

# Linkset Management

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# Using CLI

You can manage Linksets and Links using CLI or GUI. You can create, delete, activate and deactivate linksets and links using the Shell command `linkset` with appropriate parameters. The `linkset` command can be used only when dahdi based cards are configured.

# Using GUI

The GUI will allow you to manage your linksets and links efficiently using a user-friendly interface. Open a Web Browser and navigate to <http://localhost:8080/jss7-management-console/>. Click on the 'linkset' link in the left panel. The main panel will display the names of all configured Linkset Management units. To configure or view the settings of a particular Linkset Management Unit you must click on the name of that unit. The GUI will look similar to the figure below and is divided into two tabs.

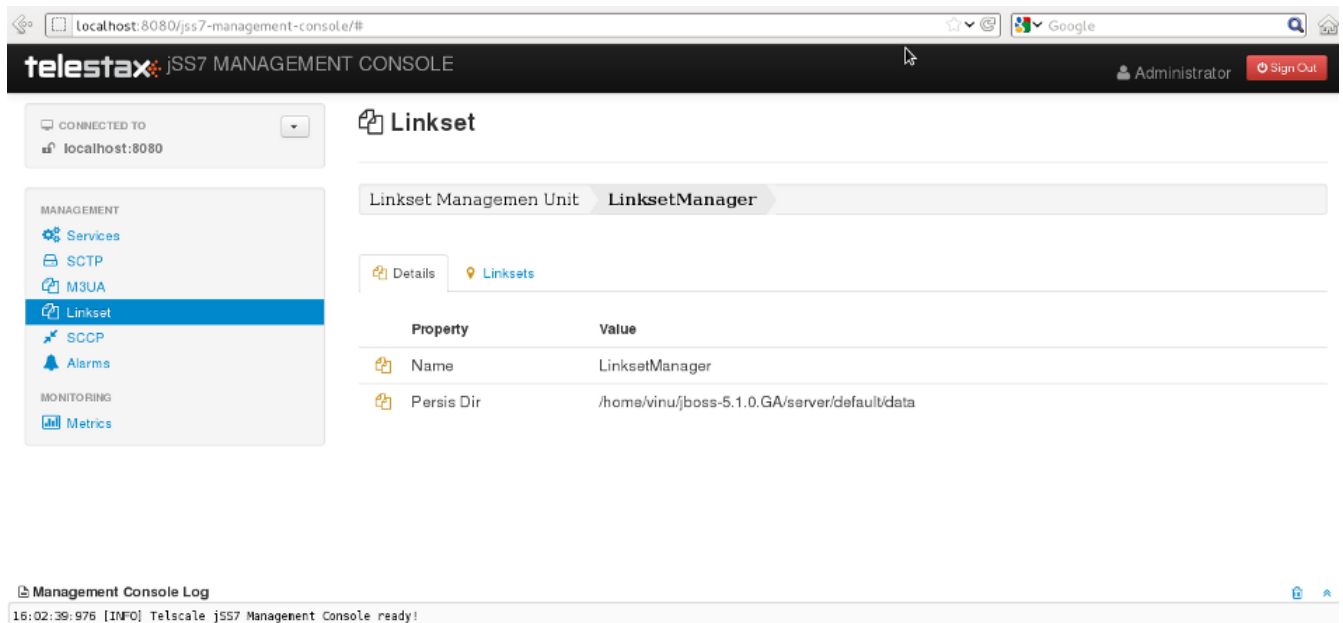


Figure 1. GUI - Linkset Management

The first tab will display the properties of the Linkset Management unit. These details displayed here are fetched from the XML descriptor file `jboss-beans.xml`, which is located at `$JBOSS_HOME/server/profile_name/deploy/restcomm-ss7-service/META-INF`, where `profile_name` is the server profile name. These properties cannot be modified here in the GUI. To modify them you must modify the `jboss-beans.xml` and restart the Server. The GUI will then display the modified values.

The other tab will allow you to manage all Linksets and Links within this Linkset Management unit.

## View all Linksets and Links

### Using CLI

You can view the current status of all correctly configured Linksets and Links by issuing the

command **linkset show** as described below:

Name

linkset show

SYNOPSIS

linkset show

DESCRIPTION

This command is used to view all Links and Linksets and their states.

The possible states of a Linkset are:

- UNAVAILABLE : Indicates that the Linkset does not have any 'available' links and cannot transport traffic.
- SHUTDOWN : Indicates that Linkset has been shutdown.
- AVAILABLE : Indicates that the Linkset has atleast one 'available' link and can transport traffic.

The possible states of a Link are:

- UNAVAILABLE : Indicates that the Link is not 'available' to transport traffic. A Link is 'unavailable' if the Link is remotely or locally inhibited by a user. It can also be 'unavailable' if MTP2 has not been able to successfully activate the link connection.
- SHUTDOWN : Indicates the Link has been shutdown in the configuration.
- AVAILABLE : Indicates the Link is active and 'available' to transport traffic.
- FAILED : Indicates that the Link is not 'shutdown' but is 'unavailable' at Layer 2 for some reason. For example, the Initial Alignment may fail, or the link test messages sent by MTP 3 are not being acknowledged.

