



Maintainer (Mntner)

Table of Contents

What is a maintainer(mntner)?	2
How to find/identify an existing maintainer?	2
How to Create Mntner Object on AFRINIC WHOIS database(Authenticate using password)	4
FAQ	9

What is a maintainer(mntner)?

The mntner object (pronounced maintainer) is used to secure objects against unauthorised updates or deletion in the AFRINIC WHOIS database and IRR. The mntner object further specifies authentication information required to authorise creation of certain objects in the database. A mntner object is a WHOIS database object that will contain the credentials needed to authorise creation, deletion or modification of any objects that it protects.

How to find/identify an existing maintainer?

Usually AFRINIC creates a maintainer for all members and communicate on the cleartext password when they enroll for membership and the IP resources are issued to the organisation.

Note that a maintainer is not the nic-hdl you use as username to access the MyAFRINIC portal <https://my.afrinic.net/>

You can easily identify your maintainer, referenced as **mnt-lower**, **mnt-domain** or **mnt-routes** on of the objects(org, inetnum, inet6num or aut-num) held by the organisation you represent.

You can easily identify your maintainer object if you know your inetnum(IPv4 prefix), inet6num(IPv6) or aut-num(ASN)

You can query the objects of your organisation to find the maintainer(s) referenced.:

1. For example if a person knows his inetnum as 196.1.0.0/24
2. Go to <https://www.afrinic.net/services/WHOIS-query>
3. Select Query
4. Ensure Flags “r” and “B” are checked under “Flags”

Query

Create Object

Plain text update

Search

Please fill in the whois object you want to query.
You may also select the object type, flags for lookup as well as make inverse queries.

196.1.0.0/24

SearchReset

Whois command :

Object Types

Flags

Inverse lookup

☒ B - Show full object details.
☐ K - Only the primary keys of an object are returned.
☐ t - Display object template.
☐ v - Display verbose object template.
☒ r - Disable recursive search for contact information.
☐ R - Disable domain name referral.
☐ c - Display first less specific irt object.
☐ b - Display abuse contact information related to the specified inetnum or inet6num object.

5. Click Search
6. The details of the objects are then displayed and you can easily note the maintainer, which in this case is "AFRINIC-IT-MNT"

Abuse contact for '196.1.0.0 - 196.1.0.255' is 'abuse@afrrinic.net'

```
inetnum:      196.1.0.0 - 196.1.0.255
netname:      AfrinIC-Office-Block1
descr:        -----
descr:        PI Assignment for AfrinIC
descr:        Local Infrastructure and Network.
descr:        -----
country:      MU
org:          ORG-AFNC1-AFRINIC
admin-c:      CA15-AFRINIC
tech-c:       IT7-AFRINIC
status:       ASSIGNED PI
notify:       contact@afrrinic.net
mnt-by:       AFRINIC-HM-MNT
mnt-lower:    AFRINIC-IT-MNT
mnt-domains:  AFRINIC-IT-MNT
mnt-routes:   AFRINIC-IT-MNT
mnt-irt:      IRT-AFRINIC-IT
changed:      hostmaster@afrrinic.net 20061026
changed:      hostmaster@afrrinic.net 20090129
changed:      hostmaster@afrrinic.net 20100927
changed:      hostmaster@afrrinic.net 20120220
changed:      hostmaster@afrrinic.net 20130419
changed:      hostmaster@afrrinic.net 20130527
changed:      hostmaster@afrrinic.net 20140915
source:       AFRINIC
parent:       196.0.0.0 - 196.255.255.255
```

7. Note that you **should never use AFRINIC-HM-MNT** to create any objects on the AFRINIC WHOIS database. AFRINIC-HM-MNT is only used by AFRINIC RIR and only some staff hold the authentication rights.

How to Create Mntner Object on AFRINIC WHOIS database (Authenticate using password)

The update is usually done by a person, who will determine the password that shall be used. Objects are protected by a mntner, and they shall contain a reference to the mntner usually in the form of mnt-xxx (examples are mnt-by, mnt-lower, mnt-routes, mnt-domains etc)

Follow the steps below:

- Generate the BCrypt hash of your password. Use the tool at <http://www.afrinic.net/en/services/ip-tools/WHOIScript>

The screenshot shows a web interface for generating a BCrypt hash. It has a text input field labeled "Password:" containing the word "password". To the right of the input is a blue arrow pointing to the text "1. Insert desired password". Below the input field is a button labeled "Generate hash". To the right of the button is a blue arrow pointing to the text "2. Click to generate hash and copy the result below". Below these elements is a yellow box with a black border containing the text "Result: \$2a\$10\$Mk7hR.WWJbD4b1Dm6EiQW.tmVpyj1mxzM8sM41S2mlbN6SpfKzGtO".

