



# Installation Guide

CODEFOUNDERS LIMITED

# Installing Cognitio Search

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## Acknowledgements

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# Welcome to Cognito Search

## What Is Cognito Search?

Welcome to Cognito Search, the one-stop shop for discovering research funding opportunities. Cognito Search automatically monitors the funding bodies that support research in the UK and brings this information together in a single tool that enables your researchers to find funding sources in a timely fashion. This tool allows researchers to share information amongst themselves and provides institutional research managers with detailed reports on the activities of their researchers and the funding sources that are most valuable to them.

In addition to its automated data gathering, Cognito Search also allows information to be entered manually to enable provision of information on research funding opportunities offered by the institution or by other funding bodies from which data is not obtained automatically. Cognito Search also includes a powerful collaborative filtering mechanism that allows certain manually entered information to be shared amongst institutions, maximizing the chances of your researchers securing funding for their research activities.

## System Requirements

Cognito Search is designed for the Microsoft Windows Server system and must be installed on a machine with the following minimum system requirements

<b>Processor</b>	600-megahertz (MHz) Pentium III-compatible or faster processor; 1-gigahertz (GHz) or faster processor recommended
<b>Operating System</b>	Microsoft Windows Server 2003 Enterprise Edition, Standard Edition, or Datacenter Edition with SP 1 or later
<b>Memory</b>	512 megabytes (MB) of RAM or more; 1 gigabyte (GB) or more recommended
<b>Hard Disk</b>	Approximately 500 MB of available hard-disk space for the recommended installation
<b>Drive</b>	CD-ROM or DVD-ROM drive

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<b>Display</b>	VGA (800x600) or higher-resolution video adapter and monitor
<b>Other Devices</b>	Mouse or compatible pointing device
<b>Other Requirements</b>	Microsoft Internet Information Services (IIS) 6.0 or later, and ASP.NET 2.0 or later Microsoft SQL Server 2005, Standard or Enterprise edition
<b>Active Directory</b>	The server used to host Cognitio Search must be a member of a Windows Active Directory domain User accounts used to access Cognitio Search must be authenticated against Active Directory

Table 1 : System Requirements for Cognitio Search host server

Users access the Cognitio Search application from their standard Web browser. Any standard Web browser should be capable of accessing the application but Cognitio Search has been designed to be accessed from Internet Explorer 6 and FireFox 1.5. The following are the suggested requirements for client machines

<b>Hardware</b>	Standard desktop or notebook computer
<b>Operating System</b>	Standard desktop operating system
<b>Web Browser</b>	Internet Explorer 6.0 or Mozilla Firefox 1.5 recommended, though any standard Web browser may be used
<b>Other Software</b>	Microsoft Web Services Enhancement 3.0 Runtime (supplied on installation CD)  Macromedia Flash plug-in for Web browser required to access the built-in help tutorials. If this is not installed on the client machine, the user will be given the option of downloading and installing it the first time a help page is accessed.  Microsoft Excel or a similar spreadsheet capable of loading comma separated (CSV) files is required to view the reports generated by Cognitio Search
<b>Display</b>	VGA (800x600) or higher-resolution video adapter and monitor

Table 2: System requirements for Cognitio Search client machine

## Active Directory and User Authentication

Cognitio Search has been designed to be easy to use and to integrate closely with the facilities of a standard Windows network installation. It requires certain information about each user to function correctly and has been designed to integrate with an existing Active Directory installation. In particular, Cognitio Search authenticates users using the information stored in Active Directory. This means that users can access the Cognitio Search application from on or off campus by entering their standard Windows network credentials. Furthermore, no special configuration is required to identify those users who are permitted to access the system; by default all valid Active Directory users are granted access to Cognitio Search with the minimum permissions.

Cognitio Search requires the email address, full names and departmental membership of each user who accesses the system. This information, if available, will be obtained automatically from Active Directory when a user first logs in to the application. Cognitio Search will prompt the user for any information that is not supplied from Active Directory. The only user information which Cognitio Search requires to be present in Active Directory is the User Principal Name. As Windows itself requires this information to be stored for each user in the Active Directory, no special configuration is required for Cognitio Search. During the Cognitio Search installation process the network is automatically scanned to identify the domain controller(s) which should be used for Active Directory operations and user authentication. If a valid domain controller and/or Active Directory installation cannot be identified the installation process will fail.

