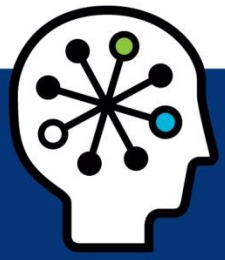
System Administrator Tasks in Service Manager

What tasks does a system administrator need to do regularly?



Introduction

One of the roles within Service Manager is the System Administrator. His / her responsibility is to setup and maintain the environment to ensure proper availability of the environment. This document discusses the various tasks that the system administrator should perform on an ongoing basis.

Requirements

Tasks before moving into production

The System Administrator is usually responsible for the installation, configuration and maintenance of the Service Manager environment. To better provide this level of support there are some cleanup activities recommended after initial install and configuration. These activities are designed to limit the amount of Out of the box demonstration data that remains in the system.

- Create a new operator record with the initial RAD application of *database*.

  Copy the *falcon* operator record to a name such as *failsafe* and in the operator record's startup tab, set the RAD Application to run **database**. This allows you to access the system in case the menu table is unavailable or broken and will also enable the ability to load in files to help recover.

  Note: If you are using the dropdown box for login name on the login.prompt form, you may not want this "failsafe" operator to show up in the drop down list. Therefore, in the $G.operators globallist, change the limiting sql field from "true" to "name~="failsafe"".

- Unload the operator table for backup

  Unload the operator table to your RUN directory as operator.unl by going to the database manager, opening the operator table, doing a true search and selecting the export / unload option. If the operator file ever is accidentally deleted, no-one will be able to log on. By having this unload, you will be able to load it in from the command line using the following command:

  sm file.load operator.unl NULL NULL <unix/winnt> -bg

- Move sm.log and other log files before Service Manager starts up

  Before every startup of Service Manager, write your sm.log to sm.log.<date> as well as any other logs, such as smalert.log, etc. This keeps the log files from growing too large. Another option is to use the maxlogsize and numberoflogfiles parameters. Recommended are a maxlogsize of 15 to 20 MB and a numberoflogfiles of 7.

- Set up the Inactivity Timer

  The inactivity timer is setup to terminate inactive user sessions after a specified idle time. The setup is described in the help section **Server Security –> Inactivity Timer**.

- Determine the list of named users and update their operator records

  If named user licenses have been purchased, determine which users should log into the system as named users and update their operator records with the named user checkbox. This is described in the help section **Application Setup –> Method: Controlling user access and security –> License Tracking –> Named users.**

- Keys and queries

  All forms used for searches (such as FilterAdvFind) should only contain fields that are allowed to be searched upon. These fields should be keys in the dbdict of the table as well as indexes in the related RDMBS table for efficiency. For best performance, build the keys and indexes in the dbdict field sequences rather than form field sequence. Refer to the **Diagnostics and Tuning white paper** for more information.

  Note: the debugdbquery parameter can be turned on during Service Manager prototyping to verify that user and background queries are well supported with corresponding keys.

- Disable background processes that are not required.

  Background processes that are not being used should be taken out of the info.startup record. The "startup" record contains the list of all background processes that are initiated by the line *sm system.start* in the sm.cfg file. For example, remove the despooler, agent and marquee lines, since they are no longer being used. Do not remove the Sync process, since it is very important for cleaning up sessions, memory, etc.

- Clean up Out of the Box data records

  Before the system goes live, all testing data records that were created and demonstration data that is provided out of the box should be deleted. We recommend to use the *PurgeOutofBoxData* unload script record that is predefined to remove this data.

  To purge the data,
    - Go to database manager
    - Open the unload table
    - Select the *PurgeOutofBoxData* record
    - Double check that all the listed tables should be purged.
        - If a table should not be purged, remove the line from the unload script record.
        - You can add or modify a query (for example, add name="failsave" to the operator line) as needed.
    - We recommend adding *knownerrortasks*, and *rootcausetasks* to the list of tables to purge, if information was entered during testing.

