



Installation of IPD Web Services



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Introduction

This *IPD Web Services Installation Manual* should explain to you in a simple and understandable manner how to install and set up the IPD Web Services so you can use it when working with DELMIA software.

IPD Web Services is a middleware component for the IPD Server. It provides access to the IPD Server for other software components, like Clients or other Servers, which have to synchronize with IPD. IPD web Services is not a standalone product and comes without any user interface except that one for installation and configuration.

The usage of the product only makes sense, if used in scenarios integrated with IPD Server and the clients of IPD Web Services. In such scenarios each software component comes with its own documentation on setup and configuration.

One example of such scenarios is Common Change Management (CCM), in which the LCA Server has to communicate with IPD Server. Therefore it needs IPD Web Services installed on the IPD Server.

How to read the symbols

The signs and symbols used in this manual as well as in all further manuals are nice to look at, nevertheless, they are intended to be a user guide which explains the contents in an easy-to-understand manner. Chapters and chapter sections are marked by headings. The heading font size varies according to the different usages.

The meaning of the symbols will be explained in the following section:



This symbol indicates excerpts of text which describe the functional scope you will learn about in a given chapter. Therefore, you will normally find this sign at the beginning of a chapter or a section. In addition, this sign will mark important passages.



***Note:** This symbol refers to notes which provide further information on a topic that is necessary for continuing work steps. The note symbol can be found at both the beginnings of chapters as well as at certain points in the text within a chapter. The texts introduced by these symbols are additionally marked with the word note. The text itself always appears italics type.*



***Note:** This symbol indicates circumstances which could lead to possible errors in the operation of the program; you should therefore pay close attention to them. The warning symbol can be found at both the beginnings of chapters as well as at certain points in the text within a chapter. The texts introduced by these symbols are additionally marked with the word warning. The text itself always appears italics type.*

Example

This symbol refers to examples which clarify certain topics.



This symbol indicates the individual operating steps in instructions. Operating instructions describe operating steps, for example, how to open a menu or execute a function.



This symbol refers to lists. The symbol for listed subjects can either be used to structure a continuous text or to list main subject keywords.



This symbol indicates that there is further information on this topic available in another manual.

Prerequisites

Manual installation steps required

IPD Web Services comes with an automated installation program based on Install Shield installer. Anyway there are some additional steps to be done manually before and after this installation program is run. For first installation there are some third party software products to be installed. For updating IPD Web Services there has a manual cleanup to be done.

Environment with other web services

IPD Web Services can also be installed along with other DS internal web services, for example SSO web service. Therefore the configuration of a Service Directory will be necessary.

Troubleshooting and error diagnostics

In case of failure of the web services there are ways to investigate for the reasons. Also for the developer team debug flags and trace files are important. It will be explained how to activate traces and where to find the output.

Glossary:

Internal web services	DS software infrastructure for client/server applications that are pure V5 products.
.NET	Multi language featured software development architecture from Microsoft Corporation. Software that is developed within .NET needs the .NET runtime to be installed on the target machine.
J#	A programming language of NET framework IPD web services is based on J# . Therefore J# runtime has to be installed on the target machine of IPD Web Services.
IIS	Microsoft Internet Information Service – the application server from MS Corporation, which is needed for IPD Web Services.
ASP	The software component of IIS, that runs applications (for example IPD Web Services).
Service Directory	Software component within DS web services that coordinate multiple web services installed on different locations.
SSO	Single sign on Software providing the enhancement for users to need to log in only once and be able to use different components of the software without logging in each time. This is based also on web services and used especially in Common Change Management.

New Functions in IPD Web Server Installation

WebServiceVersion

This functionality provides version information of the installed IPD Web Service.

See also [Figure 1: WebServiceVersion information in Event Viewer](#).

General Installation Steps

Installation Directories

Anyway the installation of IPD Web Services installs software to the hard disc and configures the underlying operating system. The most important locations are:

- **wrkspc** ... Directory, which contains the IPD Web Service software. The location of that directory can be chosen during the automated installation software.
- **wrkspc/ logs** ... In that directory there are two important log files: SystemErr.txt for error traces and SystemOut.txt for debug traces.
- **wrkspc/ToolsData** ... This directory contains persistent data, that is necessary for the DS internal web service infrastructure. For example environment variables and list of activated traces is stored inside it.
- **Wkspc**... This directory contains the *WebServiceVersionInfo.txt* file. This read-only file provides Web Service Version information. The Version information can also be seen in an event viewer.

After Web service is invoked, perform the following steps to view version information in event viewer:

- 1) Go to Windows Event Viewer.
- 2) Select **WebServiceVersion**.
- 3) Double click **Information**.

The **Event Properties** dialog box comes which contains the version information.

