

# Functional Specification: Application Server Administration Command Line Interface

Table of Contents (Status: Draft, Ready for Review, Reviewed, ARC'ed )

## [1. Introduction](#)

[1.1 Project/Component Working Name](#)

[1.2 Name\(s\) and e-mail address of Document Author\(s\)/Supplier](#)

[1.3. Date of This Document](#)

## [2. Project Summary](#)

[2.1 Project Description](#)

[2.2 Risks and Assumptions](#)

## [3. Problem Summary](#)

[3.1 Problem Area](#)

[3.2 Justification](#)

## [4. Technical Description](#)

[4.1 Details](#)

[4.2 Bugs/RFE's](#)

[4.3 Scope](#)

[4.4 Out-of-scope](#)

[4.5 Interfaces](#)

[4.6 Documentation Impact](#)

[4.7 Configuration/administration Impact](#)

[4.8 High Availability Impact](#)

[4.9 Internationalization](#)

[4.10 Packaging](#)

[4.11 Security Impact](#)

[4.12 Compatibility](#)

[4.12 Dependencies](#)

## [5. References](#)

## [6. Schedule](#)

## [7. Document History](#)

# 1. Introduction

## 1.1. Project/Component Working Name

Command Line Interface for GlassFish V2/Sun Java System Application Server 9.1.

## 1.2. Name(s) and e-mail address of Document Author(s)/Supplier

Jane Young ([jane.young@sun.com](mailto:jane.young@sun.com))

Prashanth Abbagani ([prashanth.abbagani@sun.com](mailto:prashanth.abbagani@sun.com))

Kedar Mhaswade ([Kedar.Mhaswade@Sun.Com](mailto:Kedar.Mhaswade@Sun.Com))

## 1.3. Date of This Document

09/01/2006.

# 2. Project Summary

## 2.1. Project Description

Admin CLI is a client side tool to administer, configure and monitor GlassFish V2. This t

In addition to `asadmin`, `asant` is also considered a part of Admin CLI. `asant` is a developed by the Apache Software Foundation (see <http://ant.apache.org/>). `asant` in tasks that interact with the GlassFish administration utility.

## 2.2. Risks and Assumptions

All of the CLI remote commands depends on backend support from MBean and AMX A]

# 3. Problem Summary

## 3.1. Problem Area

New CLI commands will be introduced to support the new features and enhancements.

CLI will also be improved for better usability. These improvements include the following

- CLI exit code enhancement for start/stop commands.

- Deprecation of --adminuser and --adminpassword in create-domain command.
- Improve asadmin help, at least in terms of finding a command.
- Improve asadmin command synopsis

## 3.2. Justification

Since CLI is one of the tools that user will need to get accustomed to when administering an application, it's important to support the new features and enhancements from CLI. Adding new features to CLI will improve Glassfish's competitive market advantage by meeting and sometimes exceeding user expectations.

## 4. Technical Description

### 4.1. Details

#### Additions to the command set:

- [JBI Related commands](#)
- [Load Balancer Configuration commands](#)
- [Connection Pooling/Resources Configuration commands](#)
- [Portbase Option in create-domain command](#)
- [New Options in create-node-agent command](#)
- [New Monitoring command](#)

#### New JBI Commands

See <http://www.glassfishwiki.org/gfwiki/Wiki.jsp?page=AGlossaryOfNewCommandsWithDetailedSynopsis> for the list of new JBI commands.

#### New and Enhanced Load Balancer Commands

New load-balancer commands are introduced to support the new load-balancer features. (See [LoadBalancer Enhancement Onepager](#) for details of load-balancer elements.) See: <http://www.glassfishwiki.org/gfwiki/Wiki.jsp?page=LBCommands> for the list of new LB commands.