- Reset the number records starting points

  After the purge was successful, open the number table from Database Manager. Set the field with the label called "Last Number" to 0 (Zero) for the following records
    - activity*
    - cm3r
    - cm3t
    - device
    - incident management
    - incidents
    - incdepend
    - kmdocument
    - kmfeedback
    - knownerror
    - knownerrortask
    - ocml
    - ocmo
    - ocmq
    - problem management
    - problem management tasks

Daily Tasks

- Review the sm.log file for warnings and errors and the sm.alert.log file for negative performance indicators

  There are many different types of warnings and errors, such as license about to expire, warnings about java heap space, shared memory and others. Investigate each one and contact support if you need assistance on fixing the issue or an explanation of the message. Support will require a copy of the log to investigate. The following parameters added to the server's sm.ini file will help ensure meaningful data to check:

  – msglog:1 – captures all onscreen messages in the sm.log in addition to being sent to the user's screen.
  – debugdbquery:<n> – captures details of all queries that take longer than <n> seconds to execute. Use a large enough number, such as 3 to only get messages written to the log file for queries that took longer than 3 seconds to execute.
- Monitor background processor activity

  When checking which system processes are active in the system status, it is a good idea to maintain a list of those background processes that should always be running. If one of these processes is not running, check the sm.log file to see if there are any messages as to what caused the interruption. Ensure that the process is in the startup record of the info table. It is possible to run the Anubis background process, whose job is to monitor the background processes and automatically restart a process if it terminated for any reason. For more information about Anubis and general background scheduler processing refer to the help section **Server Performance Tuning –> Scheduled Processes**.

- Check servlet utilization

  Review the sm.log file or system status regularly to check the number of concurrent users or connected processes and servlet utilization. If necessary, add another servlet to the group

dynamically or add another servlet line to the sm.cfg file for the next recycle of Service Manager. On the Windows operating system, when starting a servlet dynamically from a DOS prompt, it is imperative to not log out from the server machine since this would terminate the servlet you just started. Ensure that the system is set to lock the desktop and requires authentication to unlock.

- Check the backups

  Check the database backups (or have the DBA check them) to ensure they completed with no problems. If the backup failed, consider taking another backup or determine if this can wait for the next scheduled backup. In most companies, the DBA is responsible for backups but the System Administrator should know the backup schedule and verify that backups work correctly.

- Check System Locks

  Occasionally view the lock activity in the environment – either through system status or through the command sm -reportlocks. If there are locks on items other than agent records, and they are held for more than a few seconds, investigate. For instance, if a user has a lock on an incident ticket for a very long time and other users or background processors are waiting for the lock to be released, you may want to contact that user to release the lock. If this is not possible there may be a need to "terminate" the user's session that is holding the lock so that other processes / users can access the ticket.

- Check the schedule file

  Verify that none of the schedule records have encountered errors. Schedule records that encountered an error will have a status of "application failed due to error - check msglog for possible messages" and the class field will be empty with the scheduled class being set to the value of the class field. On occasion, the class field will contain a value of "error". The status of "application running" does not indicate an error in most cases but, may indicate that the application is in a loop if in that state for more than 15 minute, or that the processor was terminated by an external source. Contact support and provide an RTM:3, debugdbquery:999 trace on the failed or looping background process as described in the **Diagnostics and Tuning white paper**.

- If using asynchronous IR, check the irqueue table

  The IRQueue process (sm –que:ir) should pick up records from the irqueue table on a regular basis and process them. If this is not the case, verify that the process is running and check for any error messages in the sm.log file. Contact support with the information found in the log file for help.

- If using external email from Service Manager, check that emails are being sent successfully

  If email is not being sent successfully, check the following:

  - Verify that sm –scautolistener:<port#> (for incoming and outgoing email) or sm –emailout <"profilename"> (for outgoing email only) were started successfully by checking the sm.log file and the system status screen
  - Check whether the emails are in the eventout table
  - Verify that the mail server is running

  For more information refer to the latest **SCAutomate Applications for Windows NT and UNIX** documentation.

Weekly Tasks

- Check syslog & msglog files;

  The syslog file contains login and logout information for all user and background processes. The same information is stored in the sm.log file. The msglog file gives helpful hints when a scheduled application fails as well as other information. Check that file regularly for information.

- Purge old records;

  Clean up old records from msglog, syslog, stathistory, clocks, spool, mail as well as eventin and eventout. This can be done automatically through scheduling an archive/purge. The out of the box system gives you a background purge to clear out the msglog and syslog records over 7 days old. Modify the purge interval if needed. To do so, go to the schedule table via database manager and search for "background purge/archive". You can modify the purge/archive parameters on the Strings tab. To create a new scheduled purge / archive refer to the help section **Database Administration –> Purging and archiving records**.

- Check RDBMS file size limit

  Check with your DBA occasionally on the growth of data on the RDBMS. Consider the data growth for future planning as well as decisions to archive and purge.

- Purge/archive user data

  Purge/archive user data, retaining only data as required by your corporate data retention policy. User Data includes interactions, incidents, problems, changes, etc.

