



Web Deployment - Windows Server 2008  
User's Guide



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# INTRODUCTION

DevInfo 6.0 is a hybrid application that can be both installed as a desktop version and also deployed over the internet/intranet. Some of the key outcomes from web deployment of DevInfo are the following:

- Enables users to access the DevInfo user application and query databases over the internet/intranet
- Enables users to access data from a remote server (e.g., SQL Server) location through a local DevInfo user application
- Enables online data entry from multiple locations into a common DevInfo database

There are several phases of web deployment, which involve the following key processes:

1. Converting DevInfo databases from MS Access to SQL server databases
2. Installing and configuring key components such as the IIS web server, the ASP.net framework and the DevInfo Web application
3. Configuring for on-line data entry

This document serves as a step-by-step guide to these various phases of the DevInfo web deployment process.

# CHAPTER 1

## Technical and Administrative Requirements

This chapter provides details on the key technical and administrative requirements for the web deployment of DevInfo 6.0.

### Technical Requirements

Below are the technical requirements for the web deployment of DevInfo 6.0.

#### Operating System for Web Server

- Operating system - Windows 2003 and above
- Internet Information Services (IIS) 6.0 and above
- ASP.NET 2.0

#### Database Technology

- Microsoft SQL Server 2000 and above - closed source system (license required)
- Microsoft Access closed source system (no license required – not recommended)

### Administrative Requirements

Below are the administrative requirements for the web deployment of DevInfo 6.0.

#### Web Hosting

There are three options for setting up a web server:

- Local host hardware/software setup - \$20,000 setup + \$200/month\*
- External host (shared) entry level - \$200 setup + \$35/month\*
- External host (dedicated) high performance - \$5000 setup + \$400/month\*

\* Rough estimates in USD for information purposes only, based on estimated data for 2010

#### Webmaster

The web database needs to be supported by a Webmaster, defined as a database administrator with the technical skills required to manage the deployment and maintenance of the web process. The typical job responsibilities of a webmaster would include:

- Registering and hosting the website
- Creating a database online
- Uploading and modifying the web-based database
- Managing user profiles for online data entry
- Handling web database administration

# Migrating DevInfo Databases into a Web-Ready Format

Migrating DevInfo databases is the cornerstone of the DevInfo web deployment process. The desktop version of DevInfo employs MS Access to store data, which provides the advantages of a relational database system coupled with robust data handling. However, there are limitations in using MS Access as the database medium, especially in a server environment that requires concurrent and multi-user access.

For web deployment, DevInfo employs the SQL server - a server-based database engine capable of processing voluminous data in a multi-user environment. It also provides features such as enhanced security, automated/user-controlled data transfer methods, and a robust data processing platform.

Migration of a DevInfo database from MS Access to SQL server involves the following phases:

- Creating a SQL Server database
- Transferring data from MS Access to MS SQL
- Running queries on imported data tables
- Configuring the SQL Server database
- Importing missing data and finalizing database settings

## Creating an SQL Server database

The first phase of migrating DevInfo involves creating a new SQL database and using the data transfer service to upload data. To create a SQL database, you need to have SQL Server 2000 (or above).

## Step 1

From the Start menu, point to **All Programs | Microsoft SQL Server** and click the **Enterprise manager** option. The SQL Server Enterprise Manager Console opens. The left panel displays the available SQL servers (Fig. 2.1).

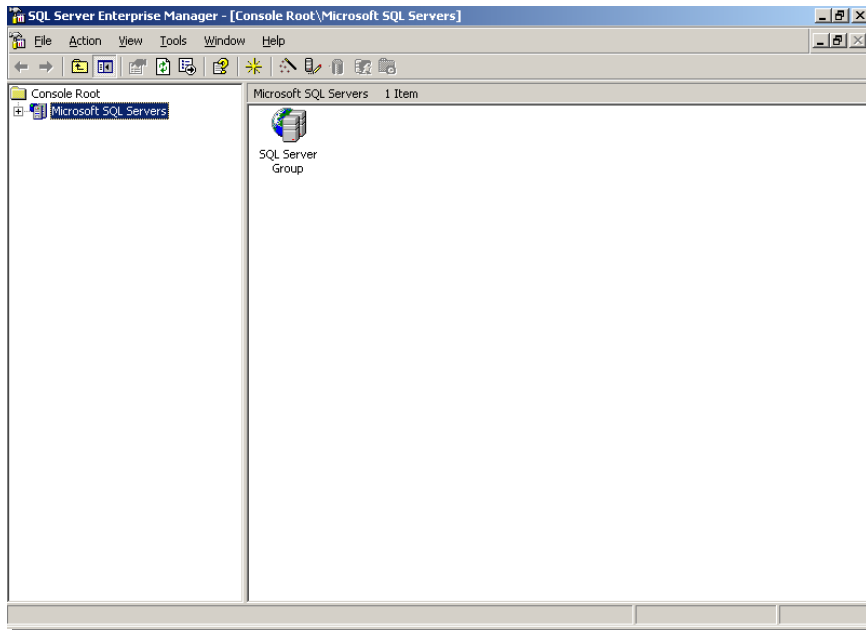


Fig. 2.1 - Creating an SQL Server database – Step 1

## Step 2

Click **Microsoft SQL Server** to expand and locate the databases available on the server group. To create a new database, right-click **Databases** and click **New Database** from the context menu (Fig. 2.2).

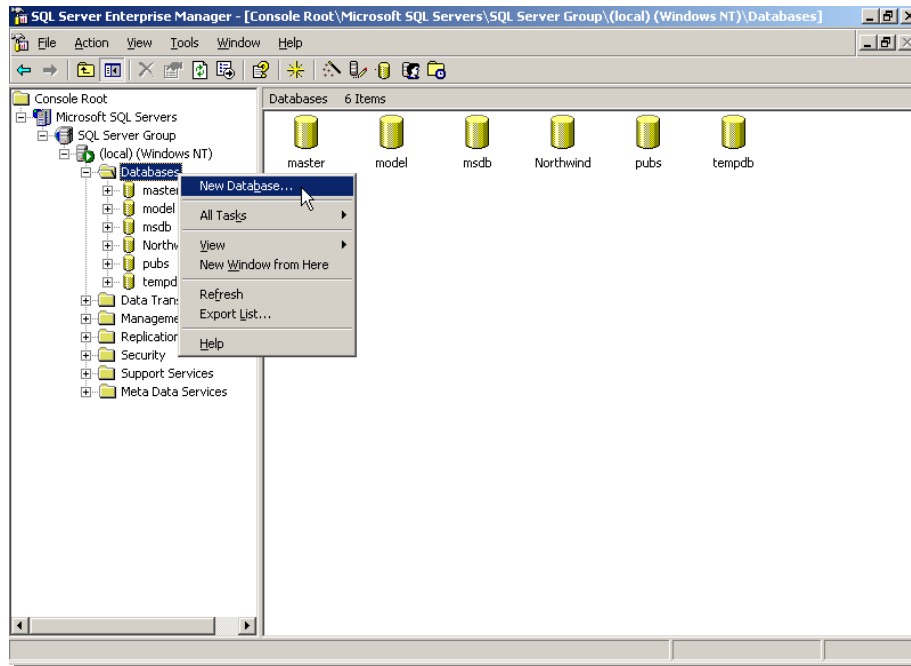


Fig. 2.2 - Creating an SQL Server database – Step 2

### Step 3

The **Database Properties** dialogue box opens. Specify a name for the new database in the **Name** box. Click **OK** (Fig. 2.3).

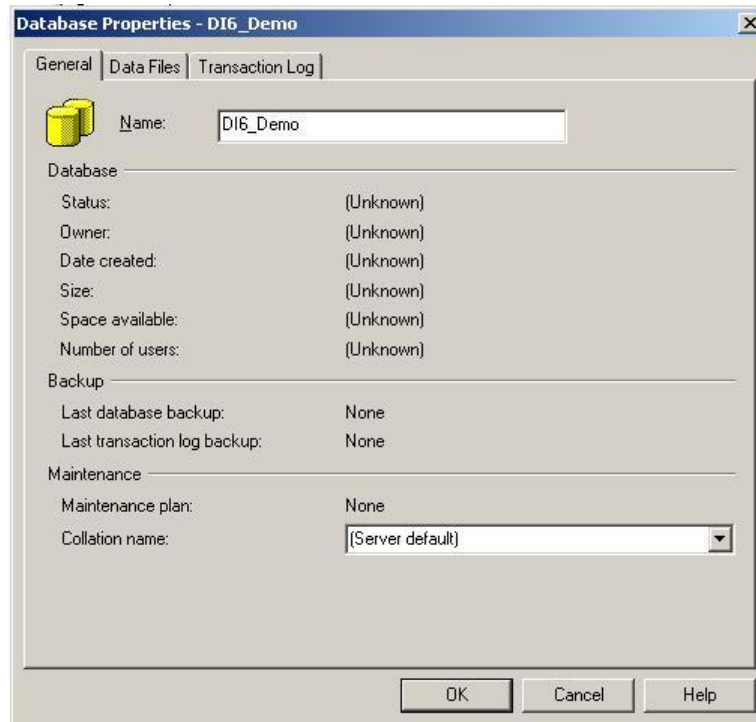


Fig. 2.3 - Creating an SQL Server database – Step 3

The new database will now be displayed in the **Databases** folder (Fig. 2.4).

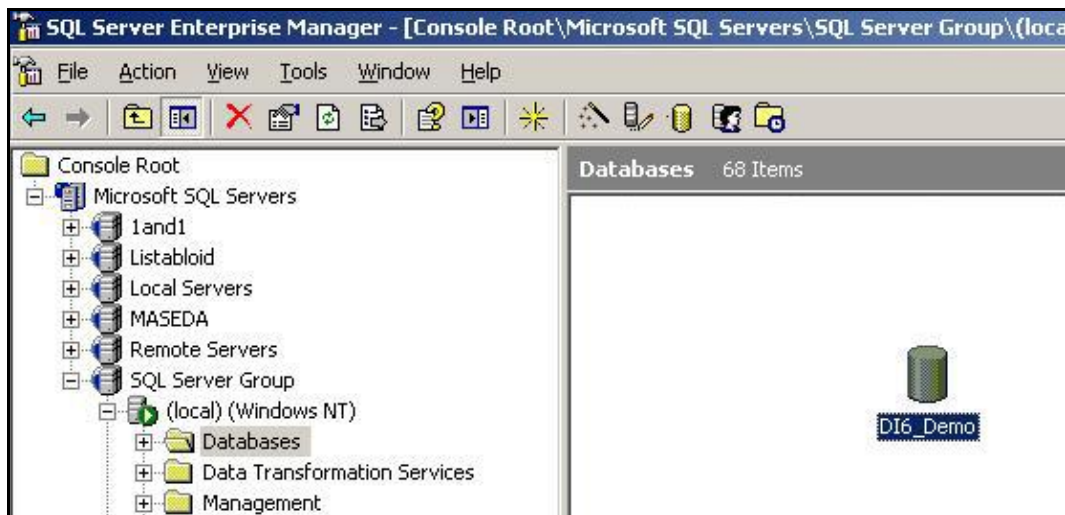


Fig. 2.2 - Creating an SQL Server database – Step 3

## Converting an MS Access database to MS SQL

The **DX Access Remote.exe** data exchange application enables you to perform the following database transformations:


- Upload a dataset from a Microsoft Access database to a remote Microsoft SQL database
- Download a dataset from a remote Microsoft SQL database to a Microsoft Access database.

Additionally, this utility also allows you to upload more than one dataset within a single database so that the webmaster of the DevInfo 6.0 Web application only needs to create a single database. In other words, additional costs required to host multiple databases can be cut by including multiple datasets within a single database.

The next sub-section describes the steps needed to launch the **DX Access Remote.exe** data exchange application.

### Launching the DX Access Remote.exe Data Exchange application

The following steps enable you to launch the **DX Access Remote.exe** data exchange application.

1. Launch the **DevInfo 6.0 Data Admin** application by clicking  from the desktop. The Data Admin application main window opens (Fig. 2.5).