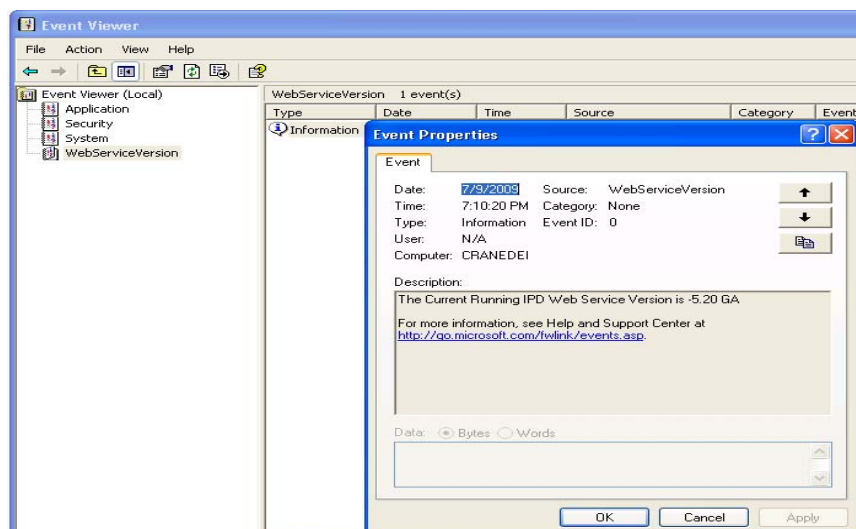


Figure 1: WebServiceVersion information in Event Viewer

- **Virtual directory in IIS** ... IPD Web Services are accessed via HTTP. Therefore the installation routine creates a virtual directory that points to the wrkspc directory.
- **Registered CATJsyTransaction.dll** ... This software component is registered in the COM+ Dll registry of Microsoft Windows.
- **Wkspc**...This directory contains the *WebServiceVersionInfo.txt* file. This read-only file provides Web Service Version information. The Version information can also be seen in an event viewer.

Installation steps

For installing IPD Web Services there is an automated installation program based on Installshield software. The usage of this program is described in **'Main installation'**.

Before you start with 'Main installation' you have to check, whether it's the first time the software will be installed or it's an update. In case of first installation start with the chapter **'First installation'**. In the latter case start with **'Update'**. If you are not sure about, begin with 'First Installation' and continue with 'Update' and then do the 'main installation'.

In all cases you have to check the DCOM configuration of Microsoft Windows. More information you will find in the chapter **'DCOM configuration'**.

All the actions mentioned above are mandatory for a working IPD Web Services environment. In special scenarios you will have to follow the instructions in chapter **'Environments with multiple web services'**. If there are clients, that use other V5 internal web services beside IPD Web Services (like SSO for example), a special set up of the so-called Service Directory must be done.

First installation (prerequisites)

Installation of IIS (Internet Information Server) incl. FPSE (FrontPage server extensions on Windows 2000). You may need the Windows 2000 or 2003 Media to perform the following steps.

- Click Start -> Settings -> Control Panel -> Add/Remove Programs -> Add/Remove Windows Components.

On Windows 2000 Server:

- Check 'Internet Information Services (IIS)'

