

PCSYS A/S

PM5 Mobile installation guide

Version 1.3.3

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Technical description of PM5 Mobile application

Main components

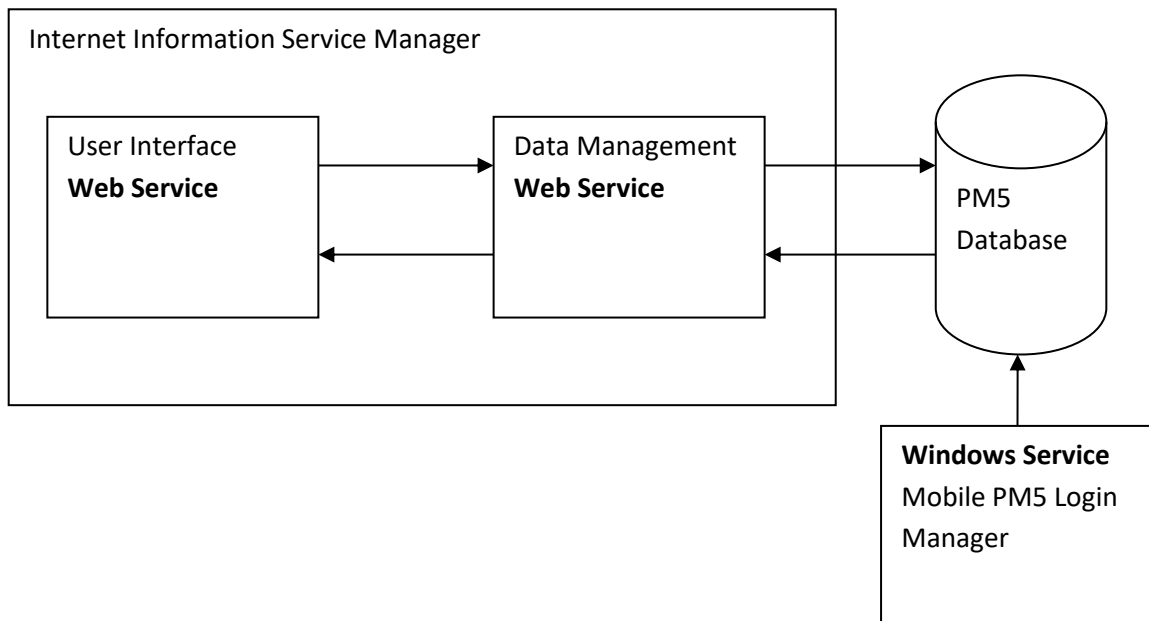
PM5 Mobile consists of three main components:

- Web service providing user interface shown through web browser.
- Web service providing communication between user interface and PM5 database.
- Windows Service providing auxiliary functionality for timeout and reset of logins to PM5 through mobile client.

User interface web service and database communication web service are set up on an Internet Information Service Manager, more commonly known as IIS.

Web service handling communication between user interface and PM5 database needs to be able to access PM5 database.

Furthermore a windows service managing logins onto PM5 through mobile interface is to be installed on same machine on which IIS running the two web services is residing.



Security

Internal security of PM5 Mobile is based on assignment of unique ID tokens ID for each individual PM5 login session made through mobile user interface. This token is used as session identifier in all following communication. If an unknown token or a token that has timed out is being used as parameter, session is immediately terminated and user is requested to login once more.

Additional security can be added to the system on need basis. For example, communication between mobile terminals and web service could be encrypted with help of SSL.

Technical specification for PM5 Mobile Application

Server side

- Windows Server of version capable of running Internet Information Service 7 or higher. Recommended by PM5 is at least Windows Server 2008R2.
- Internet Information Service 7 or higher.
- Microsoft .NET 4.5 installed.
- Microsoft ASP 4.5 installed and registered with Internet Information Service – please, ensure especially that this component is installed prior to installation of PM5 Mobile.
- Access to SQL Server hosting PM5 database, either locally or through the network.
- Windows Service managing PM5 Mobile logins, needs to have network access to SQL Server hosting PM5 database.
- To be able to use barcode scanning functionality you need a certificate for the website running PM5 Mobile application. For barcode scanning to be available, communication between PM5 client and server needs to use https protocol.

