



Installation & Administration Guide

Version 1.0



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ezWebReports is a powerful, yet easy-to-use web-based reporting and ad-hoc query solution that enables companies to quickly and affordably empower users throughout their organization with the type of “information at your fingertips” tools they need – while requiring a minimal amount of time and effort on the part of their already-overloaded IT group to support it.

ezWebReports was designed from the ground-up to focus on making it easy for end-users to quickly gain access to the information sources they need – without requiring them to know anything about databases, data warehouses, ODBC connections, tables, views, SQL queries, or any of the other technical terms often associated with reporting and query tools. With just a web browser (both IE v5.5+ and Netscape v6.1+ are supported), even the most novice users will be able to easily design their own presentation-quality reports, apply filters to the data without any knowledge of query languages or SQL, and generate the reports in a variety of popular formats (including viewing/printing the report in their browser, or downloading the report in Excel, Adobe Acrobat, Comma-Delimited, HTML, and XML formats). It also includes powerful drill-down capabilities that let users start out at a high-level summary of analysis, and easily drill-down to the supporting detail with just a mouse click. ezWebReports was not designed to be an all-encompassing reporting solution with all of the “bells and whistles” – but rather it has been designed to focus on empowering end-users with basic presentation-quality report design and powerful ad-hoc query capabilities that require almost no training or technical support.

In addition to being easy-to use, ezWebReports is also easy to install and administer – so that a minimal amount of time is all that is required to install and configure the system, setup and maintain users and user security, and to setup controlled access to a variety of data sources throughout your organization. User access can be controlled through either the built-in authentication system, or via integrated Windows security – which utilizes your existing Windows Domain user logins. And if needed, each user can be limited to querying and reporting on only a subset of each data source.

ezWebReports is also very affordable to deploy. Licensing is on a per-server basis for each web server that the application is deployed on, with an unlimited number of users able to access the application on that server (subject to available resources on the web server, of course). There are no per-user license fees to worry about – so you can deploy it to users throughout your company that are most likely starving for access to needed information and easy-to-use tools needed to help them turn mountains of data into useful information that can help them perform their jobs more effectively, reduce costs, improve productivity, enhance customer service, etc.

In addition to being a valuable tool for your company’s internal employees, ezWebReports can also easily enable you to provide access to your clients and business partners via an Extranet solution. With ezWebReports, you can deliver secure, powerful, easy-to-use reporting and ad-hoc query access to selected internal data sources for these external users – with no per-user license fees required.

ezWebReports supports access to a wide-range of database servers, including Microsoft SQL Server, Oracle, IBM DB2, Sybase, MySQL, and Microsoft Access – so your end-users can have access to the widest range of data sources throughout your organization.

In summary, **ezWebReports** is the ideal solution for quickly and affordably deploying easy-to-use web-based reporting and ad-hoc query capabilities to users throughout your organization – and also to your clients and business partners.

Technical Support

In order to help maintain the cost-effectiveness of our products, our primary means of providing support to licensed users is through our online **Knowledge Base** and via **E-Mail Technical Support**.

The **Knowledge Base** can be accessed at:

www.InspireonSoftware.com

Requests for technical support can also be sent via e-mail to:

Support@InspireonSoftware.com

General product inquiries should be sent via e-mail to:

Info@InspireonSoftware.com

System Requirements

ezWebReports requires the following web server software:

- Microsoft Windows 2000 or 2003 Server, or Microsoft Windows XP Professional
- Internet Information Services
- .NET Framework version 1.0 or 1.1
- ASP.NET

ezWebReports supports the following web browsers for end-user access:

- Microsoft Internet Explorer version 5.5 and higher
- Netscape Navigator version 6.1 and higher

ezWebReports makes use of no ActiveX controls, plug-ins, or Java controls – it has a 100% browser-based client. It does, however, require that Cookies and JavaScript be enabled in the user's web browser to function correctly.

Database Connectivity

ezWebReports supports connecting to the following database servers:

- Microsoft SQL Server 2000
- Oracle 9i
- IBM DB2 Universal Database v8.1
- Sybase Adaptive Server Enterprise v12.5
- MySQL versions 3.23.51 through 4.0.x
- Microsoft Access 2002

In addition to the above-listed database servers, ezWebReports should also work with earlier versions of these databases as long as they utilize a compatible SQL syntax – although it has not been specifically tested with any earlier versions or releases.

ezWebReports supports connectivity via the following ADO.NET Data Providers:

- | | |
|---|-----------------------------------|
| ▪ SQL Server Client (System.Data.SqlClient) | <i>part of .NET Framework</i> |
| ▪ OLEDB.NET (System.Data.OleDb) | <i>part of .NET Framework</i> |
| ▪ ODBC.NET (Microsoft.Data.Odbc) | <i>download from Microsoft</i> |
| ▪ Oracle Data Provider (Oracle.DataAccess) | <i>download from Oracle</i> |
| ▪ DB2.NET Provider (IBM.Data.DB2) | <i>download from IBM</i> |
| ▪ MySQLDirect.NET (CoreLab.MySql) | <i>download from CoreLab</i> |
| ▪ dbProvider for MySQL (dbProvider) | <i>download from eInfoDesigns</i> |