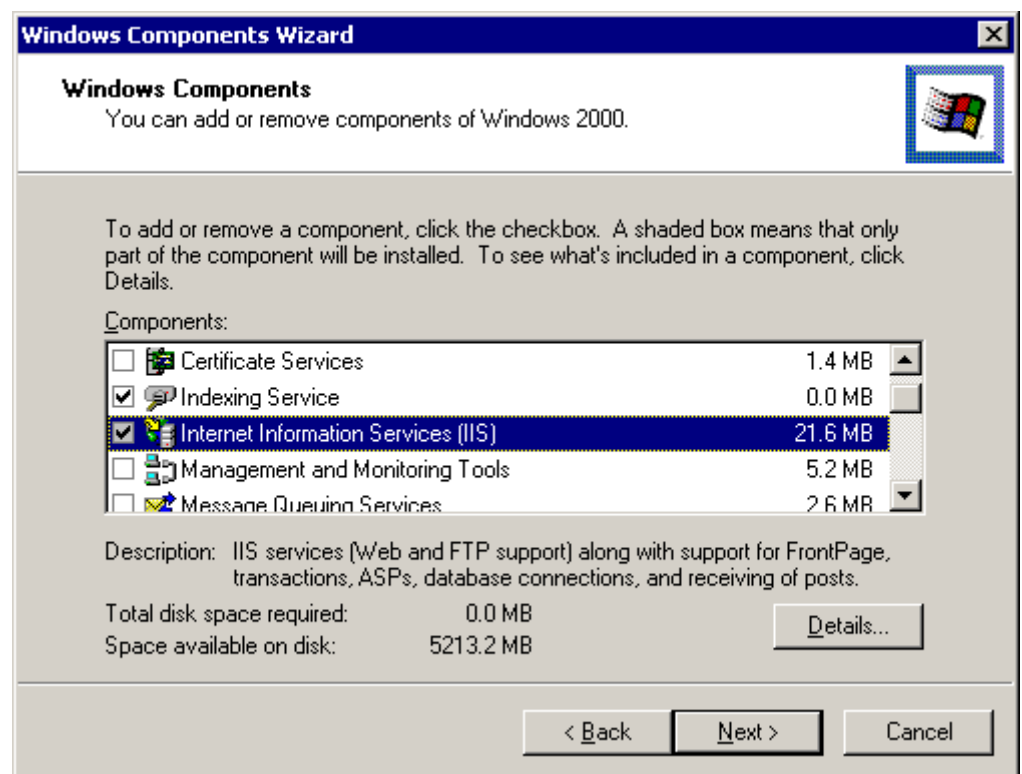


Figure 2: Windows Components Wizard

- Click for details and assure, that the following check boxes are selected

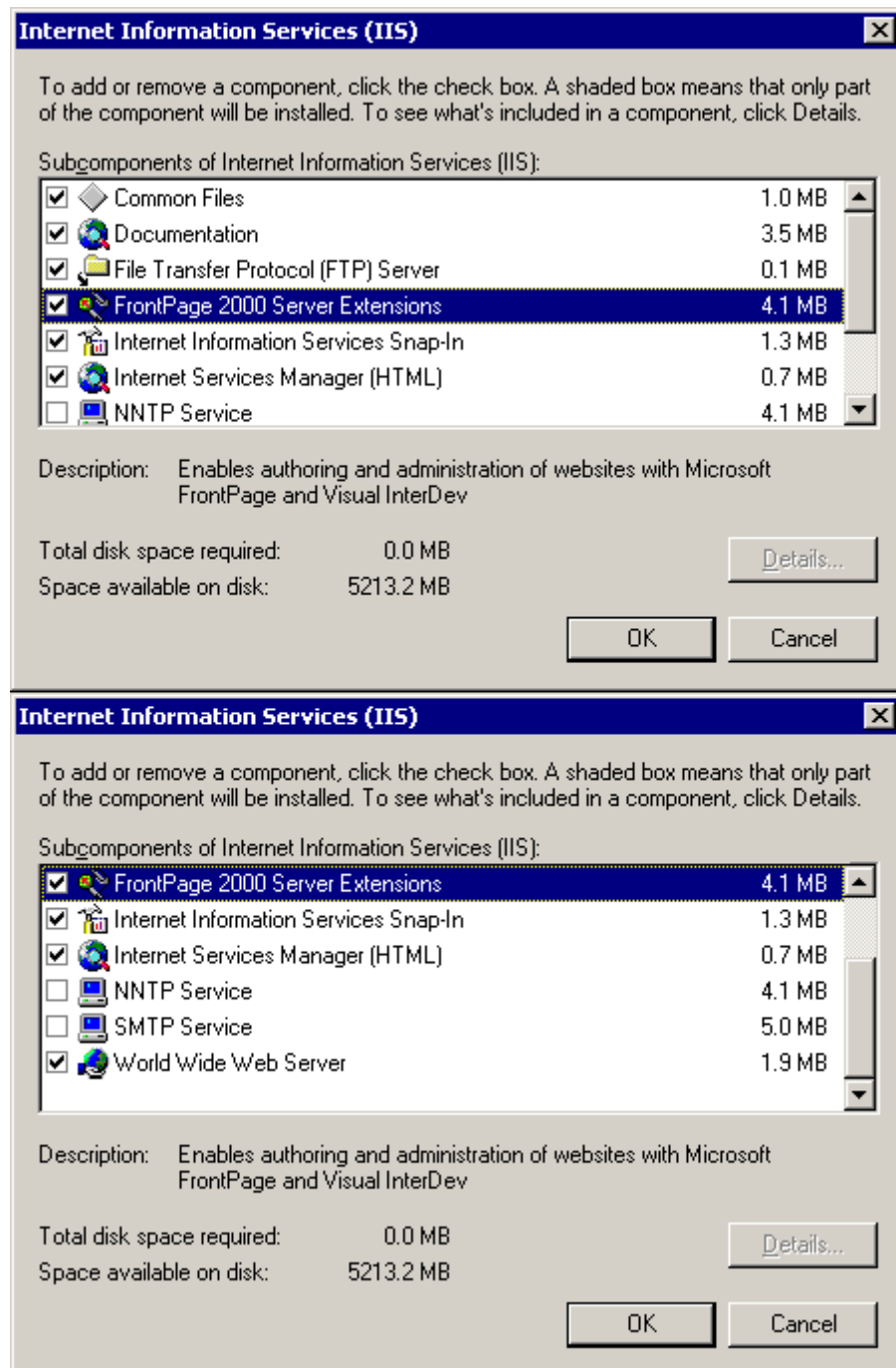


Figure 3: Internet Information Services (IIS)

- Click **OK**, **Next** and complete the IIS installation

On Windows 2003 Server:

- Check Application Server.

