

BARR/Web Interface Installation Instructions

October 28, 2008

The BARR/Web Interface is a bridge between java-based clients and one or more Barr Enterprise Print Server installations. The Web service is usually installed on a separate computer, along with .NET and IIS, but may be installed on a Barr Enterprise Print Server computer for a small number of users. The Web Service computer will host any ASPNET pages used for configuration, configuration files, HTML pages used to launch the applets, and the JAR file containing the applets. TCP/IP connections are used to link the Web Interface to each Barr Enterprise Print Server site. Clients log on and change data by calling the Web Service methods using the Java applets. BARR/Web Interface allows remote access and control to Barr Enterprise Print Server data set and printer information. It provides a browser-based Spool Window, Retain Window, and text viewer. Not all of the features of the current Spool Window are provided in the BARR/Web Interface.



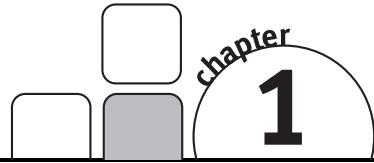
Requirements: Barr Enterprise Print Server computer: Barr Enterprise Print Server version 5.0.12 or later. Web service computer: Microsoft Windows XP Professional, Windows 2000, or Windows 2003 Server; Internet Explorer version 5.5 or later, Internet Information Server (IIS), and .NET 2.0 CLR. Client computer: Java JRE 6 or later.

1. Configure the BARR/Web Interface	2
1.1 Enable the BARR/Web Interface in the Barr Enterprise Print Server	2
1.2 Install Internet Information Services	3
1.3 Install or remove the Barr software	4
1.4 Update Microsoft Windows	6
1.5 Configure the Web service	6
1.6 Install the Web client	8
1.7 Activate the software	9
2. Configure Advanced Settings (Optional)	10
2.1 Assign permissions	10
2.2 Prohibit anonymous access	11
2.3 Provide secure socket layer encryption.....	12
2.4 Configure the Web client	14
2.5 Configure multiple clients	18
3. Troubleshooting	19

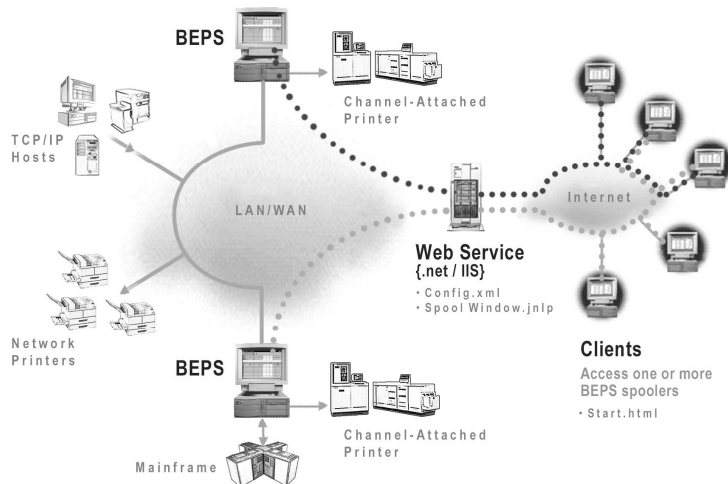


Barr Systems, LLC, 4500 NW 27 Avenue, Gainesville, FL 32606-7031
800-BARR-SYS • 352-491-3100 • Fax 352-491-3141
Visit our Web site for more info: www.barrsystems.com

Configure the BARR/Web Interface



Follow the steps in this Chapter to install and configure BARR/Web Interface. In most environments, there will be three components: the Barr Enterprise Print Server computer, a Web service computer, and the client computers. One value must be entered on the Barr Enterprise Print Server computer (see Section 1.1). A browser must be installed on the client computers and a few simple configuration steps are needed (see Section 1.8). The remaining installation and configuration instructions are for the Web service computer.



1.1 Enable the BARR/Web Interface in the Barr Enterprise Print Server

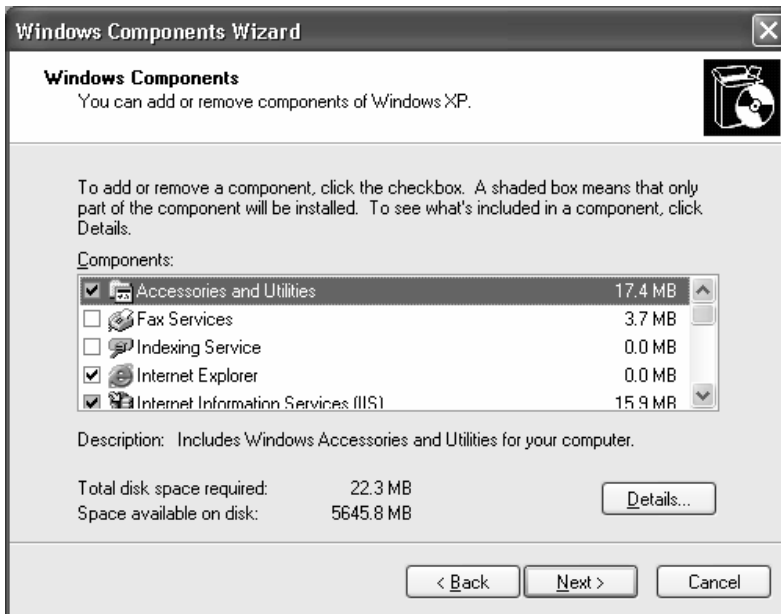
Follow the steps below to enable the BARR/Web Interface option.