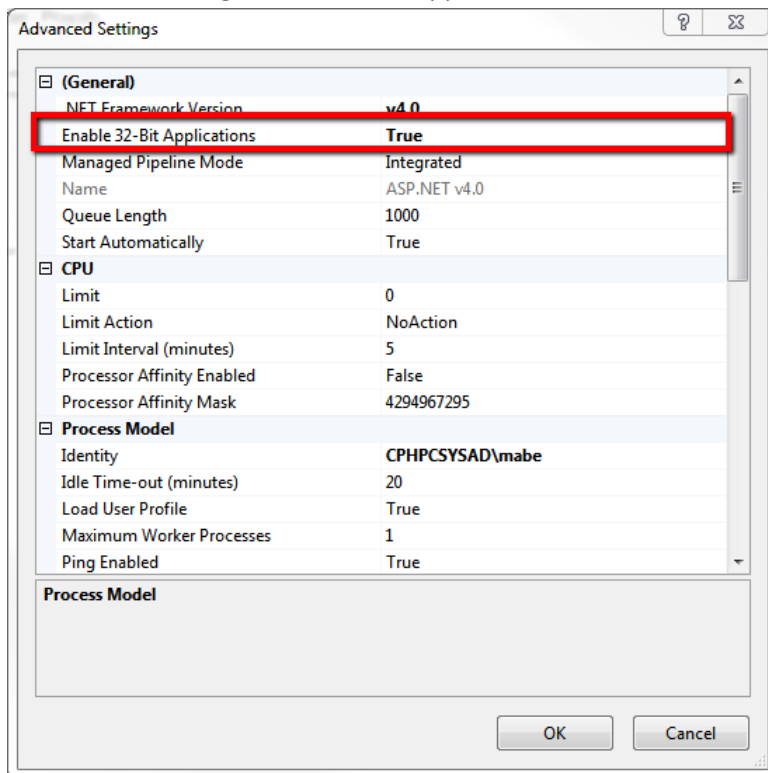
Client side

- Internet access. Mobile units need to have wireless access through either Wi-Fi, G3/4 or equivalent.
- Web browser of latest generation. PM5 Mobile uses technologies that can only be handled by web browsers of latest generations. Recommended web browser list is as follows:
 - For Windows / Windows Mobile - Microsoft Explorer 11 or later. Mozilla Firefox (version 30 or later) or Google Chrome (version 35 or later) are recommended.
 - For Android-based units - Android 4.2 and Google Chrome (version 35 or later).
 - For iOS-based units - iOS5 and Safari 7.
- To be able to use barcode scanning functionality, the web browser needs to be able to handle HTML5 requests for access to mobile camera on mobile device where PM5 Mobile client is running.

