



# **LifeKeeper<sup>®</sup> for Linux v5.0**

## Command Line Interface Guide

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# Command Line Interface Guide

## Introduction

LifeKeeper's Command Line Interface can be used as an alternative to the Graphical User Interface. Common tasks may be automated by incorporating calls to the CLI in shell scripting.

## Document Contents

This guide contains the following topics:

- [LifeKeeper Documentation](#). Provides a list of LifeKeeper for Linux documentation and where to find each document.
- [Commands](#). Describes CLI commands.
- [Shell Script Examples](#). Provides some examples of CLI use in scripting.

## LifeKeeper Documentation

The following LifeKeeper product documentation is available from SteelEye Technology, Inc.:

- *LifeKeeper for Linux Release Notes*
- *LifeKeeper for Linux Online Product Manual* (available from the Help menu within the LifeKeeper GUI)
- *LifeKeeper for Linux Planning and Installation Guide*

This documentation, along with documentation associated with optional LifeKeeper Recovery Kits, is available on the SteelEye Technology, Inc. website at:

[www.steeeye.com/support/documentation](http://www.steeeye.com/support/documentation)

# Commands

## Groupings and Basic Descriptions of LifeKeeper bin Commands

The commands will be in: `/opt/LifeKeeper/bin`

To place this in your path, execute: `‘./etc/default/LifeKeeper’`

### Starting and Stopping LifeKeeper, the GUI, etc.

**lkstart** Start LifeKeeper core

Options: **-w** Timeout wait period in seconds if LK does not start properly

**lkstop** Stop LifeKeeper core

Options: **-f** Do not stop the protected resource

**lctest** Test to see if LifeKeeper is currently running

Options: none

**lkGUIserver** Start and stop the LifeKeeper GUI daemon processes

Options: **start**

**stop**

**lkGUIapp** Starts the LifeKeeper Java application

Options: none

**lctest** Checks to see if LifeKeeper is configured and running properly

### Monitoring LK and Other Misc. LifeKeeper Commands

**lk\_log** Manage, display, and output LifeKeeper logs to a file

Options: **-f** Keeps log file open to display new log data

**-t #** where # is to list the last # lines of the file

**<log file>** ex log, GUI, LCM, LCD

**lk\_log log > file\_name** outputs log file into file\_name

**lcdstatus** Display status of LifeKeeper resources, comm paths, etc.

Options: **-d <node to run command on>**

**-q** short reports

**lcdsync** Writes LifeKeeper configuration information from memory to disk

Options: **-d <other node to run it on>**

- lcdrcp** Transfer files from one LifeKeeper node to another via the comm. path  
Options: **lcdrcp <file names> {dest:ofile | dest:odir}**
- lcdremexec** Execute the given command on the given LifeKeeper node  
Options: **-d <node to run command on> <command>**
- lcdrecover** Checks and sets resource hierarchy instance settings  
Options: see documentation

### Bringing a Hierarchy into and out of Service

**perform\_action** Performs a given action on a given resource.

Can be used to switch a given hierarchy to another node.

- Options: **-a <action name>**  
**-t <tag name>**

- Examples: **perform\_action -a restore -t \$LKTag** bring tier into service  
**perform\_action -a remove -t \$LKTag** take tier out of service

## SYS - LifeKeeper Commands Related to the Systems in the LifeKeeper Cluster

- sys\_list** Lists out the systems known to a particular LifeKeeper node  
Options: **-d <other node to run it on>**
- sys\_create** Creates knowledge of another system on LifeKeeper node  
Options: **-s <system name>**  
**-d <node to run command on>**
- sys\_remove** Removes knowledge of another system on a LifeKeeper node  
Options: **-d <dest>**  
**-s <system name to be removed from list>**
- sys\_getstate** Lists the state of a given LifeKeeper node on the given LifeKeeper node  
Options: **-d <node to run command on>**  
**-s <system concerning the state being checked>**

- sys\_setstate** Sets the state of a given LifeKeeper node on a given LifeKeeper node
- Options: **-d** <node to run command on>  
**-s** <system concerning the state being set>  
**-S** <actual state> {DEAD|ALIVE|UNKNOWN}  
**-R** <reason for state setting>
- sys\_getdescr** Prints some information of why the system went to its current state
- Options: **-d** <node to run command on>  
**-s** <system to get data on>