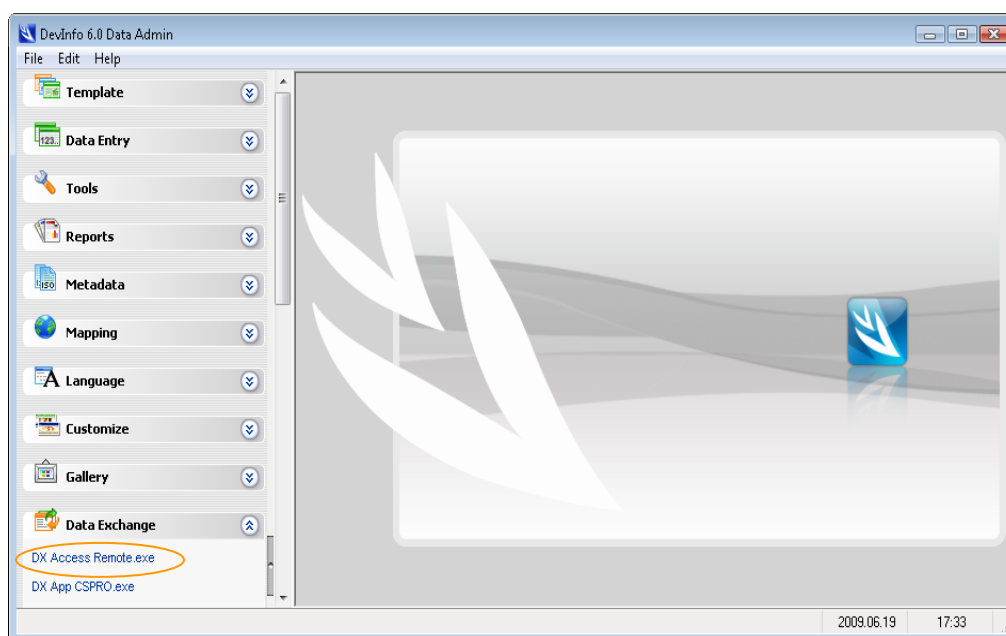


Fig. 2.3 - Launching the DX Access Remote.exe Data Exchange

2. Click **DX Access Remote.exe** under the **Data Exchange** module (see Fig. 2.5). The DX Access Remote window opens (Fig. 2.6).

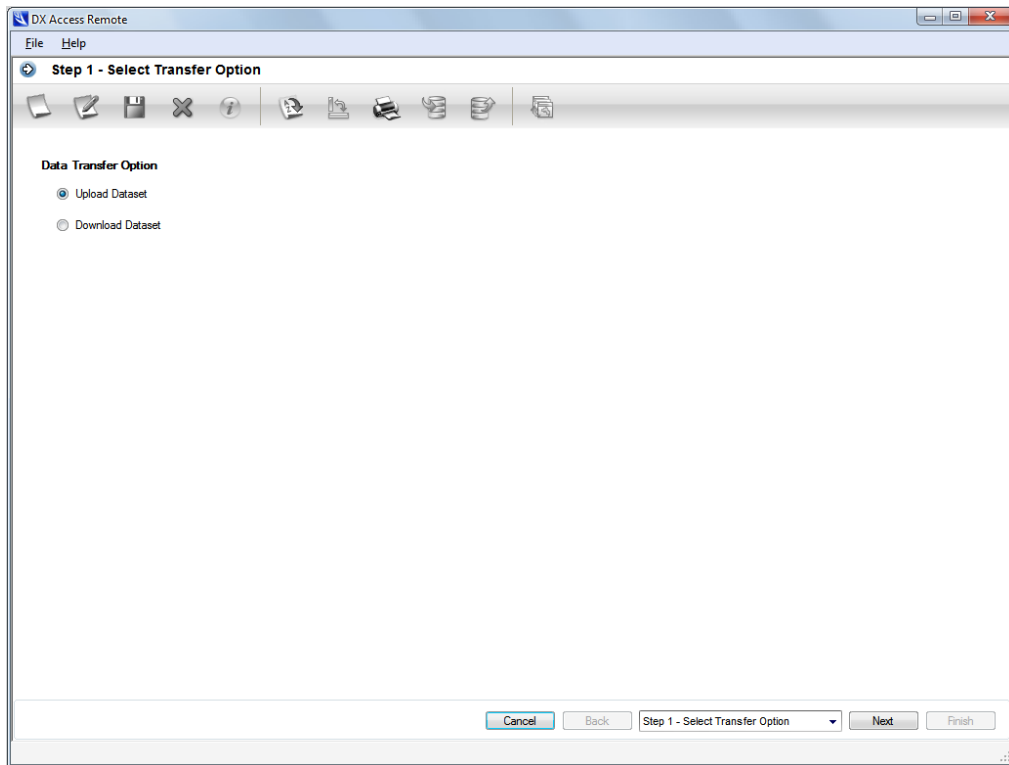


Fig. 2.4 - DX Access Remote.exe – Select Transfer Option

The next section describes steps that enable you to upload a dataset to a remote MS SQL database. (To download a dataset from a remote MS SQL database, please refer to the section, [Downloading a Dataset](#).)

## Uploading a Dataset

The following steps enable you to upload a dataset from a Microsoft Access database to a Microsoft SQL database using the **DX Access Remote.exe** data exchange application.

1. Launch the **DX Access Remote.exe** data exchange application.
2. Select the **Upload Dataset** data transfer option at Step 1 and click **Next**. The **Select Source Database** window opens (Fig. 2.7).

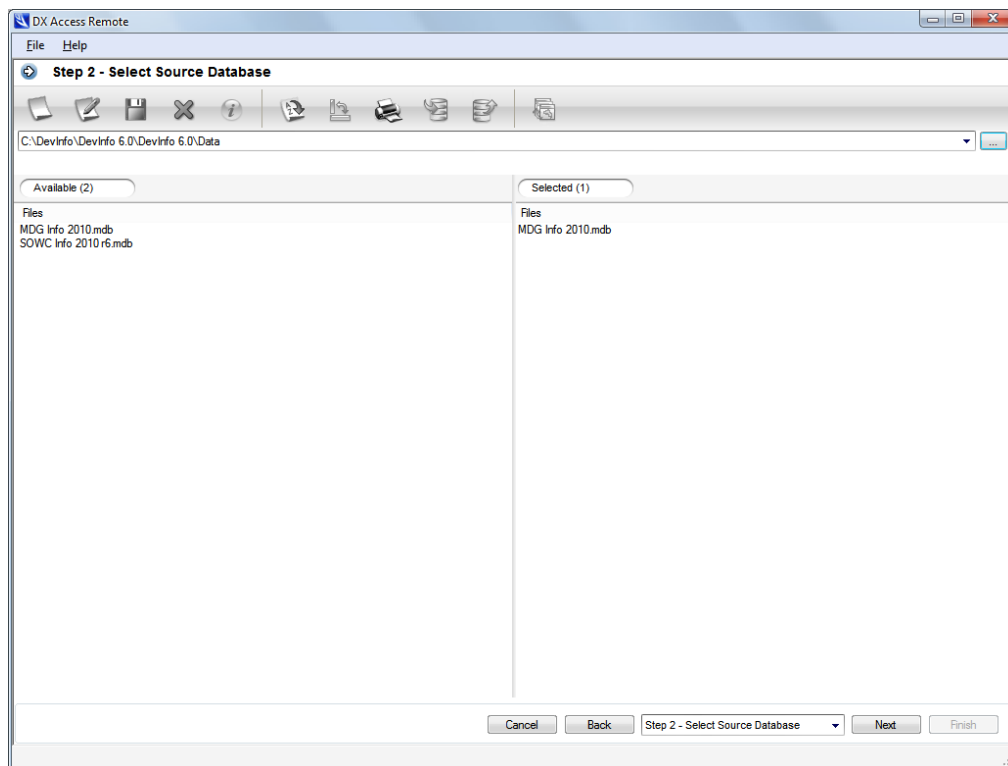



Fig. 2.5 - DX Access Remote.exe – Select Source Database

3. Click  to browse to a desired location using the **Open** window to select a folder containing an MS Access Database (Fig. 2.8).

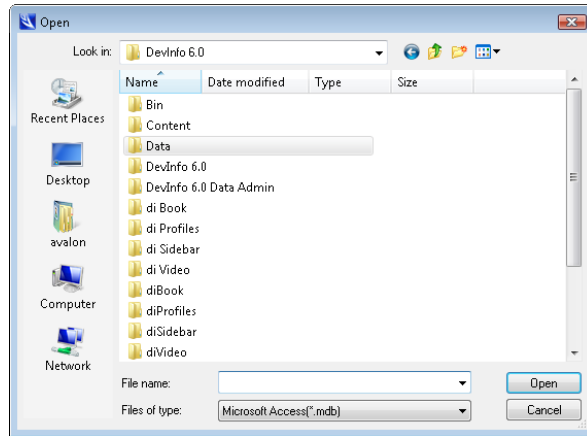


Fig. 2.6 - DX Access Remote.exe – Open

4. Click **Open** to continue. The **Open** window disappears and a listing of all databases available in the specified folder are displayed in the **Available** pane.
5. Select the required database by either double-clicking on the database in the **Available** pane or by dragging the same to the **Selected** pane. The system checks whether the specified source database is a valid DevInfo 6.0 database. If not, the system notifies the user appropriately. Once a valid DevInfo 6.0 database is selected, you can proceed by clicking **Next**. The **Select Destination Database** window opens (Fig. 2.9).

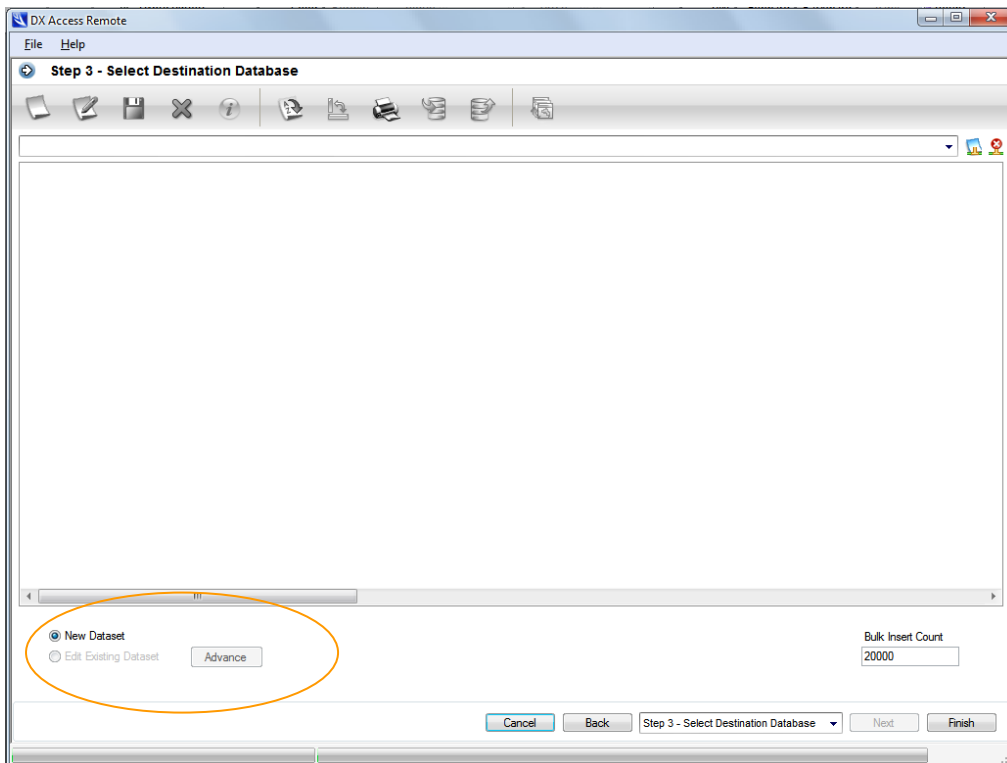

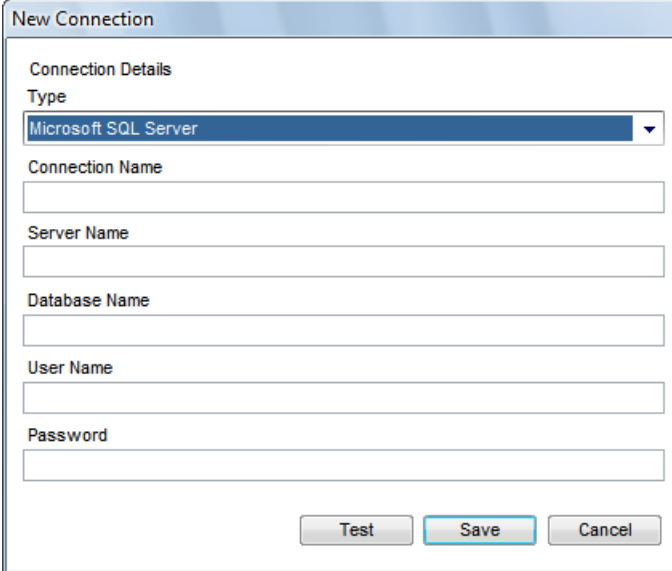


Fig. 2.9 - DX Access Remote.exe – Select Destination Database

The next sub-section describes steps that enable you to create a remote MS SQL server connection.