#### Connection Pool Enhancements:

The dotted notation for the new connection pool attributes are listed below. The new attributes are underlined.

```
domain.resources.jdbc-connection-pool.<pool-id>.lazy-connection-association=<true|false>
```

```
domain.resources.jdbc-connection-pool.<pool-id>.lazy-connection-association=<true|false>
```

```

enlistment=<true|false>
domain.resources.jdbc-connection-pool.<pool-id>.associate-wit
domain.resources.jdbc-connection-pool.<pool-id>.match-connect
domain.resources.jdbc-connection-pool.<pool-id>.allow-non-con
<true|false>
domain.resources.jdbc-connection-pool.<pool-id>.connection-le
seconds=<timeout value>
domain.resources.jdbc-connection-pool.<pool-id>.connection-le
<true|false>
domain.resources.jdbc-connection-pool.<pool-id>.connection-cr
attempts=<attempt value>
domain.resources.jdbc-connection-pool.<pool-id>.connection-cr
in-seconds=<interval value>
domain.resources.jdbc-connection-pool.<pool-id>.is-connector
<true|false>
domain.resources.jdbc-connection-pool.<pool-id>.validate-atmc
seconds=<value>
domain.resources.jdbc-connection-pool.<pool-id>.statement-tin
<timeout value>
domain.resources.jdbc-connection-pool.<pool-id>.max-connectic
domain.resources.jdbc-connection-pool.<pool-id>.wrap-jdbc-obj

```

## Portbase option in create-domain command

```

create-domain --user admin --port port_number [--terse=false
interactive=true] [--domaindir domain_directory] [--passwordf
portbase portbase_number] [--instanceport port_number] [--sav
[--domainproperties (name=value)[:name=value]*] domain_name

```

A new optional option, `--portbase` will be added to `create-domain` command. This option will bias all default ports with that number. The value of the portbase will be added to the value of all the ports. The default values are:

- Admin port = 48 (in PE)
- Admin port = 49 (in EE)
- Instance port = 80
- JMS port = 76
- IIOP port = 37
- HTTPS port = 81
- IIOPS port = 38
- IIOP MutualAuth port = 39
- JMX port = 86

If portbase is 10000, then the following default ports will be used in AppServ

- 10048 for Admin Port
- 10080 for HTTP Instance.

10076 for JMS.  
 10037 for IIOP.  
 10081 for HTTP\_SSL.  
 10038 for IIOP\_SSL.  
 10039 for IIOP\_MUTUALAUTH.  
 10086 for JMX\_ADMIN.

If portbase is specified and either adminport, instanceport or domainproperites then fail the command stating that the options are mutually exclusive.  
 If any of the ports are below 1024, then a warning message is displayed.  
 (See: [6378839](#))

### New options in start-node-agent command

The start-node-agent command will have a new optional option. This option is sync node-agent commadn will sync up with the server instances. The default value is fa

(See bug: [6155765](#))

### New monitoring command

Currently, the only way to retrieve monitoring attributes from asadmin is using the " The drawback of this is that the user will need to know the dotted-names for the m addition, the output format is not in CSV so it's difficult to import it to a spread sh command, monitor is introduced. This command prints out the commonly monit there is an option to filter out elements and also capture the output to a file in CSV.

```
monitor --type monitor_type [--user admin_user] [--port 4848] [--i
file_name] [--host localhost] [--terse=false] [--echo=false] [--ir
secure|-s=true] [--filename filename] [--interval 30] [--filter na
```

| Name     | Description  |
|----------|--|
| filename | save ouput to a file in CVS format   |
| interval | time interval in seconds to capture monitoring attributes. If interval is zero then returned. If interval is greater than 0, then the monitoring attributes is displayed ctrl-c or 'q'. Default value is 30. |
| filter   | filters on the specific element(s)   |
| type     | valid values are:<br>httplistener, keepalive, filecache, connectionqueue, jdbcpool, jvm, threadpool, s<br>connectorpool, endpoint, entitybean, messagedriven, statefulsession, statelesse                    |

## Exit codes for start and stop commands

Currently, when `start-domain` is invoked on a domain that is "killed", the command returns an exit code of 1. Though it is arguable that it should be 0, some experts say that it is a sign of robustness. The SMF support to restart domain poses a problem where if domain is abruptly killed that restarts the domain will first stop the domain (for cleanup) but since domain has already started, domain returns an exit code of 1 and the service that restarts the domain fails. (See [bug: 650527](#)) The `start/stop-domain` will exit with exit code of 1 if domain has already started/stopped. This behavior is consistent in all the lifecycle commands except for `cluster`. Please see bug: [650527](#). `start/stop-cluster` will not be impacted by this change.