# Installing Cognito Search

*This chapter describes the steps required to install Cognito Search on a Windows server in your network.*

## Before Installing This Product

CodeFounders takes the security very seriously in both the software products it creates and in the administration of its own network. The Cognito Search product periodically updates itself automatically from information held on a server on the CodeFounders network. Your network environment must be properly configured so that these updates can be retrieved. ***Failure to complete the following two steps properly will prevent the Cognito Search product from installing correctly.***

### Configuring Network Firewalls

All firewalls between the machine on which you intend to install Cognito Search (Cognito Search host) and the Internet must be configured to permit **outbound** Microsoft SQL Server **TCP/IP** traffic on **port 1433**.

In a typical University campus environment this requires a modification to the outbound traffic rules of the external perimeter firewall. If there are any other firewalls in between the perimeter firewall and the Cognito Search host is to be installed these should also have their outbound traffic rules modified in the same way.

If the Cognito Search host also has a firewall this may also need to be modified to permit outgoing traffic as described above. If the Windows Firewall is running on this machine no changes need to be made as Windows Firewall permits outbound traffic on all ports by default. For other firewall products you should consult the product documentation to determine whether any changes need to be made.

You should also ensure that any firewall running on the Cognito Search host permits **inbound** HTTP **TCP/IP** traffic on **port 80** otherwise users on your network will not be able to access the Cognito Search application. CodeFounders recommends using Cognito Search in conjunction with Secure Sockets Layer (SSL) via the Secure HTTP (HTTPS) protocol. If you choose to do this then you will also need to permit **inbound** HTTPS **TCP/IP** traffic to your chosen Secure Sockets Layer (**SSL**) **port**. The default port for HTTPS traffic is port 443.

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### Enabling Cognito Search Updates

As mentioned above, Cognito Search periodically updates itself from information held on a server on the CodeFounders network. To maintain network security CodeFounders only permits traffic to this server from the Cognito Search hosts of registered users.

Before installing Cognito Search you must send an email to [support@codefounders.com](mailto:support@codefounders.com) providing the name of your institution, your Cognito Search licence serial number and the fully qualified domain name and IP address of the machine on which you intend to install Cognito Search. You will be notified by return of email once CodeFounders has enabled access to the update server for you installation. This will normally be within 24 hours. Once you have received this email you can safely install Cognito Search.

#### Note

If you fail to notify CodeFounders of the required information for your installation or attempt to install Cognito Search before receiving an email response your installation of Cognito Search will not succeed.

## Installing Internet Information Services

Cognito Search is a Web application which users access through their Web browser and as such it must be installed on a Web server. Before installing Cognito Search you should install Microsoft Internet Information Services (IIS) 6.0, or later, by following the steps below

1. Log in to Windows Server 2003 using an account with administrative privileges
2. From the *Start Menu* select the *Administrative Tools -> Manage Your Server* option
3. In the *Manage Your Server* application click the *Add or Remove a Role* link
4. In the *Preliminary Steps* page of the *Configure Your Server Wizard*, click *Next*
5. In the *Server Role* page of the *Configure Your Server Wizard*, click **Application Server (IIS, ASP .NET)**, then click *Next*
6. Select the options required for the Application Server role. **ASP .NET** is **required** by Cognito Search. Front Page Server Extensions are not required by Cognito Search but may be installed if required by other applications hosted on the server.

## Installing SQL Server 2005

Cognito Search must be installed on a server on which Microsoft SQL Server 2005 Standard or Enterprise edition is installed. You should install SQL Server 2005 in accordance with the installation instructions given in the documentation for this product. During the installation you

will be prompted as to which **components** of SQL Server 2005 should be installed. The only SQL Server 2005 component required for correct functioning of Cognitio Search is the **Database Service**. During the installation you will also be prompted for the account under which the SQL Server processes should run. CodeFounders recommends that you set this to the predefined **Local System** account; Cognitio Search has not been tested with SQL Server processes set to run under any other account.

#### Note

Microsoft SQL Server 2005 can be licensed for a certain number of simultaneous client connections (Client Access Licence model; a separate client access licence is required for each client that connects to the system) or for a particular number of processors with an unlimited number of clients (Processor licensing model; a separate processor licence is required for each processor on which SQL Server will be hosted). You should ensure that you have either a single processor licence or sufficient client access licences to accommodate the maximum number of simultaneous users that you expect to use Cognitio Search. Failure to install SQL Server with an appropriate set of licences may reduce the performance of Cognitio Search or breach the Microsoft SQL Server licence conditions. Please consult the Microsoft Web site and the SQL Server 2005 product documentation for further information on SQL Server licensing options.