## Creating a Remote MS SQL Server Connection

1. Click the  **Remote Server Connection** button to create a new online MS SQL database connection. The New Connection window opens (Fig. 2.10).



The 'New Connection' dialog box is titled 'New Connection' and contains the following fields and controls:

- Connection Details** section:
- Type**: A dropdown menu with 'Microsoft SQL Server' selected.
- Connection Name**: An empty text input field.
- Server Name**: An empty text input field.
- Database Name**: An empty text input field.
- User Name**: An empty text input field.
- Password**: An empty text input field.
- At the bottom right, there are three buttons: 'Test', 'Save', and 'Cancel'.

Fig. 2.7 - Creating a Remote MS SQL Server Connection

2. Enter the requested information in all fields. Before saving, it is recommended that you test the connection.

## Uploading the Source MS Access Database Completely

To upload the source MS Access Database completely, select **New Dataset** and click **Finish**. The source MS Access database is uploaded to the remotely hosted MS SQL database and a confirmation that the conversion is complete is displayed (Fig. 2.11).

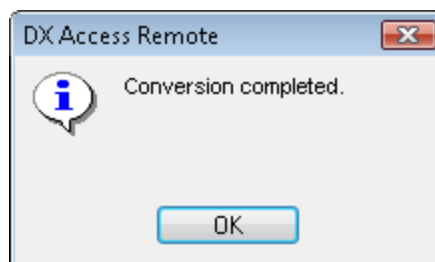


Fig. 2.8 - Conversion Completed

## Uploading the Source MS Access Database Selectively

To upload the source MS Access Database selectively, select **Edit Existing Dataset** and click **Advance**. The Advance window opens (Fig. 2.12).

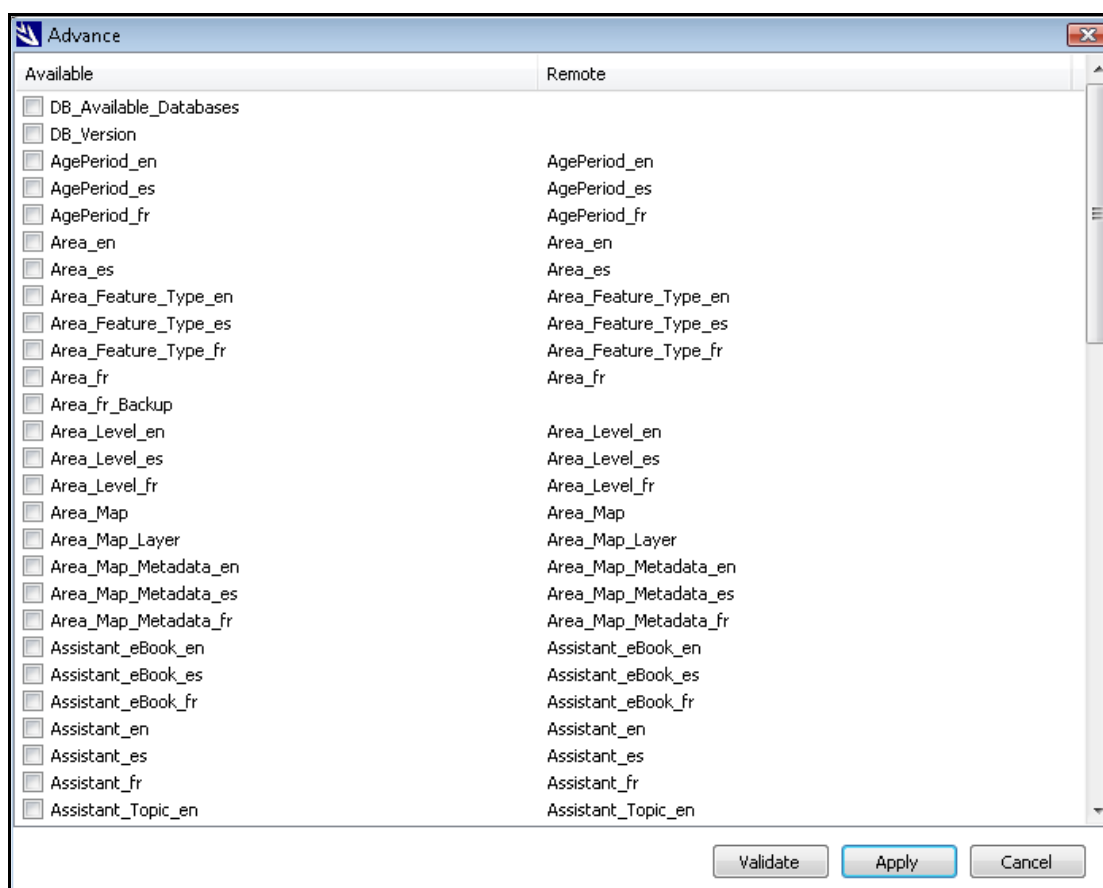


Fig. 2.9 - Uploading the Source MS Access Database Selectively

You can either validate the changed MS Access database with the existing MS SQL database on the remote server or you can manually select the tables to be uploaded.

Click **Apply** to upload the selected tables to the MS SQL database hosted remotely. The selected tables are uploaded to the destination database.

Click **Finish** to close the **DX Access Remote.exe** data exchange application.

## Downloading a Dataset

The following steps enable you to download a dataset from a Microsoft SQL database to a Microsoft Access database using the **DX Access Remote.exe** data exchange application.

1. Launch the **DX Access Remote.exe** data exchange application, as explained previously.
2. Select the **Download Dataset** data transfer option at Step 1 and click **Next**. The **Select Source Database** window opens (Fig. 2.13).

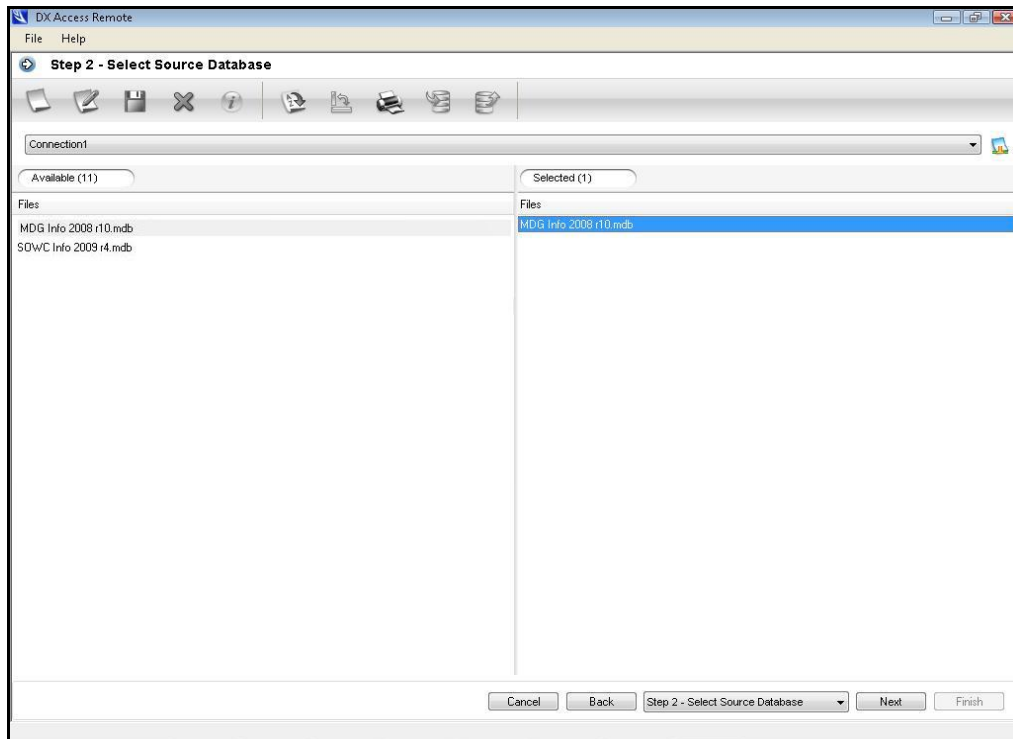


Fig. 2.13 – Select Source Database window

You can utilize an existing remote database connection or create a new MS SQL database connection. To create a new MS SQL server connection, please refer to the section, [Creating a Remote MS SQL Server Connection](#).

3. Select the required database by either double-clicking on the database in the **Available** pane or by dragging the same to the **Selected** pane and click **Next**. The **Select Destination Database** window opens (Fig. 2.14).

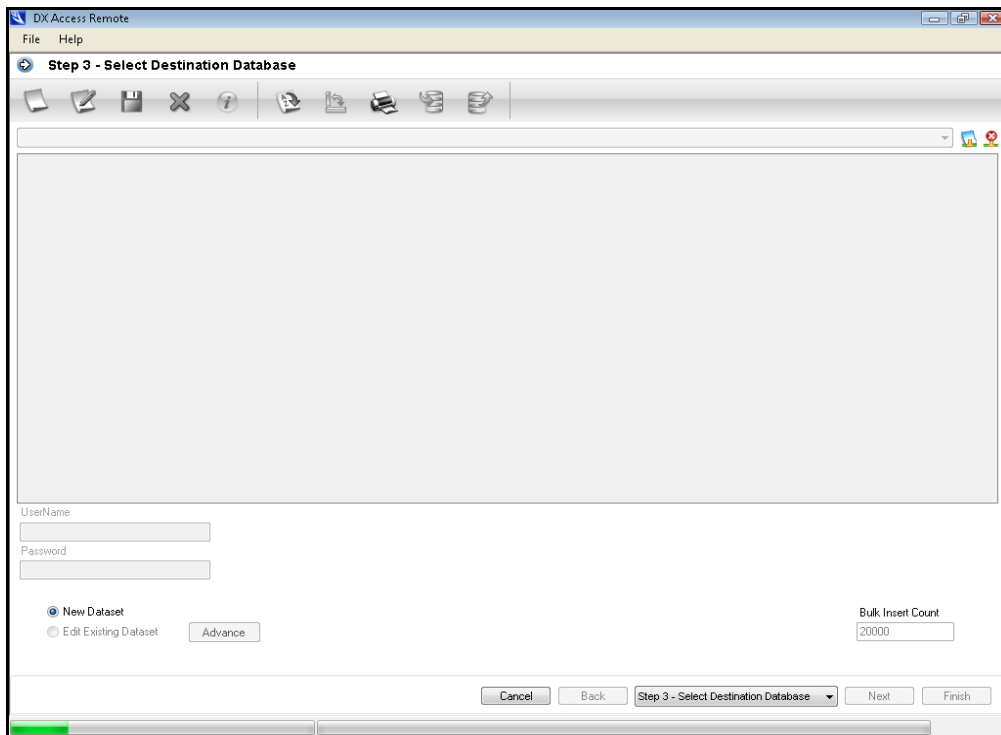


Fig. 2.14 -: Downloading the Specified Dataset

The source MS SQL database is downloaded to the remotely hosted MS SQL database and a confirmation that the conversion is complete is displayed (Fig. 2.15).

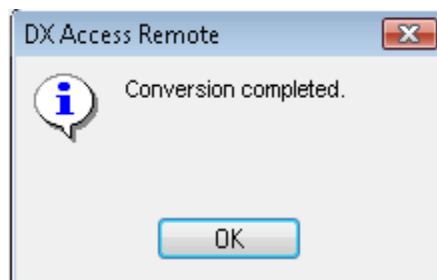


Fig. 2.15 - Conversion Completed

4. Click **OK**. The **Conversion Completed** dialog box disappears and the **Save As** dialog box is displayed. This dialog box can be used to specify the name and location of the MS Access database to be saved which was downloaded in the previous step. The **DX Access Remote.exe** data exchange utility is automatically closed after the downloaded database is saved to the specified location.

