



PERSPECTIVE UPDATE INSTRUCTIONS

Version 1.0 to 5.1.1

November 2016

Perspective by Resolver Inc.™

Version 5.1.1

Distributed November 2016

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SYSTEM REQUIREMENTS **Version 5.1.1**

The following requirements are for Perspective operating in a traditional LAN/WAN environment with the Web server component running on a separate Microsoft® IIS box. These specs are for planning purposes only and apply to Perspective™ V.5.1.1, Dispatch, and Focal Point™ V.1.2. Please contact your Resolver representative for a specific assessment of your needs.

*NOTE: Meeting the **Minimum** system requirements means you can run the application successfully, but it may not provide the best performance. Meeting the **Recommended** requirements will offer a significantly better experience.*

	MINIMUM	RECOMMENDED
CLIENT MACHINE		
Processor Speed	2 GHz dual-core	2.5 GHz dual-core
Memory	2 GB	4 GB
Operating System	Windows® Vista SP 3, Windows® 7 SP 1, Windows® 8.1, Windows® 10	
.NET Framework	Version 4.5.2	
Web Browser – Launch Perspective	Internet Explorer® 11, Edge	
Web Browser – Web Portal	Internet Explorer® 11, Edge, Chrome®, Safari® iOS 7, Android® Browser 4.2+	
Third Party Application	Adobe Reader® 9.4.0+ Sun Java® Runtime Environment 7 U71, 8 U25 ¹ , QlikView® Analyzer Plug-in for IE ²	
Mobile iOS App	iOS 7, iOS 8, iOS 9	
Officer Mobile	iOS 8, iOS 9, Android 4.4, Android 5.1, Android 6.0	
WEB SERVER MACHINE ³ (ON PREMISE ONLY)		
Available Disk Space ⁴	1 GB	1 GB
Processor Speed	2 GHz dual-core	2.5 GHz dual-core
Memory	4 GB	4 GB
Operating System	Windows Server® 2012, Windows Server® 2012 R2 IIS with WebSockets enabled ⁵ and Secure-Channel configured (HTTPS/SSL)	
.NET Framework	Version 4.5 with HTTP and non-HTTP activation	
C++ Runtime Libraries	C++ 2010 SP1 Runtime Libraries (x64) 10.40219	
QlikView™ Server ²	64-bit Version 11.20 SR1	
DATABASE SERVER MACHINE ³ (ON PREMISE ONLY)		
Available Disk Space	2 GB	20+ GB
Processor Speed	2 GHz dual-core	64-bit server dual-core or multi-processors
Memory	2 GB	4+ GB
Database Server ⁶	SQL Server® 2012 SP3, SQL Server® 2014 SP1	
Reporting Services	SQL Server® 2012 Reporting Services, SQL Server® 2014 Reporting Services	

1. This requirement only applies if using Visual Analysis.
2. This requirement only applies to Perspective Focal Point. A limited QlikView™ Server license is included with Focal Point.
3. These requirements apply to systems with up to 25 users. For systems with 25+ users, contact your Resolver account manager for more information.
4. Depending on the size of the Perspective database, more disk space may be needed for Focal Point and Workflow.
5. This requirement only applies if using Dispatch.
6. Only SQL Server Enterprise Edition is supported for indexing on audit tables.

Notes:

Net.TCP binding on port 808 is required only if using DispatchLog.

For the best Dispatch experience, it's recommended that dispatchers run the application on two monitors with the same resolution.

For the best performance, do not run the Indexer on the same server where the database is hosted.

Deployment Note: The Perspective client is deployed as a ClickOnce application, launched from IE. It has a zero client footprint and doesn't require administrative rights to launch.

Network Note: If single sign-on authentication or add from Active Directory is used, Active Directory Services must be enabled on the Perspective Web Server.

Internet Note: Internet connectivity on the Client Machine is required for full functionality.



Perspective Version 1.0 to Version 4.0.2: Upgrade to Version 5.1.1

This guide is for users upgrading to the latest version of Perspective from the following previous versions:

- Version 1.0
- Version 1.1.1
- Version 1.1.2
- Version 1.2
- Version 1.3
- Version 1.3.1
- Version 2.0
- Version 2.1.1
- Version 2.5
- Version 3.0
- Version 3.1
- Version 3.2
- Version 3.3
- Version 4.0
- Version 4.0.2

If upgrading from 4.5 or later, please refer to the [Perspective Update Instructions 5.1.1](#) document.

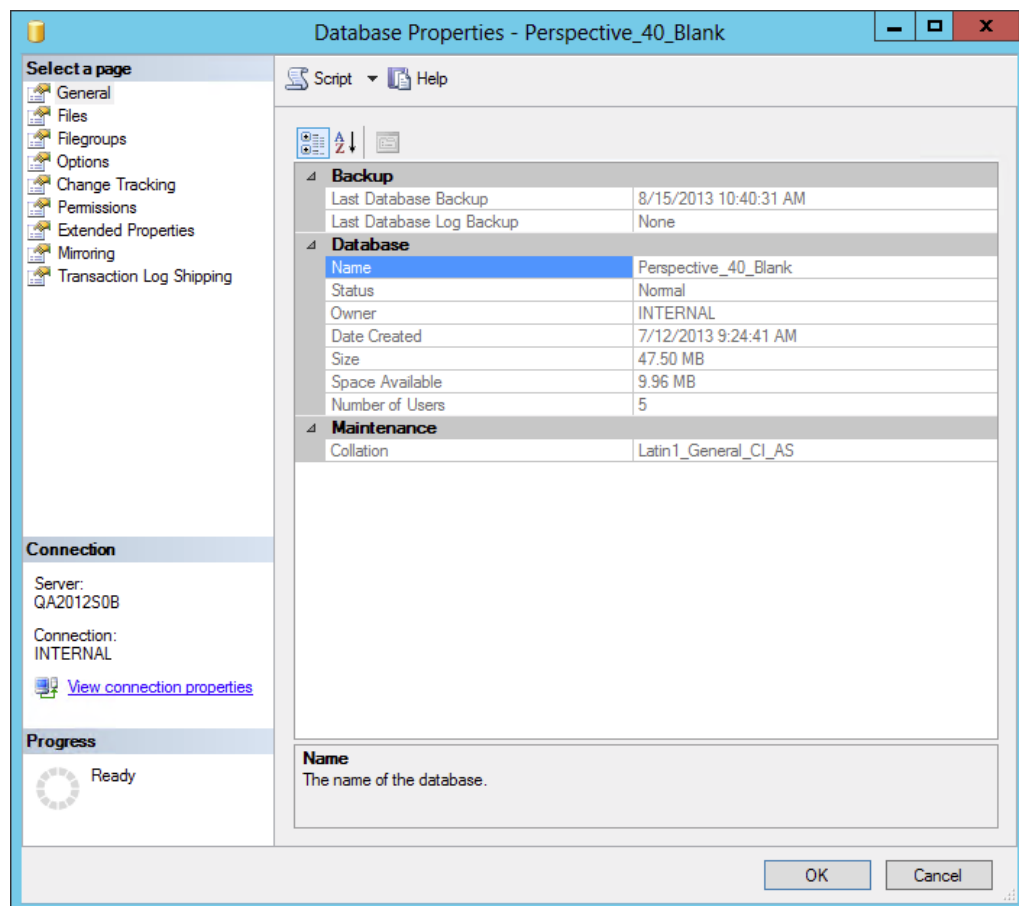
Important Notes About SQL Server

Only SQL Server Enterprise Edition is supported for indexing on audit tables. If you're upgrading Perspective using a non-enterprise version of SQL Server, you'll encounter errors related to indexing on audit tables. However, you will still be able to successfully upgrade despite these error messages, as they will not negatively affect the application

Update Instructions

1. Back up your Perspective SQL database.
2. Back up the **Perspective_Default.config** file in the Perspective Services Virtual Directory. This file contains all necessary information on how your system was configured.
3. In the **Compatibility Settings** of your SQL database, ensure your database is in compatibility mode for **SQL Server 2012 (110)**.