*Note that for any Data Providers other than System.Data.SqlClient and System.Data.OleDb (which are part of the .NET Framework), the assembly DLL file for the Data Provider **must** be copied to the **bin** folder of the ezWebReports application directory (usually \inetpub\wwwroot\ezWebReports\bin). For example, if you have downloaded and installed the Oracle Data Provider, you must copy the assembly DLL file named **Oracle.DataAccess.dll** to the **bin** folder of the ezWebReports application directory.*

Not all Data Providers are supported with each supported database server. The following table shows which Data Provider(s) are supported with each supported database server:

Database Server	Supported Data Provider(s)
Microsoft SQL Server	SQL Server Client (System.Data.SqlClient) OLEDB.NET (System.Data.OleDb) ODBC.NET (Microsoft.Data.Odbc)
Oracle	Oracle Data Provider (Oracle.DataAccess) OLEDB.NET (System.Data.OleDb)
IBM DB2 Universal Database	DB2.NET Provider (IBM.Data.DB2) ODBC.NET (Microsoft.Data.Odbc)
Sybase Adaptive Server Enterprise	OLEDB.NET (System.Data.OleDb)
MySQL	ODBC.NET (Microsoft.Data.Odbc) MySQLDirect.NET (CoreLab.MySql) dbProvider for MySQL (dbProvider)
Microsoft Access	OLEDB.NET (System.Data.OleDb)

Installation and Configuration Procedure

The installation & configuration procedure for ezWebReports involves the following steps:

1. Run the **ezWebReports-1.0.msi** file to install the application on your web server
2. Create the System Database that ezWebReports uses to store information about users, data sources, reports, filters, and other system-related information
3. Update the application settings in the **web.config** file
4. Set the security on the ezWebReports TEMP folder
5. Add and configure Users
6. Add and configure reporting Data Sources

The following describes each of these steps in detail:

To install ezWebReports on your web server, simply copy the **ezWebReports-1.0.msi** file to the web server and run the file. The installation program will walk you through the installation processes, which will create the ezWebReports application directory and copy all of the program files to that directory. It will also create the Internet Information Services virtual directory and application named ezWebReports.

Once the installation program is complete, you will need to create the system database and tables on the database server that you have selected to store the ezWebReports system data. The system database is used to store information about the users, data sources, user reports, and user filters created and used by the application. Because this system database will have a high level of read/write activity by users of the application, you should locate this database on a database server with ample capacity to support the volume of users you plan to have access the application. This system database can be created on any of the databases supported by ezWebReports (see prior page) – with the exception of Microsoft Access (Microsoft Access is only supported as a reporting data source).

Instructions to create the system database and tables for your selected database server are as follows:

Microsoft SQL Server

- Create a new database named ezWebReports on the server you have designated to store the ezWebReports system database.
- Add a new SQL Server Login that will be used by ezWebReports to access the system database. For example, add a new login named ezWebReports. The new login should use SQL Server Authentication, and have its Default Database set to ezWebReports.
- Grant the new login access to the ezWebReports database with the db_owner role.
- Using Query Analyzer, connect to the server that you created the ezWebReports database on, and run the SQL script named “ezWebReports - SQL Server.sql” (the script file can be found in the ezWebReports.zip file you downloaded). This SQL script will create all of the system tables required by ezWebReports.

Oracle

- Using the Oracle Enterprise Manager Console, connect to the Service/Database where you want to store the ezWebReports schema and system tables.
- Create a new User that will be used by ezWebReports to access the system tables, and grant the User the privileges necessary to create and maintain the system tables (for example, grant the User the 'UNLIMITED TABLESPACE' System Privilege).
- Open a SQL*Plus worksheet – connecting as the User you created above – and run the SQL script named “ezWebReports – Oracle.sql” (the script file can be found in the ezWebReports.zip file you downloaded). This SQL script will create all of the system tables required by ezWebReports.

IBM DB2 Universal Database

- Using the DB2 Control Center, connect to the Server/Instance where you want to store the ezWebReports system database.
- Use the Create Database Wizard to create a new database named ezWebRep (the database cannot be named ezWebReports, as DB2 limits database names to 8 characters). *Note: the default Table Space for this database must have a page size of at least 16KB. You must also have a System Temporary Table Space with a page size of at least 16KB for this database.*
- Create a new User that will be used by ezWebReports to access the system tables, and grant the User full access to the ezWebRep database.
- Open the DB2 Command Center – connecting to the ezWebRep database – and run the SQL script named “ezWebReports – DB2.sql” (the script file can be found in the ezWebReports.zip file you downloaded). This SQL script will create all of the system tables required by ezWebReports.

