

# Crystal Report Viewers in Visual Studio .NET – Toolbar Images



## Applies to:

Crystal Reports 9.1 to Crystal Reports 2008 (12.0.x) when used in applicable versions of Visual Studio .NET. For more information, visit the [Business Objects homepage](#).

## Summary

A common issue when deploying applications built in Microsoft Visual Studio .NET and using Crystal Reports assemblies, is the appearance of red "X" in place of buttons on the Crystal Reports viewer toolbar. Typically, problems with viewing images in a report are due to either incorrect installation of the Viewer's virtual directory or lack of permissions to specific folders or Process Model Attributes.

Any of the above may ultimately result in a failure to load and execute the correct images resulting in toolbar buttons of the Crystal Report viewer appearing as a red "X" when viewing the report. Faulty installation of the Viewer's directory is particularly the case when the deployment of the application does not create the expected Crystal Report Viewers virtual directory on the correct web server, custom web site, or custom application pool.

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## Introduction

This article describes the creation process for the Virtual Viewers directories for each version of Crystal Reports from version 9.1.x to version 12.x, for Microsoft Visual Studio .NET 2002, 2003, 2005, and 2008, where applicable.

Standard deployment of Crystal Reports runtime for Microsoft Visual Studio .NET is described in a number of other notes and articles available from [Crystal Reports & Xcelsius Support](#).

- [Crystal Reports XI Release 2 \(11.5.x\)](#)
- [Crystal Reports XI \(11.0.x\)](#)
- [Crystal Reports 10.x](#) (Stand-alone version of Crystal Reports only, not Crystal Reports 10.2 which bundles with Visual Studio .NET 2005)
- [Crystal Reports 10.2](#) (bundles with Visual Studio .NET 2005)
- [Crystal Reports 9.1](#) (bundled with Visual Studio .NET 2003 and Visual Studio .NET 2002)

For more information regarding correct runtime, see the [Crystal Reports for Visual Studio .NET Runtime Distribution - Versions 9.1 to 12.0](#) Wiki.

## Using Crystal Reports assemblies version 9.1.3300 with Microsoft Visual Studio .NET 2002

Crystal Reports version 9.1.3300 is a complimentary version of Crystal Reports that bundled with Microsoft Visual Studio .NET 2002.

If the web application is not under the default web site, but under the custom website, manually create the virtual directory with alias "CrystalReportWebFormViewer" pointing to **<installation directory>\Program Files\Microsoft Visual Studio .NET\Crystal Reports\Viewers**.

### To create the virtual viewers directory

1. Open Microsoft Internet Information Services (IIS) manager. Click **Start > Run**. Type "inetmgr" in the Run text box. Click **OK**.
2. Expand the custom website.
3. Right-click the website. Click **New > Virtual directory** from the pop-up menu.
4. Use the alias "CrystalReportWebFormViewer". Point to physical location **<installation directory>\Program Files\Microsoft Visual Studio .NET\Crystal Reports\Viewers**.
5. Follow the virtual directory creation wizard. Use the default settings only.

If the **CrystalReportWebFormViewer** folder exists, complete the following steps:

1. Click **Start > Run**. Type "inetmgr" in the Run box.
2. Expand the application's web site virtual folders.
3. Right-click the **CrystalReportWebFormViewer** folder and then click **Properties**.
4. Click the **Create** button on the Virtual Directory tab.
5. Click **Scripts only** in the Execute Permissions box.
6. Click **OK**.

If this is already completed and the images on the toolbar still do not appear, do the following:

1. Right-click the folder **<installation directory>:\Program Files\Microsoft Visual Studio .NET\Crystal Reports\Viewers**.
2. Click **Properties** from the context menu. Click the Security tab.
3. Add "ASPNET" account to the folder. Give it a full permission. This creates a directory called "DynamicImages" where temporary report images are stored.

## Using Crystal Reports assemblies version 9.1.500 with Visual Studio .NET 2003

Crystal Reports version 9.1.500 is a complimentary version of Crystal Reports that bundled with Microsoft Visual Studio .NET 2003.

If the web application is not under the default web site, but under a custom website, manually create the virtual directory with alias "CrystalReportWebFormViewer2" pointing to **<installation directory>:\Program Files\Microsoft Visual Studio .NET 2003\Crystal Reports\Viewers**.