- Check view and favorite creation

  If you allowed users the ability to create views and favorites (public or personal), you will need to put into place a process where you check the records in the inbox table regularly to ensure that the queries and sort sequences used in the views and favorites are properly indexed. If a sort sequence is specified, the fields used in the sort sequence should be part of the index. Additionally, if you see multiple users creating the same personal inbox, consider creating a public inbox for all users in a query group (the users that have this inbox created). Doing so, you will keep the number of records in the inbox table under control. Refer to the **Diagnostics and Tuning white paper** for more information.

- Check number of licenses

  Generate a Service Manager license report, especially during peak hours, and analyze usage patterns to prepare for any needed license increases. Two schedule records come with the out of the box installation. They count the number of user connections and the number of system processes active at the time the schedule record runs. They put the results into the stathistory table and are called:

  - Count USER connections
  - Count SYSTEM connections

  Note: If you do not need this information, stop these schedule records from running by moving their expiration time far into the future.

- Check for news on the HP support web site.

  The support web site provides information on your open incidents as well as interesting knowledge articles and white papers.

Monthly tasks

In addition to the daily and weekly tasks, you should perform the following tasks every month:

- Clean up AUDIT* records if auditing backup is turned on

  If you have backups turned on for auditing changes (Tailoring – Audit – Turn Auditing On/Off: Do you want to keep backups of changes), clean up all AUDIT* forms, links, format controls, etc.

  Note: We strongly recommend turning off "keep backups of changes" in a production system. You can use this feature on development, but should purge the AUDIT* records there at the end of each development cycle.

- Check the usergrid table for changes to user's QBE displays.

  Check the usergrid tables to see what users are saving as their qbe formats. If you find that many users have added the same field to a particular QBE, you may want to consider adding the field to the default QBE format. Remember to delete the appropriate records from the usergrid file once you have changed the format.

- Test backups

  Occasionally test a restore onto a Test system to verify backup/restore procedures

- Monitor the server's performance statistics

  Check for memory usage, CPU usage, peaks to ensure smooth operation. Over time, with more concurrent users logging in, it may be necessary to add more memory or more CPU, or adding more servlets to serve the increasing user community.

Quarterly Tasks

In addition to all regularly occurring tasks, you should do the following every quarter:

- Validate timezone records

  Review and update timezone records for approaching changes to the start or end dates of daylight savings. Additionally, verify that the tzfile records for your timezone are built far enough out.

Tasks required in ServiceCenter that are no longer required in Service Manager

Tasks before going to production

- Delete languages not being used

  The localized version of Service Manager comes with multiple languages. In most installations, not all of these languages are needed. To remove these languages from your system, go to Tailoring - Database Manager, and open the format file. In the expert search enter the following query: syslanguage not isin {“en”, “de”, “fr”}, where the language codes within the curly braces are the languages you intend to use. Delete the resulting record set. Repeat the same steps for the scmessage table. To find the proper language codes for your languages, go to Database Manager and open the language table. There you can search for your language and look up the language code (eg. de is the language code for German)

P4 specific tasks

- Run a weekly LFSCAN to check logical integrity of files

  LFSCAN can be run against backup data once a week. If there are any errors, send the lfscan output to support so they can instruct you on how to fix the problem. Running the LFSCAN against a backup validates the backup as well.

- Check physical P4 file size

  Check physical file sizes of scdb.* files in the data directory. The maximum file size is 2GB. If the file size is getting close to this limit consider:

  - Purging/archiving data and then running an lfmap to reclaim the space
  - Moving logical files (dbdicts) to other pools
  - **Note**: If you have your data mapped to an RDBMS, there is no P4 file size limit.

- Run LFMAP occasionally

  Run LFMAP – whenever indicated by the LFSCAN or after purging large amounts of data or after moving data to different files.

Quarterly tasks

- Review calendar records

  Review and regenerate calendar records for approaching periods

For more information

Please visit the HP Software support Web site at:

www.hp.com/go/hpsoftwaresupport

This Web site provides contact information and details about the products, services, and support that HP Software offers.

HP Software online software support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued customer, you can benefit by being able to:

- Search for knowledge documents of interest
- Submit and track progress on support cases
- Submit enhancement requests online
- Download software patches
- Manage a support contract
- Look up HP support contacts
- Review information about available services
- Enter discussions with other software customers
- Research and register for software training

Note: Most of the support areas require that you register as an HP Passport user and sign in. Many also require an active support contract.

To find more information about support access levels, go to the following URL:

www.hp.com/go/hpsoftwaresupport/new_access_levels

To register for an HP Passport ID, go to the following URL:

www.hp.com/go/hpsoftwaresupport/passport-registration

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