Sybase Adaptive Server Enterprise

- Using Sybase Central, connect to the Server where you want to store the ezWebReports system database, and create a new database named ezWebReports.
- Add a new Login that will be used by ezWebReports to access the system database. For example, add a new login named ezWebReports. The new login should have its Default Database set to ezWebReports, and should be made the Owner of the ezWebReports database.
- Using iSQL or your preferred SQL command processor, connect to the server that you created the ezWebReports database on, and run the SQL script named “ezWebReports - Sybase.sql” (the script file can be found in the ezWebReports.zip file you downloaded). This SQL script will create all of the system tables required by ezWebReports.

MySQL

- Using your preferred MySQL administration tool, connect to the Server where you want to store the ezWebReports system database, and create a new database named ezWebReports.
- Add a new User that will be used by ezWebReports to access the system database. For example, add a new user named ezWebReports. The new user should be given full access to the ezWebReports database.
- Using your preferred MySQL administration tool, connect to the server that you created the ezWebReports database on, and run the SQL script named “ezWebReports - MySQL.sql” (the script file can be found in the ezWebReports.zip file you downloaded). This SQL script will create all of the system tables required by ezWebReports.

Once you have completed creating the system database/tables, all that is required to complete the installation and configuration is to update the application settings in the **web.config** file, and to set the security of the ezWebReports TEMP folder as follows:

Updating the Application Settings in the web.config file

The **web.config** file is located in the ezWebReports directory where the application was installed (usually \inetpub\wwwroot\ezWebReports). This configuration file can be edited with any text editor. The web.config file has a section named **<appSettings>** that contains the settings that can be changed depending on your requirements.

The keys in the **<appSettings>** sections are described as follows:

LicenseCode

The **LicenseCode** setting is where you enter the License Code you receive once you have purchased a license for ezWebReports. If you are running the unlicensed Evaluation version of ezWebReports, leave the LicenseCode as an empty string (“”).

Note: when you are running the unlicensed Evaluation version of ezWebReports, all reports will contain a watermark at the top of the report. Once you have purchased a valid License and entered a valid LicenseCode, the watermark will no longer be displayed on reports. Each licensed server must have its own License and corresponding License Code.

DataProviderName

The **DataProviderName** setting is where you enter the name of the ADO.NET Data Provider that you will be using to connect to the ezWebReports system database that you created in the previous step.

Valid values for the DataProviderName setting are as follows:

System.Data.SqlClient
System.Data.OleDb
Microsoft.Data.Odbc
Oracle.DataAccess
IBM.Data.DB2
CoreLab.MySql
dbProvider

*Note: for any Data Provider other than System.Data.SqlClient and System.Data.OleDb (which are native to the .NET Framework), the assembly DLL file for the Data Provider must be copied to the **bin** folder of the ezWebReports application directory (usually \inetpub\wwwroot\ezWebReports\bin).*

ConnectionString

The **ConnectionString** setting is the ADO.NET connection string used to connect to the ezWebReports system database using the Data Provider you specified above.

For example, if your DataProviderName is System.Data.SqlClient, your ConnectionString would be like the following:

Server=sqlserver01;Database=ezWebReports;User ID=ezWebReports;Password=xxxxxxx

Please see Appendix A for examples of Connection Strings for the supported Data Providers/Databases

UseWindowsSecurity

The **UseWindowsSecurity** setting is used to specify whether you will be using Integrated Windows Security to control access to the ezWebReports application, or if you will be using the authentication system provided by ezWebReports.

Valid values for the UseWindowsSecurity setting are as follows:

Y - use Integrated Windows Security
N - use the built-in authentication system provided by ezWebReports

The built-in authentication system provided by ezWebReports stores encrypted passwords in the Users table in the system database. The passwords are encrypted using the high-strength Triple-DES encryption algorithm using 128-bit keys. This level of encryption ensures that the passwords stored in the Users table are not viewable by anyone – even if they were to gain access to the records in the Users table. In addition, passwords must be at least 6 characters long, are case-sensitive, and must contain at least one letter and one number. Users are periodically required to change their passwords based on the PasswordExpiresDays setting (see below).

Note: if you set the UseWindowsSecurity setting to “Y”, you must also set the <authentication mode> setting in the web.config file to “Windows”, and you must also modify the security setting for the ezWebReports application in Internet Information Services to not allow anonymous access (see the Internet Information Services help/manual for instructions on disabling anonymous access for an IIS application directory).

Also note that you should not enable Integrated Windows Security until after you have logged into the application and setup at least one Administrative User that corresponds to an existing Windows Domain UserID. See the Administration section of this manual for additional details.

PasswordExpiresDays

The **PasswordExpiresDays** setting is used to specify the number of days that a user’s password will expire if you are using the authentication system provided by ezWebReports. If you are using Integrated Windows Security, this setting is ignored – as password changes are managed by your Windows Domain security settings.

AllowAllDataFilter

The **AllowAllDataFilter** setting is used to specify whether or not users will be given the option to generate a report against all of the data available to them in a Data Source.