1. From the taskbar of the Barr Enterprise Print Server computer, click Start | Programs | Barr Enterprise Print Server | BARR SPOOL | **Configuration Utility**.
2. Select the **Spool and Retain** tab.
3. Under **Port number**, enter 6789 or any unused port number.
4. Click **OK** to close the Configuration Utility. Click **Yes** when prompted to restart the Barr SpoolCore service.

1.2 Install Internet Information Services

The Microsoft Internet Information Services (IIS) component is used for managing information over the Internet or your intranet. You must be a local administrator to install IIS. See the *Installing IIS* topic in the Help for your operating system.

1. On the Web service computer, run the Windows Add/Remove Programs utility.
2. In the left column of the **Add/Remove Programs** dialog box, click **Add/Remove Windows Components**.
3. When the Windows Components Wizard appears, click **Next**.
4. In the **Windows Components** list, select to install the **Internet Information Services (IIS)** component. If it is already installed, skip to Section 1.3.



5. Click **Next**, and follow the instructions. You may need your Windows system CD.

1.3 Install or remove the Barr software

Follow the instructions in this section to install, upgrade, or remove the BARR/Web Interface software on your computer.



For non-English versions of Windows, follow the steps in Section 1.4 to update Windows with the latest versions of the .NET framework and service packs before installing the software.

To install the Barr software

The setup program copies the Web service and client files from the BARR/Web Interface CD to your computer and performs the following steps:

- Installs .NET 2.0, if it is not already installed
- Installs hardware key drivers, if they are not already installed
- Creates IIS virtual directories
- Creates MIME mapping for JNLP
- Copies all client and Web service software
- Updates client configuration files for server name

Complete the following steps to install the software. Before you run the setup program, exit all Windows programs.

1. Insert the BARR/Web Interface CD into the CD-ROM drive of the Web service computer. Right-click **Start** on the taskbar and select **Explore**. Navigate to the CD ROM drive and double-click **WebInstall.exe**.
2. Review the information on the screen. Press **1** and then press **Enter** to install.
3. When installation is complete, install the hardware key in the parallel or USB port. The hardware key is must be installed before you can use the software.

To install an upgrade

Complete the following steps to reinstall the software. Before you run the setup program, exit all Windows programs.

1. Insert the BARR/Web Interface CD into the CD-ROM drive of the Web service computer. Right-click **Start** on the taskbar and select **Explore**. Navigate to the CD ROM drive and double-click **WebInstall.exe**.
2. Review the information on the screen. Press **1** and then press **Enter** to upgrade. The config.xml and spoolwindow;jnlp files will remain unchanged.

To remove the Barr software

You can remove the Barr software automatically or manually. Follow the steps in the appropriate section below.

Automatically

Complete the following steps to automatically remove the software. Before you run the setup program, exit all Windows programs.

1. Insert the BARR/Web Interface CD into the CD-ROM drive of the Web service computer. Right-click **Start** on the taskbar and select **Explore**. Navigate to the CD ROM drive and double-click **WebInstall.exe**.
2. Review the information on the screen. Press **2** and then press **Enter** to remove the software. The config.xml and spoolwindow.jnlp files will remain unchanged.

Manually

Complete the following steps to remove the software manually.

Remove virtual directories

1. On the taskbar, select **START | Control Panel | Administrative Tools | Internet Information Services**.
2. Double-click the computer that matches your service.
3. Double-click **Web Sites**.
4. Double-click **Default Web Site**.
5. Right-click **BEPS** and select **Delete**.
6. Right-click **BepsWebService** and select **Delete**.
7. Close **IIS**.

Restart IIS

1. On the taskbar, select **START | Control Panel | Administrative Tools | Services**.
2. Right-click **IIS Admin** and select **Restart**.
3. Close **Services**.

Remove client and Web service files



If you plan to reinstall, save the config.xml file in the BepsWebService folder and all of the .html and .jnlp files in the BEPS folder in an alternate location. Restore these files after reinstalling.

1. Open Window Explorer and navigate to inetpub\wwwroot.
2. Delete the BEPS and BepsWebService folders.

1.4 Update Microsoft Windows

The BARR/Web Interface requires the latest .NET framework and service packs. Complete the following steps to ensure your computer has the latest software updates, drivers, etc. for your operating system.