## Using GUI

Navigate to the specific Linkset Management unit and switch to the 'Linksets' tab. Here you can view a list of all the Linksets created. Every correctly configured Linkset will be displayed in a row and for each Linkset, the first column will display the name of the Linkset. The icon adjacent to the name will be lit 'green' if the Linkset is currently active or 'orange' if inactive. The second column will indicate the current mode of the Linkset (Configured / Not Configured), the third column will allow you to activate / deactivate the Linkset and the fourth column will allow you to delete the Linkset.

To view the details of all the Links created within a specific Linkset click on the name of the Linkset whose details you wish to view. This will launch the 'Links' view and display all the configured properties of the selected Linkset in the first tab. The second tab in this view will allow you to view all Links in this particular Linkset. You can click on any Link name here to view the configured properties. You can click on the bread crumbs at the top to return to any of the previous pages you navigated through.

## Create a new Linkset

### Using CLI

You can create a new Linkset by issuing the command `linkset create` with appropriate parameters as described below:

## Name

linkset create

## SYNOPSIS

```
linkset create dahdi opc <point-code> apc <point-code> ni <network-id>
<linkset-name>
```

## DESCRIPTION

This command is used to create a new Linkset of type Dahdi as explained below. You must ensure that appropriate linkset factories are deployed prior to creating any linkset.

## PARAMETERS

opc <point-code>	- MTP Point code of the originating signalling point. Takes an Integer Value.
apc <point-code>	- MTP Point code of the adjacent signalling point. Takes an Integer Value.
ni <network-id>	- Network Identifier and should be one of the following values 0 - International Network 1 - Spare (for International use) 2 - National Network 3 - Reserved for National use
<linkset-name>	- Name of the Linkset to be created. This will be used to identify the linkset. Takes a String value.

## EXAMPLES

```
linkset create dahdi opc 3 apc 4 ni 0 dahdilinkset1
```

The above command will create a new linkset of type Dahdi and name dahdilinkset1. The originating point code value is 3 and the adjacent point code value is 4 and the network is an international network.

# Using GUI

### *Procedure: Create new Linkset using GUI*

1. In the section for Linksets in the Linkset Management Unit window, click on the 'Create Linkset' button. This will launch a pop-up 'Create Linkset'.
2. In the 'Create Linkset' pop-up, add details of the new Linkset. You must ensure that you fill in all the mandatory parameters (OPC, DPC, NI and Linkset Name). For definition of these parameters, please refer to the description of the CLI command for the same in the preceding section.
3. Verify the details entered and then click on the 'Create' button. A new Linkset will be created with parameters as specified. If there is an error in creating the Linkset then you will find the

details of the error in the Management Console Log section below.

4. Click on the 'Close' button to close the 'Create Linkset' pop-up.

## Remove a Linkset

### Using CLI

You can delete an existing Linkset by issuing the command `linkset delete` with appropriate parameters as described below:

```
Name
    linkset delete

SYNOPSIS
    linkset delete <linkset-name>

DESCRIPTION
    This command is used to delete an existing Linkset.

PARAMETERS
    <linkset-name>      -   Name of the Linkset to be deleted.

EXAMPLE
    linkset delete dahdilinkset1

    The above command will delete the Linkset identified by the name dahdilinkset1.
```

### Using GUI

*Procedure: Delete Linkset using GUI*

1. Navigate to the 'Linksets' section in the Linkset Management Unit window and locate the row corresponding to the Linkset you wish to delete.
2. You must ensure that the Linkset is deactivated prior to deletion. If the Linkset is deactivated, the last column for 'Delete' will display a 'x' button in red and will be enabled. If the Linkset is currently active, the 'x' button will be disabled. You can only delete the Linkset if it is not active.
3. Click on the red 'x' button to delete the corresponding Linkset.

## Activate Linkset

### Using CLI

You can activate an existing Linkset by issuing the command `linkset activate` with appropriate parameters as described below:

#### Name

`linkset activate`

#### SYNOPSIS

`linkset activate <linkset-name>`

#### DESCRIPTION

This command is used to activate an existing Linkset.

#### PARAMETERS

`<linkset-name>`                -    Name of the Linkset to be activated.

#### EXAMPLE

`linkset activate dahdilinkset1`

The above command will activate the Linkset identified by the name dahdilinkset1.

## Using GUI

*Procedure: Activate a Linkset using GUI*

1. Navigate to the 'Linksets' section in the Linkset Management Unit window and locate the row corresponding to the Linkset you wish to activate.
2. Click on the 'Activate' button in the actions column to activate the corresponding Linkset.
3. If the Linkset has been activated successfully you will find the status indicating the Linkset as 'Available' and the Linkset's icon will be lit green. If there is an error and the Linkset failed to activate, you will find details of the error in the Management Console log below.

## Deactivate Linkset

### Using CLI

You can deactivate a currently active Linkset by issuing the command `linkset deactivate` with appropriate parameters as described below:



#### Name

linkset deactivate

#### SYNOPSIS

linkset deactivate <linkset-name>

#### DESCRIPTION

This command is used to deactivate an existing Linkset.