## Verifying ASP .NET 2.0 Installation

The Microsoft .NET Framework 2.0 will be automatically installed on your server by the SQL Server 2005 installation process. When this is installed it should automatically configure the ASP .NET components of the .NET 2.0 Framework, though in certain rare cases these may not be configured properly. Before continuing with the Cognitio Search installation you should verify that ASP .NET 2.0 is correctly installed using the following steps.

1. From the *Start Menu* select *Run* and in the dialog box that appears, enter **inetmgr** in the Open field and click *OK*. This will launch the Internet Information Services management console.
2. In the Internet Information Services Management console, expand the nodes of the tree on the left hand side. The name of your server will appear in this tree; expand this out and the Web Sites folder that appears underneath it (**Figure 1**). Select the **Default Web Site**, right-click this and select properties

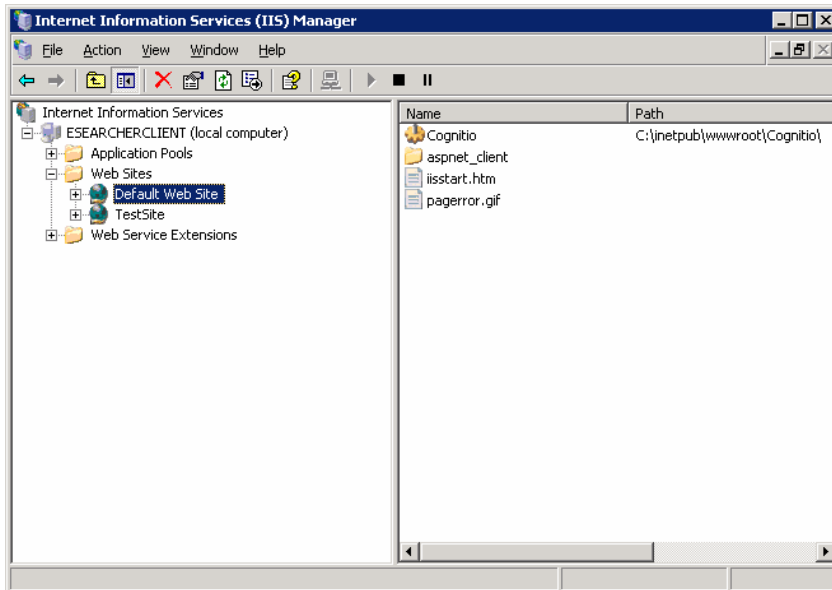


Figure 1: Internet Information Service management console

Note

If you intend to install Cognitio Search on a web site other than the Default Web Site, perhaps because you have existing Web sites on the Default Web Site that cannot use ASP .NET 2.0, or because you want to host Cognitio Search on a different port, you should perform the steps outlined in this section against the site on which you will install Cognitio Search.

3. In the *Default Web Site Properties* dialog, click the *ASP .NET* tab (**Figure 2**)
4. Ensure that the **ASP .NET version** is set to **2.0.50727**. If this is the case then ASP .NET 2.0 is correctly installed and you need take no further action. Go to step 7.
5. If the ASP .NET version is set to a different value, click the arrow to the right of the ASP .NET version to bring up a list of installed ASP .NET versions. **Select 2.0.50727** from this list, click *Apply* and continue from step 7.
6. If 2.0.50727 is not listed as a valid version number for ASP .NET then ASP .NET 2.0 has not been properly installed on your server. This can be rectified by opening a command prompt window and entering the following commands

```
%SystemRoot%\Microsoft.NET\Framework\v2.0.50727\aspnet_regiis -iru
```

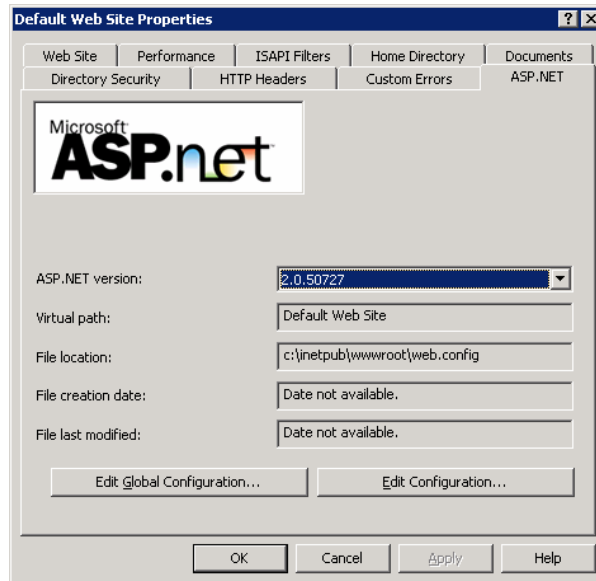


Figure 2: Default Web Site ASP .NET Properties

7. Click *Ok* to close the *Default Web Site Properties* dialog, then close the Internet Information Services management console.