1. Open the Windows Add/Remove Programs utility.
2. Click **Add New Programs**, and then click **Windows Update**.

1.5 Configure the Web service

To configure the Web service, you must edit the configuration file and test the Web service.

To edit the configuration file

1. Open `C:\inetpub\wwwroot\BepsWebService\config.xml` in Windows Notepad. If you double-click to open the file, make sure the **Always use this program to open this file option** is not selected.
2. Change **BepsDisplayName** to a description of the Barr Enterprise Print Server computer, and change **BepsComputerName** to your computer name. The port number must match the port number used for the Barr Enterprise Print Server, which was set to 6789 in Section 1.1.

```
<hostlist>
<host Name="BepsDisplayName"
ComputerOrIpAddress="BepsComputerName" Port="6789" />
</hostlist>
```

3. Add a new host name for each Barr Enterprise Print Server computer. You can change the order of the fields and delete fields that are not needed.

```
<hostlist>
<host Name="D1" ComputerOrIpAddress="BepsComputerName1"
Port="6789" />
<host Name="D2" ComputerOrIpAddress="BepsComputerName2"
Port="6789" />
</hostlist>
```

4. On the menu bar, click File | **Save** to save the file.

To test the Web service

1. Open Internet Explorer on the computer with the Web server, and enter the following address:
http://yourwebserver/BepsWebService/Service1.asmx
2. From the page that displays, click **GetNodes** to test the config.xml file settings.
3. From the page that displays, click **Invoke**. You will receive a response similar to the following, with your Barr Enterprise Print Server locations listed:

```
<?xml version="1.0" encoding="utf-8" ?>
<ArrayOfAnyType xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://barrsystems.com">
<anyType xsi:type="xsd:string">2</anyType>
<anyType xsi:type="xsd:string">dummy</anyType>
<anyType xsi:type="xsd:string">Dell</anyType>
</ArrayOfAnyType>
```

4. Close the window and then click **Back**.
5. From the page that displays, click **About** to test the hardware key.
6. From the page that displays, click **Invoke**. You will receive a response similar to the following. The number of users and servers will not be correct until you activate the software (Section 1.7). Close your browser.

```
<?xml version="1.0" encoding="utf-8" ?>
<ArrayOfAnyType xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://barrsystems.com">
<anyType xsi:type="xsd:string">7</anyType>
<anyType xsi:type="xsd:string">This product is licensed
to:</anyType>
<anyType xsi:type="xsd:string">SSCOVILLXP</anyType>
<anyType xsi:type="xsd:string">Barr Systems, LLC</anyType>
<anyType xsi:type="xsd:string" />
<anyType xsi:type="xsd:string">Serial Number 123456</anyType>
<anyType xsi:type="xsd:string">Users: 0 of 100</anyType>
<anyType xsi:type="xsd:string">Servers: 4</anyType>
</ArrayOfAnyType>
```

1.6 Install the Web client

Now that you have completed the installation of the software on the Barr Enterprise Print Server computer, complete the following steps to install the Web Client.

1. On the client computer, open Internet Explorer and enter the following address, replacing *yourwebserver* with the Web server computer name:
http://yourwebserver/BEPS/start.html.
2. Install Java Web Start (JWS), if it is not already installed. You must have local administrator rights to install Java Web Start. Wait for the JWS Installer to complete the installation before proceeding to the next step. When the Installer finishes, you may be prompted to restart your computer.
3. To install the Accessibility DLL, right-click the link and select **Save Target As**. Save the SystemInfo.dll file in the JRE bin folder, usually C:\Program Files\Java\jre1.6.0_07\bin.
4. Right-click the **Spool Window** link and select **Add to Favorites**.
5. From Internet Explorer's **Favorites** menu, right-click **Spool Window** and select **Send To | Desktop**.
6. Close Internet Explorer.
7. Double-click the Spool Window icon on your desktop to launch the BARR/Web Interface version of the Spool Window. Select **Start** when the Java Web Start **Security Warning** dialog displays. Follow the steps in the next section to activate the software.

1.7 Activate the software

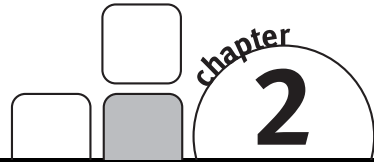
Open the Spool Window and activate the software before your grace period expires (usually 30 days). If you do not have an activation code, contact your Barr Systems sales representative or visit <http://www.barrcentral.com/activate>. Activation codes are valid only for a single version of the BARR/Web Interface. Enter your **Activation code** and click **Activate Now**. If you do not have an activation code, click **Barr Central** and copy and paste your code into the **Activation code** box.