## CHAPTER 3

# Installing the DevInfo 6.0 Web Application

Installing the DevInfo 6.0 Web application enables multiple users to concurrently access a DevInfo SQL Server database from a single server installation. The web installation of DevInfo 6.0 involves the following steps:

- Installing IIS on Windows Server 2008
- Installing the DevInfo 6.0 Web application

## Installing IIS on Windows Server 2008

To install the DevInfo 6.0 Web application, you need to have Internet Information Services (IIS), the .NET framework and ASP.Net installed on your web server. IIS is a web application server program that handles HTTP requests. It is a suite of tools and services available as a component of Microsoft Windows Server 2008.

### Step 1

IIS 7.0 is available as a web server role in Windows Server 2008 and as the Web server role in Windows Vista. You must have administrator access on the local computer to perform the following procedure.

IIS 7.0 can be installed through the graphical user interface (GUI) by using the new Server Manager interface after the Windows Server operating system is installed.

The Server Manager provides a single dashboard to install or uninstall server roles and features. The Server Manager also gives an overview of all currently installed roles and features. When IIS 7 is chosen from the Server Manager, the basic components and services needed for IIS are automatically selected.

Click **Start -> All Programs -> Administrative Tools -> Server Manager** (Fig. 3.1).

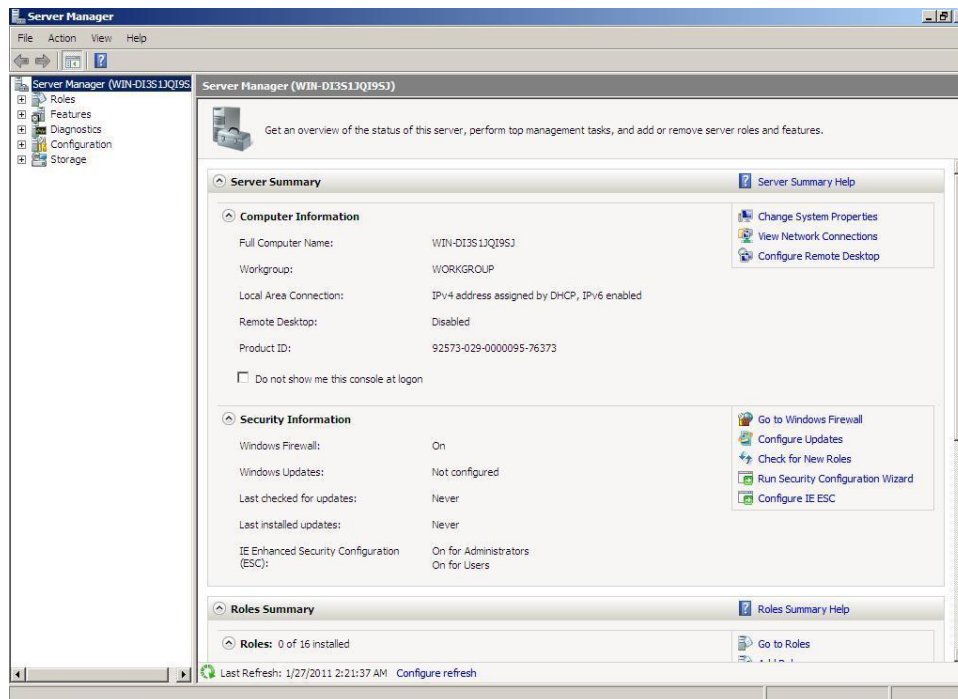


Fig. 3.1 - Server Manager

## Step 2

In the **Server Manager** window, scroll down to **Roles Summary**, and then click **Add Roles**. The **Add Roles Wizard** will start with a **Before You Begin** page. The wizard asks for verification of the following:

- Whether the administrator account has a strong password
- Whether the network settings, such as IP addresses, are configured
- Whether the latest security updates from Windows Update are installed

### Step 3

Select **Web Server (IIS)** on the **Select Server Roles** page. An introductory page will open with links for further information (Fig. 3.2).

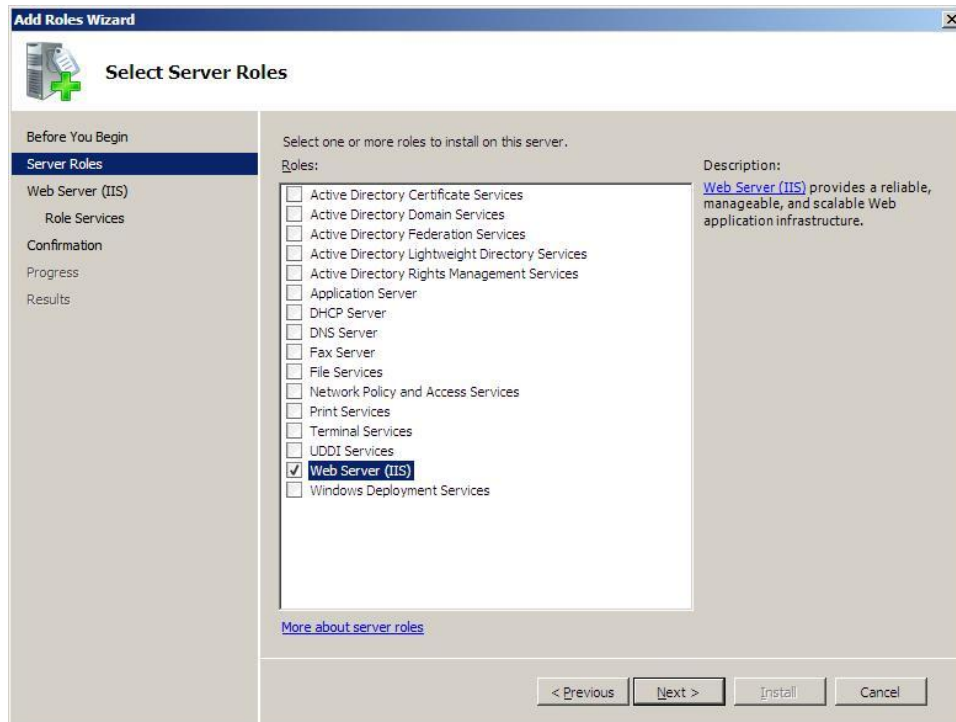


Fig. 3.2 - Select Server Roles

## Step 4

Select the IIS services to be installed on the **Select Role Services** page. Add only the modules necessary. In this case, ASP.NET is selected, and a description of ASP.NET appears in the right pane. Once desired modules are added, click **Next** (Fig. 3.3).

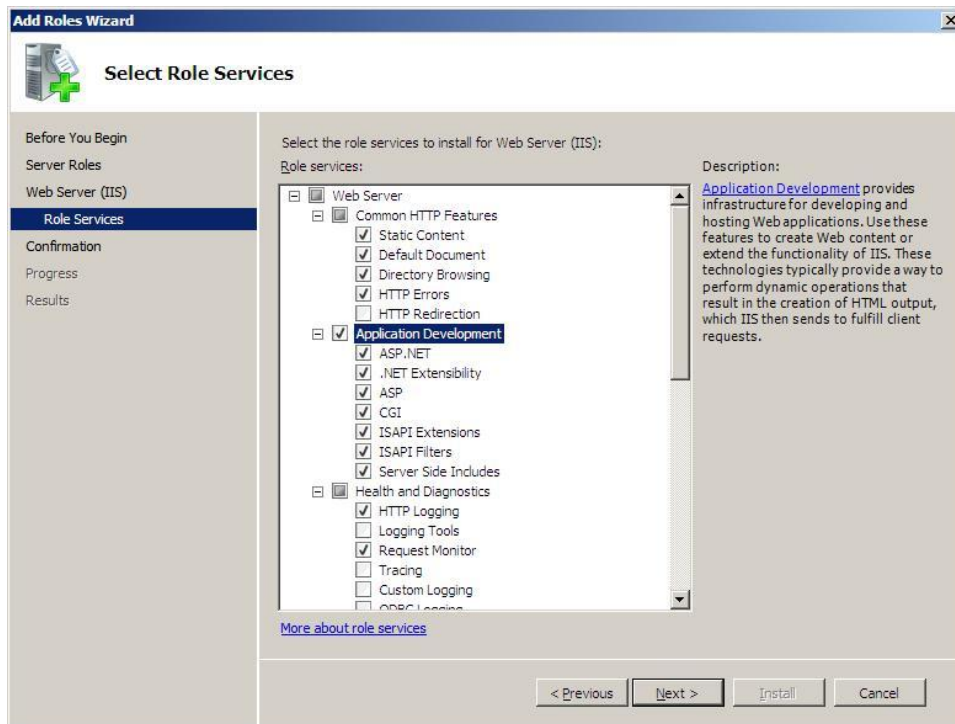


Fig. 3.3 - Select Role Services

## Step 5

Add any required role services (Fig. 3.4).

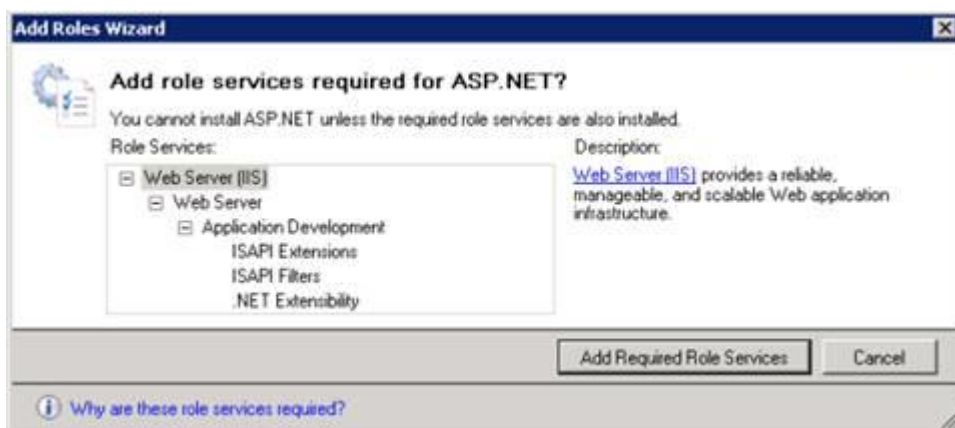


Fig. 3.4 - Wizard warning page

## Step 6

IIS is now installed with a default configuration for hosting ASP.NET on Windows Server. Click **Close** to complete the process (Fig. 3.5).

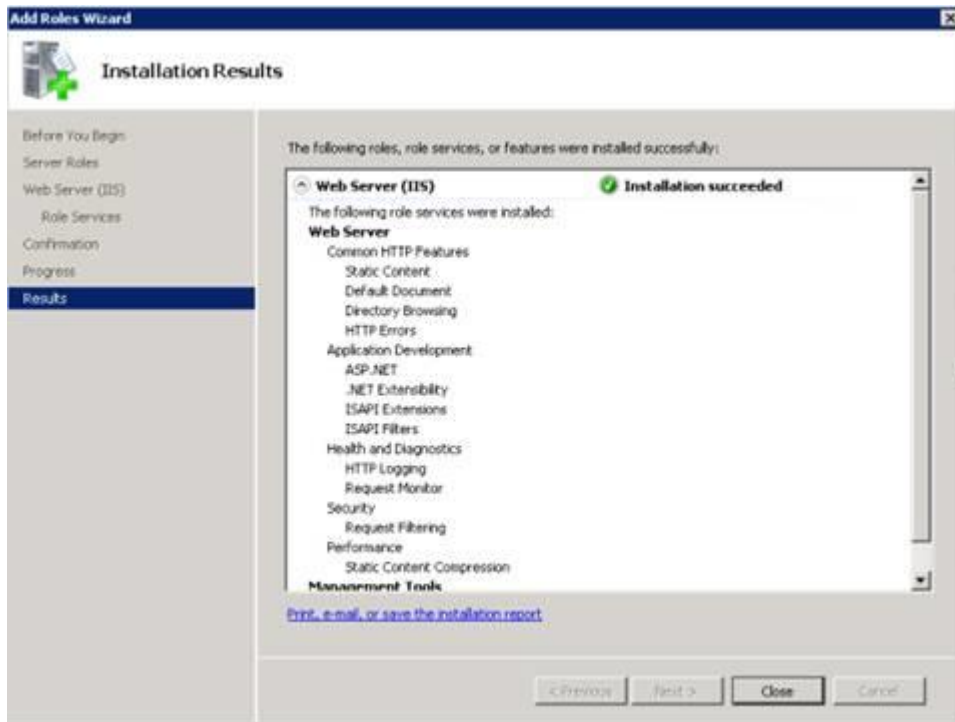


Fig. 3.5 - Installation Results page

## DevInfo 6.0 Web Set-up

Download and copy the application folder to the C:\ drive (Fig. 3.6).