### To create the virtual viewers directory

1. Open Microsoft Internet Information Services (IIS) manager. Click **Start > Run**. Type "inetmgr" in the Run text box. Click **OK**.
2. Expand the custom website.
3. Right-click the website. Click **New > Virtual directory** from the pop-up menu.
4. Use the alias "CrystalReportWebFormViewer2". Point to physical location **<installation directory>:\Program Files\Microsoft Visual Studio .NET 2003\Crystal Reports\Viewers\**.
5. Follow the virtual directory creation wizard. Use default settings only.

If the **CrystalReportWebFormViewer2** folder exists, complete these steps:

1. Click **Start > Run**. Type "inetmgr" in the Run box.
2. Expand the application's web site virtual folders.
3. Right-click the **CrystalReportWebFormViewer2** folder > click **Properties**.
4. Click the **Create** button on the Virtual Directory tab.
5. Click **Scripts only** in the Execute Permissions box.
6. Click **OK**.

## Using Crystal Reports assemblies version 9.2.3300 with Visual Studio .NET 2002 or Visual Studio .NET 2003

Crystal Reports version 9.2.x is a stand-alone upgrade to Crystal Reports version 9.1.x, which is bundled with Microsoft Visual Studio .NET 2002 and 2003.

If the web application is not under the default web site, but under the custom website, manually create the virtual directory with alias "CrystalReportViewers" pointing to **<installation directory>:\Program Files\Common Files\Crystal decisions\2.0\Crystal Reports\Viewers**.

### To create the virtual viewers directory

1. Open Microsoft Internet Information Services (IIS) manager. Click **Start > Run**. Type "inetmgr" in the Run text box. Click **OK**.
2. Expand the custom website.
3. Right-click the website. Click **New > Virtual directory** from the pop-up menu.
4. Use the alias "CrystalReportViewers". Point to physical location **<installation directory>:\Program Files\Common Files\Crystal decisions\2.0\Crystal Reports\Viewers**.
5. Follow the virtual directory creation wizard. Use the default settings only.

If the **CrystalReportViewers** folder exists, complete these steps:

1. Click **Start > Run**. Type "inetmgr" in the Run box.
2. Expand the application's web site virtual folders.
3. Right-click the **CrystalReportViewers** folder > click **Properties**.
4. Click the **Create** button on the Virtual Directory tab.
5. Click **Scripts only** in the Execute Permissions box.
6. Click **OK**.

## Using Crystal Reports assemblies version 10.0.3300 (Not Crystal Reports 10.2.x) with Visual Studio .NET 2002 or Visual Studio .NET 2003

If the web application is not under the default web site, but under the custom website, manually create the virtual directory with alias "CrystalReportViewers10" pointing to **<installation directory>:\Program Files\Common Files\Crystal Decisions\2.5\crystalreportviewers10**.

### To create the virtual viewers directory

1. Open Microsoft Internet Information Services (IIS) manager. Click **Start > Run**. Type "inetmgr" in the Run text box. Click **OK**.
2. Expand the custom website.
3. Right-click the website. Click **New > Virtual directory** from the pop-up menu.
4. Use the alias "CrystalReportViewers10". Point to physical location **<installation directory>:\Program Files\Common Files\Crystal Decisions\2.5\crystalreportviewers10**.
5. Follow the virtual directory creation wizard. Use the default settings only.

If the **CrystalReportViewers10** folder exists, complete the following steps:

1. Click **Start > Run**. Type "inetmgr" in the Run box.
2. Expand the application's web site virtual folders.
3. Right-click the **CrystalReportViewers10** folder > click **Properties**.
4. Click the Create button in the Virtual Directory tab.
5. Click **Scripts only** in the Execute Permissions box.
6. Click **OK**.

## Using Crystal Reports XI (Crystal Reports 11.0.x) and Visual Studio .NET 2002 or Visual Studio .NET 2003

If the web application is not under the default web site, but under the custom website, manually create the virtual directory with alias "CrystalReportViewers11" pointing to **<installation directory>:\Program Files\Common Files\Business Objects\3.0\crystalreportviewers11\**.

### To create the virtual viewers directory

1. Open Microsoft Internet Information Services (IIS) manager. Click **Start > Run**. Type "inetmgr" in the Run text box. Click **OK**.
2. Expand the custom website.
3. Right-click the website. Click **New > Virtual directory** from the pop-up menu.
4. Use the exact alias "CrystalReportViewers11". Point to physical location **<installation directory>:\Program Files\Common Files\Business Objects\3.0\crystalreportviewers11\**.
5. Follow the virtual directory creation wizard. Use the default settings only.