The screenshot shows a dialog box titled "BARR/Web Interface Activation" with a close button (X) in the top right corner. The text inside the dialog reads: "This software version has not been activated on your system. The software must be activated for use beyond the grace period. To receive an activation code, visit [barrcentral.com/activate](http://www.barrcentral.com/activate) or contact Barr Systems Technical Support." Below the text are several input fields: "Version number:" with the value "4.1.0", "Days remaining:" with the value "30", and a "Primary key:" section containing "Serial number:" with the value "400340" and "Activation code:" with an empty field. A "Barr Central" button is located below the "Activation code" field. At the bottom of the dialog are three buttons: "Backup Key", "Activate Now", and "Activate Later".

Your initial installation of the BARR/Web Interface is complete. You should now be able to view the Spool Window using the Web Client software. Follow the instructions in the Chapter 2 of this manual to custom-configure your installation. Refer to the Help to learn more about operating the BARR/Web Interface software.

Configure Advanced Settings (Optional)

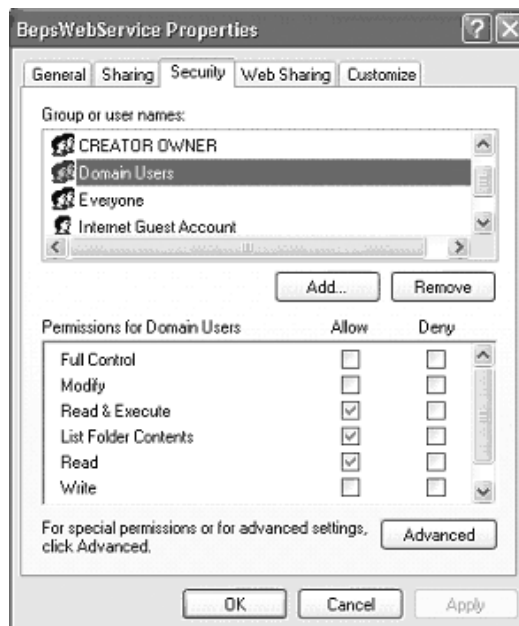


You can choose to make the security for the Web Interface as simple or as sophisticated as you wish. You can also change display options such as size, filters, etc.

2.1 Assign permissions

Through the Microsoft operating system, you can configure permissions for each group or user name. Follow these steps to configure permissions for Domain Users.

1. On the Web service computer, open Windows Explorer and navigate to **C:\inetpub\wwwroot\BepsWebService**.
2. Right-click **BepsWebService** and select **Sharing and Security**.
3. Select the **Security** tab.
4. Under **Group or user names**, select **Domain User**. Select **Allow** for **Read, Read and Execute**, and **List**.
5. Repeat for **C:\inetpub\wwwroot\Beps**.



2.2 Prohibit anonymous access

By default, your Web server will log on all users through use of the anonymous account. For the BARR/Web Interface, you can prohibit anonymous access and use the Basic authentication method, a widely used, industry-standard method for collecting user name and password information.



Unless anonymous access is allowed, user rights and document rights configured in the Barr Enterprise Print Server will be honored by the Web interface. Document rights are always enforced.

1. Open IIS on the Web service computer.
2. Open the **Servers** list, right-click **BepsWebService** and select **Properties**.
3. Select the **Directory Security** tab and click **Edit** to display the **Authentication Methods** dialog box.

The screenshot shows the 'Authentication Methods' dialog box. It has two main sections: 'Anonymous access' and 'Authenticated access'. In the 'Anonymous access' section, the checkbox is unchecked, and the text below reads 'No user name/password required to access this resource.' Below this, there are fields for 'User name' (containing 'BARRXP') and 'Password' (masked with dots), along with a 'Browse...' button and a checked checkbox for 'Allow IIS to control password'. The 'Authenticated access' section is active, with a note that user name and password are required when anonymous access is disabled or access is restricted. It has three checked options: 'Basic authentication (password is sent in clear text)', 'Integrated Windows authentication', and 'Digest authentication for Windows domain servers'. Below these are fields for 'Default domain' and 'Realm', both containing 'barrsystems.com' and having 'Select...' buttons. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

4. Clear the **Anonymous access** check box, and check **Basic authentication**. Because most versions of Java will fail to load and start if the BEPS virtual directory requires a login, do not restrict anonymous access to the BEPS virtual directory.
5. Next to **Default domain**, enter the appropriate domain.
6. If you are using Java version 6, you can select **Integrated Windows Authentication**. To update previous versions of Java run time, place a copy of the JRE in the Barr Enterprise Print Server folder. Change the HREF in the start.html file to refer to the new installation image.

2.3 Provide secure socket layer encryption

The Basic authentication method in Section 2.2 transmits user names and passwords across the network in an unencrypted form. By setting up secure socket layer (SSL) encryption, in combination with Basic authentication, you can secure user account information transmitted across the network. Follow the steps below to use the Server Wizard to request a certificate. Free test certificates are available at <http://www.thawte.com>.

