HP Service Manager

For the supported Windows® and UNIX® operating systems

Software Version: 9.32

SM Doctor User's Guide

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Contents

Chapter 1

Introduction

Service Manager Doctor enables support engineers to collect configuration and diagnosis data from Service Manager. This tool eliminates the need of excessive exchanges of emails between support engineers and customers before engineers can have all needed information to analyze a reported incident.

Target audiences

- Service Manager customers

- Service Manager support engineers

Supported platforms

This tool supports platforms that are allowed in the Service Manager server compatibility matrix. For details, see HP Support matrices on the Software Support Online site.

Supported Service Manager versions

7.1x and 9.x

Modes

The Service Manager Doctor Tool can run in two modes:

- Command-line

- Graphic user interface (only on Windows)

Running Service Manager Doctor

Run the following command in the smdoctor folder directly under the server installation directory to start the tool in GUI mode (only for Windows):

`smdoctor_gui.bat`

Run one of the following commands in the smdoctor folder directly under the server installation directory to start the tool in command-line mode:

`smdoctor.bat` (for Windows)

`smdoctor.sh` (for UNIX/Linux)

When running Service Manager Doctor commands with logging enabled, the tool generates a SMDoctor_Report_<hostname>.html and SMDoctor_Report_<hostname>.txt logs in the current directory, where <hostname> is the host name of the Service Manager server. For example: run -all -dlog or run -all -zip.

Chapter 2

Product Overview

This section describes the usage of the Service Manager Doctor Tool.

Information collected

This tool collects thefollowing types of information:

- SM server configurations and reports

- Operating system configurations

- Database configurations on the database server

- Service Manager server logs

- List of files in the `%SM_HOME%RUN`, `%SM_HOME%RUN/lib/endorsed`, and `%SM_HOME%RUN/lib` folders

- Additional configurable data collected by third-party tools, such as `supportTool.sh` and `generateSchema.sql`.

GUI mode

Follow these instructions when running the Service Manager Doctor Tool in GUI mode.

Service Manager Doctor Main window

The GUI mode of the Service Manager Doctor Tool allows you to easily perform a full health check with a simple click and then it displays a detailed health report in a new window. Additionally, you can use the Actions menu item to save certain files from the Service Manager server, including these options:

- `sm.ini`

- `sm.cfg`

- Service Manager logs

- List of files in the `%SM_HOME%RUN` folder

- List of files in the `%SM_HOME%RUN/lib` folder

- List of files in the `%SM_HOME%RUN/lib/endorsed` folder

- `Iwssofmconf.xml`

- SM client configuration

- `licfile.txt`

- `udp.xml`

- `udpcluster.xml`

- All these types of information (available with a "Save all above items" option)

In a complex, vertically-scaled configuration, the Service Manager Doctor Tool parses the `sm.ini` and `sm.cfg` files to locate all possible logs that are scattered on the server and packages them into a zip file.

You can click **Health Check** to perform health check multiple times. The latest report overwrites previously generated reports. However, the right pane of the main console window displays all check history.

The Service Manager Doctor Main window is shown in the screenshot below:

Report window

The GUI mode shows the report in the Report window:
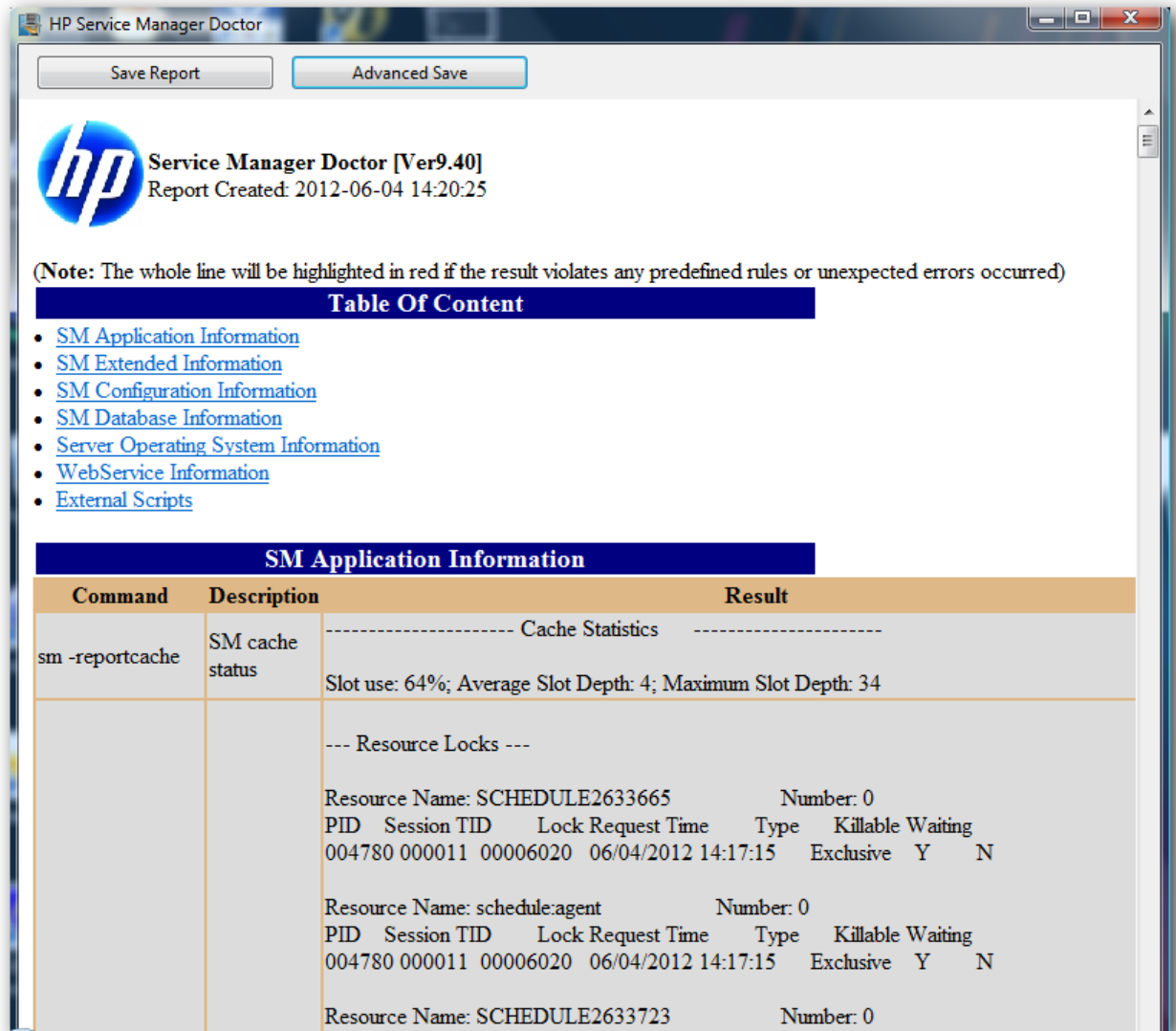
Advanced Save window

