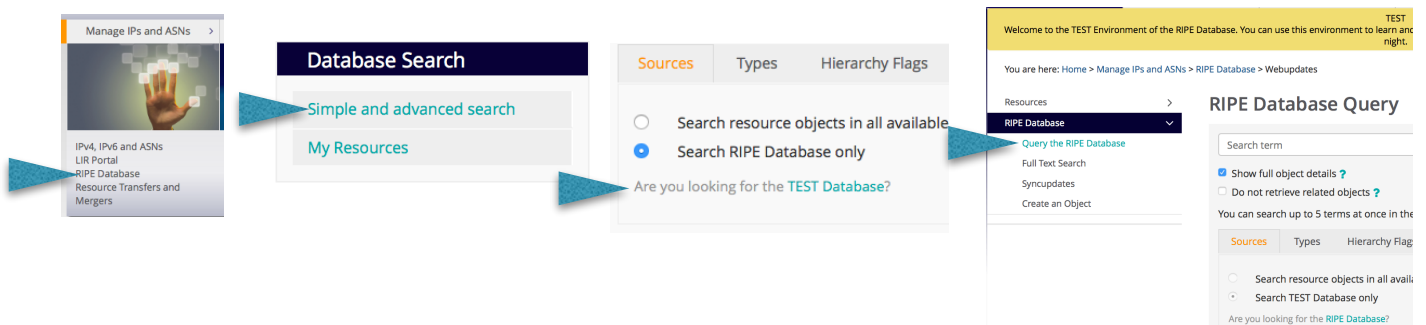
### Test Database

In the exercises, we will make use of the RIPE TEST Database. This is a public system that acts and responds in exactly the same way as the RIPE Database would do. It does **not** contain the same data as in the RIPE database and it is reset every night.

You can access the TEST Database by selecting the correct source in the Webupdates or whois tools:

### To Query and Edit objects in the Test Database:

Go to : RIPE Database > Search Online > Test Database



### To Double Check if you are in the RIPE DB or Test DB:

RIPE Database: <https://apps.db.ripe.net>

TEST Database: <https://apps-test.db.ripe.net>

## Exercise 2: Querying the RIPE Database

In this exercise you are going to use the web interface to find information in the **TEST Database**.

For the following IP address: **193.0.29.71**:

1. Find the inetnum object (assignment) in the TEST Database to which this IP address belongs:

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2. Who is administratively responsible for this inetnum?  
Hint: the **admin-c** attribute is used for this.

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3. What is the covering allocation (less specific= larger inetnum) above it?:

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4. Who should you contact in case of technical problems with the allocation? List all their names and nic-hdls.  
Hint: the **tech-c** attribute is used for this.

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## Exercise 3: Making assignments

**Goal:** Calculate how much address space to assign to an End User

### Storyline:

You work for the LIR: ORG-TCP0-TEST

You have a /22 IPv4 allocation and a /32 IPv6 allocation.

A new customer (End User) wants to use your services and needs address space from your registry.

### What to do:

- Collect information about the End User's network by reading the email and asking questions to the End User
- Calculate how much IPv4 and IPv6 address space you will assign to the End User
- How would you document an assignment like this one?

### Additional information:

- IPv4 assignment size: limited to the amount of IPv4 space you have
- IPv6 assignment size:
  - Between /64 and /48, no approval required
  - >/48 requires approval from the RIPE NCC
  - /64 = 1 subnet
  - /56 = 256 subnets
  - /48 = 65K subnets

**TIP:** Use the IPv4 and IPv6 CIDR charts!

End-User's email:

From: marc@laika.example.com  
To: contact@lir.yourplace.com  
Date: Today

Dear Sir / Madam,

Our company is interested in moving from an IPv4-only platform to a dual-stacked one, IPv4 and IPv6. It is important for us to be reachable from anywhere in the world.

We are a start-up Web hosting company (moving on from the web design business). We would like to get address space from you and then we would hand back the address space we currently have to our soon to be ex-ISP upstream provider TheOtherNet. We currently use the prefix 195.20.42.0/26.

Our network consists of three subnets.

1) We currently have 150 shared webhosting clients. We host 10 clients per IP.

2) Additionally we also have 7 SSL webhosting clients that need one IP address each.

Our goal is to double the amount of clients every year.

3) For our supporting infrastructure we have 10 servers, which need their own addresses. This subnet will not grow.

We would be interested in a two-year contract with you.

I hope to hear from you soon.

Regards,

Marc Bromski  
MB54321-TEST  
Laika BV, Amsterdam  
<http://www.laika.example.com>

## Exercise 4: Registering the Assignments

**Goal:** Register the Assignment in the TEST RIPE Database

Your task is to register the End User assignments from the previous exercise in the TEST RIPE Database.

