
Hansoft System Administrator's Guide

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About This Manual

This is the Hansoft System Administrator's Guide. This guide contains information for Hansoft Project Manager.

This guide is intended for people responsible for installing, configuring, and maintaining Hansoft Project Servers and Clients.

The server is mainly administered with Hansoft Project Manager Server Administration tool installed with the server installer. Some tasks are performed from the command line.

Feedback

Does this manual sufficiently explain the topic of administering Hansoft? Do you miss a administrative feature? Please let us know what you think through support@hansoft.se.

Chapter 1 Installing and Upgrading

This chapter describes how to install and upgrade the server and client parts of Hansoft as well as what to consider before upgrading.

Getting Hansoft

Hansoft requires a Server component as well as a Client. The server can be downloaded from the Hansoft website:

<http://www.hansoft.se/download-server>

The client can be downloaded from the main page of the website:

<http://www.hansoft.se>

Go to the website and save the server and client to disk.

Installing the server

To install Hansoft Project Server on Windows, download the server from the website. Run the installation and when asked, install the program where you want the database files to be located. You can later move the database, backup, and transaction log location. The default location is however under the server program directory.

During the installation a guide will be run to let you configure your administrator password and create a database. Two different administrator passwords will be asked for. One is to connect to the server and perform administrative tasks such as backup and restore. The other password is for the database that is created. This will let you log in with the client and perform administrative tasks such as reset forgotten passwords or set permissions on managed files that have been incorrectly set to exclude the wrong users (allowing only the administrator to set the permissions).

If this is the first time you have installed the server make sure to read *Chapter 2: Logs and Email Notifications: Configuring email notifications*

Stopping the service

Stopping the Windows service should if possible be avoided. To stop the server you should run:

```
HPMServer -StopService
```

This makes sure that all backups are finished before the service is stopped. If the service is stopped directly from the service manager Windows will kill the process after some time, if the backup has not finished by that time data might be lost. This also applies to restarting the machine. Before a restart this command should be run. You can access this command from Program Menu in Hansoft\Project Manager Server\Gracefully Stop Hansoft Project Server Service.

System Requirements

The server will run on Microsoft Windows XP or later. No other components such as an SQL database are required.

Minimum requirements

Component	Requirement
Computer and processor	1 GHz processor or higher
Memory	256 MB of RAM or higher
Operating system	Windows XP or later
Free hard disc space	200 MB
Display	1024x768 or higher on computer running Hansoft Project Manager Server Administrator.
Other	For e-mail notifications access to a SMTP server without SSL requirement in necessary.
Network	1 Mbit/s connection for hosting client access.

Recommended

Component	General	2-50 users	50 to 100 users	100 to 500 users*
Computer and processor	AMD Opteron or Intel Core based system architecture.	Dual Core 2.0 GHz or faster.	Dual Core 2.6 GHz or faster.	Quad Cores 3.0 GHz or faster. If several data bases are going to be hosted from the same server more cores can be beneficial.
Memory		4 GB	6 GB	8 GB
Operating system	Windows server 2008 or later	64 bit operating system	64 bit operating system	64 bit non-virtualized operating system.
Free hard disc space		20 GB	40 GB	100 GB
Hard disc performace			10K RPM	15K RPM raid for fast random access times.
Network		Connection with 8 Mbit/s or higher upload bandwidth.	Connection with 20 Mbit/s or higher upload bandwidth.	Connection with 100 Mbit/s or higher upload bandwidth.

* For team size more than 500 users, please contact: support@hansoft.se.

Setting the initial license

Your initial license will be delivered by email. To set your initial license, refer to *Chapter 2: Licenses: Setting the license manually*

Upgrading

When upgrading an already installed server older than version 4.0, make sure to always backup before you start the installation. When the old server is newer than 4.0 the installation process will automatically perform a backup of the project database (not project history and document management). Once you have a backup or your current version is newer than 4.0, simply run the installer and install to the same location you have the old server installed. Check the server log for problems after the installation has finished (see *Chapter 2: Logs and Email Notifications*).