Advanced Save allows you to select specific data that you want to save. By default, all the items are selected. You can select the **select all** check box on the **Advanced Save** dialog box to select or clear all the items.

The Advanced Save option is available only after you run a health check. Additionally, the **report** and **sm doctor logs** save items are available only on the **Advanced Save** dialog box.

Note: If the total size of the server logs is too large for shipping, you can check a few items each time and save the log files in several small zip packages.

The Advanced Save window is shown in the screenshot below:
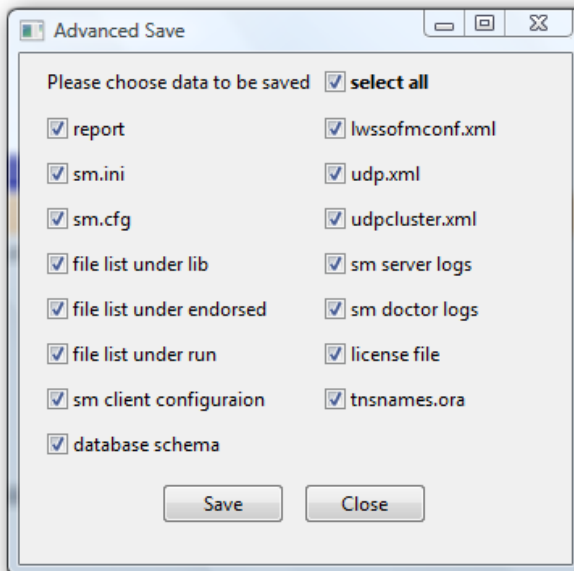
Preference dialog box

The `esm -appgloballistblobcount` and `db -schema` commands are disabled by default because they may take a long time to respond. Each of these commands could take more than 10 minutes, depending on the actual environment. You can enable these commands by selecting the corresponding check boxes in the **Preference** dialog box.

The Preference dialog box is shown in the screenshot below:
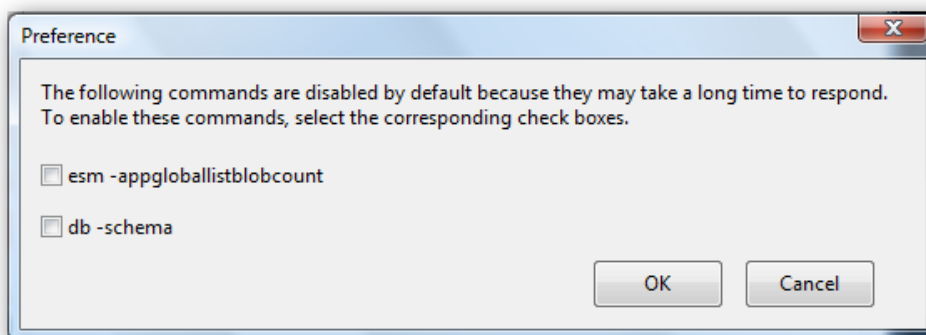
Note: In command-line mode, you can run `set -globallistcheck 1` and `set -schemacheck 1` to enable these commands.

Connect to Database dialog box

Service Manager Doctor prompts you for the username and password of the Service Manager database if the `sqllogin` parameter is encrypted in the `sm.ini` file.

The Connect to Database dialog box is shown in the screenshot below:
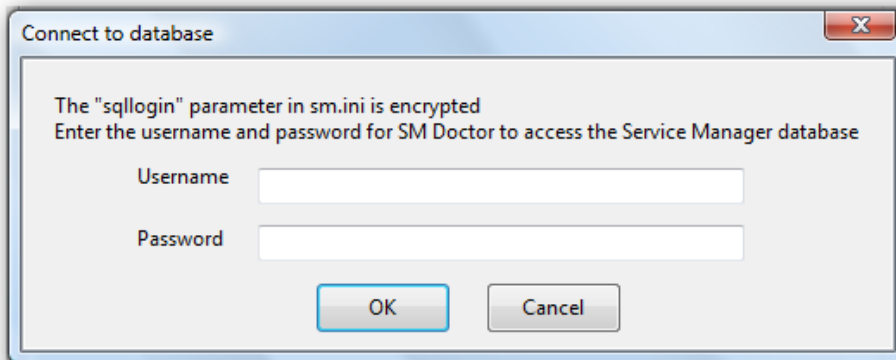
Connect to SM Server dialog box

Service Manager Doctor prompts you for the username and password of the Service Manager server if the `esm -appgloballistblobcount` command is enabled.