Valid values for the AllowAllDataFilter setting are as follows:

- Y** - users are allowed to generate reports against all of the data available to them in a Data Source
- N** - users are not allowed to generate reports against all of the data available to them in a Data Source, and they are required to apply at least one Filter to each Report

ezWebReports allows you to optionally define a **Base Filter** for each Data Source that a user has access to. This Base Filter is used to limit what data the user can report on for the Data Source. The Base Filter is applied first, before any user Filters are applied when generating the report. For example, you might define a Base Filter for the Sales Data Source for user Bob that specifies OrderDate Is Between 01/01/2003 and 03/31/2003. In this case, Bob is only allowed to report on Sales data for records with an OrderDate in the first quarter of 2003. This feature is very useful for restricting certain users to only be able to report on a subset of data contained in a particular Data Source.

For more information on setting Base Filters, please see the Administration section of this manual.

ReportFormatting.DateFormat

The **ReportFormatting.DateFormat** setting is used to specify the format for displaying Date columns in reports.

Valid parts of the ReportFormatting.DateFormat setting are as follows:

- MM** - the Month of the Date (including leading zeros)
- M** - the Month of the Date (no leading zeros)
- dd** - the Day of the Date (including leading zeros)
- d** - the Day of the Date (no leading zeros)
- yyyy** - the 4-digit Year of the Date
- yy** - the 2-digit Year of the Date

Valid date separator characters include a hyphen (-), a slash (/), and a dot (.)

*For example, if the date value of a column is January 2, 2003, then setting ReportFormatting.DateFormat to "MM/dd/yyyy" would display the date in the report as **01/02/2003**. Note that the M or MM must be in upper case, while all other parts must be in lower case.*

ReportFormatting.CurrencySymbol

The **ReportFormatting.CurrencySymbol** setting is used to specify the currency symbol used next to report columns that are specified in the Data Source as being Currency values. Any ASCII character can be used as the currency symbol.

Please see the section titled "Managing Data Sources" later in this manual for information on designating columns as Currency.

ReportFormatting.CurrencyPosition

The **ReportFormatting.CurrencyPosition** setting is used to specify the position of the ReportFormatting.CurrencySymbol character next to a currency value in a report.

Valid values for the ReportFormatting.CurrencyPosition setting are as follows:

- Left** - the Currency Symbol will be displayed to the Left of currency values
- Right** - the Currency Symbol will be displayed to the Right of the currency values

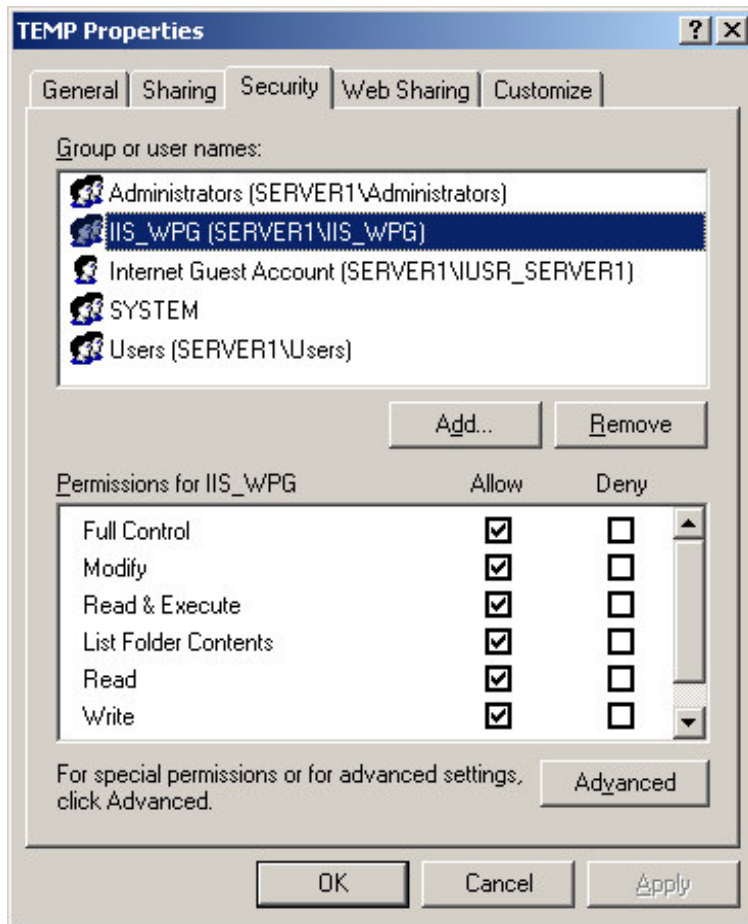
Once you have completed making any changes to the Application Settings in the web.config file, make sure to save your changes.

Setting the Security on the TEMP Folder

When you install ezWebReports on your web server, a folder named TEMP is created under the ezWebReports application directory (the path to this folder is usually \inetpub\wwwroot\ezWebReports\TEMP). The TEMP folder is used by ezWebReports in the generation of reports by users where the format of the report is a downloadable file - such as Excel or Adobe Acrobat.