If the **CrystalReportViewers11** folder exists, complete these steps:

1. Click **Start > Run**. Type "inetmgr" in the Run box.
2. Expand the application's web site virtual folders.
3. Right-click the **CrystalReportViewers10** folder > click **Properties**.
4. Click the **Create** button on the Virtual Directory tab.
5. Click **Scripts only** in the Execute Permissions box.
6. Click **OK**.

## Using Crystal Reports XI Release 2 and Visual Studio.NET 2002 or Visual Studio.NET 2003

If the web application is not under the default web site, but under the custom website, manually create the virtual directory with alias "CrystalReportViewers115". Point it to **<installation directory>:\program files\Business Objects\common\3.5\crystalreportviewers115**.

### To create a virtual directory

1. Open Microsoft Internet Information Services (IIS) manager. Click **Start > Run**. Type "inetmgr" in the Run text box. Click **OK**.
2. Expand the custom website.
3. Right-click the website. Click **New > Virtual directory** from the pop-up menu.
4. Use the exact alias "CrystalReportViewers115". Point to physical location **<installation directory>:\program files\Business Objects\common\3.5\crystalreportviewers115**.
5. Follow the virtual directory creation wizard. Use the default settings only.

If the **CrystalReportWebFormViewers115** folder exists, complete the following steps:

1. Click **Start > Run**. Type "inetmgr" in the **Run** box.
2. Expand **Default Web Site** icon (or the name of the web site if not using the Default Web Site).
3. Right-click the **CrystalReportViewers115** folder > click **Properties**.
4. Click the **Create** button on the Virtual Directory tab.
5. Click **Scripts only** In the Execute Permissions box.
6. Click **OK**.

## Using Crystal Reports 10.2 (Visual Studio.NET 2005 bundle)

Copy the aspen\_client folder (<installation directory>:\inetpub\wwwroot\aspnet\_client) and all of it's subfolders to the physical root directory of the custom web site.



## Using Crystal Reports XI Release 2 and Visual Studio.NET 2005

Copy the aspnet\_client folder (c:\inetpub\wwwroot\aspnet\_client) and all of its subfolders to the physical root directory of the custom web site. Also, ensure that the following is in the web.config file of the application:

```
<httpHandlers>
<add verb="GET" path="CrystalImageHandler.aspx"
type="CrystalDecisions.Web.CrystalImageHandler, CrystalDecisions.Web,
Version=11.5.3700.0, Culture=neutral, PublicKeyToken=692fba5521e1304" />
</httpHandlers>
```

## Configuring the Crystal Reports XI Release 2 Viewer for Reverse proxies (new feature for Crystal Reports XI Release 2 Service Pack 2)

[Service Pack 2](#) or higher must be applied to Crystal Reports XI Release 2. The link for Service Pack 2 is [here](#):

The path **/crystalreportviewers115** needs to be explicitly mapped in the reverse proxy configuration for the following applications to work correctly:

- Crystal Report Viewers in .NET version of InfoView
- Crystal Report Viewers in any web application using Microsoft Visual Studio .NET
- .NET URL Reporting
- Custom COM DHTML Viewers deployed in IIS server.

The Crystal Reports .NET Webform viewers require additional configuration to work under reverse proxy. Two recommended solutions are:

- With NET 1.1: If reverse proxy path is mapped as / bobj/test for http://server/test we need to also map the /bobj/ crystalreportviewers115 to http://server/crystalreportviewers115.  
For .NET 2.0, if the reverse proxy path is mapped as /bobj/test for http://server/test we need to also map the /bobj/aspnet\_client to http://server/aspnet\_client.
- Specify the URL for the crystalreportviewer115 folder's in the web.config file as follows:

```
<configSections>
<sectionGroup name="businessObjects">
<sectionGroup name="crystalReports">
<section name="crystalReportViewer"
type="System.Configuration.NameValueSectionHandler , System, Version=1.0.3300.0,
Culture=neutral,
PublicKeyToken=b77a5c561934e089, Custom=null " />
</sectionGroup>
</sectionGroup>
</configSections>
<businessObjects>
<crystalReports>
<crystalReportViewer>
<add key="ResourceUri" value="{URI}" />
</crystalReportViewer>
</crystalReports>
</businessObjects>
```

In this example, the URL can be given as **~/crystalreportviewers115** if the crystalreportviewers115 folder is copied into the web applications folder.