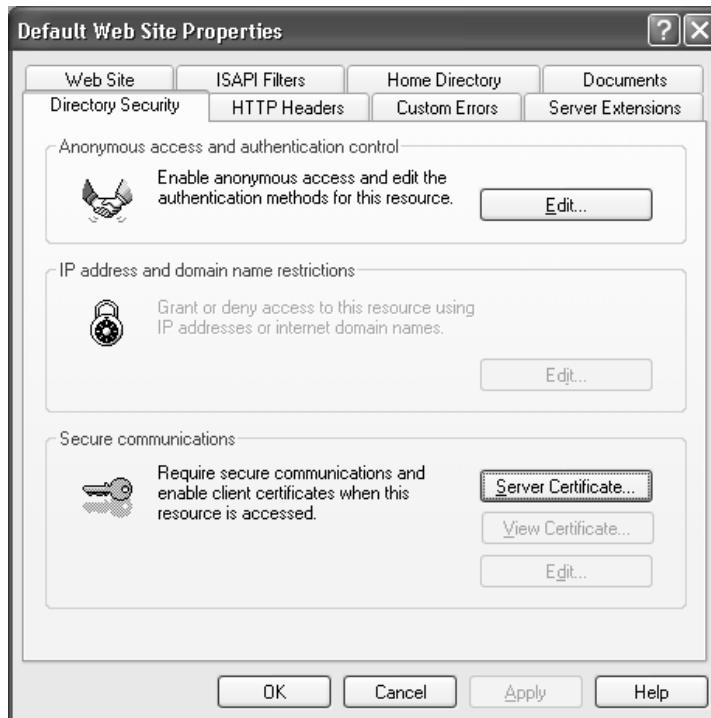
To configure the SSL connection

Follow the steps below to configure the SSL connection.

1. Open IIS on the Web service computer.
2. Right-click **Default Web Site** and select **Properties**.
3. Select the **Directory Security** tab.
4. Under **Server Communications**, click **Server Certificate** to run the Web Server Certificate Wizard and generate a certificate request.
5. Once the Server Certificate is granted, install it using the Server Certificate Wizard.



If you are using SSL encryption, you must change the Web service **http** to **https** in `C:\inetpub\wwwroot\Beps\spoolwindow.jnlp`.



To test the SSL connection

To test the SSL connection, open Internet Explorer and enter the following address:

<https://yourwebservice/BepsWebService/Service1.asmx/GetNodes>

To lock the Web service

Follow the steps below to lock the Web service.



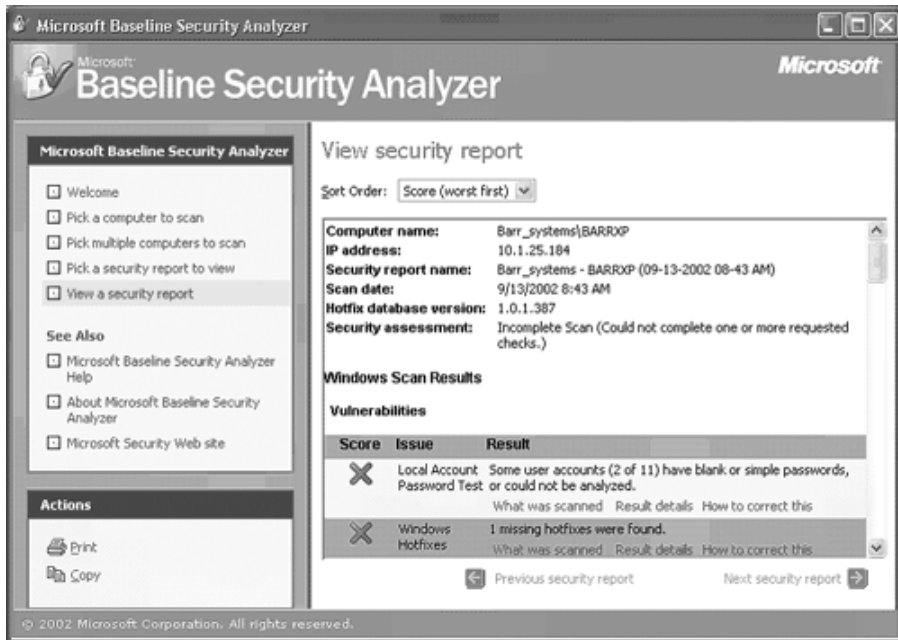
At this time, Java Web Start does not support SSL; therefore, do not lock the client software download directory (BEPS).

1. On the Web service computer, right-click **BepsWebService** and select **Properties**.
2. Select the **Directory Security** tab.
3. Under **Secure Communications**, click **Edit** to display the **Secure Communications** dialog box.
4. Select **Require secure channel (SSL)**.



Check security settings

Before going into a production environment, or putting the site on the Internet, download and run the Microsoft Baseline Security Analyzer (MBSA) from <http://www.microsoft.com/technet/security/tools/mbsahome.mspx>. The MBSA will scan your computer and check the operating system and Internet Information Services (IIS) for security configurations problems and determine whether or not the computer is up-to-date with respect to recommended security updates.



