

# Search Enterprise

## Installation and Setup Guide

Version: 11.2.x

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Date: Monday, February 27, 2023

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## Enterprise Search Overview

Enterprise Search is a web-based application that provides secure, unified information access to your content across diverse enterprise systems. Enterprise Search makes it simple, straightforward, and quick for users to locate key information. Users can rapidly access the information they need and then take action, such as completing a task or advancing a business process. Additionally, with faceted navigation, conversational search, natural language support and other intuitive features, users do not need to enter perfect queries to get the right results.

## Enterprise Search Anywhere Overview

With your purchase of Enterprise Search, you receive the Enterprise Search Anywhere client. It allows users to create and search personal indexes of data located on their computers. It also enables users to search Enterprise Search indexes through browsers or mobile devices. Enterprise Search stores a user's personal indexes in their own data store on the server. Only the user who owns the personal indexes and the server administrator can access them. By default, the Enterprise Search installation process creates a Enterprise Search Anywhere site. After you complete the Enterprise Search installation, users must connect their computers through the Enterprise Search Anywhere site. Each user can connect up to three computers and devices.

## Prepare for the installation or upgrade

These instructions enable you to install Enterprise Search directly on a Windows server. To upgrade from a previous version of Enterprise Search, see the [Upgrade Enterprise Search](#) section. Additional information is also available in the *Enterprise Search Release Notes* available on the Customer Portal.

### Prerequisites

#### Prerequisite

Before you install, see the following list of prerequisites.

- Verify that you are logged in as a member of the Administrators group on the domain or local computer.
- On the Enterprise Search computer, check the Windows Event Viewer to verify that the computer has no DNS, hardware, or critical Windows errors.
- Verify that your system meets the requirements in the *Enterprise Search Technical Specifications*.
- Verify your product compatibility outside of Enterprise Search, such as the compatibility between the service pack level of the operating system and your version of Microsoft SQL Server.

### Test the TCP/IP connection

To test the TCP/IP connection to the computer that runs Enterprise Search, complete the following step.

- In **Command Prompt**, type `ping <server address>`, where *<server address>* is the IP address or the host name of the computer that will run Enterprise Search, and press **ENTER**.

**Note:**

If the TCP/IP connection is successful, a message such as the following returns

- Pinging diamond.isys.denver [10.188.234.102] with 32 bytes of data:  
Reply from 10.188.234.102: bytes=32 time<1ms TTL=128  
Reply from 10.188.234.102: bytes=32 time<1ms TTL=128  
Reply from 10.188.234.102: bytes=32 time<1ms TTL=128
- If the TCP/IP connection fails, the `Bad IP address` message returns. Verify the IP address or name.

## Open firewall and network ports

To enable components of the Enterprise Search stack, you must open or verify specific ports on your network. Enterprise Search uses ports 80, 81, 8080, 8081, 8082, 8083, 8084, 8700, 8702, and 8095 by default. If your current environment already uses these ports, before you test your installation, see the [Configure network ports](#) section after you complete the installation process.

- **Port 8700 and 8702.** Perceptive Enterprise Search Administration Console, which allows you to customize the Enterprise Search installation, uses port 8700 by default and port 8702 for SSL connections.
- **Port 8080 and 80.** The default search site is the primary interface for searching with Enterprise Search and utilizes ports 80 and 8080 by default
- **Port 8081 and 81.** Enterprise Search Anywhere enables users to index their own privately accessible local content on the server. It runs on port 8081 by default.
- **Port 8082.** Experience is the web-based Perceptive Workgroup Search equivalent, installed with Enterprise Search. Experience is installed on port 8082 by default.
- **Port 8083.** REST API is the programmable XML interface installed with Enterprise Search. REST API is installed on port 8083 by default.
- **Port 8084.** Experience Demo is an example of a search solution that displays the Enterprise Search Experience component. Experience Demo is installed on port 8084 by default.
- **Port 8095.** Cloud Admin Console enables administrators to configure Enterprise Search over the cloud. Cloud Admin Console is installed on port 8095 by default.