### Storyline:

You work for the LIR: ORG-TCP[ ]-TEST

You want to register the assignments from the previous exercise.

### Preparations:

1. Find out the name and password of your maintainer object
2. Associate your Access account with your maintainer
3. Find your person object
4. Identify your IPv4 and IPv6 allocation objects
5. Choose the prefixes in your allocations for the assignments

### Database Objects:

Remember that we have already created some objects in the RIPE TEST Database.

To identify your objects, please look up your number in the participants' list and substitute that in the placeholders. As an example, if your number on the list is 9, your person object will be TP9-TEST.

We already have created the following objects (fill the [ ] with your number):

- Maintainer: CM[ ]-MNT (*MD5 password: secret[ ]*)
- Person: TP[ ]-TEST
- Organisation: ORG-TCP[ ]-TEST
- IPv4 allocation: 192.[ ]0.0 - 192.[ ]3.255
- IPv6 allocation: 2001:ff[ ]:/32

At the end of this booklet you have detailed information about the TEST database and the object that are already created on it. Remember, **you don't have to create these object, they already exist.**

### Create the inetnum object:

1. Log in to your Access account (if not logged in)
2. Go to TEST Webupdates tool: <https://apps-test.db.ripe.net/db-web-ui/>
3. Select "inetnum" as the object type from the drop-down list
4. Fill in your maintainer: CM-MNT
  - If you did not associate your Access account with the maintainer, you will be asked to provide the maintainer password
5. Fill in the inetnum object template with:
  - An IP range from your IPv4 allocation  
Example: 192..2.0 - 192..2.111
  - The unique netname to identify the assignment  
Example: LAIKA-BV-NETWORK
  - The country code of the end user's country  
Example: NL
  - Use the customer person object as the admin-c  
See the customer's email from exercise 5
  - Use your person object as the tech-c  
See the list of pre-created objects
  - Use the status ASSIGNED PA
6. Create the object. Was it successful?



## Create the inet6num object:

1. Log in to your Access account (if not logged in)
2. Go to TEST Webupdates tool: <https://apps-test.db.ripe.net/db-web-ui/>
3. Select “inet6num” as the object type from the drop-down list
4. Fill in your maintainer: CM-MNT
  - If you did not associate your Access account with the maintainer, you will be asked to provide the maintainer password
5. Fill in the inet6num object template with:
  - An IPv6 prefix from your IPv6 allocation  
Example: 2001:ff30:1234::/48
  - The unique netname to identify the assignment  
Example: LAIKA-BV-NETWORK
  - The country code of the end user’s country  
Example: NL
  - Use the customer person object as the admin-c  
See the customer's email from exercise 5
  - Use your person object as the tech-c  
See the list of pre-created objects
  - Use the status ASSIGNED
6. Create the object. Was it successful?

## Exercise 5: Being an LIR contact

Goal: Classify the tasks of an LIR contact person.

Storyline:

You have taken over the position of a 'LIR contact' in your company. Your company is already a long-established LIR. The 'LIR contact' is responsible for dealing with the RIPE NCC: requesting resources, maintaining the RIPE Database records and so on.

What should you do now?

Instructions:

Work in small groups. With your group, sort the steps below in the chronological order in which you would carry out the tasks.

In this exercise you have to fill the table below in two steps:

1. First, assign the correct order for each "Group of Tasks" (See the Group of Tasks table, from 1) to 5)).
2. Second, assign the specific tasks that belong to each Group of Tasks (See the Tasks table, from a) to n)).

| Task Related With...   | Group of Tasks | Tasks |
|--|----------------|-------|
| <b>LIR Portal,</b><br>containing registration information of the LIR<br>(Private Information Kept by RIPE NCC)                             |                |       |
|  |                |       |
|  |                |       |
|  |                |       |
|  |                |       |
|  |                |       |
| <b>RIPE Database,</b><br>containing information about numeric resources of the LIR and related contact information<br>(Public information) |                |       |
|  |                |       |
|  |                |       |

## LIR Training Course

| ID | Groups of Tasks  |
|----|--|
| 1) | Get access / rights to the RIPE Database information related with your LIR |
| 2) | Check / Update your registration information (LIR Portal)                  |
| 3) | Revise / Update your LIR's objects in the RIPE Database                    |
| 4) | Manage the resources for your LIR (IPs and ASNs)                           |
| 5) | Get Access to the Management Web Interface                                 |