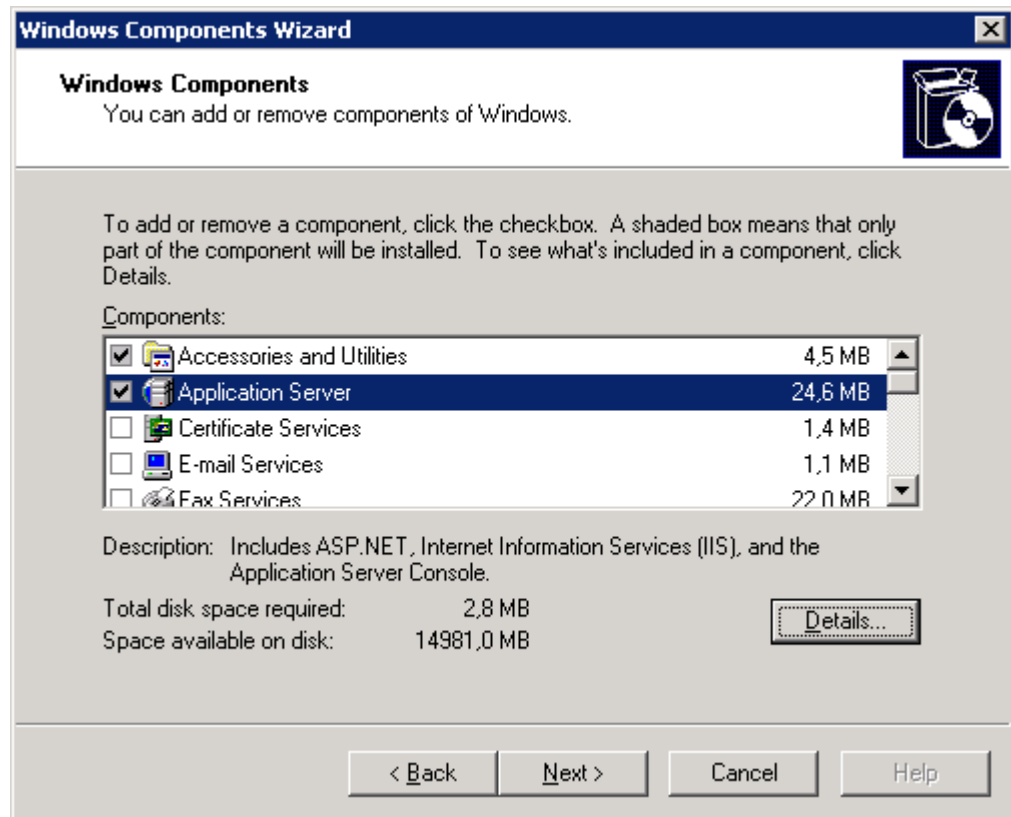


Figure 4: Application Server

- Click "Details" and assure that the following check boxes are selected.

- Click **OK**, 'Next' and complete the IIS installation.

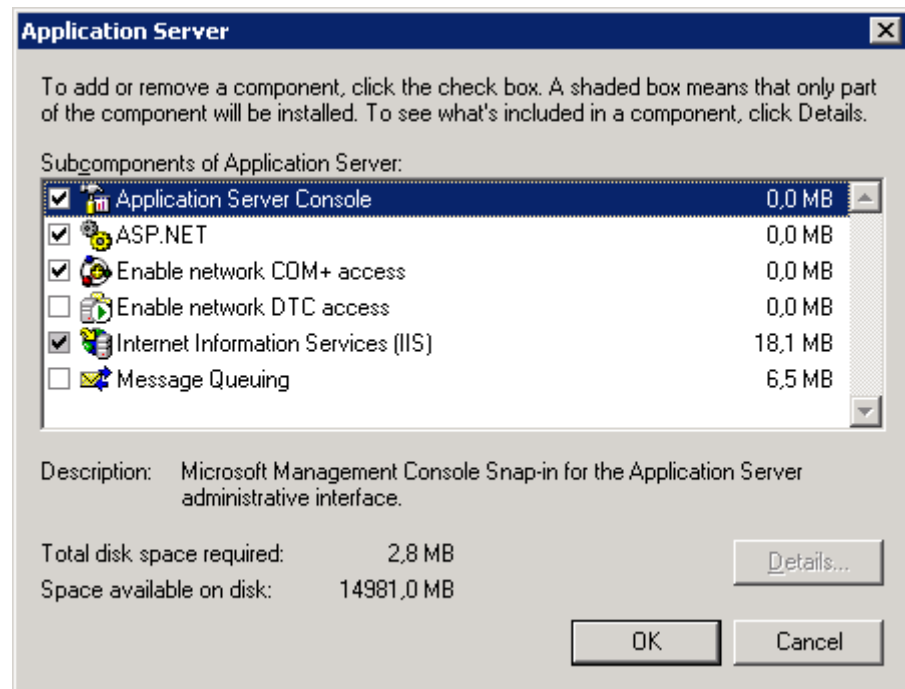


Figure 5: Application Server Console

- Continue with chapter 'Main installation'

Update an existing installation

If IPD Web Services have already been installed on the machine you have to remove the previous installation before in the following way. This approach could differ dependent on the OS language:

- Restart IIS.
- You can do this via the batch file 00_iisrestart.bat in the IPD Web Service installation folder or with the Internet Services Manager.
- Delete the workspace of the old installation.
The workspace directory of IPD Web Services have to be deleted. It's the directory which is referred by the virtual directory in IIS (see next step).
- Remove the virtual directory in IIS.

On Windows 2000 Server:

- Start->Programs->Administrative tools->Internet Services Manager Expand to 'Default Web Site' Delete the existing web project 'IPDWebService'

On Windows 2003

- Start->Control Panel->Administrative Tools->Internet Information Services Expand to 'Default Web Site' Delete the existing web project 'IPDWebService'

Unregister the transaction DLL.

- On Windows 2000 Server:Start->Programs->Administrative tools->Component services Expand to 'Component services->'Computers->My Computer->COM+ Applications Delete the existing 'PPR Components' entry.
- On Windows 2003:Start->Control Panel->Administrative Tools->Component Services Expand to Computers->My Computer->COM+ Applications Delete the existing 'PPR Components' entry.
- Continue with chapter 'Main installation'

Main installation

The main installation consists of an automated part that is done by an installation program on the media and of a manual part. Additional steps may be required for granting access permissions to the local ASPNET user which is created during the .NET installation.

Automated part of installation

Execute setup.exe and follow the instructions of the installation software.