2.4 Configure the Web client

You can configure the Web client by changing parameters in the JNLP file, which is used to launch the Web Interface client. It is an xml file, used by Java Web Start, to launch and configure the Web Interface client applet. The JNLP file can be found on the Web service computer in `C:\inetpub\wwwroot\BEPS\spoolwindow.jnlp`. Normally, a single JNLP file can be used for all users. In special cases, individual JNLP files can be created with different levels of access for each user. A sample file is shown below.

```

<?xml version="1.0" encoding="UTF-8"?>
<jnlp spec="1.0+" codebase="http://default-server/Install/">
<information>
  <title>Spool Window</title>
  <vendor>Barr Systems, LLC</vendor>
  <homepage href="http://www.barrsystems.com/" />
  <description>Remote Spool Window for BEPS</description>
  <icon kind="splash" href="beps.gif" />
</information>
<security>
  <all-permissions />
</security>
<resources>
  <j2se version="1.4+"
href="http://java.sun.com/products/autodl/j2se" />
  <jar href="JNLPSpoolWindow.jar" />
</resources>
<applet-desc main-class="SpoolWindow" name="Spool Window Welcome"
width="1024" height="700">
  <param name="WebService"
value="http://localhost/BepsWebService/Service1.asmx" />
  <param name="Rows" value="35" />
  <param name="CellHeight" value="20" />
  <param name="StartingWidth" value="800" />
  <param name="Debug" value="0" />
  <param name="DrawNewWindow" value="1" />
  <param name="HelpBase" value="\\Barr_website\help" />
  <param name="Menu" value="1" />
  <param name="Site" value="Miami" />
  <param name="DisplayFilters" value="<param col='NDHGRMT'
val='DLA' />" />
  <param name="PrinterFilters" value="<param col='NDHGRMT'
val='DLA' />" />
  <param name="Display" value="BARR__PRINT(00),BARR__NAME(00),
NDHGCLAS(01)" />
  <param name="CodePage" value="437" />
  <param name="SendTo"
value="GSVIEW=\\TESTPC\DisplayName\AppData.exe" />
  <param name="SendTo1"
value="GSVIEW1=\\TESTPC\DisplayName\AppData.exe <NDHGFORM>
<NDHGRMT> <NDHGCLAS>" />
  <param name="ServiceStatus" Value="1" />
</applet-desc>
</jnlp>

```



The Barr fields, for example BARR __PRINT shown in the Display parameter, contain two underscores.

Part of the configuration is for Java Web Start, and part of the configuration controls the java applet.

To configure Java Web start

The following table lists the parameters used to configure Java Web start.

Parameter	Description
codebase	The URL of the virtual directory containing the client applet jar file.
<title>Spool Window</title>	The title for the applet window.
JNLPSpoolWindow.jar	The name of the jar file containing the client applet.

To configure the applet

The initial display size of the applet is controlled using the **width** and **height** parameters on the **<applet-desc ... >** line.

The applet is configured using the **<param ...>** lines. One **<param ...>** line is used for each parameter. The order of the parameter lines is not important. Each parameter has a name and value.

Parameter	Description
WebService	The URL of the location of the BEPS Web Service.
Rows	The maximum number of displayed document rows.
CellHeight	The height of each row in pixels.
StartingWidth	The starting width of the applet.
Debug	When set to 1, additional debug information is placed in the Java Console.
DrawNewWindow	For applets running from a JNLP file, this value should be set to zero. For applets running from an HTML file, set to 1.
HelpBase	The URL of the location of the HTML Help files.
Menu	Set to zero to disable the menu.
Site	Changes the default site from the first site in the config.xml file of the web service.
DisplayFilters	Lists only the data sets that match the specified filters.
PrinterFilters	Lists only the printers that match the specified filters.

Parameter	Description
Display	<p>Comma-separated list of NJE fields to display as columns. For fields to display, they must also be present in the config.xml file.</p> <p>The columns can also be configured as editable or read-only. This is controlled by specifying a value in parenthesis after the column name. The first digit controls the printer area and the second digit controls the document area. A 0 indicates the column is editable and a 1 indicates the column is read-only, in the designated area. The default for each column is (00), editable in both areas. When columns are configured to be read-only, the column appears shaded in a darker gray color.</p>
CodePage	The default code page used by the viewer. If a parameter is not specified, the code page default is 37 (EBCDIC).
SendTo	<p>An advanced feature that allows you to send documents to programs of your choice. You can add up to 10 <code>SendTo</code> commands. NJE header fields can also be added to the command.</p> <p>To use the Send To feature, additional configuration is required for the Barr Enterprise Print Server computer and the Web service computer. See the <i>Sending documents to another program</i> help topic for more information.</p>
ServiceStatus	<p>Configures the Input Status toolbar on the BARR/Web Interface. Enabling this parameter allows you to click a toolbar input button and display a dialog box that allows you to change the state of the associated service.</p> <p>When the value is set to 0, or the parameter is removed, you may not change service states. When the value is set to 1, you may change service states.</p>

The `DisplayFilters` and `PrinterFilters` parameters in the .jnlp file use regular expressions for pattern matching. The following table lists the most common.