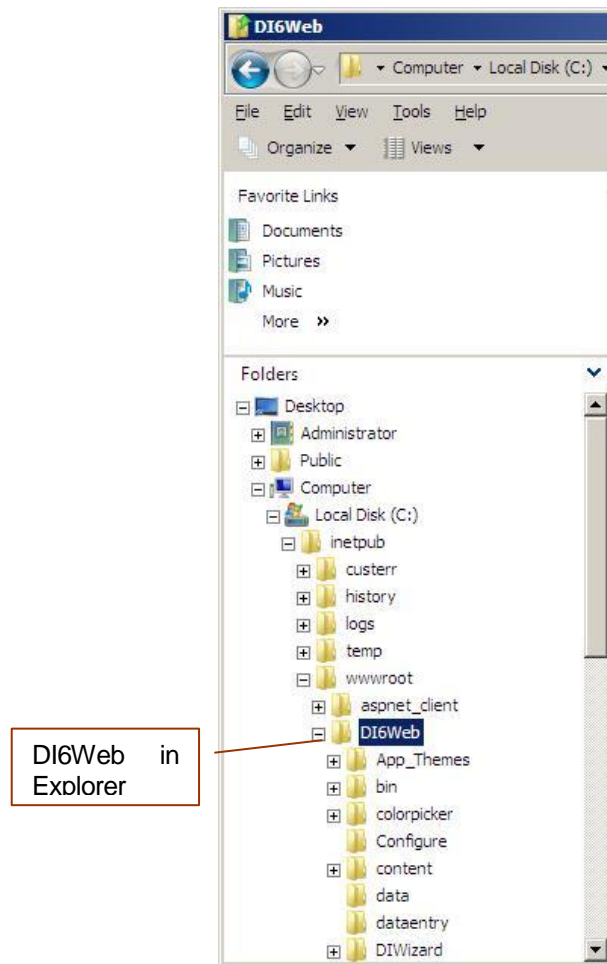


Fig. 3.6 - DI6Web Folder Structure as visible in Windows Explorer

## Adding a web site

Follow the steps below to add a web site.

### Step 1

Open IIS Manager. In the **Connections** pane, expand the **Sites** node and then the **Default Web Site** node to view the **DI6Web** node (Fig. 3.7).

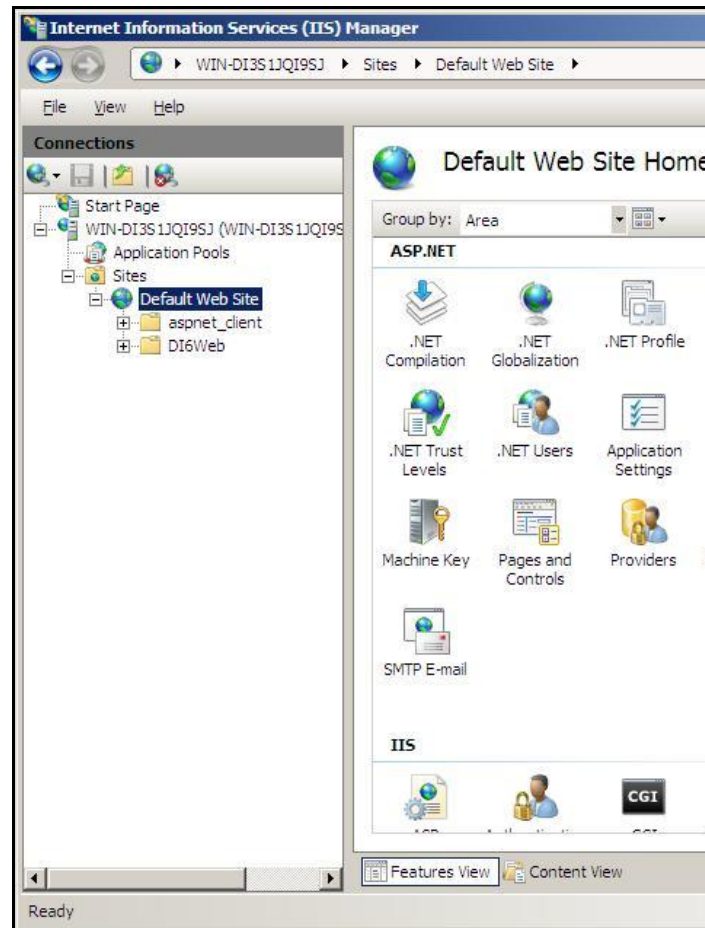


Fig. 3.7 - Viewing the DI6Web node

## Step 2

Right click on the **DI6Web** folder node and select **Convert to Application**. You will note a change in the icon of the DI6Web node (Fig. 3.8).

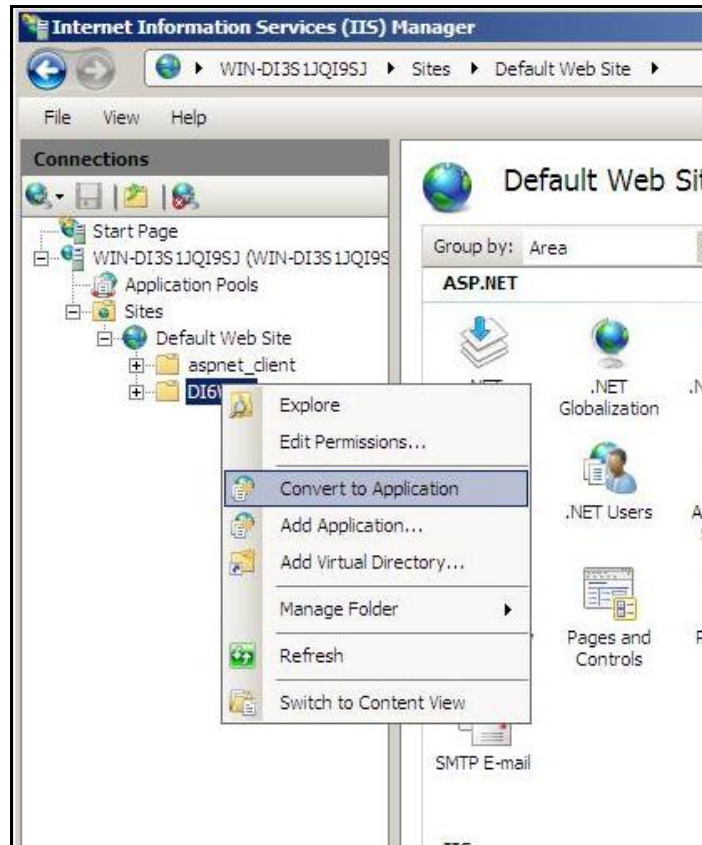


Fig. 3.8 - Converting to Application

The **Add Application** dialogue box appears. Click **OK** to continue (Fig. 3.9).

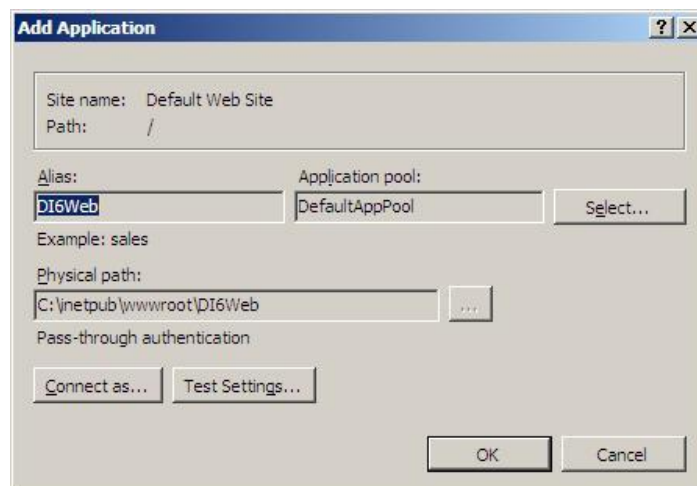


Fig. 3.9 - Add Application

### Step 3

Right click the **DI6Web** node, scroll to **Manage Application** and select **Advanced Settings** (Fig. 3.10).



Fig. 3.10 - Manage Application sub-menu

The Advanced Settings dialog box appears. Under **General**, the Application pool is set by default as "DefaultAppPool". Click the browse button on the right to change the Application Pool (Fig. 3.11).

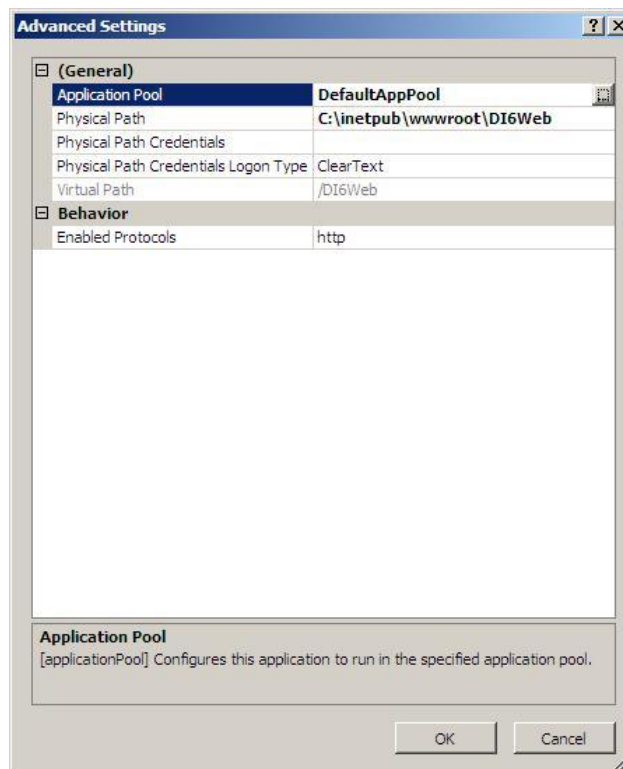


Fig. 3.11 - Application Settings

The **Select Application Pool** dialogue box appears. Select “Classic .NET AppPool” from the dropdown options and click **OK** to continue (Fig. 3.12).

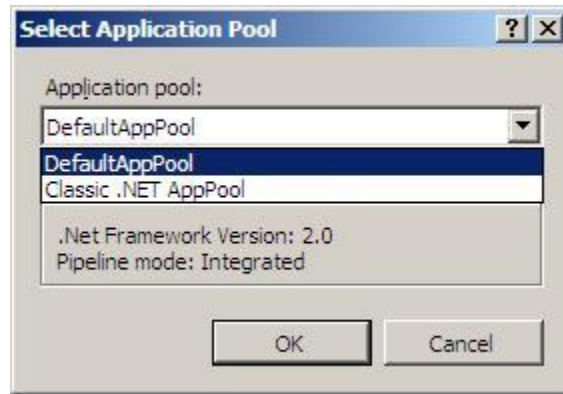


Fig. 3.12 - Select Application Pool

#### Step 4

In **Features View**, double-click **Default Document** (Fig. 3.13).