If it is not, open the **Microsoft SQL Management Studio**, expand **Databases**, right-click your Perspective database and select **Properties**. On the left-hand column, select **Options**. In the **Compatibility level** field, select **SQL Server 2012 (110)**.



For more information on running the installs, refer to the *Perspective Installation Guide*.

4. If installing an edition of Perspective with Dispatch, install the **WebSocket Protocol** on your webserver, if it is not already installed.

5. Uninstall **Perspective Services**. Click **Start** > Launch the **Control Panel** > Navigate to **Programs and Features** > Select **Perspective Services** > **Uninstall** > Follow the prompts displayed onscreen to uninstall **Perspective Services**.
6. If installed, uninstall any earlier versions of **Service Manager**. Check your Perspective directory and IIS for any remnants of your previous Perspective Services installation. Remove any remaining files or folders.
7. Run the following update packages and SQL scripts to update your version of Perspective to Version 4.0.2.

Note: Once these update packages and scripts have been successfully run, you will run additional scripts to then upgrade to Version 5.1.1, as outlined in step 8 below.

To move to Version 4.0.2 from	Open folder	Run update packages and SQL scripts
Version 1.0	1_Update_10_To_111	a. Version_1_0_to_1_1_1.exe b. Perspective_v1_Update.sql c. Drop_Functions_1_1.exe d. Create_Functions_1_1.exe
	2_Update_111_To_112	e. Perspective112_Update.exe f. SQLPackage_112_Sample_Update.exe
	3_Update_112_To_12	g. SQLPackage_Update_112_To_12.exe h. SQL_Script_Post_Update_112_To_12.sql
	4_Update_12_To_13	i. SQLPackage_Update_12_To_13.exe
	5_Update_13_To_20	j. SQLScript_Update_13_To_20.sql
	6_Update_20_To_21	k. SQLScript_Update_20_To_21.sql
	7_Update_21_To_25	l. SQLScript_Update_21_To_25.sql
	8_Update_25_To_30	m. SQLScript_Update_25_To_302.sql
	9_Update_30_To_31	n. SQLScript_Update_30_To_31.sql
	10_Update_31_To_32	o. SQLScript_Update_31_To_32_part1.sql

To move to Version 4.0.2 from	Open folder	Run update packages and SQL scripts
		p. SQLScript_Update_31_To_32_part2.sql q. SQLScript_Update_31_To_32_part3a.sql r. SQLScript_Update_31_To_32_part3b.sql s. SQLScript_Update_31_To_32_part3c.sql t. SQLScript_Update_31_To_32_part3d.sql u. SQLScript_Update_31_To_32_part3e.sql v. SQLScript_Update_31_To_32_part3f.sql w. SQLScript_Update_31_To_32_part3g.sql x. SQLScript_Update_31_To_32_part4.sql
	11_Update_32_To_33	y. SQLScript_Update_32_To_33.sql
	12_Update_33_to_40_to_402	z. SQLScript_Update_33_To_40.sql aa. SQLScript_Update_40_To_402.sql
Version 1.1	2_Update_111_To_112	a. Perspective112_Update.exe
	3_Update_112_To_12	b. SQLPackage_Update_112_To_12.exe c. SQL_Script_Post_Update_112_To_12.sql
	4_Update_12_To_13	d. SQLPackage_Update_12_To_13.exe
	5_Update_13_To_20	e. SQLScript_Update_13_To_20.sql SQLScript_Update_20_To_21.sql
	6_Update_20_To_21	f. SQLScript_Update_21_To_25.sql
	7_Update_21_To_25	g. SQLScript_Update_25_To_302.sql
	8_Update_25_To_30	h. SQLScript_Update_30_To_31.sql
	9_Update_30_To_31	i. SQLScript_Update_31_To_32_part1.sql

To move to Version 4.0.2 from	Open folder	Run update packages and SQL scripts
		j. SQLScript_Update_31_To_32_part2.sql
		k. SQLScript_Update_31_To_32_part3a.sql
		l. SQLScript_Update_31_To_32_part3b.sql
		m. SQLScript_Update_31_To_32_part3c.sql
		n. SQLScript_Update_31_To_32_part3d.sql
		o. SQLScript_Update_31_To_32_part3e.sql
		p. SQLScript_Update_31_To_32_part3f.sql
		q. SQLScript_Update_31_To_32_part3g.sql
		r. SQLScript_Update_31_To_32_part4.sql
	10_Update_31_To_32	s. SQLScript_Update_32_To_33.sql
	11_Update_32_To_33	t. SQLScript_Update_33_To_40.sql
Version 1.1.2 Production		u. SQLScript_Update_40_To_402.sql
	4_Update_12_To_13	a. SQLPackage_Update_12_To_13.exe
	5_Update_13_To_20	b. SQLScript_Update_13_To_20.sql
	6_Update_20_To_21	c. SQLScript_Update_20_To_21.sql
	7_Update_21_To_25	d. SQLScript_Update_21_To_25.sql
	8_Update_25_To_30	e. SQLScript_Update_25_To_302.sql
	9_Update_30_To_31	f. SQLScript_Update_30_To_31.sql
	10_Update_31_To_32	g. SQLScript_Update_31_To_32_part1.sql
		h. SQLScript_Update_31_To_32_part2.sql
		i. SQLScript_Update_31_To_32_part3a.sql
		j. SQLScript_Update_31_To_32_part3b.sql
		k. SQLScript_Update_31_To_32_part3c.sql

To move to Version 4.0.2 from	Open folder	Run update packages and SQL scripts
		l. SQLScript_Update_31_To_32_part3d.sql m. SQLScript_Update_31_To_32_part3e.sql n. SQLScript_Update_31_To_32_part3f.sql o. SQLScript_Update_31_To_32_part3g.sql p. SQLScript_Update_31_To_32_part4.sql
	11_Update_32_To_33	q. SQLScript_Update_32_To_33.sql
	12_Update_33_to_40_to_402	r. SQLScript_Update_33_To_40.sql s. SQLScript_Update_40_To_402.sql
Version 1.2	4_Update_12_To_13	a. SQLPackage_Update_12_To_13.exe
	5_Update_13_To_20	b. SQLScript_Update_13_To_20.sql
	6_Update_20_To_21	c. SQLScript_Update_20_To_21.sql
	7_Update_21_To_25	d. SQLScript_Update_21_To_25.sql
	8_Update_25_To_30	e. SQLScript_Update_25_To_302.sql
	9_Update_30_To_31	f. SQLScript_Update_30_To_31.sql
	10_Update_31_To_32	g. SQLScript_Update_31_To_32_part1.sql h. SQLScript_Update_31_To_32_part2.sql i. SQLScript_Update_31_To_32_part3a.sql j. SQLScript_Update_31_To_32_part3b.sql k. SQLScript_Update_31_To_32_part3c.sql l. SQLScript_Update_31_To_32_part3d.sql m. SQLScript_Update_31_To_32_part3e.sql n. SQLScript_Update_31_To_32_part3f.sql o. SQLScript_Update_31_To_32_part3g.sql