Expression	Description
[ABC]	Matches any of the characters A, B, or C.
^[ABC]	Matches strings beginning with the characters A, B, or C.
A B C	Matches with A or B or C

For example, the following `DisplayFilters` will match document names (BARR__NAME) beginning with S or 8 and CLASS (NDHGCLAS) equal to A or B.

```
<param name="DisplayFilters" value="<param col='BARR__NAME'
val='^[S8]' /><param col='NDHGCLAS' val='A|B' />" />
```

2.5 Configure multiple clients

It is possible for different clients to have different views of the same data. To set up a view for an alternate client, complete the following steps. In the steps, *newclient* is used to refer to the alternate client.

1. Navigate to the `inetpub\wwwroot\BEPS` folder.
2. Copy `start.html` to `newclient.html`, copy `spoolwindow.jnlp` to `newclient.jnlp`.
3. Edit `newclient.html` and change the following HREF:
From: ``
To: ``
4. Edit `newclient.jnlp`, and put the appropriate filters at the bottom of the parameter list.

```
<param name="DisplayFilters"  
value="<param col='NDHGRMT' val='DLA' />" />  
  
<param name="PrinterFilters"  
value="<param col='NDHGRMT' val='DLA' />" />  
  
<param name="Display"  
value="BARR__PRINT(00),BARR__NAME(00),NDHGCLAS(01)" />
```

DisplayFilters – Lists only the data sets that match the specified filters. In this example, the new client will only see the DLA data sets.

PrinterFilters – Lists only the printers that match the specified filters. In this example, the new client will only see the DLA printers.

Display – Lists the NJE fields to display as columns. Note, a comma is used to separate each field name. For fields to display, they must also be present in the `config.xml` file.

You can also configure columns to be editable or read-only. This is controlled by specifying a value in parenthesis after the column name. The first digit controls the printer area and the second digit controls the document area. A 0 indicates the column is editable and a 1 indicates the column is read-only, in the designated area. The default for each column is (00), editable in both areas. Notice in the example the NDHGCLAS column shows a display value of (01). This indicates NDHGCLAS is configured to be editable in the printer area and read-only in the document area. When columns are configured to be read-only, the column appears shaded in a darker gray color.

5. Test `newclient.html` to verify it is working correctly.
6. E-mail the `newclient.html` link to the appropriate users.

This chapter contains solutions to common problems that you might experience with BARR/Web Interface. This chapter is divided into two sections: Web Service problems and Client problems.

Troubleshooting the Web Service

Follow the steps below to troubleshoot problems with the Web service. To determine if the problem is with the Web service, open Internet Explorer on the Web service computer and type `http://localhost/BepsWebService/Service1.aspx`. If a page is displayed, skip to the next section to troubleshoot the client. A variety of reasons could cause a problem with the Web service. If the Web service will not start after following the steps below, contact Technical Support for further assistance.

To verify the config.xml format

1. Use Windows Explorer to navigate to `C:\inetpub\wwwroot\BepsWebService`.
2. Double-click **config.xml**. Verify the file opens without any errors in Internet Explorer. If it does not open, then use Windows Explorer to associate the XML file type with Internet Explorer. For more information, refer to the Help for your operating system. If there are errors, correct them.
3. Restart IIS.
 - a. On the taskbar, select **START | Control Panel | Administrative Tools | Services**.
 - b. Right-click **IIS Admin** and select **Restart**.
 - c. Close Services.
4. Test the Web service by opening Internet Explorer, and typing `http://localhost/BepsWebService/Service1.aspx`. If a page is displayed, skip to the next section to troubleshoot the client.

To verify the web.config format

1. Use Windows Explorer to navigate to `C:\inetpub\wwwroot\BepsWebService`.
2. Right-click **web.config** and select **Copy**.
3. Right-click the folder and select **Paste**.
4. Rename the file **web.config.xml**.

5. Double-click **web.config.xml**. Verify the file opens without any errors in Internet Explorer. If it does not open in Internet Explorer, then use Windows Explorer to associate the XML file type with Internet Explorer. For more information, refer to the Help for your operating system. If there are errors, correct them.
6. Test the Web service by opening Internet Explorer, and typing `http://localhost/BepsWebService/Service1.asmx`. If a page is displayed, skip to the next section to troubleshoot the client.

To test the permissions

1. Use Windows Explorer to navigate to `C:\inetpub\wwwroot\BepsWebService`.
2. Right-click the **BepsWebService** folder and select **Permissions**.
3. Select the **Web Sharing** tab.
4. Select **BepsWebService** and click **Edit Properties** to display the **Edit Alias** dialog box.