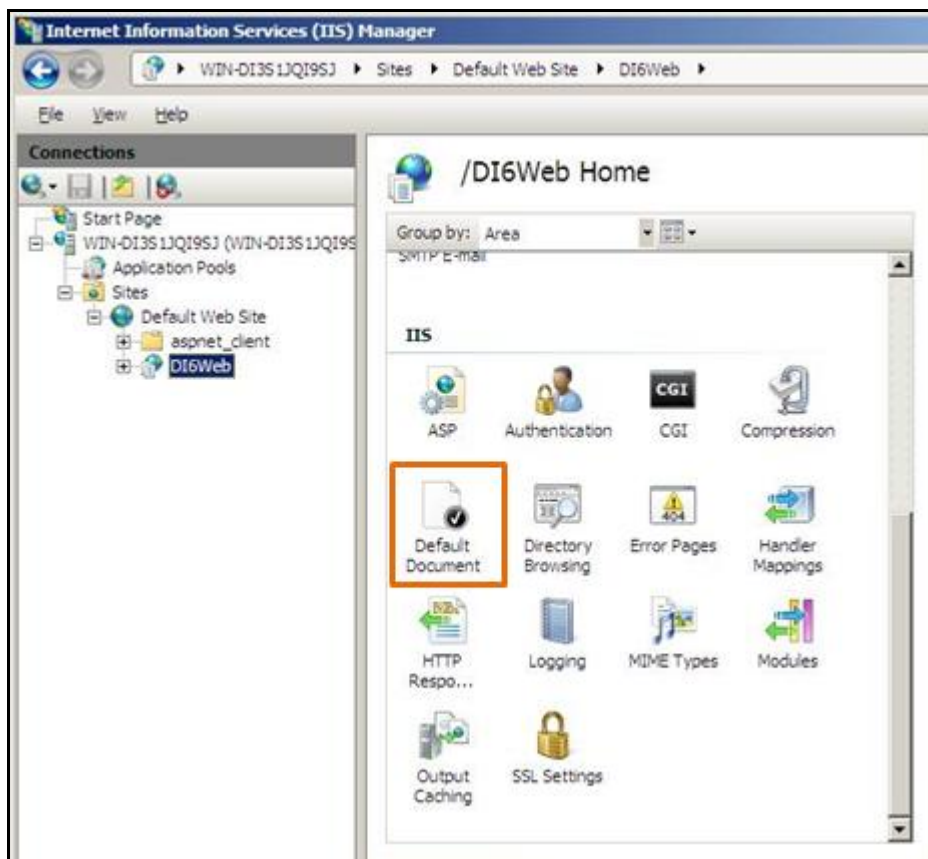


Fig. 3.13 - Default Document

In the **Actions** pane, ensure that home.aspx is the first document in the list of Default documents (Fig. 3.14).

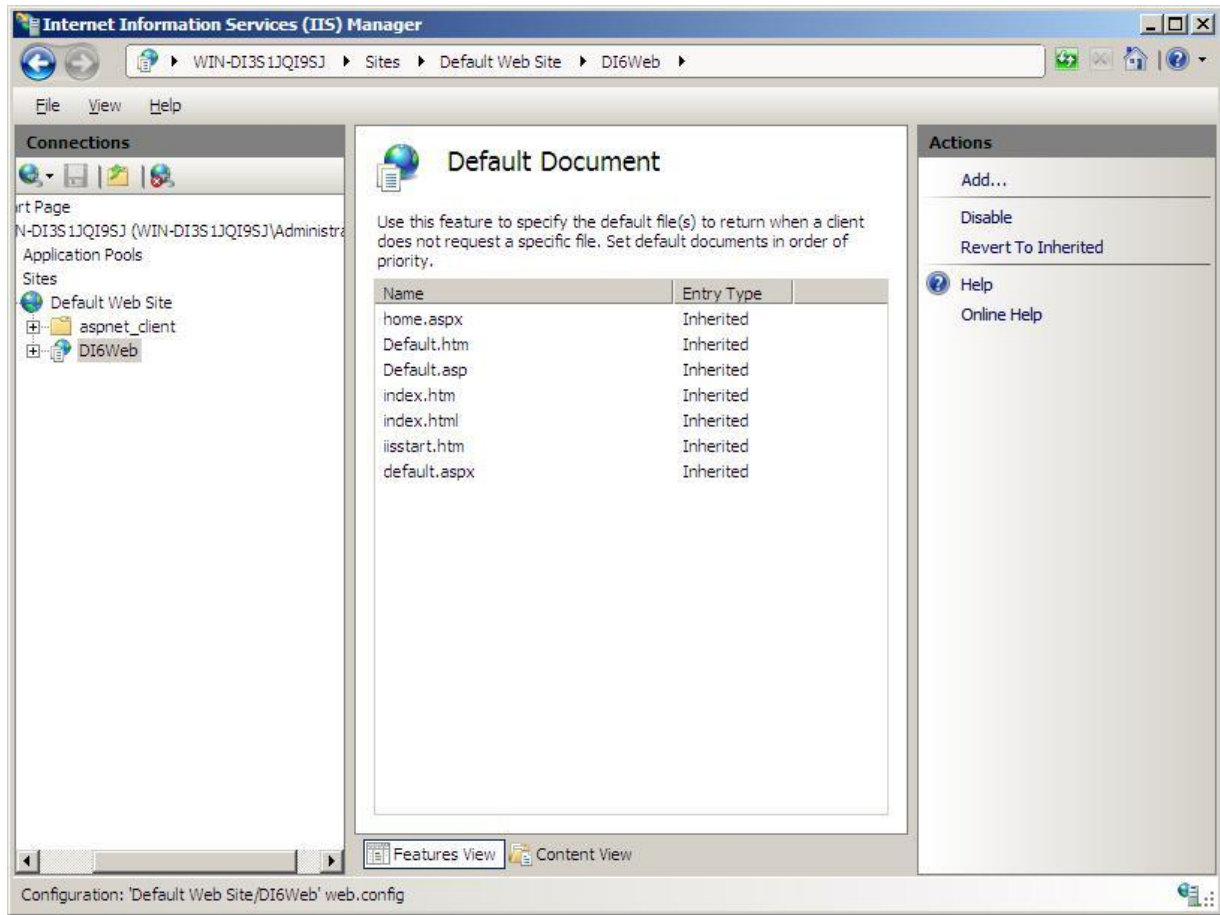


Fig. 3.14 - Default Document list

## Accessing the DevInfo Web Application

The DevInfo 6.0 Web application can now be accessed from the server or from any client location. Multiple users can now log on and access data from the SQL server database.

### Accessing DevInfo 6.0 from the server

To access DevInfo from the server:

- Launch Internet Explorer (6.0 or higher)
- In the Address bar, type <http://localhost/DI6Web/>

### Accessing DevInfo 6.0 from a client machine

To access DevInfo from a client machine:

- Launch Internet Explorer (6.0 or higher)
- In the Address bar, type `http://<windows 2008 server name or system IP address>/DI6Web/`

## Modifying the default database list

When you install the DevInfo Web set-up and log-in for the first time, you will be able to browse the default MDGInfo database hosted on a SQL Server. You can modify the default database to add the following types of databases:

- SQL Server databased
- Microsoft Access databases

# CHAPTER 4

## Configuring Online Databases with DevInfo 6.0 Web

This chapter explains how to configure online databases with the DevInfo 6.0 Web application.

### Step 1

Open Internet Explorer and type in the URL, [www.devinfo.info/configure/configure.aspx](http://www.devinfo.info/configure/configure.aspx).

For configuring online adaptations, the URL would always remain as follows:  
`www.AdaptationName.com/configure/configure.aspx`

Type the Admin User ID and Password. Click **Login** to proceed (Fig. 4.1).

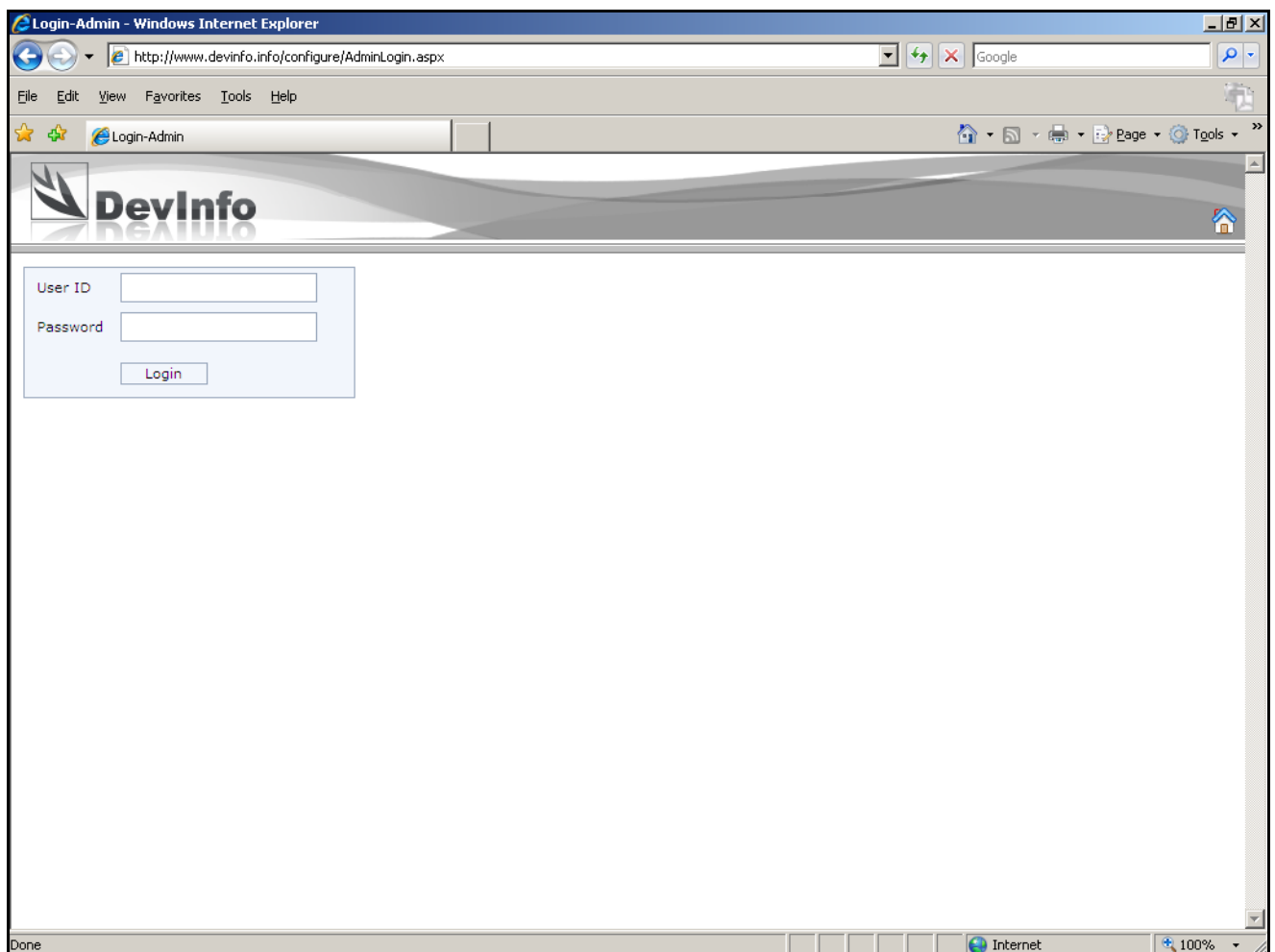


Fig. 4.1 - Admin Login

## Step 2

The **Configuration** page will now open. You can specify the **Product Name** as “DevInfo”. You should also specify the **Version** as “6.0”. Colors for **Global Item**, **Rec. Source** and **Alternate Row** can also be specified by clicking the respective color boxes and then choosing from a color palette.

The **Default Language** and **Page Size** must also be specified. You can also select whether you want indicators grouped according to Sector, Goal, CF, Theme, Source, Institution and/or Convention.

Click **Update** to save changes (Fig. 4.2).