To move to Version 4.0.2 from	Open folder	Run update packages and SQL scripts
		p. SQLScript_Update_31_To_32_part4.sql
	11_Update_32_To_33	q. SQLScript_Update_32_To_33.sql
	12_Update_33_to_40_to_402	r. SQLScript_Update_33_To_40.sql
		s. SQLScript_Update_40_To_402.sql
Version 1.3 or 1.3.1	5_Update_13_To_20	a. SQLScript_Update_13_To_20.sql
	6_Update_20_To_21	b. SQLScript_Update_20_To_21.sql
	7_Update_21_To_25	c. SQLScript_Update_21_To_25.sql
	8_Update_25_To_30	d. SQLScript_Update_25_To_302.sql
	9_Update_30_To_31	e. SQLScript_Update_30_To_31.sql
	10_Update_31_To_32	f. SQLScript_Update_31_To_32_part1.sql
		g. SQLScript_Update_31_To_32_part2.sql
		h. SQLScript_Update_31_To_32_part3a.sql
		i. SQLScript_Update_31_To_32_part3b.sql
		j. SQLScript_Update_31_To_32_part3c.sql
		k. SQLScript_Update_31_To_32_part3d.sql
		l. SQLScript_Update_31_To_32_part3e.sql
		m. SQLScript_Update_31_To_32_part3f.sql
		n. SQLScript_Update_31_To_32_part3g.sql
		o. SQLScript_Update_31_To_32_part4.sql
	11_Update_32_To_33	p. SQLScript_Update_32_To_33.sql
	12_Update_33_to_40_to_402	q. SQLScript_Update_33_To_40.sql
		r. SQLScript_Update_40_To_402.sql

To move to Version 4.0.2 from	Open folder	Run update packages and SQL scripts
Version 2.0 or 2.0.1	6_Update_20_To_21	a. SQLScript_Update_20_To_21.sql
	7_Update_21_To_25	b. SQLScript_Update_21_To_25.sql
	8_Update_25_To_30	c. SQLScript_Update_25_To_302.sql
	9_Update_30_To_31	d. SQLScript_Update_30_To_31.sql
	10_Update_31_To_32	e. SQLScript_Update_31_To_32_part1.sql f. SQLScript_Update_31_To_32_part2.sql g. SQLScript_Update_31_To_32_part3a.sql h. SQLScript_Update_31_To_32_part3b.sql i. SQLScript_Update_31_To_32_part3c.sql j. SQLScript_Update_31_To_32_part3d.sql k. SQLScript_Update_31_To_32_part3e.sql l. SQLScript_Update_31_To_32_part3f.sql m. SQLScript_Update_31_To_32_part3g.sql n. SQLScript_Update_31_To_32_part4.sql
	11_Update_32_To_33	o. SQLScript_Update_32_To_33.sql
	12_Update_33_to_40_to_402	p. SQLScript_Update_33_To_40.sql q. SQLScript_Update_40_To_402.sql
Version 2.1 or 2.1.1	7_Update_21_To_25	b. SQLScript_Update_21_To_25.sql
	8_Update_25_To_30	b. SQLScript_Update_25_To_302.sql
	9_Update_30_To_31	c. SQLScript_Update_30_To_31.sql
	10_Update_31_To_32	d. SQLScript_Update_31_To_32_part1.sql

To move to Version 4.0.2 from	Open folder	Run update packages and SQL scripts
		e. SQLScript_Update_31_To_32_part2.sql f. SQLScript_Update_31_To_32_part3a.sql g. SQLScript_Update_31_To_32_part3b.sql h. SQLScript_Update_31_To_32_part3c.sql i. SQLScript_Update_31_To_32_part3d.sql j. SQLScript_Update_31_To_32_part3e.sql k. SQLScript_Update_31_To_32_part3f.sql l. SQLScript_Update_31_To_32_part3g.sql m. SQLScript_Update_31_To_32_part4.sql
	11_Update_32_To_33	n. SQLScript_Update_32_To_33.sql
	12_Update_33_to_40_to_402	o. SQLScript_Update_33_To_40.sql p. SQLScript_Update_40_To_402.sql
Version 2.5	8_Update_25_To_30	a. SQLScript_Update_25_To_302.sql
	9_Update_30_To_31	b. SQLScript_Update_30_To_31.sql
	10_Update_31_To_32	c. SQLScript_Update_31_To_32_part1.sql d. SQLScript_Update_31_To_32_part2.sql e. SQLScript_Update_31_To_32_part3a.sql f. SQLScript_Update_31_To_32_part3b.sql g. SQLScript_Update_31_To_32_part3c.sql h. SQLScript_Update_31_To_32_part3d.sql i. SQLScript_Update_31_To_32_part3e.sql j. SQLScript_Update_31_To_32_part3f.sql k. SQLScript_Update_31_To_32_part3g.sql l. SQLScript_Update_31_To_32_part4.sql

To move to Version 4.0.2 from	Open folder	Run update packages and SQL scripts
	11_Update_32_To_33	m. SQLScript_Update_32_To_33.sql
	12_Update_33_to_40_to_402	n. SQLScript_Update_33_To_40.sql o. SQLScript_Update_40_To_402.sql
Version 3.0	9_Update_30_To_31	a. SQLScript_Update_30_To_31.sql
	10_Update_31_To_32	b. SQLScript_Update_31_To_32_part1.sql c. SQLScript_Update_31_To_32_part2.sql d. SQLScript_Update_31_To_32_part3a.sql e. SQLScript_Update_31_To_32_part3b.sql f. SQLScript_Update_31_To_32_part3c.sql g. SQLScript_Update_31_To_32_part3d.sql h. SQLScript_Update_31_To_32_part3e.sql i. SQLScript_Update_31_To_32_part3f.sql j. SQLScript_Update_31_To_32_part3g.sql k. SQLScript_Update_31_To_32_part4.sql
	11_Update_32_To_33	l. SQLScript_Update_32_To_33.sql
	12_Update_33_to_40_to_402	m. SQLScript_Update_33_To_40.sql n. SQLScript_Update_40_To_402.sql
Version 3.1	10_Update_31_To_32	a. SQLScript_Update_31_To_32_part1.sql b. SQLScript_Update_31_To_32_part2.sql c. SQLScript_Update_31_To_32_part3a.sql d. SQLScript_Update_31_To_32_part3b.sql e. SQLScript_Update_31_To_32_part3c.sql f. SQLScript_Update_31_To_32_part3d.sql g. SQLScript_Update_31_To_32_part3e.sql

To move to Version 4.0.2 from	Open folder	Run update packages and SQL scripts
		h. SQLScript_Update_31_To_32_part3f.sql i. SQLScript_Update_31_To_32_part3g.sql j. SQLScript_Update_31_To_32_part4.sql
	11_Update_32_To_33	k. SQLScript_Update_32_To_33.sql
	12_Update_33_to_40_to_402	l. SQLScript_Update_33_To_40.sql m. SQLScript_Update_40_To_402.sql
Version 3.2	11_Update_32_To_33	a. SQLScript_Update_32_To_33.sql
	12_Update_33_to_40_to_402	b. SQLScript_Update_33_To_40.sql c. SQLScript_Update_40_To_402.sql
Version 3.3	12_Update_33_to_40_to_402	a. SQLScript_Update_33_To_40.sql b. SQLScript_Update_40_To_402.sql