During the installation procedure the installer may ask you to confirm the installation of two prerequisite products:

- **Microsoft .NET 1.1** Redistributable Package
- **Microsoft J# Runtime** Redistributable Package



Note:

In release R16 or later there is no need any more to specify a host name during the setup process as compared to R15.

IPD Web Services will not work with Microsoft .NET 2.0; make sure this is not installed on the machine.

Manual part of installation

After the automated installation procedure the following Software updates have to be installed manually:

On Windows 2000 Server operating system:

- Microsoft .NET Framework 1.1 Service Pack 1
- Hot Fix KB899181

On Windows 2003 Server operating system:

- Microsoft .NET Framework 1.1 Service Pack 1 for Windows Server 2003
- Hot Fix KB899181 for Windows Server 2003



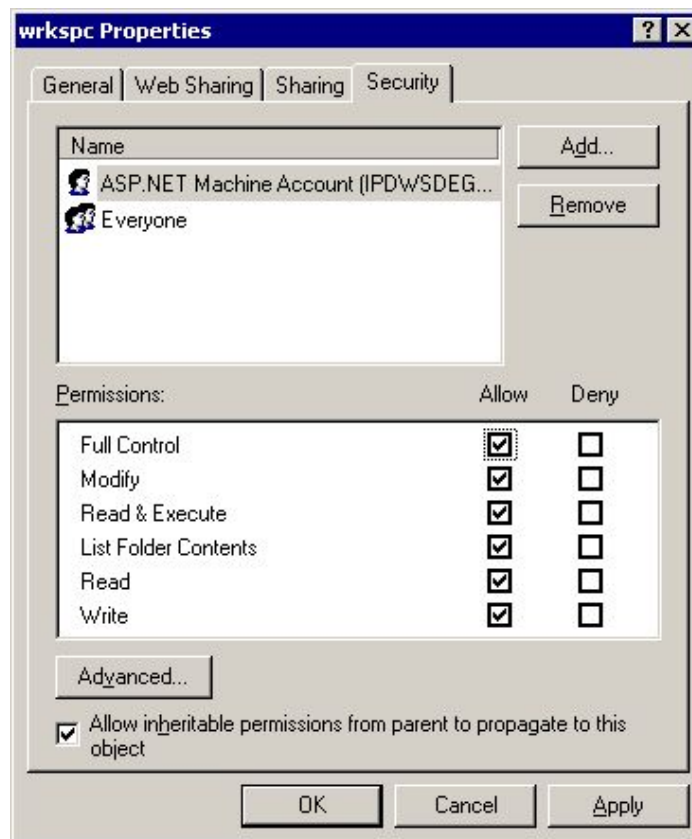
Note:

Important notice: These products are not delivered with the IPD Web Service media. Service Pack 1 for .NET 1.1 can be downloaded from Microsoft support site. Hot Fix KB899181 cannot be downloaded directly. It is related to another Hot Fix, which is mentioned in article 893360 on Microsoft support site. Please follow the instructions in that article to obtain the Hot Fix from Microsoft. You will get then KB899181, which solves the issue explained in the article as well as a freeze of the aspnet.exe process when IPD Web Service are being installed.

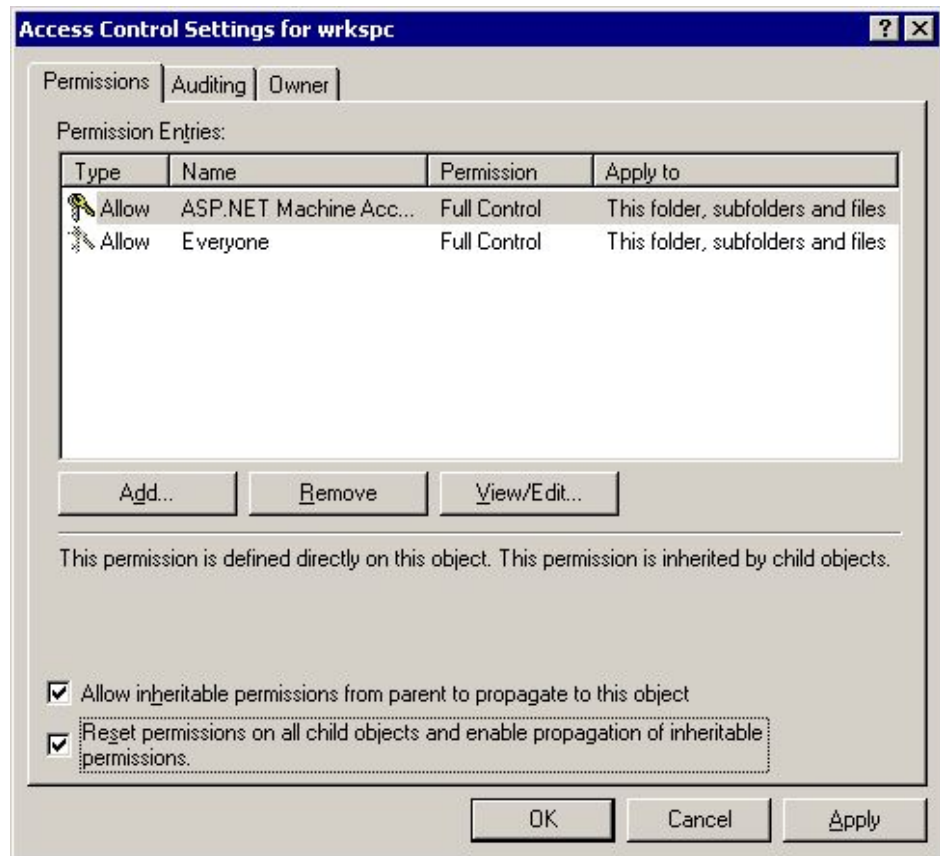
Permissions

You have to make sure the local user ASPNET has full access to the IPD Web Service installation directory and all its subdirectories. This can be done by following these steps:

1. Navigate to the directory where IPD Web Services are installed. It is the directory, which was specified during the automated installation process.
2. For subdirectory 'wrkspc' open the properties.
3. On the upcoming dialog box switch to the security tab page.
4. Click the Add button.
5. Add the machine user 'ASPNET' and confirm with OK. Make sure, that you really add the machine user and not the domain user.
6. Give this user full control, as shown in the following screenshot



- Also give the user access to all subdirectories by clicking on the Advanced button and selecting the lower check box on the upcoming dialog boxes.



- Close all dialog boxes by clicking the OK button.

In addition the local ASPNET user must have "Read & Execute" permission for the complete PPR Server installation directory (e.g. ...\\Delmia\\PPRServer); the same requirement accounts for the PPR Client directory if a DPE Client is installed on this machine. This is necessary because the ASPNET user needs to launch/access certain IPD server processes (DPE pooling server).

DCOM configuration

This approach could differ dependent on the OS language

- Run DCOM config tool (Start – Run... - „dcomcnfg“)
- On Windows 2000 Server: Select tab page ‚applications‘.
- On Windows 2003: Expand to Computers->My Computer->DCOM Config
- Double click on each ‚DPE‘ entity.
- ⇒ Tab ‚Identity‘: Select ‚this user‘ – type in a valid domain user in the following form <windows-domain>\<windows-user>Also type in the valid password twice.
- ⇒ Tab ‚Security‘. In the frames ‚access permissions‘ and ‚launch permissions‘ select “user defined..” and click on ‚Edit‘.
- Click on ‚Add...‘ and add the local user ‚ASPNET‘
- Close all boxes with OK.

Environments with multiple web services (usage of SSO)

If the IPD Web Service clients shall consume also other V5 web services it is necessary to use a V5 Service Directory which will coordinate all the web services taking part in the scenario.

Therefore each server participating in the multiple server scenarios needs to be configured manually after installation. This will be done in two steps.

Service Directory URI

- Choose one of the web service hosts to act as Service Directory. Find out the web services URI of this host. This looks like `http://<server>:<port>/<contextPath>`

**Note:**

That <server> is the fully qualified domain name under which the server is reachable. This URI must be used in the next step for all web service hosts.

Publish all services into the Service Directory

Begin with the web service host, that acts as Service Directory and repeat it on each of all web service hosts participating in the scenario.

- ⇒ In a web browser open the configuration URL for the Service Directory.
- `http://<server>:<port>/<contextPath>/html/ServiceDirectory`

**Note:**

Be careful, that you don't confuse URLs here: This URL is associated to the web service server and is different for each of those

- Enter the value of 'Service Directory URI'

See: [Figure 6](#)

**Note:**

If the service directory server is secured you have to enter the authentication settings also. If the service directory host can be accessed only via a proxy server, which uses authentication then also the proxy authentication data has to be entered.

- Click 'Save settings'.

Figure 6: Security Directory

Publish the web service

**Note:**

For the SSO host please skip this step and continue – see [The publishing of SSO web services is a special case](#).

- Open the page 'Publish web services' (see next screenshot).
- Click 'Publish all'.
- A message at the bottom of the page shows, whether the publishing was successful or not.