Though changing the exit code is an interface change and scripts that depend on this behavior are not the right thing to do and it's better to change this sooner than later. The table below shows the exit codes for the start and stop commands.

| Commands   | Exit Code: 0  | Exit Code: 1   |
|--|---|--|
| start-domain<br>start-node-agent<br>start-instance | <ul style="list-style-type: none"> <li>• If start successfully</li> <li>• If already started</li> </ul> | <ul style="list-style-type: none"> <li>• If unable to start</li> <li>• If it does not exist</li> </ul> |
| stop-domain<br>stop-node-agent<br>stop-instance    | <ul style="list-style-type: none"> <li>• If stop successfully</li> <li>• If already stopped</li> </ul>  | <ul style="list-style-type: none"> <li>• If unable to stop</li> <li>• If it does not exist</li> </ul>  |

(See Issue: [726](#), [6179968](#))

## Deprecation of `--adminuser` and `AS_ADMIN_ADMINPASSWORD` in `create-domain`

In `create-domain` command `adminuser` is commonly confused with `user` option. `AS_ADMIN_ADMINPASSWORD` in the passwordfile is commonly confused with `AS_ADMIN_PASSWORD`. In this release, `adminuser` and `AS_ADMIN_ADMINPASSWORD` are deprecated and `user` and `AS_ADMIN_PASSWORD` are added in `create-domain` command. For backward compatible, `create-domain` will accept `adminuser` and `AS_ADMIN_ADMINPASSWORD` in place of `user` and `AS_ADMIN_PASSWORD`. If options: `adminuser` and `user` are present in the command line and `AS_ADMIN_ADMINPASSWORD` and `AS_ADMIN_PASSWORD` are present in the passwordfile, `adminuser` and `AS_ADMIN_ADMINPASSWORD` will take precedence.

(See: [6173065](#))

## Improve asadmin help to find a command

The help command will be enhanced to display the closest matched command name text for the command do not exist. For example:

```
asadmin help create
```

shall display all the commands that contains "create".

If the exact command name is found then the manpage for that command is displayed. If the exact command name does not exist then the usage-text for the command is displayed. If usage-text does not exist then the closest matched command names are displayed. Regular expression is supported in finding the closest matched command name. (See: [6328156](#))

## Manpage Enhancements

The manpage will have the following enhancements:

1. There will be a separate manpage for the common options: user, passwordfile, help, interactive, secure and help. The description for the common options will be removed but the common options will remain in the synopsis of the command. In the "SEE ALSO" section of the manpage of the common options will be listed there.

2. There will be new manpages for the following concepts:

- domain
- cluster
- instance
- node-agent
- configuration
- loadbalancer
- resource
- application
- monitoring
- dotted-names
- password
- logging
- security
- usage-profile

These concepts are commonly used terms in Application Server.

## Improve asadmin command usage text

Currently the required/optional options are in no particular order in the usage text. I usage text:

```
Usage: create-jdbc-resource [--terse=false] [--echo=false] [--inte
localhost] [--port 4848|4849] [--secure | -s] --user admin_user [-
file_name] --connectionpoolid id [--enabled=true] [--description t
target(Default server)] jndi_name
```

The required options are embedded in the optional options. It's inconspicuous that the command. In this release, the usage text will be organized so that the required ( list of options.

```
Usage: create-jdbc-resource --user admin_user --connectionpoolid i
echo=false] [--interactive=true] [--host localhost] [--port 4848|4
[--passwordfile file_name] [--enabled=true] [--description text] [
target(Default server)] jndi_name
```

(See Issue# [260](#), [6401095](#))

### Asant New Tasks

JB ant tasks: (Internal link <http://openesb.sfbay/Wiki.jsp?page=Glassfish9.1Ant>) ant tasks will be provided. **(TBD)**

JAX-WS tasks: WsGen and WsImport (See Bug: [6420962](#))

See: <http://www.glassfishwiki.org/gfwiki/Wiki.jsp?page=NewAsantTasks> for the li