8. Update the Perspective database by using a SQL query tool (e.g., SQL Server Management Studio) to execute the following scripts, which will update your system to version 5.1.1, against the Perspective database:
 - a. Run **SQLScript_Update_402_To_45.sql** (located in the **Update > Previous Updates** folder)
 - b. Run **SQLScript_Update_45_To_46.sql** (located in the **Update > Previous Updates** folder)
 - c. Run **SQLScript_Update_4.6.0_to_4.6.1** (located in the **Update > Previous Updates** folder)
 - d. Run **SQLScript_Update_4.6.1_to_4.6.2** (located in the **Update > Previous Updates** folder)
 - e. Run **SQLScript_Update_4.6.2_to_5.0.0.sql** (located in the **Perspective Install > Database Setup > Update** folder).
 - f. Run **SQLScript_Update_5.0.0_to_5.1.0.sql** (located in the **Perspective Install > Database Setup > Update** folder).
 - g. Run **SQLScript_Update_5.1.0_to_5.1.1.sql** (located in the **Perspective Install > Database Setup > Update** folder).

- h. **Optional:** The SQL script **BackFill_SiteRollups.sql** (located in the **Update > Previous Updates** folder) can be run to check to if a child value (Building, Location, or Section) has a Latitude and Longitude. If it's empty, it will match to the parent value. If all of the items in the tier are in the same location and you're comfortable with this being implemented for mapping purposes, you can set up the Site only, and then use this to populate the lower tiers. If you're a Hosted client, please make this request via our Support team at 1-877-776-2995 once you have all of your Site Rollups updated.
 - i. **Optional:** The SQL script **Update_Inc_Act_Site_Geos.sql** can be run to populate the Geo Co-ordinates of all Activities and Incidents with a SiteRollup associated to them. This will only be run against Activities and Incidents without Geo Co-ordinates.
9. Repeat step 8 for each Perspective database you're running (e.g., test, production, archive).
 10. Update reports using the **Perspective Install > Reports Setup** folder (please refer to Perspective Installation Guide for more detailed outline of SQL reports setup):
 - a. Edit the **PublishServerReports.bat** file to target the SQL Reporting Services server.
 - b. Save and execute the file.

Note: If you're using Windows authentication, additional configuration of the Reports data source may be required.

For more information on running the installs, refer to the Perspective Installation Guide.

11. Check your Perspective directory and IIS for any remnants of your previous Perspective Services installation. Remove any remaining files or folders.
12. Install Perspective Services 5.1 using the **Perspective Install > Web Service Setup > Perspective Services** folder. Run (as an administrator) **Perspective.Services.exe** to install the updated Perspective Services.

If this is your first time working with Perspective Services, please read through the *Perspective Installation Guide*.

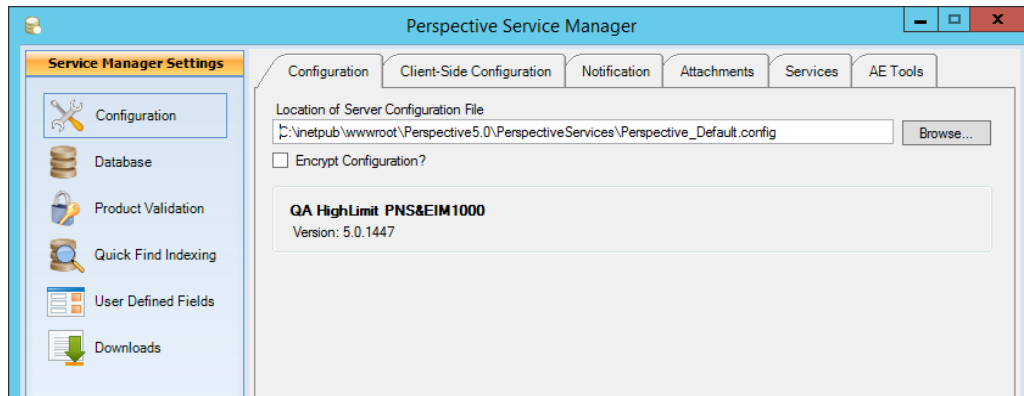
If you're completing a Custom Install and your edition includes the **DispatchLog** component, ensure that Real Time Services is installed. Refer to the Installation Guide for configuration details.

Note: If Perspective Services prompts you to install C++ runtime libraries, refer to the Standard Install > Perspective Services (Application Web Server) section of the Perspective Installation Guide.

13. Install **Perspective Service Manager** (see the *Perspective Installation Guide* for details).
14. Configure connections using Perspective Service Manager:
 - a. To access Perspective Service Manager, open it from your desktop or go to C:\Program Files\Resolver Inc\Perspective\5.1\ServiceManager\. Launch **Perspective 5.1 Service**

Manager as an **administrator**. You will be asked to provide the Database Connection information. Refer to the **Perspective Installation Guide** if needed.

- b. Under the **Configuration** tab, verify the location specified in the **Location of Server Configuration File** field. The field should be automatically populated with the default location of the **Perspective_Default.config** file in the **Perspective Services Virtual Directory**. If necessary, use the **Browse** button to point to the correct location.



- c. Under the **Database** tab, enter the primary database information. This information can be copied from within the **Perspective_Default.config** backup file. Add secondary databases, if required.
- d. Under the **Product Validation** tab, enter your **Company Name** and **Master Key**, and click **Validate**.

Note: This step requires an Internet connection in order to download your encrypted license file from the licensing server. If your web server can't access the Internet, contact Technical Support at 1-877-776-2995 to get a license file for validation.

- e. In the **Client-Side Configuration** sub-tab, enter the **Server URL** for the client folder if the field is empty.
- f. Verify the **Notification** and **Attachments** settings, and make any required changes.
- g. Verify the **Quick Find Indexing** and **Services** settings, and make any required changes.
- h. Click **Save Changes**, then click **Yes** when prompted for confirmation.
- i. Close Perspective Service Manager and restart IIS.

For detailed instructions on using the Perspective Service Manager, see the *Perspective Installation Guide*.

15. Launch the Perspective Version 5.1.1 client from the host Perspective Services default web page (e.g., <https://<servername>/PerspectiveServices>) on each client machine. Your default web page should look like the screenshot below. Refer to the *Perspective Installation Guide* for more information.

*Note: Following the configuration of the Web Server, please ensure application initialization has taken place so that end users do not experience delays with initial page loading. After any IIS reset or configuration, navigate to **<https://<servername>/IntegrationServices/service.svc>** to begin the application initialization.*



IMPORTANT NOTE: The MSI URL for Version 5.0 and later has changed to the following:

- **<https://<servername>/PerspectiveServices/?opt=0>**

If installing clients using the MSI package, ensure that previously installed Perspective applications on client machines have been uninstalled first. To install Perspective on client machines using the MSI package, please refer to the [Perspective Installation Guide](#).

Set Up Secure Sockets Layer (SSL) on Internet Information Services (IIS)

To set up SSL on IIS, follow the instructions on the [Microsoft IIS](#) website.