## Download Enterprise Search files

To download the necessary files to install Enterprise Search, complete the following steps.

1. Go to the Customer Portal.
2. On the **Product Downloads** page, search for all downloadable items for the specific product and

version you want to use. These files may include a product installer, product documentation, or set of supporting files.

3. Download the relevant files to a temporary directory on your computer.

## Install Enterprise Search

To install and license Enterprise Search, complete the following steps.

1. If your Windows operating system uses User Account Control (UAC), right click the **EXE** file you downloaded and select **Run as Administrator**. Otherwise, double-click the **EXE** file.
2. On the **Read the license agreement** page, review the terms in the License Agreement. Select **I accept the agreement** and then click **Next**.
3. On the **Select Destination Location** page, browse to the destination folder where you want to install the files.

**Note:**

You must store the program and data files on a local drive so the service and guest accounts can access them. We recommend that you store the files in the default location.

4. On the **Install in demo mode** page, select whether or not you want to install Enterprise Search in demo mode and click **Next**.

**Note:**

In demo mode there is a 1,000 document limit and you are not required to provide a license key.

5. On the **Enter a license key** page, enter your license key for Enterprise Search and click **Next**.
6. On the **Add exception to Windows Firewall** page, select whether or not you want Enterprise Search to communicate through the Windows Firewall and click **Next**.
7. On the **Type a program group name** page, in the **Program group name** box, leave the default program name of **Perceptive Enterprise Search 11** that appears in the **Start** menu, or specify a different name.
8. On the **Ready to Install** page, click **Install**.
9. When the **Completing the Perceptive Enterprise Search 11 Setup Wizard** message appears, click **Finish**.
10. Optional. To enable **Cloud Admin** website, complete the following steps.
  1. Navigate to the Enterprise Search installation directory and open the **ISYSweb.CFG** file.
  2. Ensure that the file includes the following configuration. 

```
<Site Name="CloudAdmin"
  Online="1" Description="Cloud administration console"
  SearchTrends="1"> <Bindings> <Binding IPAddress="*"
  Port="8095" SSLPort="" HostName=""/> </Bindings> </Site>
```
  3. Save the file.

## Enable Https Website for Enterprise Search

To enable https website for Enterprise Search using IP Binding, complete the following steps.

1. Open the Enterprise Search Administrator site.
2. Open **Websites > REST > Bindings**. The **IP Bindings** page appears.
3. In the **IP Bindings** page, edit the value of “**Port**” to 8083 and “**SSL Port**” to 8183.

## Configuring the Default Value of Port and SSL Port

To change the default value of Port and SSL Port, complete the following steps.

1. Navigate to *Perceptive Enterprise Search 11\WebSites\Experience\WebRoot\packages\psw-search-client*
2. Open the file **psw-search-client.min**.
3. Locate the configuration in the file:  
`https:"===window.location.protocol?":8183/WebShared/jit/jit-yc.js":":8083/WebShared/jit/jit-yc.js`
4. Edit the existing value of Port “8083” and “8183” with your preferred value.
5. Open the Enterprise Search Administrator site.
6. Open **Websites > Search > Bindings**. The **IP Bindings** page appears.
7. Change the values of the port to match the values that you have entered for the configuration.

This configuration is optional. Users must have a valid certificate for the configured SSL Port.

## Test the installation

This section provides two methods to test your Enterprise Search installation. First, verify that Administration Console opens. Second, complete a basic search that uses a default index installed with Enterprise Search. If either test fails, refer to the server logs stored in the *[drive:]\Windows\System32\LogFiles* directory.

### Test Administration Console

To ensure Administration Console functions as expected, complete the following step.

- Click **Start > All Programs > Perceptive Enterprise Search 11 > launch Administration** site. The Administration Console Home page should display in a browser. Anyone in the local or domain Administrators group can log on with their credentials.