The Connect to SM Server dialog box is shown in the screenshot below:
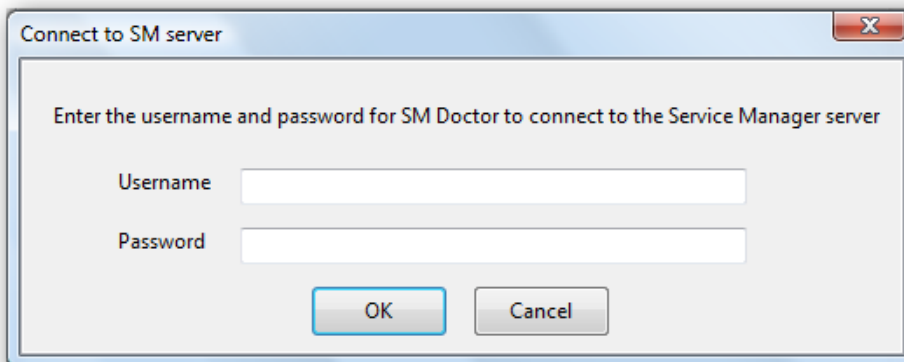
Command-line mode

The command-line mode of the Service Manager Doctor Tool allows you to run the tool more flexibly. You can run specific commands or command groups to collect certain types of information. You can also choose to type "run -all -zip" to package all data that is collected in the current directory. Eventually, the command-line mode generates `SMDoctor_Report_<hostname>.html`

and `SMDoctor_Report_<hostname>.txt` logs in the current directory, where *<hostname>* is the host name of the Service Manager server.

The Command-line mode is shown in the screenshot below:

```
********  Welcome to Service Manager Doctor   ********
******              Version 9.40                 ******
****                                               ****
****      run -all : run all commands              ****
****         help : show all commands              ****
****         exit : close SM Doctor                ****
****                                               ****
******      Copyright (c) 2011 HP Corporation    ******
********          All rights reserved          ********
>help
*** Note: "run -all -zip" collects and zips all data to sm_doctor_saved.zip to current directory ***

Usage: db [command option] [command option] [...]
  Options:
    -all        Run all db commands
    -dlog       Log the command running results, please use this option with other options when results are returned
    -help       Help information for db commands
    -info       Database server information
    -list       Database list
    -schema     Database table/index schema
    -timezone   Database server timezone
    -version    Database server version

Usage: esm [command option] [command option] [...]
  Options:
    -all                        Run all SM extended commands
    -appbp                      SM app best practice information
    -appfieldmigration(-appfm)  SM app table field check
    -appgloballistblobcount(-appgl)  SM app globallists valuelist length
    -apphotfix                  SM app hotfix information
    -apppatch                   SM app patch information
    -apprecordcount(-apprc)     SM app table record count
    -apptablemerge(-apptm)      SM app table merge check
    -autopass                   SM server autopass version
    -dlog                       Log the command running results, please use this option with other options when
    -help                       Help information for SM extended commands
    -javaversion                SM server java version
    -keystore                   SM certificate check
    -perf                       SM process CPU and memory information
    -pingclusternodes(-ping)    Ping other sm nodes in current cluster
    -port                       SM server port status

Usage: conf [command option] [command option] [...]
  Options:
    -all        Run all conf commands
    -cfg        sm.cfg content
    -dbinst     SM database server instance
    -dbtype     SM database server type
    -dlog       Log the command running results, please use this option with other options when results are returned
    -env        System environment settings
    -help       Help information for conf commands
    -ini        sm.ini content
```
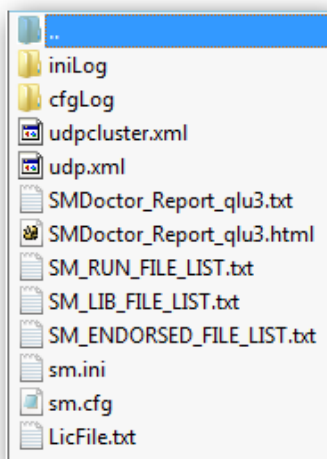
> **Note:** If the `sm_doctor_saved.zip` file generated in command-line mode is too large for shipping, you can unzip the package and repackage them into smaller zip packages.

The `sm_doctor_saved.zip` file has the following folder structure:

- ..
- iniLog
- cfgLog
- udpcluster.xml
- udp.xml
- SMDoctor_Report_qlu3.txt
- SMDoctor_Report_qlu3.html
- SM_RUN_FILE_LIST.txt
- SM_LIB_FILE_LIST.txt
- SM_ENDORSED_FILE_LIST.txt
- sm.ini
- sm.cfg
- LicFile.txt

Chapter 3

Command References

This section describes the usage of commands when you are running the Service Manager Doctor Tool in command-line mode. The command-line mode of Service Manager Doctor provides 10 groups of commands. When you try to run an invalid Service Manager Doctor command, the command-line mode returns an error message. For more information, see "Error References" on page 36.

Service Manager Runtime commands (sm)

Service Manager Runtime commands allow you to run regular Service Manager commands in the Service Manager Doctor Tool. Therefore, you can use this command-line mode as a command-line console, except that it provides tool-specific commands. For example, you can run `sm -reportcache -reportlocks` to check both the cache and locks in one single command.

We do not recommend that you run commands that require options or that return no command results, such as `sm -version -log:version.txt` and `sm -httpport:XXX`.

The timeout for Service Manager Runtime commands is 50 seconds.