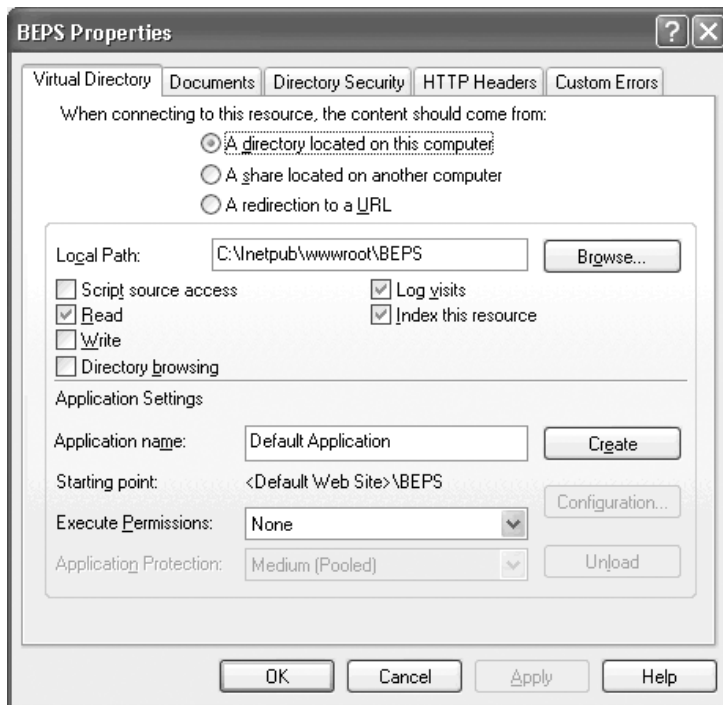
5. Verify **Execute** is selected. If it is not selected, select **Execute** and restart IIS.
 - a. On the taskbar, select **START | Control Panel | Administrative Tools | Services**.
 - b. Right-click **IIS Admin** and select **Restart**.
 - c. Close Services.
6. Test the Web service by opening Internet Explorer, and typing `http://localhost/BepsWebService/Service1.asmx`. If a page is displayed, skip to the next section to troubleshoot the client. If the service is still not running, contact Barr Technical Support.

Troubleshooting the Client

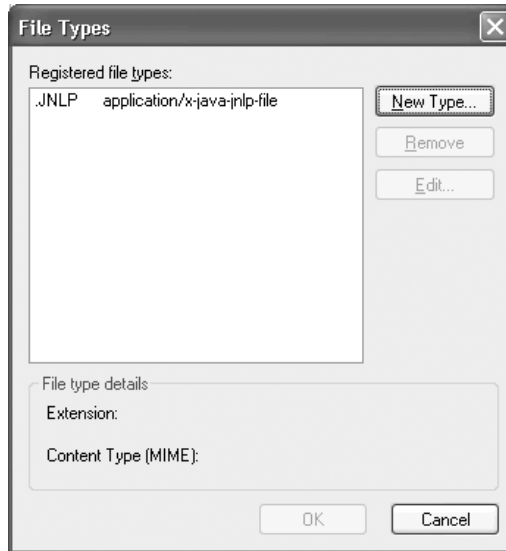
Follow the steps below to troubleshoot problems with the Web client. To determine if the problem is with the Web client, open Internet Explorer and type `http://yourwebserver/BEPS/start.html`. If a page does not display, make sure the Web service is running and then follow the steps below to diagnose the problem with the client. If the Web service is running and the client will not start after following the steps below, contact Technical Support for further assistance.

To verify the virtual directory

1. Open IIS.
2. In the left pane, right-click **BEPS** and select **Properties**.
3. On the **Virtual Directory** tab, verify the **Read** option is enabled.



4. On the **HTTP Headers** tab, click **File Types** and verify that the JNLP MIME type has been registered on the virtual directory.



5. Test the Web service by opening Internet Explorer, and typing `http://yourwebserver/BEPS/start.html`. If a page displays, follow the instructions to complete the client installation.

To verify correct file installation

1. To ensure the necessary java applications are installed, open Windows Add/Remove Programs and look for Java Run Time and Java Web Start.
2. To ensure SystemInfo.dll is installed, use Windows Explorer to navigate to `C:\program files\java\jre1.6.0_07\bin\` (where `jre1.6.0_07` is your current version).

To verify the spoolwindow.jnlp format

1. Open Windows Explorer and navigate to `C:\inetpub\wwwroot\Beps`.
2. Right-click **spoolwindow.jnlp** and select **Copy**.
3. Right-click the folder and select **Paste**.
4. Rename the file **spoolwindow.jnlp.xml**.
5. Double-click **spoolwindow.jnlp.xml**. Verify the file opens and displays without any errors in Internet Explorer. If it does not open, then use Windows Explorer to associate the XML file type with Internet Explorer. For more information, refer to the Help for your operating system. If there are errors, correct them.
6. Test the Web service by opening Internet Explorer, and typing `http://yourwebserver/BEPS/start.html`. If a page displays, follow the instructions to complete the client installation. If a page does not display, contact Barr Systems Technical Support.