### Test a basic search

To ensure that basic searching functions as expected, complete the following steps.

1. Open a web browser and navigate to the following default search site: <http://localhost:8080/>.
2. In the **I’m looking for** box, type `test`.
3. To search across all sites and indexes, in the list, click **Entire Site** and click **Search**.  
After Enterprise Search completes the search, a number of document result matches display in a results list.
4. To view the contents of a document, click any document in the results list.
5. In the document, verify that Enterprise Search highlighted each instance of the term **test**.

## Upgrade Enterprise Search

To upgrade from a previous version of Enterprise Search and preserve your indexes, sites, and settings, complete the steps in the following sections.

**Important** To upgrade from version 8 or earlier, we recommend that you install the software in a new location.

### Backup essential files

To ensure that you can replace essential data in case of any problems, we recommend that you back up the following files before you begin the upgrade process. These files vary by implementation, and your implementation might not include all of them. The default directory for these files is *[drive:]Program Files\Perceptive Enterprise Search {version}*

#### Required files

Name	Description
ISYS.CWD	The Enterprise Search Common Words file.
ISYSweb.CFG	The Enterprise Search Configuration file.
ISYS11.lic	The Enterprise Search License file.
/WebIndexes directory	The directory for all website-based indexes.
/WebUserIndexes directory	The directory for all user-based indexes (Anywhere, Exchange mailboxes).
/WebSites directory	The directory for all default Enterprise Search websites.

#### Optional files

Name	Description
ISYS.SYN	The Enterprise Search Synonym Rings file.
ISYS.SCT	The Enterprise Search Concept Tree file.

To back up your essential files, complete the following steps.

1. In your current Enterprise Search directory, copy the essential files.
2. Place the copied files in a temporary location.



## Install a new version

To install a new version of Enterprise Search, complete the following steps.

1. Download the Enterprise Search files, run the installation wizard, and then test the installation as specified earlier in this guide.
2. On the **Install updated websites** page, select whether or not to update the websites that were installed with Enterprise Search.

### Note:

Any currently installed websites are backed up to [drive:]\Program Files\Perceptive Enterprise Search 11\WebSites.{version} before updating so changes made to them are migrated into the updated websites. If you do not update the websites, the installer does not install new website files over your currently existing websites.

## Install ISYSweb.cfg and Site.cfg files

The ISYSweb.cfg and Site.cfg files for each website are not updated by the installer. To install new versions of these file, complete the following steps.

1. Back up essential files as specified earlier in this guide.
2. Uninstall Enterprise Search by completing the following substeps.
  1. Click **Start > Settings > Control Panel > Add or Remove Programs**.
  2. Select **Perceptive Enterprise Search 11**.
  3. Click **Remove or Uninstall**.
  4. Click **Yes**.
3. Delete the directory where Enterprise Search was installed.
4. Perform a fresh install as specified earlier in this guide.
5. Manually migrate changes from your back up of the ISYSweb.CFG and the Site.CFG files to the newly installed files.

## Whitelist a cross-domain

To enable CORS (Cross-Origin Resource Sharing) access to websites, complete the following steps.

1. Navigate to [drive:]\Program Files\Perceptive Enterprise Search 11\WebSites
2. Select the folder for the site for which you want to enable access.
3. Open the **Site.cfg** file in a text editor.
4. Ensure the file contains the following configuration: `<HTTP AllowRanges="0" AllowDirBrowse="1" CompressCSS="0" CompressJavaScript="0" AllowableCrossScriptHosts=" "/>`
5. Add the name of the websites for which you want to enable access, with two consecutive website names separated by a space. The entry may look similar to the following. `<HTTP AllowRanges="0" AllowDirBrowse="1" CompressCSS="0" CompressJavaScript="0" AllowableCrossScriptHosts="http://example1.com http://example2.com"/>`

**Note:**

Only include the domains for addresses that you want to whitelist; do not include full URL addresses. For example, to communicate with `https://www.example.com/public/`, include only `https://example.com`.