Option	Description	Usage
-reportstatus	Retrieves the Service Manager status.	sm -reportstatus
-reportlbstatus	Retrieves the Service Manager load balancer status.	sm -reportlbstatus
-reportcache	Retrieves the Service Manager cache data.	sm -reportcache
-reportipc	Retrieves the semaphore data.	sm -reportipc
-reportlocks	Retrieves the lock status.	sm -reportlocks
-reportlic	Retrieves the Service Manager license status.	sm -reportlic
-version	Retrieves the Service Manager version. **Note:** • Always available regardless of whether the Service Manager service is running or not. • Currently supports the reporting of versions 7.1x and 9.30	sm -version
-appversion	Retrieves the Service Manager application version.	sm -appversion

Option	Description	Usage
-sqlverifyconnection	Verifies the database connection.	sm -sqlverifyconnection
-reportshm	Retrieves the Service Manager shared memory.	sm -reportshm
-reportsem	Retrieves the Service Manager semaphore.	sm -reportsem
-all	Runs all Service Manager Runtime commands at one time and returns the results in the output.	sm -all
-help	Displays Help information. **Note:** If the -help option is used together with other options, only Help information is returned.	sm -help
-dlog	Outputs the command result to html and txt files.	sm -all -dlog

Note: The `sm` commands listed in the table above, except the `-all`, `-help`, and `-dlog` options, are enabled by default and will be run when you run the `sm -all` or run `-sm` command. These `sm` commands are defined in the `CmdOnDemand.xml` file. You can edit this file to enable additional commands to be run. The `CmdOnDemand.xml` file can even include commands to launch external diagnostic tools. For example, the Service Manager Doctor tool is shipped with a shell script tool (`supportTool.sh`), which collects diagnostic information, such as stack traces of core system files, logs, and configuration files, and saves it in a `$HOSTNAME_smsupport.tar` file. See for more information.

Extended Service Manager commands (esm)

Extended Service Manager commands return Service Manager specific information that the current Service Manager Runtime commands may not return but is helpful for diagnosis.

The timeout for Extended Service Manager commands is 60 seconds.

Option	Description	Usage
-javaversion	Retrieves the Java runtime environment version of the Service Manager server (the JRE version in the Service Manager RUN directory)	esm -javaversion
-apppatch	Retrieves Service Manager application patch information (in the `patchrelversioninfo` table).	esm -apppatch

Option	Description	Usage
-apphotfix	Retrieves Service Manager application hotfix information (in the `patchrelversioninfo` table).	esm -apphotfix
-appbp	Retrieves Service Manager Best Practice information (in the `bpreleaseinfo` table).	esm -appbp
-port	Retrieves Service Manager server ports (as returned by the 'netstat' command).	esm -port
-perf	Retrieves Service Manager process CPU and memory information (as returned by the following system-specific commands). ● Windows: tasklist ● Linux: top -p ● Unix: ps -p)	esm -perf
-autopass	Retrieves the Service Manager autopass version. Pre-9.20: `…\Hewlett-Packard \HPOvLIC\About.txt` 9.20 and later: The `AutoPassJ*.jar` version	esm -autopass

Option	Description	Usage
-apprecordcount	Retrieves the record count for Service Manager tables: • syslog • stathistory • eventin • systemperform • systemtotals • clocks • activity **Note:** The threshold for validation is 10 KB.	esm -apprecordcount
-apptablemerge	Retrieves Service Manager table merge information, such as whether M2 or M3 tables exist for the cm3r, cm3rpage, cm3t, and incidents tables.	esm -apptablemerge
-appfieldmigration	Retrieves information about certain fields: • The "approval" and "members" fields in the cm3groups table. • The "related_cis" field in the cirelations table.	esm -appfieldmigration
-appgloballistblobcount	Retrieves the length of the Service Manager application globallists value list. **Note:** The threshold for validation is 1 KB.	esm -appgloballistblobcount
-keystore	Checks the Service Manager certificate, including these files: • Server.keystore • Trustedclients.keystore • cacerts	esm -keystore

Option	Description	Usage
-pingclusternodes	Sends "ping" and "traceroute" messages to other Service Manager nodes in the current cluster. Maximum ping times: 4 Maximum hops: 10	esm -pingclusternodes
-all	Runs all Extended Service Manager commands at one time and returns the results in the output.	esm -all
-help	Displays Help information. **Note:** If the -help option is used together with other options, only Help information is returned.	esm -help
-dlog	Outputs the command result to html and txt files.	esm -all -dlog

Configuration commands (conf)

Configuration commands extract configuration items from the sm.cfg and sm.ini files, which will be used to diagnose server configuration issues against certain predefined validation rules.

Option	Description	Usage
-dbtype	Retrieves database server type.	conf -dbtype
-dbinst	Retrieves the database server instance.	conf -dbinst
-ini	Retrieves the sm.ini content. **Note:** The `sm.ini` content can also be captured in GUI mode, where the validation result is included in the command output.	conf -ini
-cfg	Retrieves the sm.cfg content. **Note:** The `sm.cfg` content can also be captured in GUI mode, where the validation result is included in the command output.	conf -cfg

Option	Description	Usage
-env	Retrieves system environment settings (returned by the env operating system command)	conf -env
-all	Runs all Configuration commands at one time and returns the results in the output.	conf -all
-help	Displays Help information. **Note:** If the -help option is used together with other options, only Help information is returned.	conf -help
-dlog	Outputs the command result to html and txt files.	conf -all -dlog

Database commands (db)

Database commands collect information about the database that Service Manager uses.

The timeout for Database commands is 60 seconds.

Note: If you are running these commands with an Oracle database, you must create an OJDBC_LIB environment variable on the system and set its value to the Oracle driver path for the driver to be loaded successfully.