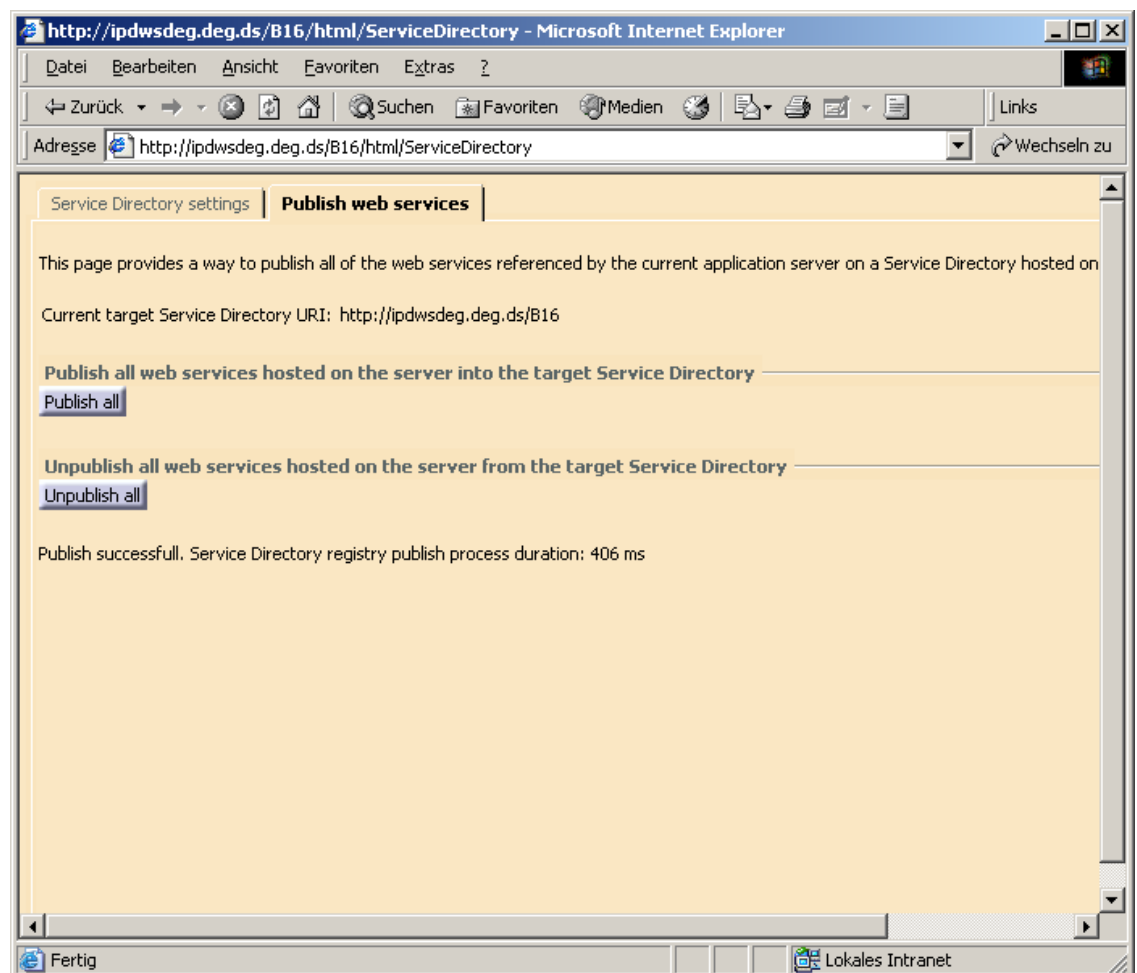


Figure 7: Publish web service

The publishing of SSO web services is a special case.

To have an SSO server integrated in a multiple server scenario, you have to use the SSOAdminConsole for publishing (see [Figure 8](#)).

➔ `http://<server>:<port>/<contextPath>/html/SSOAdminConsole`

After the Servicedirectory URI is defined as described in chapter 'Publish all services into the Service Directory

' until 'Save settings', the SSO administration application will display two extra buttons: "Publish SSO services" and "Unpublish SSO services". These buttons control the publication/unpublication of the SSO services.

➔ Click 'Publish SSO services'.

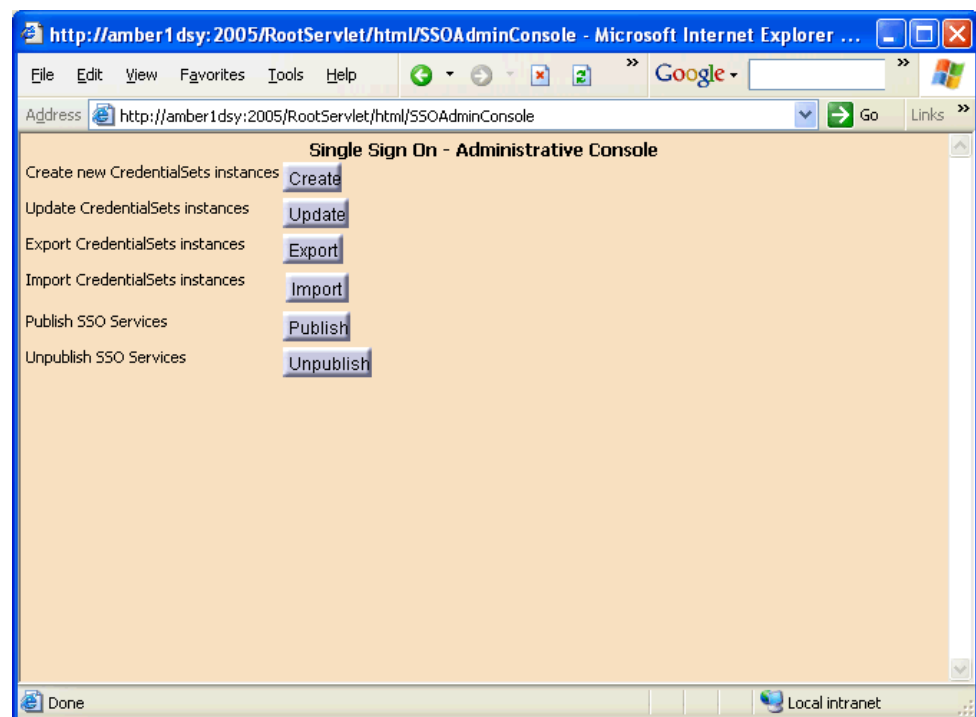


Figure 8: Administrative Console

Localization

The language of the setup can be selected in the beginning of the installation routine. Configuration pages for the Service Directory are in English only. There is no language dependent functionality during the use of IPD Web Services. Error traces are always in English.

Log files of IPD Web Services

In this section it is explained, what an administrator can do in order to find out, whether web services work properly or not.