6. Save and close the **Site.cfg** file.
7. Repeat this process for all sites.

## Modify cache settings

To modify the cache settings, complete the following steps.

1. Navigate to `[drive:]\Program Files\Perceptive Enterprise Search 11\Websites`
2. Select the folder for the site for which you want to enable caching.
3. Open the **Site.cfg** file in a text editor.
4. Search the file for the following configurations: `<HTTP AllowRanges="0" AllowDirBrowse="1" CompressCSS="0" CompressJavaScript="0" AllowableCrossScriptHosts="" CheckCsrf="1" CacheNoStore="1"/>`

**Note:**

Your instance may have either `CacheNoStore="1"` or `CacheNoStore="0"`. Similarly, your instance may have the configurations `AllowRanges`, `AllowDirBrowse`, `CompressCSS`, `CompressJavaScript`, `AllowableCrossScriptHosts` and `CheckCsrf` with different corresponding values. The default configuration for Admin and Cloud Admin sites is `CacheNoStore="1"`, which is also recommended. The default configuration for Default, Anywhere and Experience websites is `CacheNoStore="0"`.

5. Edit the `CacheNoStore` configuration to either `CacheNoStore="0"` or `CacheNoStore="1"`, as required.

**Note:**

Performance may be affected if it is disabled in the Search websites (Default, Experience, Anywhere).

6. Save and close the **Site.cfg** file.
7. Repeat the above steps to modify the cache settings of all the sites where you want to search.
8. Close all existing browser sessions.
9. Restart the Perceptive Enterprise Search 11 service.

## Modify CSRF settings

To modify the CSRF (Cross-Site Request Forgery) settings, complete the following steps.

1. Navigate to `[drive:]\Program Files\Perceptive Enterprise Search 11\Websites`
2. Select the folder for the site for which you want to disable checking for cross-site request forgery.

**Note:**

By default, the cross-site request forgery check is enabled.

3. Open the **Site.cfg** file in a text editor.
4. Search the file for the following configuration: `<HTTP AllowRanges="0" AllowDirBrowse="1" CompressCSS="0" CompressJavaScript="0" AllowableCrossScriptHosts="" CheckCsrft="1" CacheNoStore="1"/>`

**Note:**

Your instance may have either `CheckCsrft="1"` or `CheckCsrft="0"`. Similarly, your instance may have the configurations `AllowRanges`, `AllowDirBrowse`, `CompressCSS`, `CompressJavaScript`, `AllowableCrossScriptHosts` and `CacheNoStore` with different corresponding values.

5. Edit the `CheckCsrft` configuration to either `CheckCsrft="0"` or `CheckCsrft="1"`, as required.
6. Save and close the **Site.cfg** file.
7. Repeat the above steps to modify the settings for all the sites where you want to search.
8. Close all existing browser sessions.
9. Restart the Perceptive Enterprise Search 11 service.

## Restore essential files

When you install Enterprise Search, it detects any customized common words file, synonym rings and concept taxonomies. To restore the original files from the backups you created earlier, complete the following steps.

1. Close the Perceptive Enterprise Search Administration Console.
2. Stop the Perceptive Enterprise Search service.
3. In the temporary location where you backed up the files, copy the files.
4. Place the copied files in the Perceptive Enterprise Search directory.
5. Start the Perceptive Enterprise Search service.

## Enable orientation detection on documents indexed in previous version

You can implement orientation detection on documents indexed in Enterprise Search 11 after you upgrade to the latest version.

- To implement auto-rotate and OCR functionality on all documents, complete the following steps.
  - Delete the **OCRCACHE** directory under the relevant collection.
  - Click **Rebuild Index**.
  - In the **Rebuild Index** dialog box ensure that the **Reinitialize all indexes within the collection** check box is selected.
  - Click OK.