Option	Description	Usage
-version	Retrieves the database server version.	db -version
-info	Retrieves the server information: **SQL Server:** collation **Oracle:** characterset information; case-sensitivity information **DB2:** DB configuration	db -info
-list	Retrieves the database (tablespace) list.	db -list
-timezone	Retrieves the database time zone and returns the time offset from the UTC/GMT time in hours.	db -timezone

Option	Description	Usage
-schema	Retrieves the table and index schema of the Service Manager database and outputs the information into an `SM_schema.sql` file. **Note:** This command works only with Oracle databases and requires that the sqlplus utility is installed on the system.	db -schema
-all	Runs all Database commands at one time and returns the results in the output.	db -all
-help	Displays Help information. **Note:** If the -help option is used together with other options, only Help information is returned.	db -help
-dlog	Outputs the command result to html and txt files.	db -all -dlog

Operating System commands (os)

Operating System commands collect basic information about the current operating system.

The timeout for Operating System commands is 180 seconds.

Option	Description	Usage
-ip	Retrieves the server IP addresses.	os -ip
-diskspace	Retrieves the disk space on the server, including the total space and free space.	os -diskspace
-sys	Retrieves server system information. ● Windows: systeminfo ● AIX: prtconf ● HPUX PA-RISC: model ● HPUX ITATIUM: machinfo ● Solaris: isainfo -kv ● Linux: uname -a	os -sys

Option	Description	Usage
-openfile	Retrieves the open file limit as returned by the `ulimit -n` command. **Note:** Only for UNIX.	os -openfile
process	Retrieves all processes that are currently running. • Unix: ps -ef • Windows: wmic process get executablepath	os -process
-ipcs	Retrieves the status of inter-process communication	os -ipcs
-sharedmemory	Retrieves the maximum size of shared memory and the count of shared memory segments. • Solaris: sysdef • Linux: sysctl -n • HPUX: kctune -v • AIX: Not available	os -sharedmemory
-udpbuffer	Retrieves the UDP buffer size. • Solais: ndd -get • Linux: sysctl -n • AIX: no -o • HPUX: ndd -get	os -udpbuffer
-all	Runs all Operating System commands at one time and returns the result in the output.	os -all
-help	Displays Help information. **Note:** If the -help option is used together with other options, only Help information is returned.	os -help
-dlog	Outputs the command result to html and txt files.	os -all -dlog

Note: For Windows platforms, x86 represents the 32-bit version and x64 represents the 64-bit version.

Web Service commands (ws)

Web Service commands determine the Service Manager status by sending a simple SOAP request to the http://localhost:13080/SM/ui endpoint (when run on the local server) and checking the response.

The timeout for Web Service commands is 60 seconds.

Option	Description	Usage
-getpreferences	Returns the preference operation response. **Note:** Returns responses through HTTP server ports.	ws -getpreferences
-all	Runs all Web Service commands at one time and returns the result in the output. **Note:** Only one option is defined for the Web service command group now.	ws -all
-help	Displays Help information. **Note:** If the -help option is used together with other options, only Help information is returned.	ws -help
-dlog	Outputs the command result to html and txt files.	ws -all -dlog

Save commands (save)

Save commands save required files on the Service Manager server. Service Manager Doctor can save up to 10 Service Manager Doctor logs, and each log can have a maximum of 1 megabyte in size.

The timeout for Save commands is 50 seconds.

Option	Description	Usage
-report	Saves html and txt reports in the current directory.	save -report
-ini	Saves the ini file in the current directory.	save -ini
-cfg	Saves the cfg file in the current directory.	save -cfg
-lib	Saves the list of files in the lib folder in the current directory.	save -lib

Option	Description	Usage
-endorsed	Saves the list of files in the endorsed folder in the current directory.	save -endorsed
-run	Saves the list of files in the RUN folder in the current directory.	save -run
-ssoconfig	Saves the SSO configuration file in the RUN folder in the current directory. **Note:** This file does not always exist.	save -ssoconfig
-logs	Saves all logs generated for Service Manager	save -logs
-smdlog	Saves all Service Manager Doctor logs. **Note:** Service Manager Doctor logs are not collected by the `run -all` command.	save -smdlog
-udp	Saves the `udp.xml` file.	save -udp
-udpcluster	Saves the `udpcluster.xml` file.	save -udpcluster
-licfile	Saves the `LicFile.txt` file.	save -licfile
-clientcfg	Saves Windows client configurations if a Windows client is installed on this machine.	save -clientcfg
-tnsnames	Saves the `tnsname.ora` file for the Oracle database.	save -tnsnames
-dbschema	Saves the output file (`SM_schema.sql`) of the `db -schema` command for the Oracle database.	save -dbschema
-all	Runs all Save commands at one time and returns the result in the output.	save -all
-help	Displays Help information. **Note:** If the -help option is used together with other options, only Help information is returned.	save -help

Set commands (set)

The Set command group now includes only one command that sets the `-dlog` parameter.

Option	Description	Usage
-dlog	Enables or disables the -dlog option for all commands. However, the -dlog option specified in each command overrides this setting.	set -dlog true set -dlog 1 set -dlog false set -dlog 0
-schemacheck	Enables or disables database schema check for the `run -all` or `esm -all` commands.	set -schemacheck 1 set -schemacheck true set -schemacheck 0 set -schemacheck false
-globallistcheck	Enables or disables globallist blob field check for the `run -all` or `esm -all` commands.	set -globallistcheck 1 set -globallistcheck true set -globallistcheck 0 set -globallistcheck false
-help	Displays Help information. **Note:** If the -help option is used together with other options, only Help information is returned.	set -help

Run commands (run)

Run commands execute multiple commands or multiple command groups.