## 4.2. Bug/RFE Number(s)

Aside from the bugs mentioned above, the following bugs/issues will also be addressed:

Issue# 226 -- remove submodule admin-cli/cli-api

Issue# 434, 507 -- handle NPE in add-resources/dangerous code pattern

Issue# 694 -- space in path breaks asadmin start-domain [startserv] in MacOS

Issue# 846 -- CLIMain incorrectly logs exceptions

Issue# [274](#) -- remove password attribute from all asant tasks

Issue# [1150](#) -- start-domain command prompts for user/password even though .asadminpa user/password info



### 4.3. In Scope

N/A

### 4.4. Out of Scope

N/A

### 4.5. Interfaces

<http://www.opensolaris.org/os/community/arc/policies/interface-taxonomy/> describes the p taxonomy.

#### 4.5.1 Exported Interfaces

| Interface | Stability | Former Stability (if changing) | Comments             |
|-----------|-----------|--------------------------------|----------------------|
| asadmin   | EVOLVING  | EVOLVING                       | Command Line Interf  |
| asant     | EVOLVING  | EVOLVING                       | Contains AppServer / |

#### 4.5.2 Imported interfaces

| Interface | Stability | Exporting Project: Name, Specification or other Link. | Comments |
|-----------|-----------|---|----------|
| AMX       | EVOLVING  |   |          |

#### 4.5.3 Other interfaces (Optional)

Not applicable.

### 4.6. Doc Impact

New manpages will be created for the new commands, common options and concepts. Existing manpages will need to be updated.

#### **4.7. Admin/Config Impact**

#### **4.8. HA Impact**

Not applicable.

#### **4.9. I18N/L10N Impact**

Not applicable.

#### **4.10. Packaging & Delivery**

N/A

#### **4.11. Security Impact**

Not applicable.

#### **4.12. Compatibility Impact**

**TBD.**

#### **4.13. Dependencies**

### **5. Reference Documents**

[Admin Infrastructure One Pager](#)

[JB1 Integration One Pager](#)

[Connection Pool Enhancements One Pager](#)

[Load Balancer Enhancements One Pager](#)

### **6. Schedule**

#### **6.1. Projected Availability**

Covered elsewhere.

### **7. Document History**

| Version | Date     | Author, Comment  |
|---------|----------|--|
| 1.3     | 01/09/07 | Jane Young<br>Updated monitor command table<br>Modified dotted names for connection pool attributes<br>Fixed margin  |
| 1.2     | 11/17/06 | Jane Young<br>Updated section about deprecation of adminuser and AS_ADMIN_ADMINPASSWORD.<br>adminuser and AS_ADMIN_ADMINPASSWORD takes precedence over user and AS_ADMIN_PASSWORD. |
| 1.1     | 11/15/06 | Jane Young<br>Updated section about portbase, LB commands, deprecation of adminuser and AS_ADMIN_ADMINPASSWORD   |
| 1.0     | 11/14/06 | Jane Young<br>Updated monitor command syntax<br>Updated description on --portbase option in create-domain  |
| 0.9     | 11/07/06 | Jane Young<br>Updated monitor command syntax<br>added usage-profile to manpage concept   |
| 0.8     | 09/15/06 | Jane Young<br>changed monitoring command to "monitor"<br>added issue 1550  |
| 0.7     | 9/12/06  | Jane Young<br>Updated section on New Monitoring Command  |
| 0.6     | 09/06/06 | Jane Young,<br>Updated section on Connection Pool Enhancement  |
| 0.5     | 09/05/06 | Jane Young,<br>Modified Technical Detail Descriptions<br>Removed comments  |

|     |          |  |
|-----|----------|--|
| 0.4 | 09/05/06 | Jane Young,<br>Modified Technical Detail Descriptions                      |
| 0.3 | 09/01/06 | Jane Young, Kedar Mhaswade, Abhijit<br>Kumar<br><br>Added various changes. |
| 0.2 | 09/01/06 | Jane Young,<br>Modified Project Summary, Technical Detail<br>Descriptions  |
| 0.1 |          | Kedar Mhaswade, created.   |