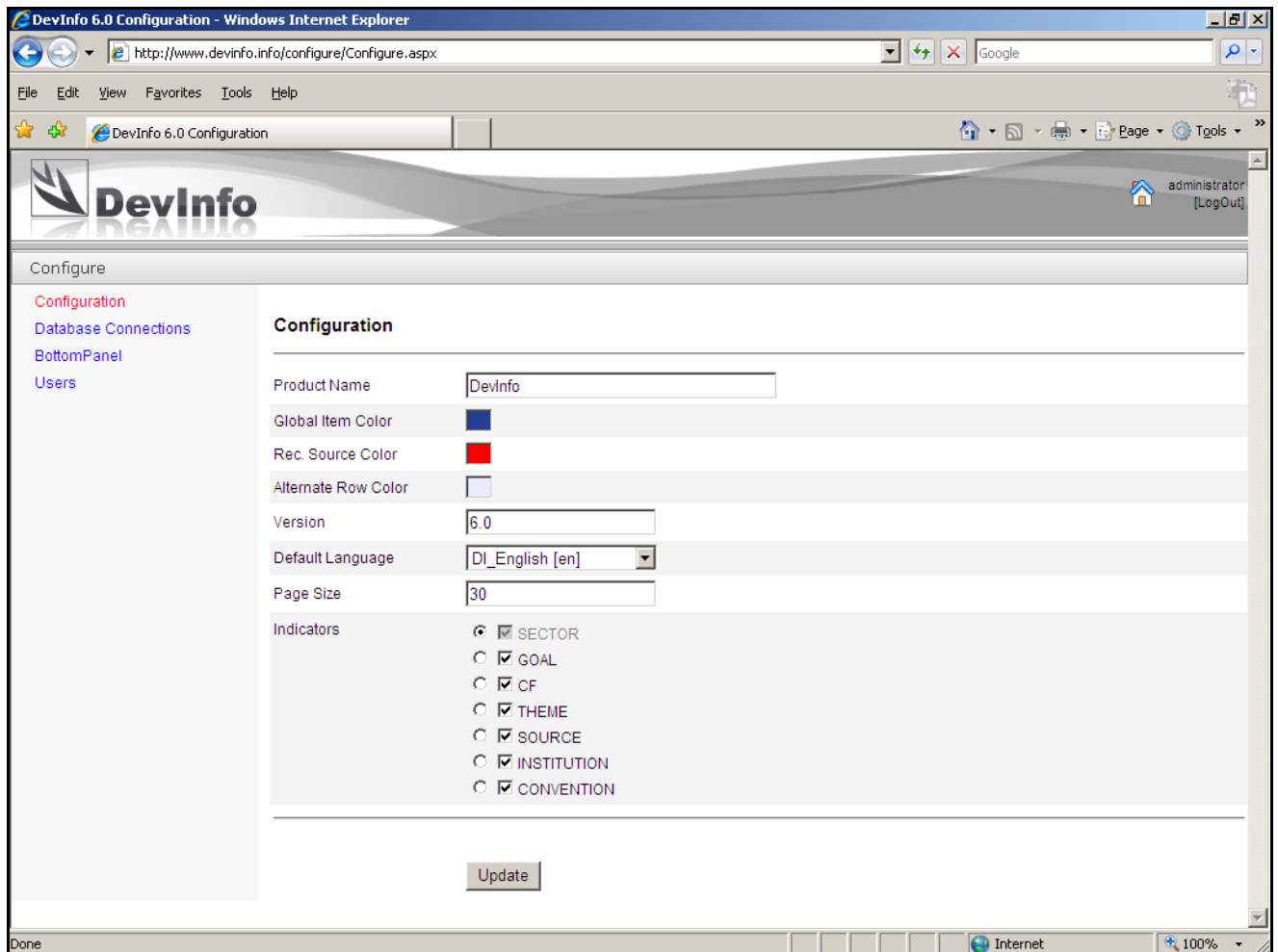


Fig. 4.2 - Configuration option

### Step 3

Click **Database connections** on the left panel to create a connection for a SQL database created in SQL server and enter the required information.

Click **Update** to save changes (Fig. 4.3).

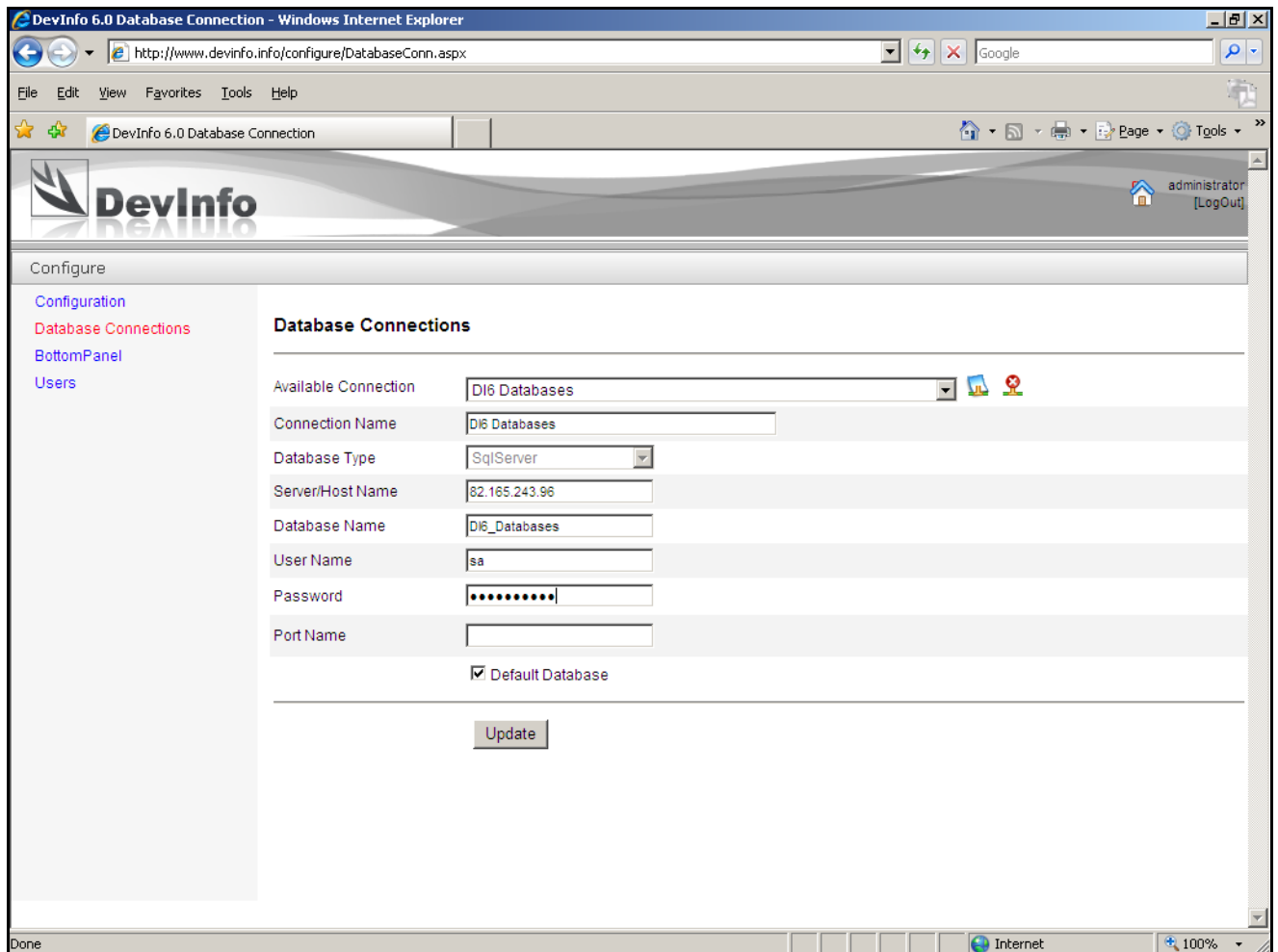
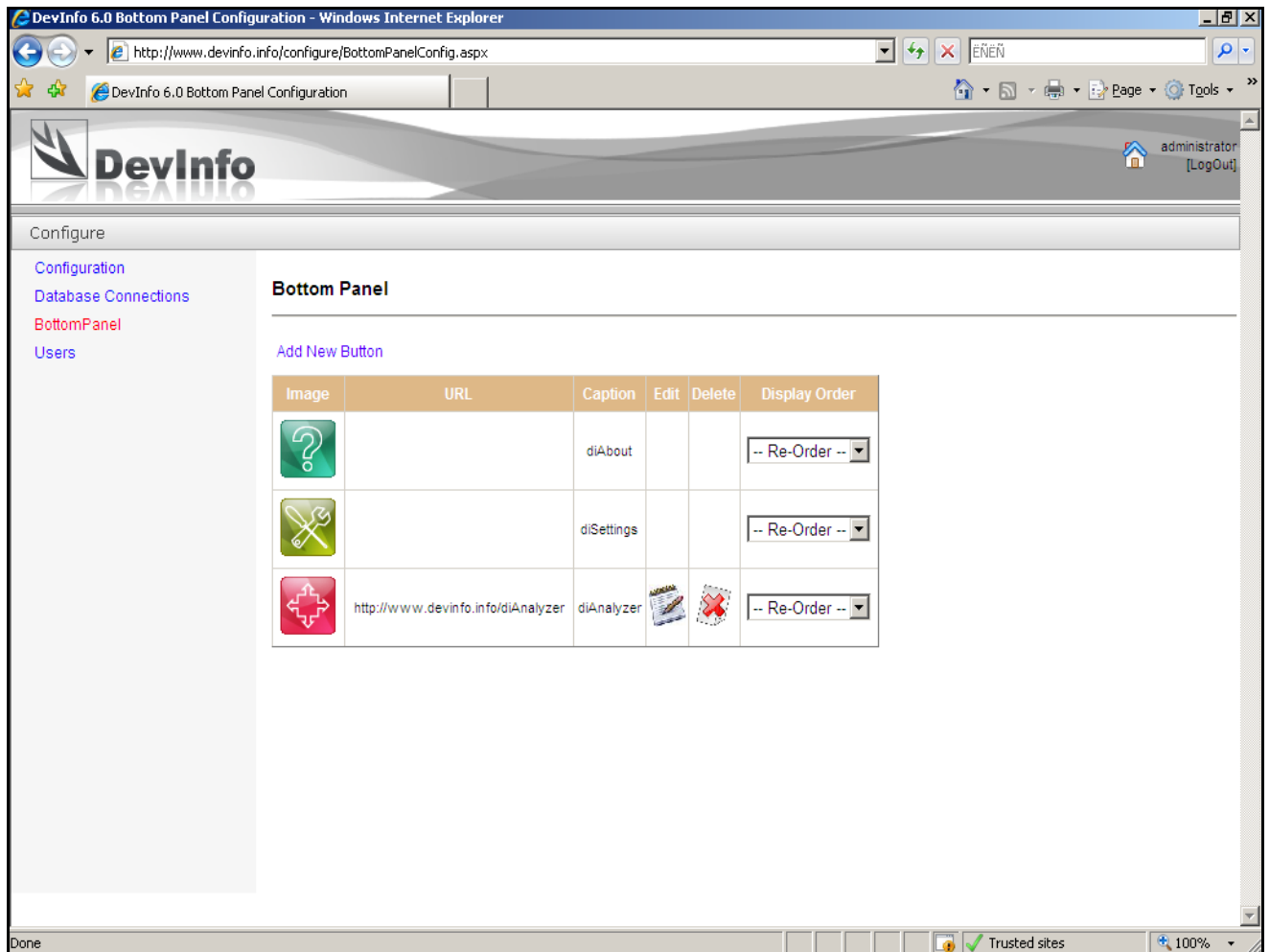


Fig. 4.3 - Database Connections option

## Customizing an online database with DevInfo 6.0 Web

In the **Bottom Panel** option, you can choose to add or remove bottom panel buttons which are to be displayed on the DevInfo 6.0 Web main page (Fig. 4.4).



The screenshot shows the 'DevInfo 6.0 Bottom Panel Configuration' page in Internet Explorer. The page title is 'DevInfo 6.0 Bottom Panel Configuration - Windows Internet Explorer'. The address bar shows 'http://www.devinfo.info/configure/BottomPanelConfig.aspx'. The page content includes a navigation menu on the left with 'Configuration', 'Database Connections', 'BottomPanel', and 'Users'. The main content area is titled 'Bottom Panel' and contains an 'Add New Button' link and a table with the following data:






| Image   | URL                                | Caption    | Edit  | Delete  | Display Order  |
|---|------------------------------------|------------|---|---|----------------|
|  |                                    | diAbout    |   |   | -- Re-Order -- |
|  |                                    | diSettings |   |   | -- Re-Order -- |
|  | http://www.devinfo.info/diAnalyzer | diAnalyzer |  |  | -- Re-Order -- |

Fig. 4.4 - Bottom Panel option

## Creating Users for DevInfo 6.0 Web

The following steps explain how to create users for DevInfo 6.0 Web.