Option	Description	Usage
-sm	Runs all Service Manager Runtime commands in a sequence and returns the results in the output. **Note:** Equivalent to `sm -all`.	run -sm -db -os
-esm	Runs all Extended Service Manager commands in a sequence and returns the results in the output. **Note:** Equivalent to `sm -all`.	run -esm -db
-db	Runs all Database commands at one time and returns the results in the output. **Note:** Equivalent to `db -all`.	run -db
-conf	Runs all Configuration commands at one time and returns the results in the output. **Note:** Equivalent to `conf -all`.	run -conf -dlog
-os	Runs all Operating System commands at one time and returns the results in the output. **Note:** Equivalent to `os -all`. .	run -os
-ws	Runs all Web Service commands at one time and returns the results in the output. **Note:** Equivalent to `ws -all`.	run -ws
-all	Runs all commands at one time and returns the results in the output. **Note:** Peforms a full health check.	run -all
-zip	Packages all data to an sm_doctor_saved.zip file, which include the SM log files, endorsed file list, lib file list, html report, txt report, sm.cfg and sm.ini.	run -all -zip
-help	Displays Help information. **Note:** If the -help option is used together with other options, only Help information is returned.	run -help

Clear commands (clear)

The Clear command group deletes log files Service Manager Doctor generated, and clears the content of the current log file if the tool is still running.

Option	Description	Usage
-dlog	Clears Service Manager Doctor logs.	clear -dlog
-help	Displays Help information. **Note:** If the -help option is used together with other options, only Help information is returned.	clear -help

Help command (help)

The Help command displays help information.

'-dlog' parameter

The `-dlog` parameter is available for all commands except the "help" command. Adding this parameter to a command is equivalent to running `set -dlog true` or `set -dlog 1` except that the parameter included in the command overrides the global setting configured by `set -dlog false` and `set -dlog 0`.

Note: The reason why you may use the `-dlog` parameter instead of `-log` is that the `-log` parameter itself is a valid parameter of Service Manager.

Chapter 4

Configuration Validation Rules

This section describes the usage of validation rules in the Service Manager Doctor Tool.

Configuration rule file

> **Caution:** It is not recommended that you edit the configuration rule file manually in this version of the tool.

The configuration rule file is an XML file with predefined rules that are used to validate Service Manager server configurations. All configuration information is based on the `sm.ini` and `sm.cfg` files, where `sm.cfg` is prioritized higher than `sm.ini`.

The elements of the configuration rule file include source, domain, rule, condition, conditonrule, operation, and output. Configuration rules for all configurations should be defined within the configuration source. Configuration rules used for specific validation should be defined within a specific domain. There can be multiple domains within each source, and multiple rules within each domain. See "Rule Configuration File Snippets" on page 34.

Considerations for updating the rule file

- This tool includes an `SM_Configuration_Rule.xsd` file to maintain the integrity of the rule file. Detailed messages are displayed in the validation results, including information about the row, column, and other violation specifics.

- If one rule serves as a condition for another rule, the first rule cannot have conditions of its own. Or, a `TWO_LEVEL_CONDITION_FOUND` error is returned.

- For operation elements within a rule element, the "param" and "action" attributes are required. The "target" and "type" attributes are optional, but they are mutually dependent. If one parameter is defined, you must define the other one too.

- For condition elements, if "operator" and "target" are not defined, they default to `and` and `true` respectively.

- In addition to customized rules, you can use the generic rules directly: is32OS, is64OS, isUnix, and isWindows.

- An error 100018 is returned if the XML content cannot be parsed.

- In the current version of the tool, only the configuration data source is editable, which includes both the `sm.ini` and `sm.cfg` files.

Validation results

Validation results are included as part of the command output for the `conf -ini` and `conf -cfg` commands in command-line mode. In GUI mode, a separate column is displayed next to the command results if a rule failure is detected.

Appendix A

CmdOnDemand.xml

A typical `CmdOnDemand.xml` file resembles the following codes:

```
<?xml version="1.0" encoding="UTF-8"?>

<commands>

<command name="sm" description="sm server commands" provider="hp">

    <param name="-reportstatus" description="SM runtime status"/>

    <param name="-reportcache" description="SM cache status"/>

    <param name="-reportipc" description="SM semaphore use"/>

    <param name="-reportlocks" description="SM lock information"/>

    <param name="-reportlic" description="SM licence information"/>

    <param name="-version" description="SM version"/>

    <param name="-verifylic" description="SM verify license"/>

    <param name="-appversion" description="SM application version"/>

    <param name="-reportshm" description="SM shared memory"/>

    <param name="-reportsem" description="SM semaphore"/>

    <param name="-sqlverifyconnection" description="SM verify DB connection"/>

</command>

<!--

Any command or script should be under RUN directory to be run with SM doctor;
more entries could be added like below.

<command name="supportTool.sh" description="Integration with existing support
tool to trace system information" />

-->

</commands>
```

To add a new command to the `CmdOnDemand.xml` file, follow these steps:

1. Open the `CmdOnDemand.xml` file in a text editor.

2. Add more entries similar to **<param name="-version" description="SM version"/>**.

3. Add the required Service Manager command parameters in the "name" attribute.

4. Add the command description in the "description" attribute, which will be used for HTML/TEXT report generation.

> **Note:** To run external commands, make sure that the target scripts or executables reside in the RUN directory. Do not add "param" elements for additional command arguments. Instead, include command arguments in the "name" attribute of the "command" element.
>
> We do not recommend that you run external commands that work with background processes or I/O streams, such as `uname -a &` and `ls -lrt > 1.txt`.