SAML Authentication for SSO

The following section provides instructions on configuring Perspective Service Manager to implement SSO, however, prior to completing these steps, you must confirm your identity provider (IdP) supports **SAML 2.0 through service provider initiated SSO**.

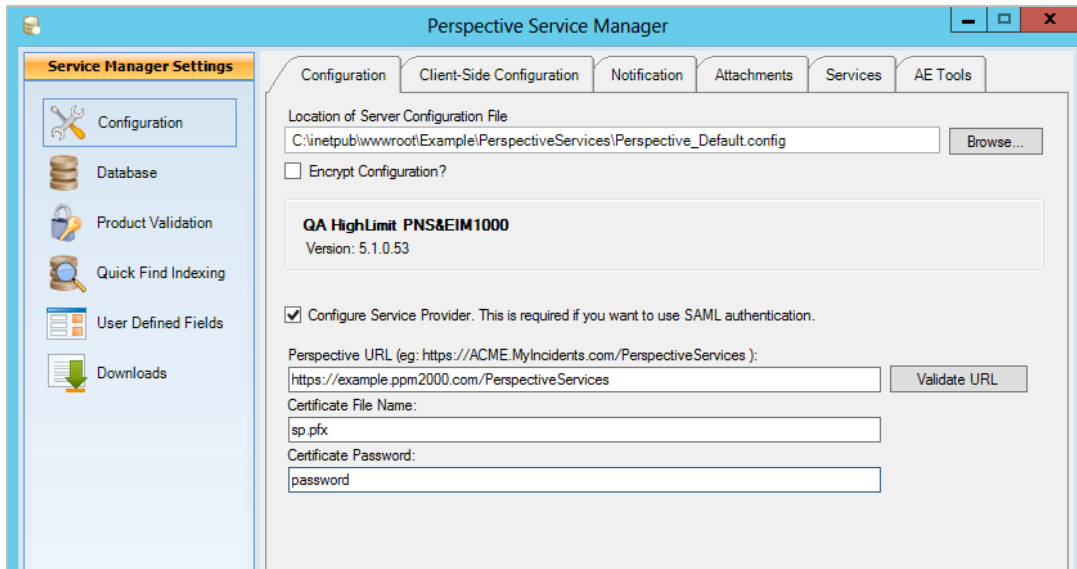
Your IdP will also need to provide you with instructions on adding and configuring new and existing Perspective users directly through their service, as IdP configurations will vary.

1. Open **Service Manager**.
2. Click **Configuration** in the pane to the left if it's not already open.
3. Select the **Configure Service Provider** checkbox.
4. Enter your Perspective Services URL in the **Perspective URL** field, then click **Validate**.

*Note: The URL you enter in this field must **exactly** match what has been entered into your IdP's configurations, including the case (upper-case or lower-case letters) and slash (/ or \) direction.*

5. Enter the server certificate file name in personal exchange format (.pfx) in the **Certificate File Name** field and enter a password in the **Certificate Password** field. For testing purposes, a sample .pfx file has been included in the installation package with a file name of **sp.pfx** and a password of **password**. This information is required so that the services (Perspective, Dispatch, Dashboard, etc.) can securely communicate with the identity provider.
6. Save a copy of the certificate file to ***PerspectiveInstallationPath*\PerspectiveServices\SAML\Certificates**. This file usually has a .pfx extension and will also need to export the private keys.

Note: If you chose the default certificate file, the file was saved at this location during installation.



After completing the above steps, you'll need to select how you will input the identity provider's details. See the **Identity Provider Configuration** section for information on uploading a metadata file or metadata URL or see **Manual Settings** for instructions on inputting the data manually.

Identity Provider Configuration

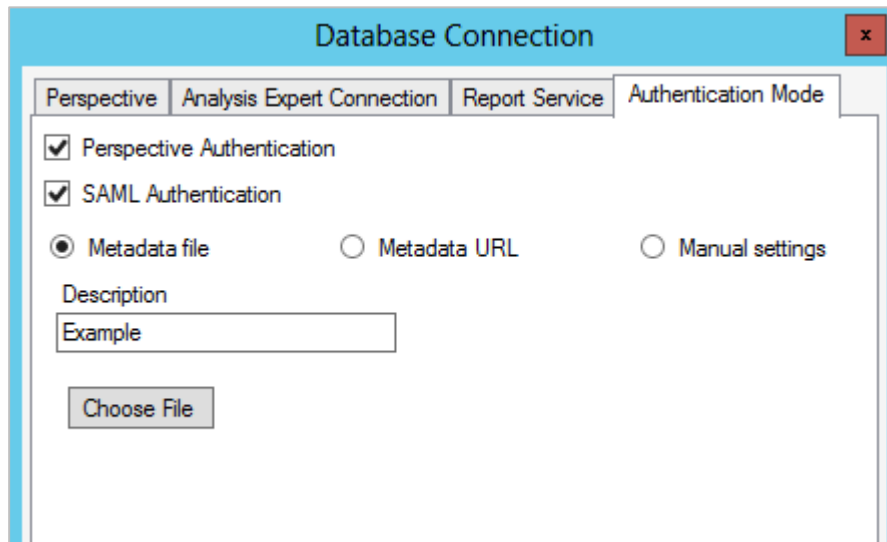
The settings below allow you to import your IdP's configurations directly into Service Manager via metadata file or metadata URL, which is obtained from your IdP.

1. In Service Manager, click **Database** in the pane to the left.
2. Double-click a database to edit it.
3. Click the **Authentication Mode** tab.
4. Select the **SAML Authentication** checkbox.

Note: If this option is unavailable, the service provider information has not been properly configured in steps 3 and/or 4 in the section above.

5. Select how you want to input the identity provider information:
 - **Metadata file:** This option will require that you obtain a metadata file from your IdP to import the SSO configurations into Service Manager. When downloading a metadata file from your IdP, the certificate is usually extracted and saved in your **My Documents** folder, but it must be moved to ***PerspectiveInstallationPath*\PerspectiveServices\SAML\Certificates** after it's been downloaded.

To use this option, after downloading the file, enter the name of your IdP in the **Description** field, which will appear to users with the phrase "Login with [IdP]" on the login screens, then click **Choose File** to upload the metadata file.



The screenshot shows a dialog box titled "Database Connection" with a close button (X) in the top right corner. It has four tabs: "Perspective", "Analysis Expert Connection", "Report Service", and "Authentication Mode". The "Authentication Mode" tab is selected. Inside this tab, there are two checked checkboxes: "Perspective Authentication" and "SAML Authentication". Below these, there are three radio buttons: "Metadata file" (which is selected), "Metadata URL", and "Manual settings". Under the "Metadata file" section, there is a text field labeled "Description" containing the word "Example", and a "Choose File" button below it.