Moving a database

You may want to move databases between servers, or maybe move a database from a project manager trial server installation. To do this, locate where the original server was installed and copy the directory for the database you want to move. Before copying it's best to install the same version of the server that you are going to install on the new machine to minimize the risk of incompatibilities. Also make sure to stop the Hansoft Project Server service before you copy the database to make sure you get a consistent copy. The default location for the databases would be:

```
C:\Program Files\Hansoft\Project Manager Server\Databases\
```

Once you have the database copied, install a server on the new machine (if you don't have a server installed). When the configuration guide starts you may either run through it, or skip it and configure everything manually. If you run through the configuration guide let it create a dummy database that can later be deleted.

Now put the copied database directory either under the Databases directory in the directory where you installed the server, or in a place of your choosing (see *Chapter 2: Database Storage: Choosing where to put the different database files*).

When you have the database files where you want them, start Hansoft Project Server Administrator from the shortcut in the start menu and connect to the server (see *Chapter 3: Hansoft Project Server Administrator*).

If this is a newly installed server, start by changing the license to the license supplied by email.

Now press "Import Existing Database". Supply the name that will be presented to the user when logging in to a server.

Supply the location of your database and transaction log files. If you placed the database files under the Databases folder of the installation and named the database to the same name as the folder the files will already point to the correct location. When you press the OK button the server will try to load the database and tell you if something failed.

When you have imported the database you must set the state to "Online" before any users can connect to it.

If you created a dummy database in the Initial Setup Guide you should now remove it by selecting it

and then press “Remove Database”.

Installing more than one server on the same machine

You might want to run two servers on the same machine. To do this, copy the following files and folders from the main installation to a new directory.

Folders:

ServerSync
DebugHelp

Files:

HPMServer.com
HPMServer.exe
HPMServer_x64.exe
HPMServer_x86.exe

Stop the main Hansoft Project Server service to free up the default port to the new server. From the command line, run the following commands in the folder of the new directory:

```
HPMServer -AddService HansoftSecondary  
HPMServer -StartService HansoftSecondary
```

You can change “HansoftSecondary” to anything you want. This will be the name of the service when using tools such as “net start” and “net stop”. Make sure to not have any spaces in the name.

Connect to the new server with Hansoft Project Server Administrator (see *Chapter 3: Hansoft Project Server Administrator*). The password for the administrator account will be the default password of “hpmadm”. After you have logged in, change the password to something other than the default password.

Now change the port by clicking “Change listen port” in the Settings column in the right field of the application. You need to change the port to be able to run both servers on the same machine. Make sure the port is different from the port of your other server. The secondary server need an own separate license.

Now you can start the main Hansoft Project Server service again. You should now be able to connect to both servers by changing the port when connecting with the Client and Administrator applications. If something isn't working check the logs of the respective servers.

When you want to upgrade servers that are older than version 4.0, just upgrade the main server, stop the secondary service and copy the files above again to the secondary server directory and restart the secondary service. If the old servers are version 4.0 or newer you can simply run the installer multiple times and point the installer to the directories where you have the servers installed.

Hansoft Project Manager Client

To install Hansoft Project Manager Client on Windows download the client from the website and install it.

The user running the client does not require administration rights to run the program. The client requires the right to write to the registry to “HKCU\Software\Hansoft” and must be able to write to

either the directory where it's installed, or to the users profile in the “Application Data\HPMClient.exe” directory. For more information see *User deployment*.

System Requirements

The client runs on Microsoft XP or later. This includes Windows XP and Terminal Servers such as Citrix.

Component	Requirement	Recommended
Computer and processor	400 MHz processor or higher	2 GHz or higher dual core processor
Memory	256 MB of RAM or higher	2 GB of RAM or higher
Operating system	Windows XP or later. Also runs under Wine on Linux and Mac OSX.	Windows 7
Free hard disc space	200 MB of space is required to install the client, but more space will be consumed by automatic updated and local copies of managed documents.	10 GB free space for managed documents.
Display	1024x768	1600x1200 or higher
Network	48 Kbit/s or faster TCP-IP enabled connection to the Hansoft server.	2 Mbit/s or faster TCP-IP enabled connection to the Hansoft server.