- **Note: The clear text password will be required whenever you update objects that are protected by the maintainer. Please retain this password, if the maintainer belongs to your organisation, please ensure that it forms part of your organisation's password policy.**
- Load the mntner object template into the WHOIS web client

The screenshot shows the "Create Object" form in the WHOIS web client. At the top is a navigation bar with three tabs: "Query", "Create Object" (which is selected and circled in blue), and "Plain text update". Below the tabs is the heading "Create Object". To the right of the heading is a blue arrow pointing to the text "Click on 'Create Object' tab". Below the heading is a light blue box containing the text: "You can use the form below to create whois database objects. Kindly ensure that the objects are protected by your maintainer (mntner object) to avoid accidental manipulation/deletion from the whois database." Below this box is a section titled "Select 'mntner'" with a blue arrow pointing to it. This section contains a grid of checkboxes for different object types: as-set, domain, filter-set, inet-rtr, inet6num, inetnum, irt, key-cert, limerick, mntner (which is checked and circled in blue), peering-set, person, role, route, route-set, route6, and rtr-set. Below the grid is a green button labeled "Load" which is circled in blue. To the right of the button is a blue arrow pointing to the text "Click on 'Load'".

- The mntner object template will be shown.

MNTNER		
mntner:	[mandatory]	[single]
descr:	[mandatory]	[multiple]
org:	[optional]	[multiple]
admin-c:	[mandatory]	[multiple]
tech-c:	[optional]	[multiple]

- Fill and submit the object template with specific data. (If in doubt what to fill for a specific attribute value, hover your cursor over the templates' attributes on the right for more details)
1. The "mntner" attribute is a unique identifier of the mntner object. Recommended format is three words separated by hyphens(e.g AFRINIC-JS42-MNT)
 2. The "descr" attribute: A short description of the mntner object and the name of the organisation associated with it.
 3. The "admin-c:" attribute: The NIC-handle of an on-site contact 'person' object.
 4. The "upd-to:" attribute: The email address to be notified when attempts to update objects protected by the mntner is rejected due to a lack of authentication.
 5. The "auth:" attribute: Scheme used to authenticate update requests. Option to use is BCrypt
 6. The value of "mnt-by" attribute can be the same as value of "mntner" attribute.
 7. Fill in "password" field with your clear text password.
 8. complete the "changed:" attribute with the email and date of the person making the changes (e.g. changed: john.smith@afnic.net 20130731). If the date is not specified, it will be system generated.
 9. The "source" field is already filled for you.
 10. Click on "Create" when all the required attribute values have been filled.

mntner

You can drag multiple attributes from the template and drop them into the textarea

Hovering over the template display tooltips that give more information about each attribute

```

mntner: AFRINIC-JS42-MNT
descr: AFRINIC JS42 Maintainer
admin-c: JS42-AFRINIC
upd-to: john.smith@afrinic.net
auth: BCRYPT-PW
$2a$10$Mk7hR.WWJbD4b1Dm6EiQW.tmVpyj1mxzM
8sM41S2mlbN6SpfKzGtO
mnt-by: AFRINIC-JS42-MNT
changed: john.smith@afrinic.net
source: AFRINIC

```

MNTNER

mntner:	[mandatory]	[single]
descr:	[mandatory]	[multiple]
org:	[optional]	[multiple]
admin-c:	[mandatory]	[multiple]
tech-c:	[optional]	[multiple]
upd-to:	[mandatory]	[multiple]
mnt-nfy:	[optional]	[multiple]
auth:	[mandatory]	[multiple]
remarks:	[optional]	[multiple]
notify:	[optional]	[multiple]
abuse-mailbox:	[optional]	[multiple]
mnt-by:	[mandatory]	[multiple]
changed:	[mandatory]	[multiple]
source:	[mandatory]	[single]

Password

Discard
Create

- After successful creation of the Mntner object, you shall get the screen below;

Object successfully created!

SUMMARY OF UPDATE:

Number of objects found:1

Number of objects processed successfully:1

Create:1

Modify:0

Delete:0

No Operation:0

Number of objects processed with errors:0

Create:0

Modify:0

Delete:0

DETAILED EXPLANATION:

~~~~~

The following object(s) were processed SUCCESSFULLY:

---

Create SUCCEEDED: [mntner] AFRINIC-JS42-MNT

~~~~~

E-mail the result to :

Send

- You may [query](#) the WHOIS database to verify the Maintainer object. E.g the query "AFRINIC-JS39-MNT" with the "-rB" flags will output the current version of the object in the database.

At this point, you have successfully created a mntner object. However, it is not protecting any other objects in the database except itself. If you wish to use the newly created object, please send an email at afrinic-dbm@afrinic.net and mention your Org-hdl and the IP resource objects in which you want the mntner to be added.

From

<https://www.afrinic.net/en/component/content/article/85-membership-documents/1879-how-to-create-mntner-object-on-afrinic-WHOIS-database>

FAQ

1. What is the password of AFRINIC-HM-MNT?

The password of this maintainer is not available to AFRINIC members. This maintainer is used by AFRINIC staff only, members cannot authenticate via this maintainer. If you do not find any other maintainers in your resource objects, you may wish to create a maintainer and contact us at afrinic-dbm@afrinic.net to have the resource objects updated.