Appendix B

HTML Log Snippets

The Extended Service Manager report sample is shown in the screenshot below:

		SM Extended Information		
Time	Command	Description	Result	
2012-01-15 11:52:41	esm -javaversion	SM server java version more>	1.6.0_21	
2012-01-15 11:52:41	esm -perf	SM process CPU and memory information more>	PID RUSER %CPU VSZ TIME COMMAND 10754 fpeSandy 0.0 601880 01:28 /home/fpeSandy/sm921p4/RUN/smserver 10822 fpeSandy 0.0 670224 07:38 /home/fpeSandy/sm921p4/RUN/smserver system.start	
2012-01-15 11:52:43	esm -port	SM server port status	*.13091 *.* 0 0 49152 0 LISTEN	
2012-01-15 11:52:43	esm -apppatch	SM app patch information	[100021]Patch information is not available. (The table does not exist)	
2012-01-15 11:52:43	esm -apphotfix	SM app hotfix information	[100021]Hotfix information is not available. (The table does not exist)	
2012-01-15 11:52:43	esm -apptablemerge	SM app table merge check more>	**Primary Table Name** **Sub Table Exists** cm3r NO cm3rpage NO cm3t NO incidents NO	
2012-01-15 11:52:43	esm -appbp	SM app best practice information	[100021]Best practice information is not available. (The table does not exist)	
2012-01-15 11:52:43	esm -appfieldmigration	SM app table field check more>	No unexpected field is found in this table CM3GROUPSM1 No unexpected field is found in this table CIRELATIONSM1	
2012-01-15 11:52:44	esm -keystore	SM certificate check more>	[100042]Keyfile cacerts does not exist [100042]Keyfile server.keystore does not exist [100042]Keyfile trustedclients.keystore does not exist	
2012-01-15 11:52:44	esm -apprecordcount	SM app table record count more>	SYSLOGM1 : 126 STATHISTORYM1 : 478 EVENTINM1 : 0 SYSTEMPERFORMM1 : 0 SYSTEMTOTALSM1 : 0 CLOCKSM1 : 210 ACTIVITYM1 : 305	

The Database report sample is shown in the screenshot below:

	SM Database Information	
Command	Description	Result
db -version	Database server version	Microsoft SQL Server 2008 (RTM) - 10.0.1600.22 (Intel X86) Jul 9 2008 14:43:34 Copyright (c) 1988-2008 Microsoft Corporation Enterprise Edition on Windows NT 6.0 (Build 6002: Service Pack 2)
db -timezone	Database server timezone	Offset from UTC/GMT time(h) in database server : 8 Current Timezone : West Australian Standard Time and USSR Zone 7 [WAST][+08 (east)] Asia/Brunei Asia/Choibalsan Asia/Chongqing Asia/Chungking Asia/Harbin Asia/Hong_Kong Asia/Irkutsk Asia/Kashgar Asia/Kuala_Lumpur Asia/Makassar Asia/Manila Asia/Shanghai Asia/Singapore Asia/Taipei Asia/Ujung_Pandang Asia/Ulaanbaatar Asia/Ulan_Bator Asia/Urumqi Etc/GMT-8 Hongkong PRC Singapore
db -info	Database server information more>	SQL Server Name:QLU3 SQL Driver Name:C:\Windows\system32\SQLSRV32.dll Database Name:SM9 Last User:SM9ADMIN SQL Server Collation: SQL_Latin1_General_CP1_CI_AS
db -list	Databse List more>	**name** **db_size** **owner** SM9 26574.13 MB sa

Appendix C

Rule Configuration File Snippets

SM_Configuration_Rule.xml snippet

```xml
<?xml version="1.0" encoding="UTF-8"?>

<xml xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

      xsi:noNamespaceSchemaLocation="SM_Configuration_Rule.xsd" version="1.0">

<source id="configuration" description="service mangaer configuration validation
rules">

…

<domain id="StartUp" description="validate sm startup configuration" >

            <rule id="sync" description="validate synch parameter" >

                  <operation param="sync" action="ValidateIsNotNull" />

            </rule>

            <rule id="systemstart" description="validate system.start" >

                <operation param="system.start" action="ValidateIsNotNull" />

            </rule>

            <rule id="startuprule" description="validate startup by combination
of sync and system.start" >

                  <condition operator="and" target="false">

                        <conditionrule id="sync" />

                        <conditionrule id="systemstart" />

                  </condition>

                  <output type="failed" message="failed: sync and system.start p
rocesses should not
be started at the same, the recommendation is to remove sync from configuration.
For further information,
please refer to "Configuring a horizontal scaling environment" on help server."
/>

                  <output type="success" message="success: sync and system.start
are not set both" />

            </rule>

    </domain>

……
```

SM_Configuration_Rule.xsd snippet

```
<xs:complexType name="rule_type">

    <xs:sequence>

        <xs:element name="condition" minOccurs="0" type="condition-type">

            <xs:unique name="NoRepeatConditionRule">

<xs:selector xpath="conditionrule"/>

<xs:field xpath="@id"/>

</xs:unique>

            </xs:element>

            <xs:element name="operation" minOccurs="0" type="operation_type">

            </xs:element>

            <xs:element name="output" minOccurs="0" maxOccurs="unbounded" type=
"output_type">

            </xs:element>

        </xs:sequence>

        <xs:attribute name="id" type="xs:string" use="required" />

        <xs:attribute name="description" type="xs:string" use="optional" />

        <xs:attribute name="mode" use="optional" >

        <xs:simpleType>

                <xs:restriction base="xs:string">

                    <xs:enumeration value="multiple" />

                    <xs:enumeration value="single" />

                </xs:restriction>

            </xs:simpleType>

        </xs:attribute>

</xs:complexType>
```

Appendix D

Error References

The following table lists the possible errors that the Service Manager Doctor commands may return.