- To implement auto-rotate and OCR functionality on selected documents, complete the following steps.
  - Delete the **OCRCACHE** directory under the relevant collection.
  - Manually identify documents that have text aligned to an angle.
  - Edit or add any metadata field. For example, you can edit or add document keys or custom properties of Perceptive Content documents already indexed in the previous version.
  - Click **Update Index**.

## Configure network ports

Enterprise Search uses ports 80, 81, 8080, 8081, 8082, 8083, 8084, 8700, 8702, and 8095 by default. If this configuration conflicts with your current environment setup, you can change the ports through the Perceptive Enterprise Search Administration Console or through the ISYSweb.cfg file. To configure network ports, complete one of the following procedures.

### Modify a port number through Administration Console

To modify a port number through the Perceptive Enterprise Search Administration Console, complete the following steps.

1. To open **Administration Console**, click **Start > All Programs > Perceptive Enterprise Search 11 > launch Administration site**.
2. On the **Administration Console Home** page, in the left pane, click **Websites > Default > Bindings** and complete the following substeps.
  1. In the right pane, under **IP Bindings**, select the port you want to modify and click the **Edit** button.
  2. In the **IP Binding** dialog box, in the **Port** box, type a new port number and click **OK**.
  3. Optional. Modify another default port number.
3. Restart the Perceptive Enterprise Search 11 service.

### Modify a port number through the ISYSweb.cfg file

To modify a port number through the ISYSweb.cfg file, complete the following steps.

1. In the Enterprise Search 11 installation directory, open the **ISYSweb.cfg** file in a text editor.
2. In the **Site** node with the name **Default** and description **Default Perceptive Enterprise Search search site**, locate the **Port** tag within the **Binding** element and change the port assignment for any port that conflicts with your current environment configuration.
3. Save and close the **ISYSweb.cfg** file.
4. Restart the Perceptive Enterprise Search 11 service.

## Configure IIS binding

You must reconfigure the websites if any of the previous websites used IIS bindings.

### Modify an IIS binding through Administration Console

To modify an IIS binding through the Administration Console, complete the following steps.

**Note:**

Prior to completing these steps, verify if any of the search sites use an IIS binding.

1. To open **Administration Console**, click **Start > All Programs > Perceptive Enterprise Search 11 >** launch **Administration** site.
2. On the **Administration Console Home** page, in the left pane, click **Websites > [SiteName] > Bindings**.
3. Verify whether an IIS binding exists and if so, whether it is bound to the root folder of the IIS site.
4. Repeat this process for all search sites.

### Configure IIS bindings not bound to the root folder of the IIS site

To configure IIS bindings not bound to the root folder, complete the following steps.

**Note:**

We do not recommend binding to the root folder of the IIS site.

1. If an IIS binding exists and is not bound to the root folder of the IIS site, delete the binding by clicking the red **X** on the right of the binding.
2. Click **New IIS Binding**.
3. Complete the wizard to create the new IIS binding.

### Remove IIS bindings bound to the root folder of the IIS site

To remove the IIS bindings bound to the root folder, complete the following steps.

**Important** If an IIS binding exists and it is bound to the root folder of the IIS site, do not delete the binding or your entire IIS site may stop responding. In this scenario, you must manually remove the binding from the ISYSweb.cfg file.

1. Run Windows Notepad or a similar text editor.
2. Click **File > Open** and navigate to *[drive:]Program Files\ Perceptive Enterprise Search 11\ISYSweb.cfg*.
3. In the **<Sites>** section, find the website that had the IIS binding that was bound to the root folder, and delete the entry. The entry may look similar to the following. **<Binding MetaBasePath="/LM/W3SVC/1/ROOT"/>**
4. Save the changes and close the text editor.

5. In **Administration Console**, navigate back to the **Binding** section of the site where the binding was just removed. If the old IIS binding still displays, refresh the web page.
6. Click on **New IIS Binding**.
7. Complete the wizard to create the new IIS binding.