- **Metadata URL:** This option will require that you obtain a metadata URL that will import the SSO configurations into Service Manager. After obtaining the URL, enter the name of your IdP in the **Description** field, which will appear to users with the phrase "Login with [IdP]" on the login screens. Enter a valid metadata URL from your IdP in the **Metadata URL** field, then click **Import**. The URL will import the required configurations and should be similar to the following:

<https://adfs.example.com/FederationMetadata/2007-06/FederationMetadata.xml>

*Note: The URL you enter in the **Metadata URL** field must **exactly** match what has been entered into your IdP's configurations, including the case (upper-case or lower-case letters) and slash (/ or \) direction.*

The screenshot shows a 'Database Connection' dialog box with a blue title bar and a red close button. It has four tabs: 'Perspective', 'Analysis Expert Connection', 'Report Service', and 'Authentication Mode'. The 'Authentication Mode' tab is selected. Inside the tab, there are three checked checkboxes: 'Perspective Authentication', 'SAML Authentication', and 'Manual settings'. Below these are three radio buttons: 'Metadata file', 'Metadata URL' (which is selected), and 'Manual settings'. There is a 'Description' text box containing the word 'Example'. Below that is a 'Metadata URL' text box containing the URL 'https://adfs.example.com/FederationMetadata/2007-08/Federat'. To the right of the URL box is an 'Import' button.

6. Click **OK**, then save your changes.

Manual Settings

If you're not importing metadata via a file or URL, you must configure your IdP's settings manually. Contact your IdP for instructions on obtaining the required information.

1. In Service Manager, click **Database** in the pane to the left.
2. Double-click a database to edit it.
3. Click the **Authentication Mode** tab.
4. Select the **SAML Authentication** checkbox.

Note: If this option is unavailable, the service provider information has not been properly configured.

5. Select the **Manual settings** option.
6. Complete the following fields:
 - **Description:** The name of your IdP, which will appear to users with the phrase "Login with [IdP]" on the login screens.
 - **Name:** The exact name of the IdP as provided by the IdP.
 - **Partner Certificate File:** Used to verify the assertions have come from the IdP. This file must be saved to the ***PerspectiveInstallationPath*\PerspectiveServices\SAML\Certificates** folder.

- **Single Logout URL:** The URL from which the IdP accepts logout requests.
- **Single Sign On Service:** The URL from which the IdP accepts SSO requests.
- **Name ID Format:** The username format provided to the IdP.
- **Single Sign On Service Binding:** The binding used by the IdP to authenticate (usually HTTP Redirect).
- **Sign Authentication Request:** Select this checkbox if the authentication request should be signed.
- **Sign Logout Request:** Select this checkbox if the logout request should be signed.
- **Sign Logout Responses:** Select this checkbox if the logout response should be signed.
- **Sign Assertion:** Select this checkbox if the assertions should be signed.
- **Encrypt Assertions:** Select this checkbox if the assertions should be encrypted.

The screenshot shows the 'Database Connection' dialog box with the 'Authentication Mode' tab selected. The 'Perspective Authentication' and 'SAML Authentication' checkboxes are checked. Under 'SAML Authentication', the 'Manual settings' radio button is selected. The 'Description' field contains 'Example'. The 'Name' field contains 'http://adfs.example.ppm2000.com/adfs/service'. The 'PartnerCertificateFile' field contains '555EF9FF58A8EXAMPLE28D283123634.cer'. The 'Single Logout Service Url' field contains 'https://adfs.example.ppm2000.com/adfs/ls'. The 'Single Sign On Service Url' field contains 'https://adfs.example.ppm2000.com/adfs/ls'. The 'Name ID Format' dropdown is set to 'Windows Domain Qualified Name'. The 'Single Sign On Service Binding' dropdown is set to 'HTTP Redirect'. The 'Sign Authentication Request', 'Sign Logout Request', 'Sign Logout Response', 'Sign Assertion', and 'Encrypt Assertion' checkboxes are all unchecked. An 'Export Metadata' button is located next to the 'Single Sign On Service Url' field. At the bottom are 'OK' and 'Cancel' buttons.

7. Click **OK** then save your changes.

Export Metadata

Once you've completed the configurations in the previous sections, your IdP will likely require Perspective metadata in order to complete the SSO process. This information can be exported into a file using the **Export Metadata** tool in Service Manager.

1. In Service Manager, click **Database** in the pane to the left.
2. Double-click a database to open it.
3. Click the **Authentication Mode** tab.
4. Select the **Manual Settings** option.
5. Click **Export Metadata**.
6. Navigate to the ***PerspectiveInstallationPath*\PerspectiveServices\SAML\Certificates** folder, or an alternate location you may have selected in the previous section.
7. Select a file name and location to export the metadata.

Note: It's recommended that you save the metadata file in

****PerspectiveInstallationPath*\PerspectiveServices\SAML\Metadata** in the Perspective services installation directory.*

8. Click **OK** and the metadata file will be opened. Either upload a copy of this file to your IdP server or save a copy in the ***PerspectiveInstallationPath*\PerspectiveServices\SAML\Metadata** folder if you did not choose that location in step 6.

Perspective Configurations

Once the Service Manager and IdP configurations are complete, a Perspective administrator must enter each user's SSO username (as it's configured in the IdP's settings) in the **Corporate ID** field by going to **Administration > Users > User Details**.

Linked Person	Role
 Bernard, Milly R  	Chief Security Officer (Director) ▼
First Name	Last Name
Milly R	Bernard
Perspective Logon ID	Corporate ID
ets2	millybernard
Change Password	Approved By
☐ Change Password On Login	 No Value  

If your system was previously configured for Windows authentication, you can use those credentials for SSO, including any values previously saved in the **Corporate ID** field, provided those values match the name ID format selected during setup.

See the [Perspective Administrator's Guide](#) for more information on entering this information in a user's profile.

Integration Services

Integration Services should not require any additional configuration as all SAML authentication information should be in the Perspective configuration file.

Windows Authentication

Perspective 5.1.1 continues to support Windows authentication (non-SAML authentication); however, it is available for **Perspective only** and can no longer be enabled through Service Manager.

*Important Note: If you wish to use single sign-on authentication for all Perspective modules (Perspective, Dispatch, Dashboard, and/or Web Portal) you must enable **SAML authentication**.*

1. Open the **Perspective_default.config** file. By default, this file is located at `C:\inetpub\wwwroot\Perspective5.1\PerspectiveServices`
2. Locate the **<WindowsAuthentication>** tag.
3. Delete the **false** value in the tag and replace it with **true**.

*Note: You **cannot** enable both Windows authentication and SSO in the **Perspective_default.config** file by changing the **<SSOAuthentication>** tag's value to **true**.*

```
<MSReportServiceUser>
  User_Domain_Name;User_Login_Name;User_Password</MSReportServiceUser>
  <PerspectiveAuthentication>true</PerspectiveAuthentication>
  <WindowsAuthentication>>false</WindowsAuthentication>
  <SSOAuthentication>>false</SSOAuthentication>
  <PartnerIdentityProvider Name="" Description=""
```

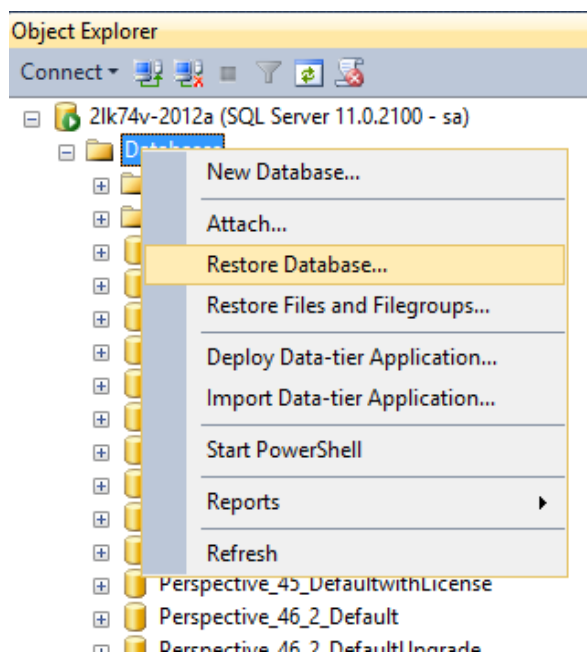
4. Save the file.
5. Reset IIS to complete the configuration.