## NET - Communications Paths Related Commands

- net\_create** Creates a communications path between two LifeKeeper nodes
- Options: **-d** <node to run command on>  
**-s** <other system>  
**-D** <device path>  
**-n** <TTY or TCP>  
**-b** <baud rate>  
**-r** <remote IP address>  
**-l** <local IP address>  
**-p** <priority>
- net\_remove** Removes a communications path between two LifeKeeper nodes
- Options: **-d** <node to run command on>  
**-s** <server name to be removed from>  
**-D** <device path>  
**-r** <IP address>
- net\_list** Lists communications path information on a given LifeKeeper node
- Option: **-d** <node to run command on>  
**-f:** <field separator of ':'>  
**-s** <system name>
- net\_change** Modify specific information about a given communications path
- Options: **-d** <node to run command on>  
**-s** <server name for data to be modified>  
**-D** <device>

**crelcm** Create a communications path  
 /opt/LifeKeeper/bin/crelcm <node 1> <node 2> <net type> <baud rate> <IP address 1>  
 <IP address 2> <prio>

**portio** Tests the serial connection between two LifeKeeper nodes

## FLAG - Commands Related to Internal LifeKeeper Flags

**flg\_create** Set a given LifeKeeper flag on a given LifeKeeper node  
 Options: **-d** <node to run command on>  
**-f** <flag name>

**flg\_remove** Remove a given LifeKeeper flag on a given node  
 Options: **-d** <node to run command on>  
**-f** <flag name>

**flg\_list** List all LifeKeeper flags that are set on a given node  
 Options: **-d** <node to run command on>

## TYP - LifeKeeper Commands Related to Resource Hierarchy Types

**typ\_create** Create a given resource type on a given LifeKeeper node  
 Options: **-d** <node to run command on>  
**-a** <app type> (need an app first)  
**-r** <resource type>

**typ\_remove** Remove a given resource type on a given LifeKeeper node  
 Options: **-d** <node to run command on>  
**-a** <application type>  
**-t** <resource type>

**typ\_list** Lists all resource types on a given LifeKeeper node  
 Options: **-d** <node to run command on>  
**-f:** <field separator of ':'>  
**-a** <app type>

## APP - LifeKeeper Commands Related to Resource Applications (Group of Related Types)

- app\_create** Create a given resource application on a given LifeKeeper node  
 Options: **-d** <node to run on>  
**-a** <application name>
- app\_remove** Removes a given resource application on a given LifeKeeper node  
 Options: **-d** <dest>  
**-a** <application type>
- app\_list** Lists all resource applications on a given LifeKeeper node  
 Options: **-d** < node to run on>

## DEP - LifeKeeper Commands Related to How Resource Applications Relate to Each Other

- dep\_create** Creates a dependency between two resource instances  
 Options: **-p** <parent tag>  
**-c** <child tag>
- dep\_remove** Removes a dependency between two resource instances
- dep\_list** Lists the dependency relationship between two instances  
 Options: see on-line documentation
- eqv\_create** Creates an equivalency of a given resource between two nodes  
 Options: **-d** <dest>  
**-t** <first tag name>  
**-o** <second tag name>  
**-S** <other system>  
**-e** SHARED ?
- eqv\_remove** Removes an equivalency of a given resource between two nodes  
 Options: **-d** <dest>  
**-s** <system to get info on>  
**-t** <tag name>  
**-f:** <field separator of ‘:’>

- eqv\_list** Lists equivalency relationships between resource instances
- Options: **-d <dest>**  
**-s <system to get info on>**  
**-t <tag name>**  
**-f: <field separator of ':'>**
- hry\_setpri** Sets the priority of a given LifeKeeper node, or hierarchy on the node

## INS - Commands Related to Individual LifeKeeper Hierarchy Instances

- ins\_create** Define a new resource instance on the given node
- Options: **-d <dest>**  
**-a <app type>** (need an app first)  
**-r <resource type>** (need a resource type first)  
**-t <tag name>**  
**-i <id>**
- ins\_remove** Remove a given resource instance on a given node
- Options: **-d <dest>**  
**-R <root tag>**  
**-r <resource type>**  
**-t <tag name>**  
**-I <id>**
- ins\_list** Lists the current information of the given resource hierarchy instance
- Options: **-d <dest>**  
**-f: <field separator of ':'>**  
**-a / -r / -t / -i specify optional app, type, tag, and id info**
- ins\_setas** Sets the automatic switchback strategy for a given hierarchy
- Options: **-d <dest>**  
**-t <tag name>**  
**-s <switchback typ> {INTELLIGENT|AUTOMATIC}**
- ins\_setinit** Define how a given resource should initialize when LifeKeeper starts
- Options: **-d <dest>**  
**-t <tag name>**  
**-I <init state> {AUTORES\_ISP|INIT\_ISP|INIT\_OSU}**