In order for ezWebReports to function properly, the user account that ASP.NET runs under (normally a Windows user named "aspnet" on Windows 2000 Server and Windows XP Professional, or the user group "IIS_WPG" on Windows Server 2003) must be granted Full Control to the TEMP folder. After installing ezWebReports, you must change the permissions on the TEMP folder (using Windows Explorer) to grant the "aspnet" account (Windows 2000 Server and Windows XP Professional) or the "IIS_WPG" user group (Windows Server 2003) Full Control to the TEMP folder.

An example of setting the security on the TEMP folder on Windows Server 2003 looks like the following:



Note: when generating reports where the Format of the report is a downloadable file, ezWebReports will automatically delete any temporary file(s) created in the TEMP folder once the user has downloaded the file to their PC. However, if the download is interrupted, or the user does not click on the Download Report button to download the file, any temporary files created for that report may not be deleted. You should periodically check the contents of the TEMP folder to determine if any older temporary files need to be deleted.

That's It!

At this point, the main installation and configuration process is complete. You can now proceed to setup and manage Users and Data Sources as described in the following section.

When you first install ezWebReports, an administrative user with the User ID **Admin** is created, with an initial blank password. The Admin user is the default administrator login used to create and manage Users and Data Sources in ezWebReports (you can create additional administrative users as required).

To log on to the application, you should enter the following URL into your web browser:

http://servername/ezWebReports

where **servername** is the name of the server that you installed the ezWebReports application on.

At the log on prompt, enter the User ID **Admin** and leave the password blank. The first time you log on, you will be prompted to change the password for the Admin user. *Passwords must be at least 6 characters in length, and must have at least one digit and also one letter.*

Once you have successfully changed the **Admin** password, you will be logged on to ezWebReports and the menu options will be displayed along the menu bar at the top of the screen. In addition to the general user menu options of Generate Reports, Design Reports, Edit Filters and Logoff, you will see the **Admin Menu** at the right of the menu bar. When you click on the Admin Menu, you will see the following menu options:



The following will describe how to manage Users and Data Sources using these Admin Menu options:

Managing Users

Depending on whether you have selected to use Integrated Windows Security or the built-in authentication system of ezWebReports, the process for adding and maintaining users will vary slightly. If you plan to use Integrated Windows Security, the first thing you must do before enabling that setting in the web.config file (see the prior section in this manual) is to add a new administrative user that is an existing user in your Windows Domain. (If you plan to use the built-in authentication system of ezWebReports, you can skip this step).

To add an administrative user that is an existing user in your Windows Domain, click on **Add New User** on the Admin Menu. You will be prompted to enter the following:

ADD NEW USER

New User Details

User ID:	<input type="text" value="mydomain\joesmith"/>
Name:	<input type="text" value="Joe Smith"/>
Security Level:	<input type="text" value="Administrator"/> ▼
<div><input type="button" value="Add New User"/> <input type="button" value="Reset Values"/></div>	

In this example, you are adding the user **joesmith** from the Windows Domain **mydomain**.

Once you click on the Add New User button, the user will be added to ezWebReports, and an initial password will be generated and displayed. Because you are now going to enable Integrated Windows Security (which uses the authentication of your Windows Domain), you can ignore this initial password.

You can now edit the **web.config** file and change the **UseWindowsSecurity** setting to “Y”, and the **<authenticationMode>** setting to “**Windows**”. You must also change the application security setting of the ezWebReports application in Internet Information Server to not allow anonymous access (see the Internet Information Services help/manual for instructions on disabling anonymous access for an IIS application directory).

Once you have changed these settings, ezWebReports will use the User ID that is logged into the Windows Domain to match against the list of users that have been added via the Add New User option on the Admin Menu. At this point, you should log into your Windows Domain using the User ID that you just added, and re-open the URL listed above to log into ezWebReports with that User ID.

If you are going to use the built-in authentication system of ezWebReports, you should come up with your own naming convention for User ID's (such as *firstname.lastname*, or the user's e-mail address). Then, when you add a new user, you will have a consistent naming convention for the User ID's that you enter.

An example of adding a new user when using the built-in authentication system of ezWebReports is as follows:

ADD NEW USER

New User Details

User ID:	<input type="text" value="joesmith"/>
Name:	<input type="text" value="Joe Smith"/>
Security Level:	<input type="text" value="User"/>

Add New User

Reset Values

In this example, the User ID is **joesmith**, and the user has the **User** Security Level. Once you click on the **Add New User** button, the user will be added and an initial password will be generated and displayed. Because you are using the built-in authentication system of ezWebReports, you should communicate this initial password to the user so that they can use the password for their initial log on.