There are two log files in the directory wrkspc/logs. The file SystemErr.txt shows all errors that come from web service infrastructure. Thereby there are two kinds of error tracing. IPD Web Services attach the system date and time to the output and also the original error message.

Activating debug traces

If there are errors expected in V5 web services, it is helpful to activate traces to have more detailed information in the mentioned SystemOut.txt:

The traces can be activated with the server application 'html/debug'. Open in a browser the URL:

➤ `http://<machine>:<port>/IPDWebService/html/Debug`

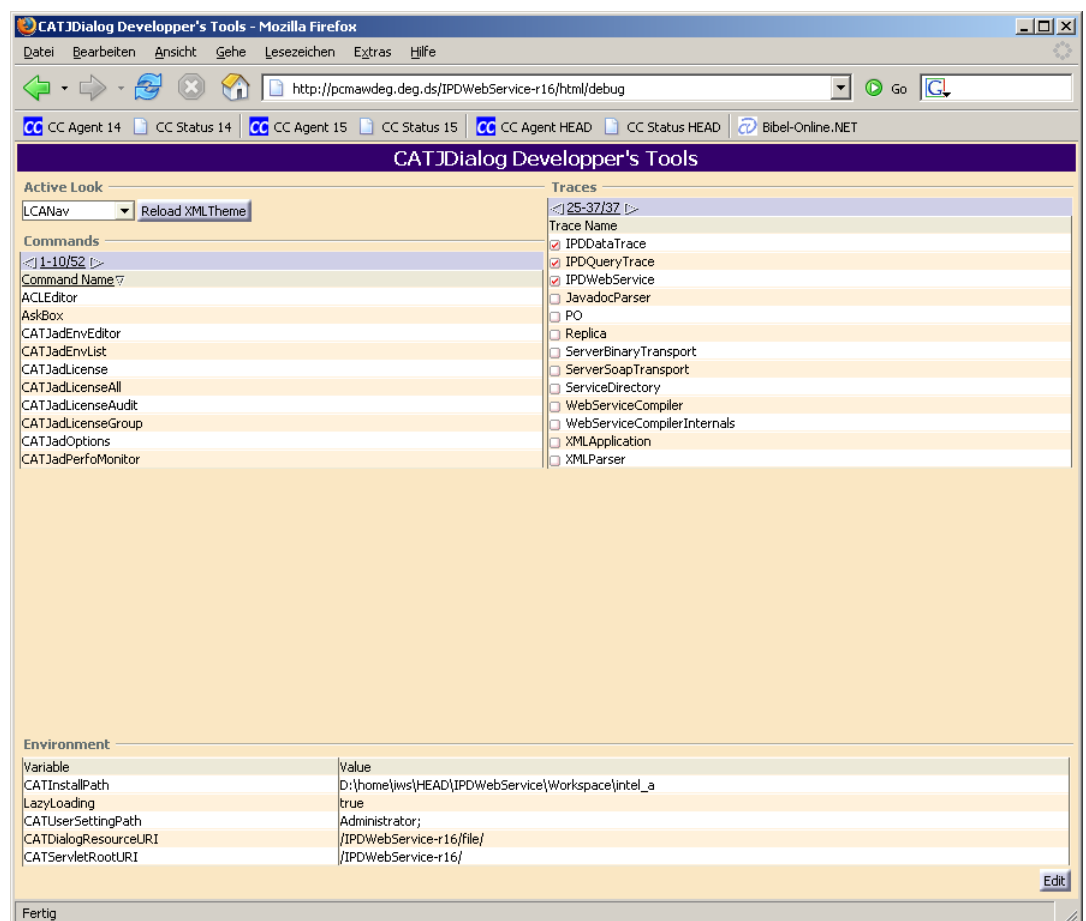


Figure 9: V5 web services

In the upper right area there is a list of traces, which are available in the web service software. These traces appear once the code was invoked.

**Note:**

That if there are traces missing, it means that the code isn't entered at that time. On the other hand all traces that were previously activated are displayed anyway.

- ➔ To activate a trace, simply click on it.
- ⇒ All Traces related to IPD Web Services begin with IPD.

IPDWebService

For each Web Service that is called, the precise date and time is printed out to SystemOut.txt. It is also printed, if the call was successful or not.

IPDDataTrace

Additional data is printed out to SystemOut.txt. For example the invocation parameters of the web services are logged.

IPDQueryTrace

The parameters and results of queries are printed out. This information may help the developer for investigating on errors.

Compatibility

IPD Web Services are compatible with IPD Server from the same build level. Only those IPD Web Services must be used, that are delivered on the DPE Server and Client media. Also all V5 client software, that shall access IPD Web Services must be based on the same codelevel. Don't mix up Releases and also Service Packs.

Limitation 1

Only one IPD Web Service installation per IPD Server

IPD Web Services can be installed only once for an IPD Server and must be updated as described in this documentation. On the other hand it makes no sense to have multiple IPD Web Service installations on an IPD Server machine. Clients can only use one IPD Web Service location at one time. It is not possible to switch the IPD Web Service location during the usage of the client.

Limitation 2

Only one instance of IPD Web Services in one Service Directory

It is not possible to publish more than one location of IPD Web Services into a Service Directory. As a result, there is no way to handle things like load balancing.

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