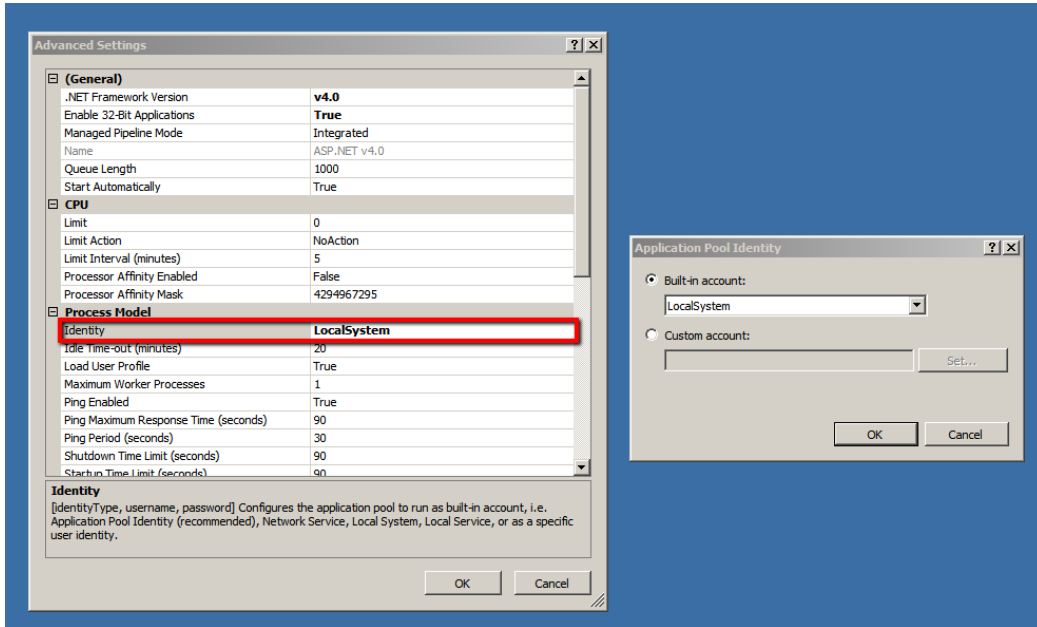
Installation instructions

1. If Microsoft .NET4.5 is not previously installed, download and install it on server where Internet Information System is residing.
2. If Microsoft ASP4.5 is not previously installed, add it to your operating system from Windows Features list.
3. Create new directory that will be location for PM5 Mobile application. From here on, it will be referred to as *PM5MobileDirectory*.
4. Extract PM5 Mobile installation package in a temporary directory.
5. Once step 4 is finished, find directory called MobilePM5. Copy and paste **content** of this directory into your destination directory for PM5, created in step 3.
6. In Internet Information Service create new Application Pool.
.NET Framework version is to be set to 4.0.XXXXXX. (last digits can vary).
Managed Pipeline Mode is to be set to Integrated.

In Advanced Settings for the application pool/s used by the two web sites created above ensure that setting 'Enable 32-Bit Applications' is set to 'True'



- Next change the Identity setting under Process Model section. This setting controls which user is owning this specific application pool. Since PM5 Mobile needs under certain circumstances to have access to local C: drive (to write in a log file located in **PM5Backed** directory), the owning user needs to have authorization to do that. Select either a dedicated user with high enough credentials or built-in account LocalSystem, as shown in picture below.



- In Internet Information Service create new web site with suitable name. In this guide the web site will from now on be referred to as *PM5MobileSite*.
Select directory *PM5MobileDirectory* created in step 3 as web site's content directory.
Select Application Pool as web site's application pool.
- In Internet Information Service, expand site *PM5MobileSite*, so that its directories are visible. Find directory **PM5Backend** and convert it to an application.
- In File Explorer, navigate to directory *PM5MobileDirectory/PM5MobileBackend*. Once there, open file *web.config* for editing. Find the section that starts with tag `<connectionStrings>`. Here's an example of how this section may look like:

```
<connectionStrings>
<add name="PM5MobileConnectionString" connectionString="server=NAME OF SQL SERVER
CONTAINING PM5 DATABASE;database=NAME OF PM5 DATABASE (usually PM5);uid=USER
NAME USED IN CONNECTION BETWEEN CLIENTS AND PM5 DATABASE;password=PASSWORD
USED FOR CONNECTION;" />
</connectionStrings>
```

Edit the relevant sections in the section. You need to enter information about SQL server that contains PM5 database, name of PM5 database and user information for user that is used in communication between clients and database.

Please observe – information that is to be entered in web.config file is exactly the same which is typed in in database section of PM5 client configuration tool.

11. Once the changes done in step 9 are done and saved, restart the IIS.
12. **If a PM5 client is installed on the machine where the web services are running, then this step is to be skipped.**

On a computer where PM5 client is already installed, go to directory C:\ProgramData.

Please observe that this is a protected system directory, hidden by default - you may have to enable showing of hidden files and directories in your file explorer before being able to access it.

Once in C:\ProgramData directory, find directory PCSYS. Copy the entire directory to the C:\ProgramData directory on computer where web services are running.

PM5 Mobile is now installed and ready for use.

13. Finally, the PM5 Login Manager windows service needs to be installed. In installation package find directory PM5Mobile_TokenManager. Copy its content into a dedicated directory on local drive of the computer where the service is to be installed.
14. Go to directory created in step 11 and open file PM5MobileTokenHandler.exe.config for editing. Find the string that looks like the one shown in step 9. Make same changes as you did in step 9 and save.
15. In file PM5MobileTokenHandler.exe.config, you can adjust timeout time for inactive PM5 Mobile logins by changing value in section that looks like the example below. The value to be edited is marked in yellow. It specifies number of minutes after which inactive PM5 Mobile users will be logged out of the system.

Example:

```
<PM5MobileTokenHandler.Properties.Settings>
<setting name="CleanupIntervall" serializeAs="String">
<value>10</value>
</setting>
</PM5MobileTokenHandler.Properties.Settings>
```

In example above, mobile sessions of inactive users will become inactive after ten minutes.

16. PM5MobileTokenHandler.exe needs now to be installed with a dedicated installer.

Open command console with administrator credentials.

Go to directory where your .NET4 is installed and where file InstallUtil.exe is located. On most 64 bit machines the directory will be

C:\Windows\Microsoft.NET\Framework64\v4.0.30319

17. Run command: InstallUtil "*<complete path and filename of PM5MobileTokenHandler.exe>*"

A message notifying user about status of the installation will be shown in command console. Once PM5MobileTokenHandler has been installed, close the command console and open Windows Service management form. Ensure that the service is running. If necessary, change

user owning the PM5MobileTokenHandler to Local System and start the service again.