**ins\_setinfo** Define an information string for a given resource hierarchy

Options: **-d** <dest>  
**-t** <tag name>  
**-v** <string of information>

**ins\_setstate** Set the state of a given resource hierarchy on a given node

Options: **-d** <dest>  
**-t** <tag name>  
**-S** <state to set instance> {ISP|ISU|OSU}  
**-R** <reason for state setting>  
**-A** <recursively set all resources that depend on this one>

**ins\_gettag** Lists the tag name of the associated ID

Options: **-i**<id>

### **Unextend a Hierarchy**

**/opt/LifeKeeper/lkadm/bin/unextmgr** <Node\_Name> <Tag\_Name>

# Shell Script Examples

## Some Examples Pulled Out of Shell Scripts to Create and Extend Hierarchies.

Also how to create a dependency between two hierarchies.

### # Needed System Parameters

```
LKROOT=/opt/LifeKeeper
OBJ_DIR=/opt/LifeKeeper/lkadm
LKBIN=/opt/LifeKeeper/bin
ExtendPath=/opt/LifeKeeper/lkadm/bin
PATH=$PATH:$LKBIN
```

### #Generic ARGS

```
LocalServer=unix121.ha.uk.sbphrd.com
TargetServer=unix122.ha.uk.sbphrd.com
Node2Priority=10
```

**# The above variables are used for the commands below**

### Creating IP Hierarchy

```
IPCrePath=/opt/LifeKeeper/lkadm/subsys/comm/ip/bin
IPBundle="$IPResourceTag","$ProtectedIP","$Netmask","$NetworkInterface","$BackupNetworkInterface","$IPResourceTag"
```

```
$IPCrePath/creIPhier $LocalServer $ProtectedIP $NetworkInterface $Netmask IP1Tag
$IPPriSwitchBack $IPResourceTag $CreateFlag $BackupNetworkInterface
```

### Extend IP Hierarchy

```
$ExtendPath/extmgrDoExtend.pl -p1 -f, "$IPResourceTag" "$TargetServer" "$Node2Priority"
"$IPTargetSwitchBack" \"$IPBundle\"
```

### **Create File System Hierarchy**

```
FSPath=/opt/LifeKeeper/lkadm/subsys/gen/filesys/bin
```

```
FSBundle="$FS1ResourceTag","$MountPoint1","$FS1ResourceTag"
```

```
$FSPath/creFShier $LocalServer $MountPoint1 $FS1ResourceTag $FSPriSwitchBack
```

### **Extend File System Hierarchy**

```
$ExtendPath/extmgrDoExtend.pl -p1 -f, "$FS1ResourceTag" "$TargetServer" "$Node2Priority"  
"$FSTargetSwitchBack" \"$FSBundle\"
```

### **Create Oracle Hierarchy**

```
Oracle1Path=/opt/LifeKeeper/lkadm/subsys/database/oracle/bin
```

```
Oracle1Bundle="$Oracle1Tag","$Oracle1Sid","$Oracle1Home","$Oracle1Tag"
```

```
$Oracle1Path/databasehier $LocalServer $Oracle1Sid $Oracle1Home $Oracle1Tag  
$Oracle1PriSwitchBack
```

### **Extend Oracle Hierarchy**

```
$ExtendPath/extmgrDoExtend.pl -p1 -f, "$Oracle1Tag" "$TargetServer" "$Node2Priority"  
"$Oracle1TargetSwitchBack" \"$Oracle1Bundle\"
```

### **List Hierarchy Dependencies**

```
$LKBIN/dep_list -p $Oracle1Tag | /bin/grep $IPResourceTag
```

### **Create Dependency Between Hierarchies**

```
$LKBIN/dep_create -d $TargetServer -p $IPResourceTag -c $Oracle1Tag
```

Make sure you do an lcdsync after a dep\_create

```
$LKBIN/lcdsync -d $LocalServer
```

```
$LKBIN/lcdsync -d $TargetServer
```