

# The Internet Routing Registry Cheat Sheet (IRR Cheat Sheet)

## Key Objects

<b>inet(6)num:</b>	IPv4 or IPv6 Block
<b>aut-num:</b>	Autonomous System Number(ASN)
<b>mntner:</b>	Maintainer

## Key Definitions

<b>Maintainer:</b>	Protect objects in the database and specifies authentication information - either password, x509 Certificate or PGP Key
<b>Route(6):</b>	Routing information about specific IPv4(6) prefix intended to be advertised to the internet.
<b>AS-SET:</b>	Set/collection of ASNs identifying the origin ASNs for all IP prefixes that will be advertised by an organisation and those that it provides IP transit to.

## Requirements

- inet(6)num:** Prefix\* to be specified in the route object must be an exact match or a more specific prefix of the prefix delegated by AFRINIC.
- aut-num:** The ASN that shall originate the IPv4 or IPv6 prefix. ASN delegated by any RIR and registered in one RIR whois database can be used.
- Maintainer:** The maintainer referenced as the mnt-lower or mnt-routes in the IP resource objects [inet(6)num]

## Pre-requisites

- Ensure that an inet(6)num object exists in the AFRINIC WHOIS database.
- This can be queried on <http://whois.afrinic.net>. If the mnt-lower or mnt-route is AFRINIC-HM-MNT, please contact us on [irr@afrinic.net](mailto:irr@afrinic.net)
- Identify the ASN that shall originate the IPv4 or IPv6 prefix
- The plain text password should be provided for the 'mnt-lower' or 'mnt-route' in order to allow the creation of the route object.
- If you do not have the password, follow the reset steps [1] and send the encrypted password to [irr@afrinic.net](mailto:irr@afrinic.net)

## Example 1: Create a route object

### Step 1

**Route object for 196.0.2.0/24 with AS65539 as the origin**

- Query the inetnum on whois
- Identify the mnt lower /mnt-route
- Identify your ASN
- Build you object

### Step 2

#### OPTION 1: Creation of route objects on myAFRINIC portal

- <https://my.afrinic.net/login>
- Resources >IRR > add route
- Select the route from the drop-down list
- Add a description
- Select the origin from the dropdown list/input other ASN
- Select the mnt-by
- Click on OK and insert the plain text password for the mnt-by

#### OPTION 2: Creation of route objects on the whois web

- [whois.afrinic.net](http://whois.afrinic.net) > create >route object
- route: 192.0.2.0/24 \*
- descr: route object example 1
- origin: AS65539
- mnt-by: EXAMPLE-MNT
- changed: email@example.com (your email ID)
- Source: AFRINIC
- password: <plain text of EXAMPLE-MNT>

[1]

Go to <https://afrinic.net/whois/utilities-encrypt>

- Input the new password you wish to use for the maintainer you mentioned
- Click on "Generate hash"
- Send us the encrypted key that will be generated. It will be used to reset your maintainer object

**NB:** Password reset requests are accepted only from registered contacts

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## Example 2: Create a route6 object

### Step 1

**Route object for 2001:DB8::/32  
with AS65543 as the origin**

- Query the inet(6)num on whois
- Identify the mnt lower /mnt-route
- Identify the ASN
- Build you object

### Step 2

#### OPTION 1: creation of route objects on the myAFRINIC portal

- <https://my.afrinic.net/login>
- resources >IRR > add route
- Select the route from the drop down list
- Add a description
- Select the origin from the dropdown list/input other ASN
- Select the mnt-by
- Click on OK and insert the plain text password for the mnt-by

#### OPTION 2: Creation of route objects on the whois web

- whois.afrinic.net > create >route object
- route6: 2001:DB8::/32
- descr: route object example 1
- origin: AS65543
- mnt-by: EXAMPLE-MNT
- changed: email@example.com (your email ID)
- Source: AFRINIC
- password: <plain text of EXAMPLE-MNT>

## Example 3: Create an AS-SET

### Step 1

**as-set:** Name of the set which must start with 'as-'. It can be a hierarchical name with components separated by a colon (':'). At least one component must be an as-set name.

**descr:** A short Description related to the object

**org-hdl:** Your organisation org handle ORG-XXXX-AFRINIC

**mnt-by:** Specifies the maintainer of your organisation to protect the route object. In most cases the "mnt-by" will be same as the "mnt-lower" in the inet(6)num and the "mnt-routes" in the aut-num object.

**tech-c / admin-c:** NIC handle, of either a role or a person object. This contact may be a single person, or it may be a role within the organisation

### Step 2

#### OPTION 1: Creation of AS-SETs on the myAFRINIC portal

- <https://my.afrinic.net/login>
- resources >IRR > as-set
- add the as-set
- add a description
- tech-c: your nic-hdl
- admin-c: your nic-hdl
- Enter your org-handle (Not mandatory but recommended)
- Select the mnt-by
- Click on OK and insert the plain text password for the mnt-by

#### OPTION 2: Creation of as-sets on the whois web

- whois.afrinic.net > create >route object
- as-set: as-example
- descr: an as-set example
- tech-c: your nic-hdl
- admin-c: your nic-hdl
- Enter your org-handle (Not mandatory but recommended)
- mnt-by: your-mnt
- changed: email@example.com
- source: AFRINIC
- Password: <plain text of your-mnt>

Complete AFRINIC IRR guideline here: <https://www.afrinic.net/internet-routing-registry#guide> or