User deployment

The Hansoft Project Manager Client has the ability to automatically update itself from the server. This eliminates the need to deploy the clients to users when the server is upgraded. If you do not desire this method of updating there are some other ways of managing deployment.

The client supports running several users from the same directory over the network with or without ability to auto update.

When the client connects to the server it will check for access rights in the installation directory by trying to write to the file “WriteRightsCheck”. If it's unable to write to this file it will try the same thing in the “Application Data\HPMClient.exe” folder of the users profile. If this also fails the user will be presented with an error message and the application will not be able to continue. The first directory the client is able to write to will be the directory where updated program files are put.

To disable all auto updates from the server set all access rights in the installation directory to read only for the users. Then create the files “WriteRightsCheck” and “SyncLock” and set the access rights of these files to read and write. This will allow the client to choose the installation directory as the directory for program updates, but will not allow the client to update the files. If the server is updated you will need to manually update the installation directory. The simplest way to do this is to connect to the server with an administrator user that has write rights to the installation directory and allow the files to be updated.

<i>Scenario</i>	<i>Security</i>	<i>Maintainability</i>
Scenario 1. User has write rights to individual install directory. This is the default scenario.	Fairly high.	Easy.
Scenario 2. Every user has write rights to a shared install directory (on network).	Low. This could allow a virus to spread to the installation directory.	Very easy.
Scenario 3. Every user has read rights to shared installation directory.	Fairly high.	Easy.
Scenario 4. Every user has read rights to shared installation directory and auto update is disabled.	High.	Fairly easy.
Scenario 5. User has read rights to individual install directory and auto update is disabled.	High.	Depending on existing infrastructure.

Scenario 1

This is the default scenario if the end user installs the client with the installer. The client auto updates to the version on the server after asking the user for permission to do so.

Scenario 2

This is a less than optimal (security wise) solution where all users have access to a shared installation directory on the network. All users can access the directory and the first user to connect to an updated server will update the installation.

Scenario 3

In this scenario the user has read only access to a shared installation on the network. When the user connects the client will automatically update to the latest version of the client-dll from the server, but will not automatically update the client executable file. This makes initial deployment of the client easier, but the client executable will not be updated until the user restarts the client. Often this is not a problem, because the client executable is most often compatible between different versions, because the version specific code of the client is located in a dll that can be updated in this scenario.

Scenario 4

In this scenario the user has read only access to a shared installation on the network. Auto update is disabled as described above. A client will not be able to automatically update the program files and the administrator should update the installation as described in scenario 3. This scenario makes initial deployment of the client easy and is more secure than scenario 3 because the user doesn't have write access to executable files that could spread a virus.

Scenario 5

This scenario is the same as scenario 4 except the installation is placed on the users local drive. This allows secure and controlled updates of remote installations that don't have access to a shared network and connect to the server over VPN or directly over the Internet. The client does not need to write to any system files or the registry when installed, therefore you can simply copy an updated installation to the client's hard drive, create a msi file of the installation directory with the configuration you want on the remote system, or use any other way of getting the installation directory with the correct rights to the users hard drive.

Document management local storage

When the user wants to read or edit a document in document management the document must reside on the users hard drive.

The default location of the local storage for document management is in the users "My Documents" folder. This location can be changed by the user and is saved in the users registry (HKCU\Software\Hansoft).

When users are going to be offline and unable to contact the server and still want to be able to read documents they can copy the documents to the local storage. Also if they are going to edit documents they can check them out before going offline.

Hansoft will never delete files that are in the document management system from the local storage so it might grow large with time. It's safe to delete these files as long as none of them are checked out. Check from the users client if it has any files are checked out before deleting this folder.

Chapter 2 **Administrative Tasks**

This chapter contains descriptions of common administrative tasks you might perform during the operation of Hansoft Project Server and Manager. When “Server Administrator” is mentioned it's short for Hansoft Project Server Administrator.

Hansoft Project Server Administrator

The Hansoft Project Server Administrator is used to remotely administer the project server. The program is installed with the server installation and is optionally installed with the client installation.