Database Restore (Dispatch Scheduling Service and Service Clustering)

Note: This section applies to users installing an edition of Perspective with the Dispatch application. If you're not installing an edition of Perspective with Dispatch, skip this section.

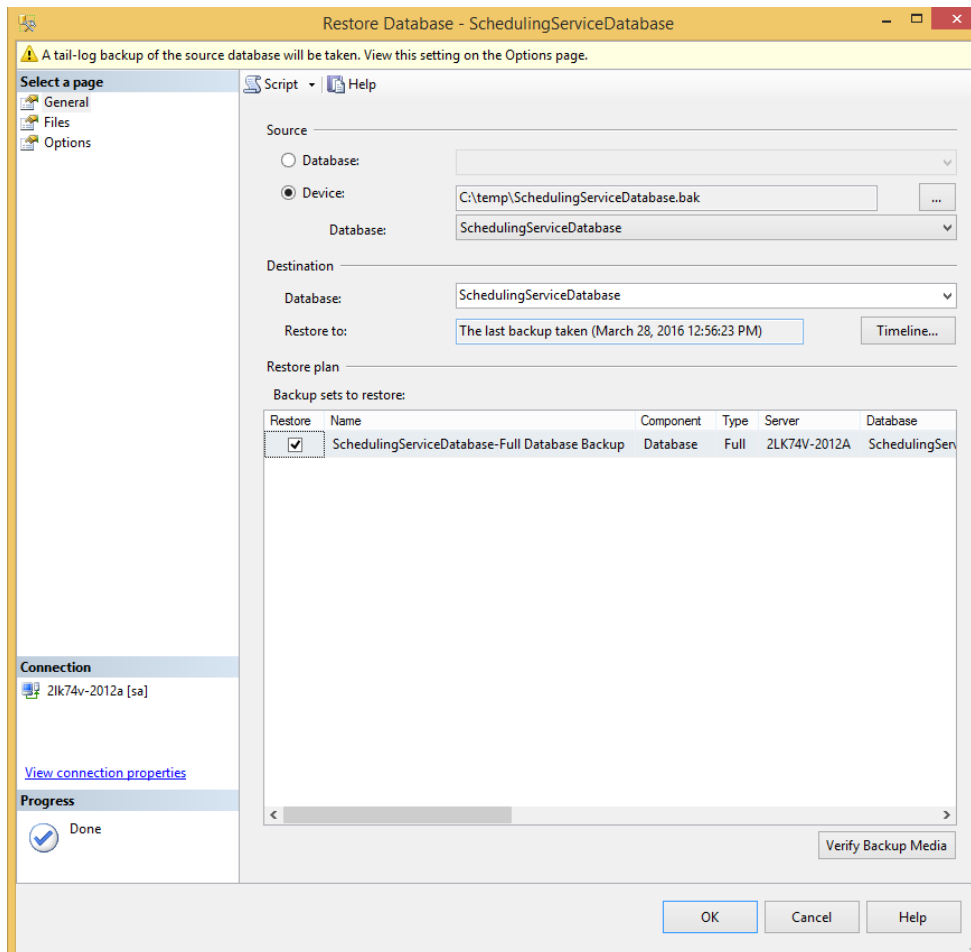
Follow these steps below to restore both the **Dispatch Scheduling Service** database and the **Service Clustering** database.

1. Open **SQL Management Studio**.
2. Right-click **Object Explorer** and click **Restore** Database.

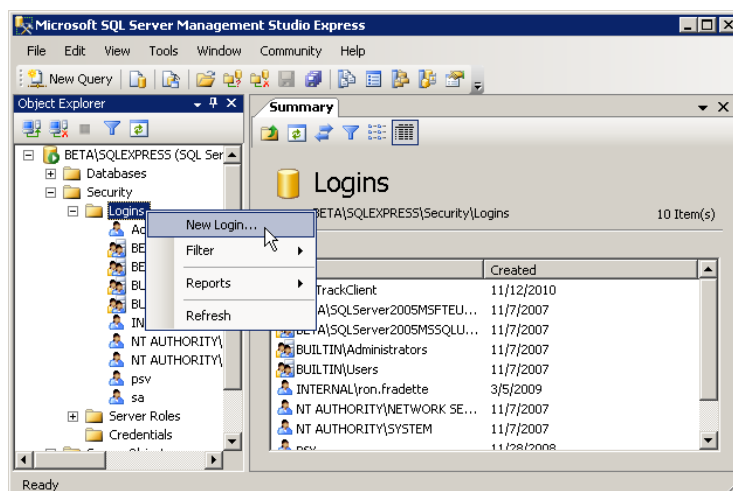


3. Navigate to the location of **Dispatching Schedule Service** database backup file.

*Note: Standard backups are found in **Perspective Install > Database Setup > New**. If you're unsure which database to use, contact your Perspective Administrator.*



4. Click **OK** to restore
5. Create a new SQL user that will be used by Perspective to connect to the SQL Server:
 - a. Launch Microsoft SQL Server Management Studio. In the menu on your left, expand the **Security** node, right-click **Logins**, and select **New Login**.

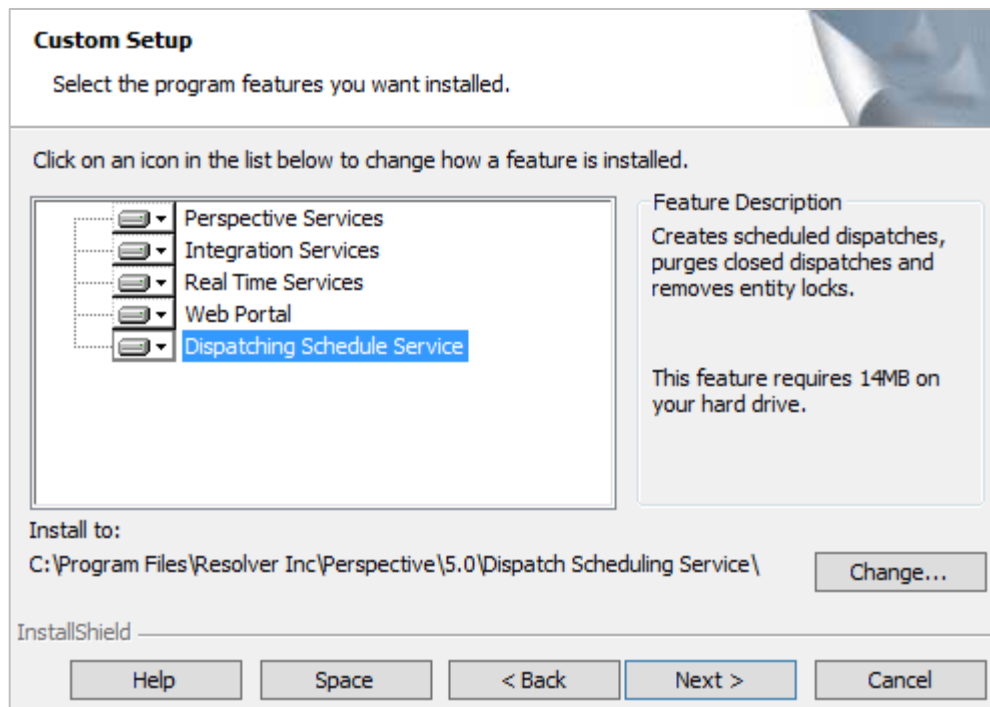


- b. In the **Login – New** form, under the **General** page, type in the **Login Name** and modify the rest of the options according to your preference.
- c. Open **User Mapping**. For both the **Dispatch Scheduling** and **Service Clustering** databases, ensure the account has either **db_owner** OR **db_datareader** and **db_datawriter** role membership rights, then click **OK**.