When the new user first logs on to ezWebReports, they will be prompted to change their password. *Passwords must be at least 6 characters in length, and must have at least one digit and also one letter.*

Once you have setup a user, they are given the following default settings:

- Access to all Data Sources
- Active Account
- No Base Filters

If you want to change any of these settings for a particular user, you use the **View/Edit Users** option on the Admin Menu. You will be prompted to select a user to View/Edit. Once you click on the **View/Edit User** button, the user's current settings will be displayed in the View/Edit User page:

VIEW/EDIT USERS

User ID:	joesmith
Name:	<input type="text" value="Joe Smith"/>
Last Logon Date:	User Has Not Yet Logged On
Security Level:	<input type="text" value="User"/>
Active Account?:	<input checked="" type="checkbox"/>
New Password:	<input type="text"/>
Allowed Data Sources:	<input checked="" type="checkbox"/> All Data Sources <div>Customers on Northwind Orders on Northwind</div>
[Edit Base Filters for This User]	
<div><input type="button" value="Submit Changes"/> <input type="button" value="Reset Values"/></div> <div><input type="button" value="Delete User"/></div>	

You can perform the following tasks on this page:

- Change the user's Security Level from **User** to **Administrator** (or back to User)
- Disable the user by un-checking the **Active Account?** checkbox
- Change the user's password by typing in a new password in the **New Password** box (use this option if the user has forgotten their password, and you need to reset it).
- Change the **Allowed Data Sources** from the default **All Data Sources** to individually select which Data Sources the user is allowed to access (note: if **All Data Sources** is checked, the user will have access to any new Data Sources that you might add in the future. So if the user should be limited to accessing only selected Data Sources, then you should un-check this option, and select the specific Data Sources the users should be limited to).
- Set/edit the **Base Filters** for each Data Source (a Base Filter is a set of filter criteria that you can define to limit what data in the Data Source a user is allowed to report on. Once you have defined a Base Filter for a Data Source for a user, that filter is applied first before any User Filters are applied when the user generates a report). *For more information on editing Filters, click on the **[Help]** link on the Edit Filters page when you are editing the Base Filter for a user.*

Managing Data Sources

Data Sources in ezWebReports are Tables or Views on a particular database server that you setup to provide access to for reporting by users. You can setup as many Data Sources as you need, and each Data Source can connect to any supported database server using any supported ADO.NET Data Provider that is applicable for the corresponding database.

Note: some databases support Table and View names that contain spaces in the name. ezWebReports does not support connecting to Tables or Views with names containing spaces.

If you need to join one or more tables to be the basis of a Data Source, you can create a View that performs the join (if your database server supports Views), and then use the name of the View in setting up the Data Source. This way, your users don't need to know anything about joining tables to take advantage of this feature. You can also create views to limit a Data Source to a subset of columns available on a table, and then setup a Data Source to use the View rather than the Table.

To add a new Data Source to ezWebReports, click on **Add New Data Source** on the Admin Menu. You will be prompted with the following:

ADD NEW DATA SOURCE

New Data Source Details

Data Source Name:

Data Provider:

Table/View Name:

Connection String:

In this example, the Data Source connects to the table or view named **Sales** on a Microsoft SQL Server named **sqlserver01** in the database named **SalesDB**. The server connection is made via the SQL Server Data Provider that is part of the .NET Framework (System.Data.SqlClient). You could also connect to this same database via the OleDb or ODBC.NET Data Providers using the appropriate Connection Strings, but the SQL Server Data Provider is the fastest Data Provider for connecting to Microsoft SQL Server within the .NET framework.

Please see Appendix A for examples of Connection Strings for the supported Data Providers/Databases

Once you have entered the appropriate information for the Data Source, click on the **Add New Data Source** button. ezWebReports will attempt to connect to the database and retrieve the table/view columns. If the connection is successful, the Data Source will be added and the default settings applied. If the connection is not successful, you will receive an error message.

In addition to the connection and Data Provider information entered above, the settings for a Data Source include information about the columns/fields contained in the table or view as follows:

- The actual column/field name in the table of view
- A “friendly” column name that can be displayed to the users to make it easier to understand the column
- The Data Type of the column/field (Alpha, Numeric, or Date)
- Whether or not a Numeric column/field is a Currency value
- How many decimals should be displayed if the column/field is a Numeric value
- The width (in pixels) that the column should occupy in a report
- A Column Heading that is displayed for the column in a report
- Whether or not the column/field has a list of Lookup Values that the user can use when building Filters for the Data Source
- Example values for the column/field that are displayed in the Report Designer

By default, when you add a new Data Source, the “friendly” column name and the Column Heading are the same as the column/field name of the table or view. You can make the Data Source more “user friendly” by changing the default values to more English-like words. For example, if the column/field name in the database is **fname**, you can have the Friendly Column Name be **First Name**, and the Column Heading be **First
Name** (this will display the Column Heading on the reports as 2 lines, with First on the 1st line and Name on the 2nd line of the heading).