## Using Crystal Reports 10.5 (Visual Studio.NET 2008 bundle)

Copy the aspen\_client folder (<installation directory>:\inetpub\wwwroot\aspnet\_client) and all of it's subfolders to the physical root directory of the custom web site.

## Using Crystal Reports 2008 and Visual Studio.NET 2002 or Visual Studio.NET 2003

If the web application is not under the default web site, but under the custom website, manually create the virtual directory with alias "CrystalReportViewers12" pointing to **<installation directory>:\program files\Business Objects\common\4.0\crystalreportviewers12**.

### To create a virtual directory

1. Open Microsoft Internet Information Services (IIS) manager. Click **Start > Run**. Type "inetmgr" in the Run text box. Click **OK**.
2. Expand the custom website.
3. Right-click the website. Click **New > Virtual directory** from the pop-up menu.
4. Use the exact alias " CrystalReportViewers12". Point to physical location **<installation directory>:\program files\Business Objects\common\4.0\crystalreportviewers12**.
5. Follow the virtual directory creation wizard. Use the default settings only.

If the **CrystalReportWebFormViewers12** folder exists, complete these steps:

1. Click **Start > Run**. Type "inetmgr" in the Run box.
2. Expand **Default Web Site** icon (or the name of the web site if not using the Default Web Site).
3. Right-click the **CrystalReportViewers12** folder > click **Properties**.
4. Click the **Create** button on the Virtual Directory tab.
5. Click **Scripts only** In the Execute Permissions box.
6. Click **OK**.

## Using Crystal Reports 2008 and Visual Studio.NET 2005 or Visual Studio.NET 2008

Copy the `aspnet_client` folder (`c:\inetpub\wwwroot\aspnet_client`) and all of its subfolders to the physical root directory of the custom web site. Also, ensure the following is in the `web.config` file of the application:

```
<httpHandlers>
<add verb="GET" path="CrystalImageHandler.aspx"
type="CrystalDecisions.Web.CrystalImageHandler, CrystalDecisions.Web, Version=
12.0.2000.0, Culture=neutral, PublicKeyToken=692fba5521e1304" />
</httpHandlers>
```

## Configuring the Crystal Reports 2008 viewer for Reverse proxies

The path `/crystalreportviewers12` needs to be explicitly mapped in the reverse proxy configuration for the following applications to work correctly:

- Crystal Report Viewers in .NET version of InfoView
- Crystal Report Viewers in any web application using Microsoft Visual Studio .NET
- .NET URL Reporting
- Custom COM DHTML Viewers deployed in IIS server.

The Crystal Reports .NET Webform viewers require additional configuration to work under reverse proxy.

Two recommended solutions are:

- With NET 1.1: If reverse proxy path is mapped as `/bobj/test` for `http://server/test` also map the `/bobj/crystalreportviewers12` to `http://server/crystalreportviewers12`.  
For .NET 2.0, if the reverse proxy path is mapped as `/bobj/test` for `http://server/test` also map the `/bobj/aspnet_client` to `http://server/aspnet_client`.
- Specify the URL for the `crystalreportviewer12` folder's in the `web.config` file as follows:

```
<configSections>
<sectionGroup name="businessObjects">
<sectionGroup name="crystalReports">
<section name="crystalReportViewer"
type="System.Configuration.NameValueSectionHandler, System, Version=1.0.3300.0,
Culture=neutral,
PublicKeyToken=b77a5c561934e089, Custom=null " />
</sectionGroup>
</sectionGroup>
</configSections>
<businessObjects>
<crystalReports>
<crystalReportViewer>
<add key="ResourceUri" value="{URI}" />
</crystalReportViewer>
</crystalReports>
</businessObjects>
```

In this example, the URL can be given as `~/crystalreportviewers12` if the `crystalreportviewers12` folder is copied into the web applications folder.

## Related Content

The following [SAP BusinessObjects notes](#) contain further information:

1202527

1183913

1196815

1219328

1198898

**Important:** Please type "boj\*" in the Component field under Advanced Search in order to obtain the note.

Additionally, please refer to the following:

- [Developer guides and API reference documentation](#)
- [SAP BusinessObjects articles](#)
- [Crystal Reports SDKs support links blog](#)

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