Scheduling Services

Note: This section applies to users installing an edition of Perspective with the Dispatch application. If you're not installing an edition of Perspective with Dispatch, skip this section.

1. Navigate to install location of the scheduling service. If you completed a default installation of Perspective Services, it's located at **C:\Program Files\Resolver Inc\Perspective\5.1\Dispatch Scheduling Service**. If you completed a custom installation, this location is the path that was specified in the InstallShield Wizard.



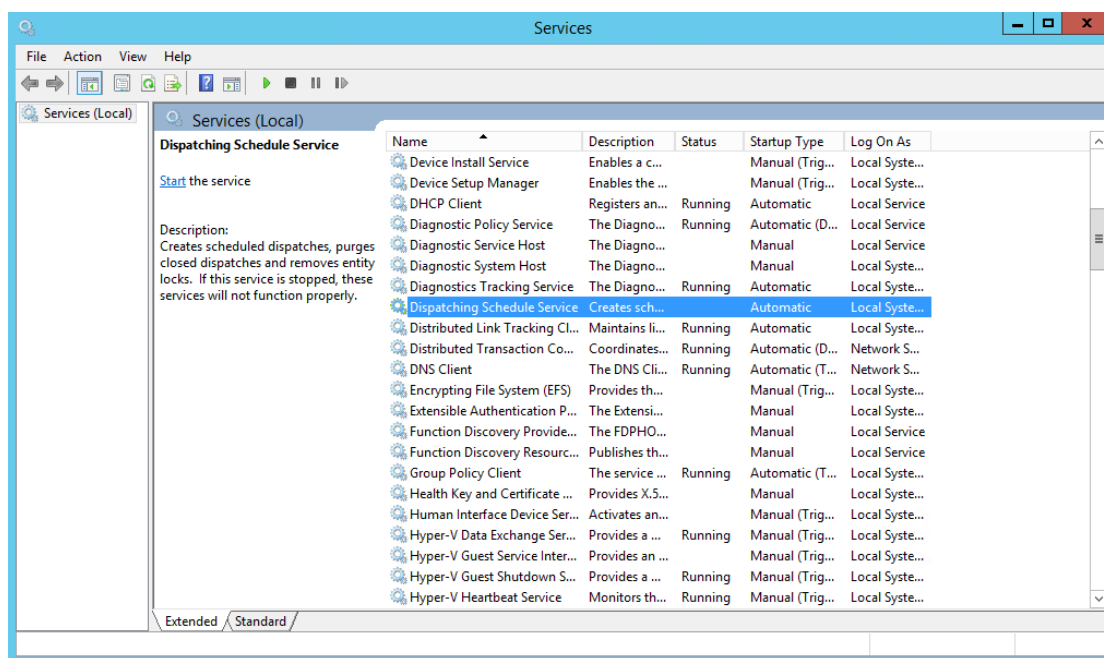
2. Open the **Connections.xml** file.
3. Enter the service folder information to show the Integration Services virtual directory (i.e. **<servername>/integrationservices**).

*Note: If **Scheduling Services** and **Integration Services** are installed on the same machine, the Service Folder element(s) in the **Connections.xml** file must contain either an IPv4 address or the localhost alias.*

4. Save your changes to the **Connections.xml** file then close.
5. Open the **SchedulingServices.exe.config** file.
6. Under **appSettings**, enter the database connection string to point to the Scheduling Service database. For example:

```
<add key="DataBaseConnectionString" value="Data
Source==<dbserver>\<dbinstance>;Initial Catalog=<dbname>;user
id=<user>;password=<password>;Application Name=Integration Services" />
```

7. Save your changes to the **SchedulingServices.exe.config** file then close.
8. Open **Windows Services**.
9. Click on **Dispatching Schedule Service**.



10. Click the ► icon or right-click **Dispatching Schedule Service** then click **Start**.

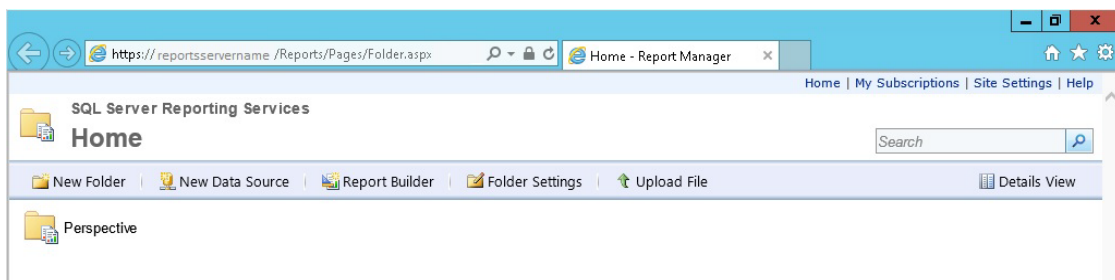
Testing Perspective Implementation

Once you have completed the steps outlined on the previous sections, please go through the following steps to ensure that all Perspective's components have been set up properly.

*Note: Following the configuration of the Web Server, please ensure application initialization has taken place so that end users do not experience delays with initial page loading. After any IIS reset or configuration, navigate to **https://<servername>/IntegrationServices/service.svc** to begin the application initialization.*

1. Go to the Perspective Services URL and confirm that the page loads properly:
https://<localhost>/perspectiveservices, where **<localhost>** is the appropriate local host address on your network.
2. Go to the Perspective Services page and confirm that the page loads properly:
https://<localhost>/perspectiveservices/service.asmx, where **<localhost>** is the appropriate local host address on your network.
3. Go to the Report Manager page and confirm that the page loads properly:
http://<reportservername>/reports, where **<reportservername>** is the appropriate address for the reports server on your network.

*Note: If your Report Manager page does not display correctly, run the **PublishServerReports.bat** file included in the **Perspective Install > Reports Setup** folder.*



4. Log on to the Perspective client—preferably not on the server itself—using your Perspective administrator user name and password.
5. Once you have logged on successfully, click on the **Reports** button in the Navigation pane (on the left-hand side of the screen) and confirm that all reports are listed. The easiest way to confirm that the client-side reports are working is to verify that there are reports listed under the **Detail Reports** heading, such as the Incident, Person and Vehicle Reports.
6. To also confirm you are connected to the correct database, run the **Workgroup List** report and verify the workgroups listed.
7. To confirm that the server-side reports are working, try running the **Test Report** under the **<Administrative Only>** node listed. If you receive an error message, see the

Troubleshooting Perspective & SQL Reporting Services on the Resolver Support site for more information.

Note: Both the Report version and database version should display as 5.1.

Contact Information

Technical Support

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