### Step 1

Click **Users** on the left panel to access the Users option. A screen appears with a list of all existing administrators and users. You can click **Edit** to edit user details or **Delete** to delete the user. Admin details can also be edited to change the admin from one user to another.

Enabling **Allow User Login** would enable a login screen for users which appears before the application can be accessed. Enabling **Allow User Registration** would allow a new user to create a user profile themselves (Fig. 4.5).

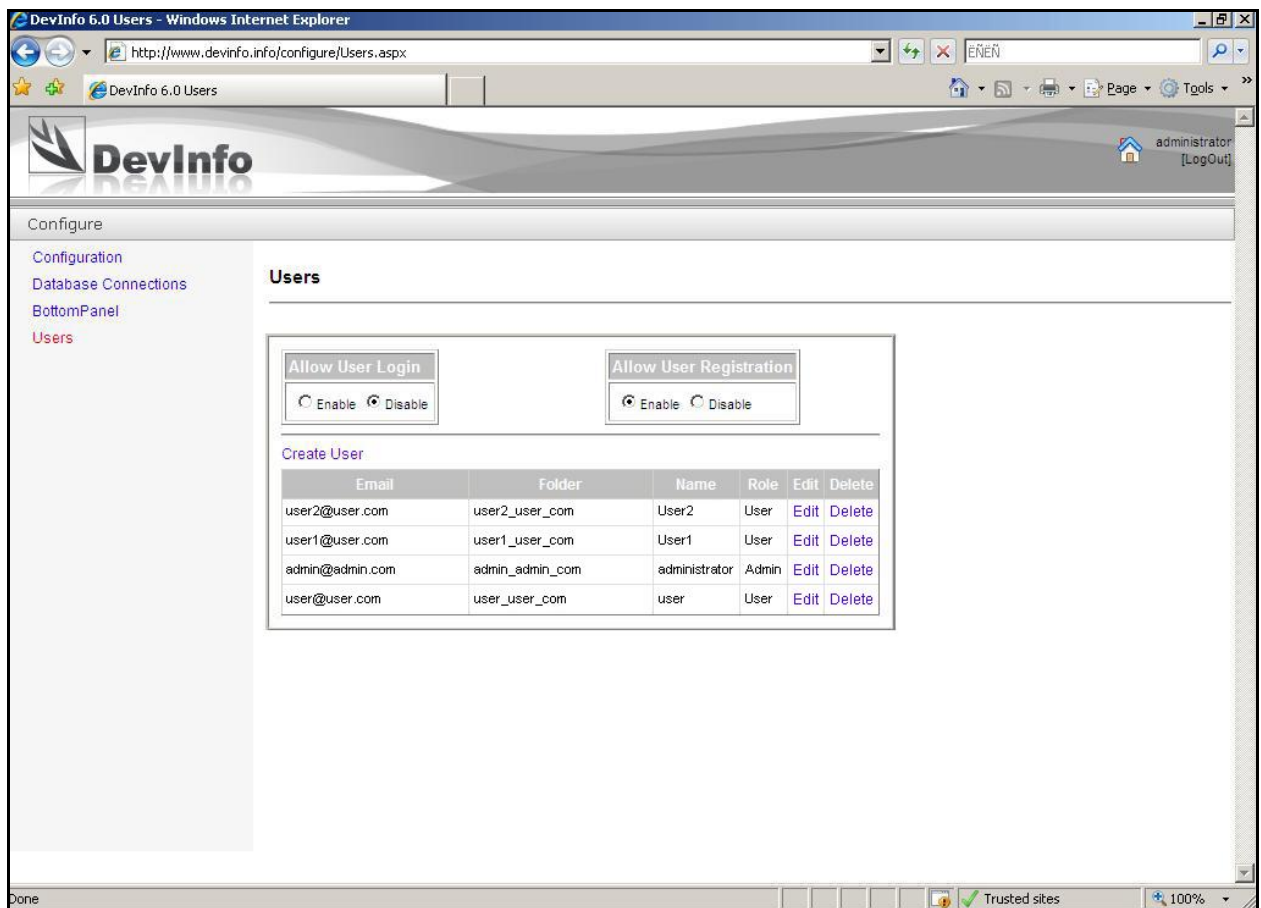
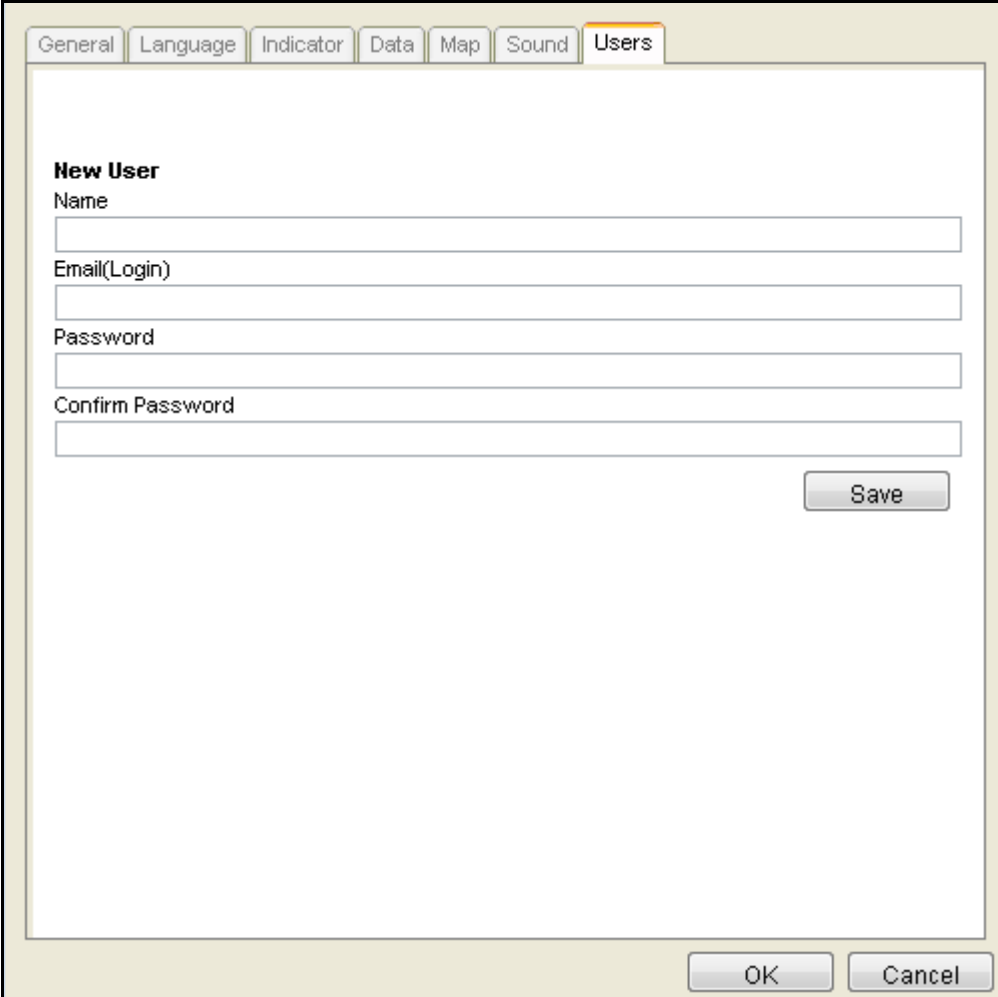


Fig. 4.5 - Users option

## Step 2

You can also create a new user by clicking **Create User**. A new screen would appear where you can type the new user name, email ID and password details. Click **Save** to create the user profile (Fig. 4.6).



The image shows a software interface window with a tabbed menu at the top. The tabs are labeled 'General', 'Language', 'Indicator', 'Data', 'Map', 'Sound', and 'Users'. The 'Users' tab is currently selected and highlighted. Below the tabs, the main content area is titled 'New User'. It contains four text input fields: 'Name', 'Email(Login)', 'Password', and 'Confirm Password'. A 'Save' button is located to the right of the 'Confirm Password' field. At the bottom right of the window, there are two buttons: 'OK' and 'Cancel'.

Fig. 4.6 - Creating a new user

## Enabling User Registration

Admin can allow users to register or create user profiles online for themselves.

### Step 1

Admin should enable **Allow User Registration** by selecting the radio button (Fig. 4.7).



Fig. 4.7 - Enabling User Registration

### Step 2

On opening the application online, users would be greeted by a login screen which would require a user ID and password (Fig. 4.8).

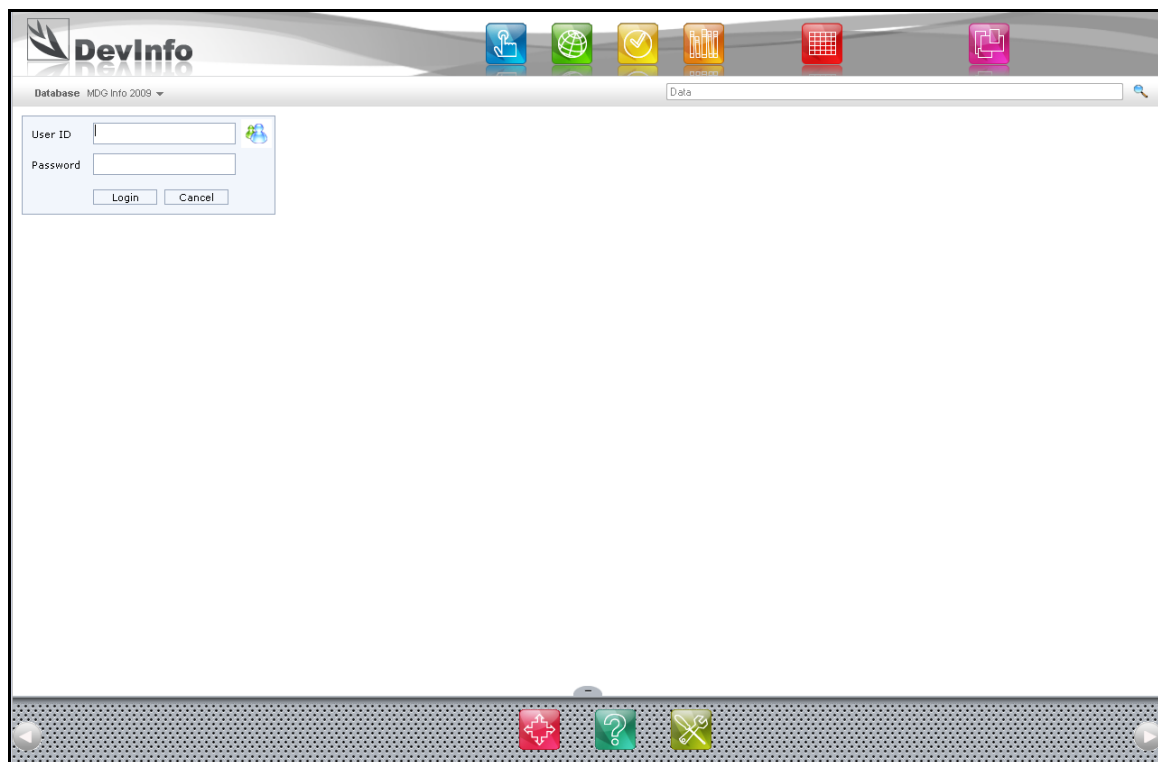



Fig. 4.8 - User Login Screen

Existing users can enter the required details to access the application. New users can register their details by clicking Register  .

### Step 3



On clicking Register , a login form appears where a new user can submit their user name, password and e-mail ID details. Click **Save** to create the new user profile. New users can also specify an email ID which would be used to retrieve the password, in case the password is lost by the user. Click **Submit** to save the email ID (Fig. 4.9).

The image shows a software dialog box titled 'Users' with several tabs: 'General', 'Language', 'Indicator', 'Data', 'Map', 'Sound', and 'Users'. The 'Users' tab is active. The form is divided into two sections. The first section, 'New User', contains four text input fields: 'Name', 'Email(User ID)', 'Password', and 'Confirm Password'. A 'Save' button is located to the right of the 'Confirm Password' field. The second section, 'Forgot Password?', contains a text input field with the instruction 'Please enter your Email ID to retrieve password.' and a 'Submit' button to its right. At the bottom of the dialog box are 'OK' and 'Cancel' buttons.

Fig. 4.9 - New User Login Form