By default, the width (in pixels) of each column is determined by the Data Type of the column/field. You can make the reports look better in some cases by increasing or decreasing the width of particular columns that may be on average wider or narrower than the default settings – depending on what types of data are in the particular columns/fields.

Once you have added a Data Source to ezWebReports, you can either accept the default settings that are applied when you add the Data Source, or you can further customize the Data Source to make it more “user friendly” for the users by selecting the **View/Edit Data Sources** option on the Admin Menu:

VIEW/EDIT DATA SOURCE

Data Source Name: Customers on Northwind

Data Provider: SQL Server (System.Data.SqlClient)

Table/View Name: Customers

Connection String: Server=sqlserver01;Database=Northwind;User ID=nwind;Password=xxxxxx;

Data Source Is Online: ☒

Submit Changes

Reset Values

Delete Data Source

Table/View Column Name	Friendly Column Name	Data Type	Currency?	Num Decimals	Display Width	Column Heading	Lookup List?	Example Value 1	Example Value 2
Address	Address	Alpha	No	0	200	 Address	No	123 MAIN STREET	456 STATE STREET
City	City	Alpha	No	0	100	 City	No	LOS ANGELES	NEW YORK
CompanyName	Company Name	Alpha	No	0	150	 Company Name	No	ABC WIDGETS	XYZ COMPANY
ContactName	Contact Name	Alpha	No	0	100	 Contact Name	No	BOB SMITH	SUE JONES
ContactTitle	Contact Title	Alpha	No	0	75	Contact Title	No	OWNER	PRESIDENT
Country	Country	Alpha	No	0	75	 Country	No	US	US
CustomerID	Customer ID	Alpha	No	0	75	Customer ID	No	123456	456789
Fax	Fax	Alpha	No	0	75	 Fax	No	203-123-4567	102-345-6789
Phone	Phone	Alpha	No	0	75	 Phone	No	203-123-4568	102-345-6790
PostalCode	Postal Code	Alpha	No	0	75	Postal Code	No	90000	12000
Region	Region	Alpha	No	0	75	 Region	No	WEST	EAST

Submit Column Changes

Reset Values

Refresh Columns

The
 is used in the Column Heading to indicate a line break. Each Column Heading is two lines, so if you want to use just one line in a Column Heading, you should begin it with
 (every Column Heading must contain exactly one
 indicator).

The purpose of **Example Value 1** and **Example Value 2** are to give the users a sample of the contents of the Column while they are designing their own reports. If the user selects the column to include it in their report, then these example values will be displayed in the column in the Report Designer. When entering new example values, the value you enter as Example Value 1 should be less than the value you enter as Example Value 2 (if you were to sort them). For example, if the Column is "Address", then you might enter "123 MAIN STREET" as Example Value 1, and "456 STATE STREET" as Example Value 2. Then, if the user chooses to sort the column in Descending (rather than Ascending) order, the example values will be reversed in the Report Designer.

Once you have made any needed changes to the column layouts, click the **Submit Column Changes** button.

If at any point in time you add or remove columns from the table or view itself, click the **Refresh Columns** button, and the Data Source will be refreshed to match the current columns/fields in the table or view.

Note: if you have removed any columns/fields from the table or view, once you click the Refresh Columns button, any Reports or Filters that have been created by users with access to that Data Source will have the corresponding Columns/Fields automatically removed from all Reports/Filters that contain the column/field.

You can also mark the Data Source as offline by un-checking the **Data Source Is Online:** checkbox. If you un-check this option, users will not be able to generate any reports from this Data Source until you mark the Data Source as Online. This feature is useful if you need to perform maintenance on the Data Source, and you don't want users to be able to generate reports using the Data Source.

When you have marked a Data Source as Not Online, users will see an indication of such when they try to generate any reports that use the Data Source.

You can also change the Data Provider, Table/View Name, and Connection String for the Data Source on this page.

Lookup Lists

The **Lookup List?** option for each column gives you the ability to provide users with a list of valid values for the particular column in the Data Source when they are editing Filters for the Data Source. Having a Lookup List can help users avoid trying to apply filters that use values that do not exist for that particular column. For example, if the user is trying to filter a report on a particular State, and they entered a Filter that read "State Equals NY", if the Data Source has no records with the State = "NY", then the report will not display any matching data. But if you provide a Lookup List for the State column, the user will be able to select from a list of valid values for the State column when editing the Filter.

Before you can enable the **Lookup List?** option on any column of a Data Source, you must first create a table in the same database/schema that the table/view used by the Data Source is located. This table must have the name of the table/view followed by Lookup. For example, if the table/view of the Data Source is "Sales", then the table for the Lookup List must be named **SalesLookup**.

The table that contains the lookup values should be created with the following structure:

<u>Column Name</u>	<u>Data Type</u>
ColumnName	varchar(50)
LookupValue	varchar(100)

You must also create a Primary Key on this table that contains both the ColumnName and the LookupValue columns (the Primary Key is required to speed the retrieval of the Lookup Values when the user is editing Filters for the Data Source).