To start the Server Administrator use the shortcut created in the start menu, or call

```
HPMClient.exe -AdminServer
```

from the command line. The program will ask you to fill in the address of the server you want to connect to. This address is the ip-address of the server or a name resolvable to the the server ip-address. If you are running the Server Administrator on the same machine as the server you can use “localhost” as the address.

The administrator password that you are asked to supply is the password you supplied during installation of the server. If you skipped the initial setup guide the default password is “hpmadm”. You should change the default password as quickly as possible if you didn't supply a password during setup.

Remote Access

There are a number of ways to allow users to use Hansoft remotely from home or outside of your local network. The easiest way is to allow users to connect to the server directly over the Internet.

All communication after the syncing process is finished is handled with 256-bit AES encryption with a key created from the users password. To allow users to connect to the server over the Internet you need to forward the server port to the Hansoft Project Server machine. The default port is 50256 and can be configured in the Server Administrator.

If you want more secure communication you could let the user connect over a VPN connection.

It's also possible to run the Hansoft Client in a Terminal Server environment. Performance will not be optimal and it's recommended to allow users to connect directly to the server instead.

Database Files

The Hansoft Project Server stores a number of files in a virtual file system that makes up the main database file. Transactions to the project database are stored in a transaction log. For more detailed information about how this affects backup see *Chapter 3*.

The Hansoft Project Server stores the whole project database in memory. The size of this data seldom exceeds 10 MiB of memory. When the transaction log is reset this memory database is dumped to the main database file.

Document management and project history data are stored as virtual files in the main database file and are not stored in memory like the project database. There is no transaction log for document management actions. Actions, however, are atomic and will complete fully or not at all. MD5 checksums are stored for every version of a file in the meta data.

Choosing where to put the different database files

The data is safest if the database file, transaction log and the backup files are all put on separate physical discs. The backup directory can be put on a networked directory, but the main database and transaction log should be located on local discs to minimize the risk for corrupted data.

Logs and Notifications

The Hansoft Project Server supports reporting events to log files and via email based on their severity. The log files can be found under the “Logs” directory of your server installation.

Configuring notifications

You configure the amount of logging you want with the Server Administrator by clicking the “Change logging options” button under the “Settings” heading. By default all events are logged to the log file while critical errors and important messages are sent by email as well.

Before you can receive any emails, you need to setup the email settings by clicking the “Change email options” button. The only way the Project Server is able to send emails is by connecting to a SMTP server.

Licenses

Hansoft is licensed by the number of resources that can be created on a server. If you have several databases on the same server they share the same license. Resource licenses can be freely moved between databases by deleting users in one database and creating them in another. A license can also include a number of modules enabling features such as time reporting.

License delivery

Licenses are delivered either directly to the server by a TCP connection or by email, and with a agreed upon periodicity. A 15 day grace period is added to the expiry date to account for connection and communication disruptions. To make the delivery as smooth as possible it's recommended that the server is allowed to connect to our license server. To do so it needs to be able to connect to ls.hansoft.se on TCP port 50129. If you prefer your licenses by email you can turn off the license

server connection feature in the Administrator by clicking “Change license options” under the “Settings” heading and unchecking “Connect to license server to retrieve new licenses”.

Setting the license manually

The license can be set either with the Server Administrator or with the Project Manager Client. To change the license with the Server Administrator click “Upgrade/change license” under the “License” heading. Simply copy/paste the license data from the email you received.

If you do not want the project managers to be able to change the license with the Project Manager Client you can change their permissions by clicking the database in the Server Administrator and pressing “Change Settings” and unchecking “Allow project managers in this database to change the server license”.

Crash Reports

Whenever an unrecoverable error occurs in the client or server a crash dump is automatically generated. If this happens you should send the crash dump to by email to support@hansoft.se so we can analyze and fix any potential bugs. On request we can also provide a FTP for you to upload to.

Chapter 3 Backup and Recovery

The Hansoft server has built in support for scheduled backups as well as means to allow direct backup of the database files.