#### PARAMETERS

<linkset-name>                -    Name of the Linkset to be deactivated.

#### EXAMPLE

linkset deactivate dahdilinkset1

The above command will deactivate the Linkset identified by the name dahdilinkset1.

## Using GUI

*Procedure: Deactivate a Linkset using GUI*

1. Navigate to the 'Linksets' section in the Linkset Management Unit window and locate the row corresponding to the Linkset you wish to deactivate.
2. To deactivate a Linkset currently active, click on the 'Deactivate' button in the actions column of the row corresponding to the Linkset.

## Create a new Link

### Using CLI

You can create a new Link by issuing the command `linkset link create` with appropriate parameters as described below:

## Name

linkset link create

## SYNOPSIS

```
linkset link create span <span-num> code <code-num> channel <channel-num>
<linkset-name> <link-name>
```

## DESCRIPTION

This command is used to create a new Link within a Linkset. The Linkset must be created prior to executing this command.

## PARAMETERS

span <span-num>     -   Port number in the Card (indexed from 0).  
                      Takes an Integer Value.

code <code-num>       -   Signaling Link code  
                      SLS (Signaling link selection) assigned to this  
                      Link. Takes an Integer Value.

channel <channel-num>     -   Time Slot number (TDM time slot).  
                      Takes an Integer Value.

<linkset-name>         -   Name of the Linkset within which the new Link is  
                      being created.

<link-name>            -   Name of the Link to be created. This will be used  
                      to identify the Link. Takes a String value.

## EXAMPLES

```
linkset link create span 1 code 1 channel 1 linkset1 link1
```

The above command will create a new Link identified as link1 within an existing Linkset identified as linkset1.

# Using GUI

### *Procedure: Create new Link using GUI*

1. In the section for Links in the Linkset Management Unit window, click on the 'Create Link' button. This will launch a pop-up 'Create Link'.
2. In the 'Create Link' pop-up, add details of the new Link. You must ensure that you fill in all the parameters. For definition of these parameters, please refer to the description of the CLI command for the same in the preceding section.
3. Verify the details entered and then click on the 'Create' button. A new Link will be created with parameters as specified. If there is an error in creating the Link then you will find the details of the error in the Management Console Log section below.
4. Click on the 'Close' button to close the 'Create Link' pop-up.

# Remove a Link

## Using CLI

You can delete an existing Link by issuing the command `linkset link delete` with appropriate parameters as described below:

### Name

```
linkset link delete
```

### SYNOPSIS

```
linkset link delete <linkset-name> <link-name>
```

### DESCRIPTION

This command is used to delete an existing Link within a Linkset.

### PARAMETERS

<link-name>            -    Name of the Link to be deleted.

<linkset-name>        -    Name of the Linkset within which the Link resides.

### EXAMPLE

```
linkset link delete linkset1 link1
```

The above command will delete the Link identified by the name Link1 within the Linkset linkset1.

## Using GUI

*Procedure: Delete Link using GUI*

1. Navigate to the 'Links' section in the Linkset Management Unit window and locate the row corresponding to the Link you wish to delete.
2. You must ensure that the Link is deactivated prior to deletion. If the Link is inactive, the last column for 'Delete' will display a 'x' button in red. If the Link is currently active, the 'x' button will be displayed in orange. You can only delete the Link if it is inactive and the 'x' button is displayed in red.
3. Click on the red 'x' button to delete the corresponding Link instance.

# Activate Link

## Using CLI

You can activate an existing Link by issuing the command `linkset link activate` with appropriate parameters as described below:

#### Name

`linkset link activate`

#### SYNOPSIS

`linkset link activate <linkset-name> <link-name>`

#### DESCRIPTION

This command is used to activate an existing Link within a Linkset.

#### PARAMETERS

`<link-name>`                -    Name of the Link to be activated.

`<linkset-name>`            -    Name of the Linkset within which the Link resides.

#### EXAMPLE

`linkset link activate linkset1 link1`

The above command will activate the Link identified by the name Link1 within the Linkset linkset1.

## Using GUI

*Procedure: Activate Link using GUI*

1. Navigate to the 'Links' section in the Linkset Management Unit window and locate the row corresponding to the Link you wish to activate.
2. Click on the 'Activate' button to activate that Link within the Linkset.

## Deactivate Link

### Using CLI

You can deactivate a currently active Link by issuing the command `linkset link deactivate` with appropriate parameters as described below:

#### Name

linkset link deactivate

#### SYNOPSIS

linkset link deactivate <linkset-name> <link-name>

#### DESCRIPTION

This command is used to deactivate an existing Link within a Linkset.

#### PARAMETERS

<link-name>                -    Name of the Link to be deactivated.

<linkset-name>            -    Name of the Linkset within which the Link resides.

#### EXAMPLE

linkset link deactivate linkset1 link1

The above command will deactivate the Link identified by the name Link1 within the Linkset linkset1.

## Using GUI

### *Procedure: De-activate Link using GUI*

1. Navigate to the 'Links' section in the Linkset Management Unit window and locate the row corresponding to the Link you wish to deactivate.
2. Click on the 'Deactivate' button to deactivate that Link within the Linkset.