Error Code	Description	Category	Error Message (partial)
100000	SYS_ERROR	SYSERROR	System error, please reach support team…
100001	UNKNOWN_ERROR	SYSERROR	Unknown error, please try again later or reach SM Doctor admin for a solution.
100002	COMMAND_NOT_EXIT	PARSEERROR	This command *<command>* is not recognizable, please enter again.
100003	NO_SUCH_OPTION	PARSEERROR	This option *<option>* is not recognizable for this command, please enter again
100004	NO_SUCH_ PARAMETER	PARSEERROR	*Xxx* is not passed to any parameter, please enter again.
100005	ARGU_NOT_EXIT	PARSEERROR	This argument *<argument>* is not recognizable, please enter again.
100006	ONLY_LOG_ERROR	PARSEERROR	Log option *<option>* is only valid with another command line option, please enter again.
100007	HELP_LOG_ERROR	PARSEERROR	Log option is not valid with help option, please enter again.
100008	HELP_ERROR	PARSEERROR	Help option is valid by *<command>* - help without other options. Please enter again.
100009	DUPLICATE_ERROR	PARSEERROR	Duplicate options are found, please remove the same ones and keep each unique.
100010	LOG_PARAM_ERROR	PARSEERROR	Only true(1) or false(0) is allowed for this option.
100011	NODATA	NODATA	No data is available for this command.
100012	DB_DRIVER_ERROR	DBERROR	Database driver can not be loaded.
100013	SQL_EXCEPTION	DBERROR	SQLException is caught …

Error Code	Description	Category	Error Message (partial)
100014	TABLE_DOES_NOT_ EXIT	DBERROR	This table *<table_name>* does not exit.
100015	SM_NOT_FOUND	SYSERROR	Service Manager is not found, please check.
100016	SM_NOT_RUNNING	SYSERROR	Service Manager is not running, please check.
100017	COMMAND_TIMEOUT	SYSERROR	Command execution timeout.
100018	UNSATISFIED_LINK_ ERR OR	DBERROR	Unsatisfied link error.
100019	RULE_PARSING_ ERROR	SYSERROR	Exception happened when parsing XML rule configuration file.
100020	OTHER_PARSE_ ERROR	PARSEERROR	Invalid input *<input>*.
100021	INFO_NOT_ AVAILABLE	SYSERROR	*Xxx* information is not available.
100022	RECORD_COUNT_ EXCEE D_ THRESHOLD	DBERROR	The record count in table *<table_name>* exceeds threshold *<threshold_value>*, purge/ archive is needed.
100023	TABLE_MERGE_ NEEDED	DBERROR	M2/M3 tables exist for *xxx*, table merge is needed.
100024	FIELD_NOT_ EXPECTED	DBERROR	This field *xxx* is not expected in table…
100025	ORACLE_DRIVER_ NOT_F OUND	DBERROR	Oracle driver could not be loaded, please make sure driver's jar exists under *xxx*.
100026	GLOBALLISTS_ VALUELIS T_LENGTH_ EXCEED_THR SHOLD	DBERROR	Valuelist length of *xxx* keys in globallists table exceeds threshold.
100027	DATABASE_AUTH_ FAILED	DBERROR	Username or password is invalid, database could not be connected.
100028	FILE_NOT_SAVED	FILEERROR	File could not be saved.
100029	FILES_NOT_FULLY_ SAVED	FILEERROR	Files could not be (fully) saved.
100030	FILE_NOT_EXISTS	FILEERROR	*xxx* does not exist.

Error Code	Description	Category	Error Message (partial)
100031	FILES_NOT_EXIST	FILEERROR	*xxx* do not exist.
100032	NO_NEED_TO_SAVE_ TNS NAMES	FILEERROR	No need to save tnsnames.ora for *xxx*.
100033	NO_CLIENT_CONF_ SAVED	FILEERROR	No running sm client is detected, no configuration files could be saved.
100034	WEBSERVICE_AUTH_ FAIL ED	WEBSERVICE ERROR	Username or password is invalid, server could not be connected.
100035	WEBSERVICE_ TIMEOUT	WEBSERVICE ERROR	Timeout for this soap request.
100036	UNSUPPORTED_OS	SYSERROR	SM Doctor does not support this operating system *<system_name>*.
100037	SSL_ENABLED	WEBSERVICE ERROR	Web service call is not done because SSL is enabled, you can start a SSL disabled process to run this command.
100038	UNSUPPORTED_DB	DBERROR	SM Doctor does not support this database.
100039	CMD_LIMITED_TO	SYSERROR	This command is limited to *xxx*.
100040	KEYTOOL_ERROR	FILEERROR	Keytool error happened by checking *xxx*.
100041	NO_LOCAL_PING	SYSERROR	Only vertical scaling setting is found, local host ping/ tracert is skipped.
100042	KEYFILE_NOT_EXIST	SYSERROR	Keyfile *<filename>* does not exist.
100043	PARAMETER_NOT_ EXIST	SYSERROR	Parameter *<parameter>* is not configured.
100044	SQLPLUS_NOT_ FOUND	DBERROR	Sql plus is not found, please set its path in *<variable>*.

Appendix E

Troubleshooting

Issue 1: Environment setting issues leading to coredump

Symtoms

The coredump happens with the following error messages:

```
/usr/lib/dld.sl: Bad magic number for shared library: <library>

/usr/lib/dld.sl: Exec format error
```

Resolution

Verify that the database driver path is set correctly in the corresponding library path environment variable and that the driver exists in the specified path.

Issue 2: 'db -version' command returns wrong results on DB2

Symtoms

The following database connection error message is displayed when database connection fails for 'db -version' on DB2:

```
[100012]Database driver cannot be loaded,

please double check LIBPATH, and make sure 32 bit lib exists and is ahead of 64 bit.
```

Resolution

Run `db2level` under `db2` command shell directly to get database information if necessary. This is to be fixed in next release, since `db2` version information could be returned when connection fails.

We appreciate your feedback!

If you have comments about this document, you can contact the documentation team by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

Feedback on Service Manager, 9.32 SM Doctor User's Guide

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to ovdoc-ITSM@hp.com.