| ID | TASKS   |
|----|---|
| a) | Check / update LIR Certificate and certified authorisation for announced prefixes (RPKI Dashboard)  |
| b) | Correct invalid and unused assignments in the RIPE Database   |
| c) | Compare the resources assigned to your LIR with the RIPE Database   |
| d) | Ask the RIPE NCC to update any out-dated LIR information you can't update yourself  |
| e) | Add the object representing you in the DB (person object) to the object representing the LIR in the DB (role object)  |
| f) | Create a RIPE NCC Access account, if you don't have one   |
| g) | Request resources if needed (and possible)  |
| h) | Check the LIR account information   |
| i) | Create an object representing you in the RIPE Database, if you don't have one (person object)   |
| j) | Check the User Accounts list in the LIR Portal (they have access to your LIR Portal)  |
| k) | Make it possible for you to update LIR's objects created in the RIPE Database (Default LIR maintainer password or get your Access account associated with it) |
| l) | Correct any out-dated LIR information in the LIR Portal (User accounts, LIR Contact Info., etc.)  |
| m) | Get access to the LIR portal (add your Access Account to User Accounts in LIR Portal)   |
| n) | Check what resources your LIR has   |

# Notes

## Your database objects

For your convenience we have **already created some objects in the RIPE TEST Database**. You can use these objects during the practical exercises today. During the exercises, you can modify these or use them to update or create other objects.

We have created a maintainer, person, organisation and IPv4/IPv6 allocation objects for you. You can use these objects during the practical exercises today.

To identify your objects, please look up your number in the participants' list and substitute that in the placeholders. As an example, if your number on the list is **3**, your person object will be **TP3-TEST**.

On the next pages you will find the list of all your objects that are in the TEST Database.

## Passwords

All your objects are protected by your own **maintainer** object. In order to modify any of them, you will need the password for this maintainer.

This password is "secret" + your number, so the password for attendee **1** will be **secret1**, the password for attendee **2** will be **secret2**, and so on.

## All pre-created objects

Fill in all  placeholders with your number on the list

**person:** **Training Course Participant**  
 remarks: RIPE NCC training courses - Participant  Person  
 address: Singel 258  
 address: 1016 AB Amsterdam  
 phone: +312053544444  
 e-mail: attendee@example.org  
 nic-hdl: TP-TEST  
 mnt-by: CM-MNT  
 created: 2002-04-08T12:43:46Z  
 last-modified: 2014-02-24T13:15:13Z  
 source: TEST

**mntner:** **CM-MNT**  
 descr: RIPE NCC training courses - Participant  Maintainer  
 admin-c: TP-TEST  
 mnt-by: CM-MNT  
 auth: MD5-PW \$!\$BhgnmQ44\$sgcdj40h6vYVjdzxkllgx.  
 upd-to: participant@example.com  
 notify: participant@example.com  
 created: 2002-04-08T12:43:46Z  
 last-modified: 2014-02-24T13:15:13Z  
 source: TEST

**organisation:** **ORG-TCP-TEST**  
 org-name: RIPE NCC training courses - Participant  Organisation  
 org-type: LIR  
 address: Singel 258, 1016 AB Amsterdam  
 e-mail: training@example.com  
 admin-c: TP-TEST  
 tech-c: TP-TEST  
 ref-nfy: notify@example.com  
 notify: participant@example.com  
 mnt-ref: TEST-NCC-HM-MNT  
 mnt-by: TEST-NCC-HM-MNT  
 created: 2002-04-08T12:43:46Z  
 last-modified: 2014-02-24T13:15:13Z  
 source: TEST

The following allocations are available for you to use in the exercise:

**intenum:** 192..0.0-192..3.255  
**netname:** NL-RIPENCC-TCP-20140626  
**org:** ORG-TCP-TEST  
**descr:** RIPE NCC training courses - Participant  Allocation  
**country:** EU  
**admin-c:** TP-TEST  
**tech-c:** TP-TEST  
**status:** ALLOCATED PA  
**mnt-by:** TEST-NCC-HM-MNT  
**mnt-lower:** CM-MNT  
**mnt-routes:** CM-MNT  
**created:** 2002-04-08T12:43:46Z  
**last-modified:** 2014-02-24T13:15:13Z  
**source:** TEST

**inte6num:** 2001:ff::/32  
**netname:** NL-RIPENCC-TCP-20140626  
**org:** ORG-TCP-TEST  
**descr:** RIPE NCC training courses - Participant  Allocation  
**country:** EU  
**admin-c:** TP-TEST  
**tech-c:** TP-TEST  
**status:** ALLOCATED-BY-RIR  
**mnt-by:** TEST-NCC-HM-MNT  
**mnt-lower:** CM-MNT  
**mnt-routes:** CM-MNT  
**created:** 2002-04-08T12:43:46Z  
**last-modified:** 2014-02-24T13:15:13Z  
**source:** TEST

**NOTE:** If your number on the list is between 1 and 9, please write the number in the IPv6 prefix with a leading zero.

Example: "1" == "01" == 2001:ff01::/32