Built in backups can be scheduled in the Server Administrator Client by selecting a database and pressing “Backup settings”. It is recommended that you enable automatic backups and minimally let the project database be backed up once a day. This will allow you to easily recover from accidental deletes and changes of project data. The default setting when a database is created or the server is installed is to backup using this method. You will need to either change the automatic backup setting or complement with another backup method to have full backup of the document management storage as well.

Scheduled backup tasks

There are five different options when creating a scheduled backup task; “*No backup, only integrity checking*”, “*Only reset transaction log (cannot be recovered)*”, “*Full projects database*”, “*Full projects database and document management files*” & “*Full projects database and incremental document management files*”.

No backup, only integrity checking

The purpose of this option is to check that the database is in a good shape. If the integrity check fails, an email is sent (if the server is configured to do that) to the server administrator.

The default option for a new database is to do a backup once per day. This backup setup does not perform an integrity check of the database after the backup has been done. The reason for this is to minimize the interruption that a backup execution can cause to the people that at the same time are logged in to the database. The scheduled backups can therefore be complemented with a task that only performs the integrity check.

It is possible though as an option to any scheduled backup task to do an integrity check upon completion.

Only reset transaction log (cannot be recovered)

Every time the server is restarted or the database is put online from a previous offline state, the server has to go through the transaction log. If database backs are performed seldom, the transaction log will be fairly large and make the server startup time longer. This option resets the transaction log without performing a backup.

Full projects database

With this option, the complete projects database will be backed up **without document management**. It is recommended to do this kind of backup every day and every new database is configured to do this by default (the task named “Default Automatic Backup”).

Full projects database and document management files

With this option, all files in the database and the transaction log will be backed up every time. This is the only option that provides a **complete** backup. Note though that if many files are added to the document management, this can quickly fill up the available space in the backup location directory if backups are performed every day.

Full projects database and incremental document management files

With this option, only the complete project database, transaction log, the **added and the changed** files (since the previous backup) from the document management storage is saved to the backup. This backup type typically provides safe backups while keeping the size of the backups to a minimum.

Performing a manual backup

To manually generate a backup select a database in the Server Administrator and press “Backup Now”. Select the type of backup you want to perform and press OK to start the backup. Check the log file for any errors.

Live backup of database files

To make a backup of the database files directly you need to pause the server service to disable writes to the database file while the backup is running. When the service is paused clients will be able to use the project management functions without interruption while the document management operations will wait for the service to be continued before they finish. You could for example pause and continue the service as part of your backup scripts. The following commands would run from the command line would pause and continue the service.

```
net pause hpserver
net continue hpserver
```

While the service is paused backup the database and transaction log file by default found directly in the installation directory under “Databases\Company Projects”.

Shadow volume copy

If the database is fairly large (most likely due to a larger portion of document management), a shadow volume copy is recommended as an external alternative. The advantage of using shadow volume copy is that the downtime is much shorter since the server service can be continued again since the backup copy is now being made from the shadow copy of the harddrive.

Recovery

Make sure to make a copy any corrupt files before starting recovery. The files may be instrumental to recover data later. If you need to recover files from corrupt document management storage without having a backup available contact support@hansoft.se for assistance or access to tools for doing this.

Recovering from automatic backups

If you are using scheduled backup tasks, you can recover from them with the help of the Server Administrator client.

Select the database you want to recover and take it offline by pressing “Online/Offline State”. When the database is offline, press “Restore”. You can either provide the path manually to the backup directory or select a backup found in the backup directory in the “Found backups” drop down.

Make sure that the directory is in the context of the server running the service if you provide it manually. You can select what you want to restore from the backup. If you only restore the project database the current document management storage will be left in its current state. This can be important because often you might only want to restore the project database to recover from an accidental deletion or change.

Recovering from live backup

To recover from a live backup, simply stop the service and copy the database and transaction log to the database directory. If you only want to recover the project database or only the document management portion of the backup, copy the database and transaction log to the same directory and provide that directory manually to the “Restore From Backup“ dialog as described above in *Recovering from automatic backups*.