2. Is my maintainer the username I use to access MyAFRINIC, <https://my.afrinic.net/>?

No. The maintainer object is an object used to protect your objects on the AFRINIC WHOIS and should not be mistaken with your nic-hdl which is used as username to access the MyAFRINIC portal.

3. Why is the maintainer object used?

The maintainer is used to protect your other objects in AFRINIC database. It ensures that only authorised changes can be done to your objects. The AFRINIC Database provides mechanisms to control who can make changes in the database and what changes they can make. The distinction of "who" vs. "what" separates authentication from authorisation. The maintainer object serves as a container to hold authentication filters.

4. I forgot my maintainer password, what should I do?

In order to reset the password for your maintainer, please follow below steps:

1. Go to <http://afrinic.net/en/services/ip-tools/WHOIScript>
2. Input the new password you wish to use for the maintainer you mentioned.
3. Click on "Generate hash".
4. Please send us the encrypted hash generated on hostmaster@afrinic.net and we shall then use this to reset your object.

Note that in order to authenticate against your maintainer after a successful reset of the password, you will need to use the clear text password which you submitted in Step 2 above.

5. How can I create a maintainer?

You will find a step-by-step guide [here](#).

6. How can I update my maintainer object information?

Please read the documentation available [here](#) and follow the instructions. Should you require any assistance, you may send your request to afrinic-dbm@afrinic.net

7. Can I update a mntner object without inserting the MD5 or BCRYPT hash?

No. You must replace the "FILTERED" string in the auth attribute with the actual encrypted hash otherwise the update will fail.

8. Using password seems insecure. Are there other options?

You can use PGP, which involves using a pair of keys. More information about using PGP with the AFRINIC WHOIS database [can be found here](#).

9. Can I still create customer assignments without knowing the hash?

Yes. All you need is to submit those assignments along with a clear text password to the WHOIS database. You can even use MYAFRINIC for that.

10. How do I use PGP with the AFRINIC WHOIS database?

Having generated your PGP key-pairs, export your public key into the WHOIS database using a key-cert object. Then sign all your database updates using your private key. [Please look here for more information](#).

11. Can I use both PGP and BCRYPT encryption concurrently?

Yes. Either of the authenticated mechanisms will work if specified in a given mntner object.

12. How do I generate a new BCRYPT hash?

You can generate a BCRYPT hash via <https://www.afrinic.net/en/services/ip-tools/WHOIScript>

13. How can I get additional help?

Please mail afrinic-dbm@afrinic.net for any assistance with the AFRINIC WHOIS database or call +230 403 5100. You can also use Skype to call us for free on regular Skype user "skype2afrinic".

Revisit the FAQs below that exist on the website at <https://www.afrinic.net/en/component/content/article/793-new-mntner-object-format?start=3>

and recommend that the invalid ones are taken out. The ones with Stikethrough have to be removed from the website.

14. How to Update an existing maintainer Object on AFRINIC WHOIS database to enable PGP Authentication

The update is usually done by a person, who shall have the credentials (password protecting the maintainer or the PGP key that shall be used to authenticate). Objects are protected by a mntner, and they shall contain a reference to the mntner usually in the form of mnt-xxx (examples are mnt-by, mnt-lower, mnt-routes, mnt-domains etc).

- Query the maintainer from the WHOIS database
- Refer to FAQ **How do I use PGP with the AFRINIC WHOIS database?** To update the maintainer with the PGP authentication mechanism.

FAQ: Filtered MD5 Hashes

1. Why did AFRINIC decide to hide the MD5 or BCrypt hash?

Because someone can crack it using any computer or even smartphone. Hiding it provides a deterrent from crackers trying all sorts of things on your hash.

2. I have forgotten my md5 hash.

If you remember the plain text password instead, please use our online md5 encrypted [password generator](#). A different hash of the same password will be generated which can be used to update (but not delete) the object.

3. MD5 seems insecure. Are there other options?

You can use PGP, which involves using a pair of keys. More information about using PGP with the AFRINIC WHOIS database [can be found here](#). In 2017, AFRINIC deprecated MD5 encryption in favour of BCrypt which is more secure. You will no longer be able to create maintainer objects with MD5 hash.

4. Can I still create customer assignments (ASSIGNED PA) without knowing the hash?

Yes. All you need is to submit those assignments along with a clear text password of your maintainer object to the WHOIS database. You can also use MYAFRINIC for that.

5. How do I use PGP with the AFRINIC WHOIS database?

Having generated your PGP key-pairs, export your public key into the WHOIS database using a key-cert object. Then sign all your database updates using your private key. [Please look here for more information](#).

6. Can I use both PGP and BCrypt encryption concurrently?

Yes. Either of the authenticated mechanisms will work if specified in a given mntner object.

7. How can I get additional help?

Please mail afrinic-dbm@afinic.net for any assistance with the AFRINIC WHOIS database or call +230 403 5104. You can also use Skype to call us for free on regular Skype user "skype2afrinic".