Once you have created this table, you need to incorporate the periodic updating of this table into your Extract, Transform, and Load (ETL) process for the table/view named in the Data Source. Each time you update/re-load the table/view named in the Data Source, you should clear out the xxxxxxLookup table (by using the DELETE FROM xxxxxxLookup SQL command), and re-load it with the list of distinct values for each Column that you want to enable the **Lookup List?** option on.

For example, you would use the following SQL statement to populate the State column with a list of valid values from the Sales table:

```
INSERT INTO SalesLookup (ColumnName,LookupValue)
SELECT 'Sales' AS ColumnName,State AS LookupValue
FROM Sales
WHERE State IS NOT NULL AND State <> ''
GROUP BY State
ORDER BY State
```

You would repeat this SQL statement for each column in the Data Source that you want to enable the **Lookup List?** option on.

The use of Lookup Lists is optional. but having them available can greatly increase user satisfaction by helping users avoid the frustration of trying to filter their reports on values that do not exist in the Data Source.

Uninstalling ezWebReports

If you need to uninstall ezWebReports, you must first delete any Data Provider assembly DLL files that you have copied to the **bin** folder of ezWebReports (usually \inetpub\wwwroot\ezWebReports\bin).

Once you have deleted any Data Provider assembly DLL files from the **bin** folder, you can uninstall ezWebReports by going to the **Add or Remove Programs** option in the **Control Panel**, selecting **ezWebReports**, and clicking the **Remove** button.

Once the uninstall process is complete, the ezWebReports IIS application directory and all files will be removed from your system.

Note that ezWebReports does not make any entries in your System Registry, and does not copy any files to your Windows folders. The uninstall process removes all files that were originally installed when you ran the Setup program – leaving nothing behind after the uninstall process has completed.

Important Notice:

ezWebReports incorporates HTMLDOC - software that is distributed under the GNU General Public License. A copy of the GNU General Public License can be found in the file named COPYING.txt in the HTMLDOC folder of the ezWebReports application directory that was created when you installed the application (usually \inetpub\wwwroot\ezWebReports\HTMLDOC). You may obtain the source code for HTMLDOC using the following URL:

<http://www.InspireonSoftware.com/htmldoc-1.8.23-source.zip>

Appendix A – Data Provider Connection String Examples

The following shows examples of Connection Strings for the supported Data Providers of each supported database server:

Microsoft SQL Server

SQL Server Client (System.Data.SqlClient):

"Server=sqlserver01;Database=Sales;User ID=Sales01;Password=xxxxxx;"

OLEDB.NET (System.Data.OleDb):

"Provider=sqloledb;Data Source=sqlserver01;Initial Catalog=Sales;User ID=Sales01;Password=xxxxxx;"

ODBC.NET (Microsoft.Data.Odbc):

"Driver={SQL Server};Server=sqlserver01;Database=Sales;UID=Sales01;PWD=xxxxxx;"

Oracle

OLEDB.NET (System.Data.OleDb):

"Provider=OraOLEDB.Oracle;Data Source=Oracle01;User ID=Sales01;Password=xxxxxx;OLEDB.NET=True;"

Oracle Data Provider (Oracle.DataAccess):

"Data Source=Oracle01;User ID=Sales01;Password=xxxxxx;"

IBM DB2 Universal Database

ODBC.NET (Microsoft.Data.Odbc):

"Driver={IBM DB2 ODBC DRIVER};Server=DB2SRV1;DBALIAS=SALES;UID=Sales01;PWD=xxxxxx;"

DB2.NET Provider (IBM.Data.DB2):

"Server=DB2SRV1;Database=Sales;User ID=Sales01;Password=xxxxxx;"

Sybase Adaptive Server Enterprise

OLEDB.NET (System.Data.OleDb):

"Provider=Sybase.ASEOLEDBProvider;NetworkProtocol=Winsock;ServerName=ASE01;ServerPortAddress=5000;Database=Sales;LogonID=Sales01;Password=xxxxxx"

MySQL

ODBC.NET (Microsoft.Data.Odbc):

"Driver={MySQL ODBC 3.51 Driver};Server=mysql01;Database=Sales;UID=Sales01;PWD=xxxxxx;Option=16387"

MySQLDirect.NET (CoreLab.MySql):

"Server=mysql01;Database=Sales;User ID=Sales01;Password=xxxxxx"

dbProvider for MySQL (dbProvider):

"Server=mysql01;Database=Sales;User ID=Sales01;Password=xxxxxx"

Microsoft Access

OLEDB.NET (System.Data.OleDb):

"Provider=Microsoft.Jet.OLEDB.4.0;Data Source=c:/Sales.mdb;User Id=admin;Password=;"

Note that Microsoft Access is only supported as a reporting Data Source. It is not supported as a System Database for ezWebReports.

For additional information on connecting to your database server via one of the supported Data Providers, please refer to your database server's documentation and to the documentation provided with the Data Provider.

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Appendix B – License Agreement (continued)

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