## Installing Web Service Enhancements Runtime

The Microsoft Web Services Enhancement (WSE) 3.0 runtime must be installed prior to installing Cognitio Search. The Cognitio Search installation routine will not run until this software has been installed.

This installation files for the WSE 3.0 runtime can be found in the WSE directory of the Cognitio Search installation media.

1. Browse to the WSE folder of the Cognitio Search installation CD
2. Run the *Microsoft WSE 3.0 Runtime* Windows Installer package
3. Accept the licence agreement and follow the steps on screen to install this software

## Installing Cognitio Search

The Cognitio Search application can be installed by performing the following steps.

Note

**Cognitio Search must be installed from a domain account which has administrative rights on the server on which the installation is being performed.**

1. Insert the Cognitio Search CD into your CD-ROM drive. The Cognitio Search installation routine should begin executing automatically. If it does not, or if you have autoplay disabled, browse the CD and double-click `Setup.exe`.

The Welcome screen of the installation routine appears (**Figure 3**). Click *Next* to continue.

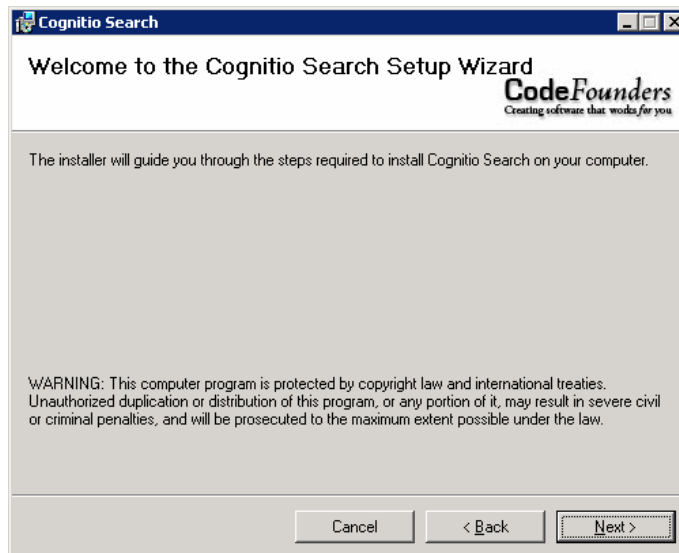


Figure 3: Cognitio Search Welcome screen

2. You must review and accept the terms of the Licence Agreement (**Figure 4**) before installation will continue. Accepting the licence agreement and continuing past this screen signifies your agreement to abide by the terms of the agreement.



Figure 4: Cognitio Search Licence Agreement screen

3. On the Institution Screen you must enter the name of your institution as it normally appears on your corporate stationery, then click *Next*. This information is presented in the Cognitio Search user interface and cannot be altered later so ensure that you enter it correctly at this point.

When choosing the name to enter you should enter the name by which your institution is commonly name. For example, if your institution is called the University of Poppleton, you should enter this in the *Institution Name* box. If on the other hand your institution is called Poppleton University, enter this instead.

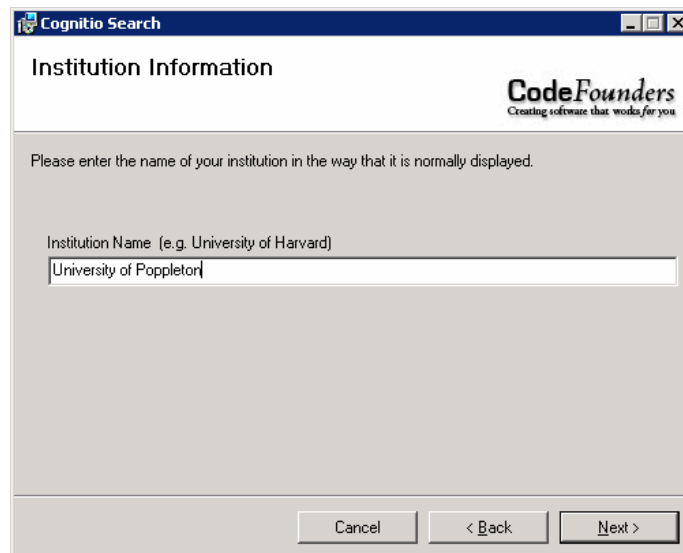


Figure 5: Supplying Institution Information

4. Cognito Search is an ASP .NET application which executes under and is controlled by Internet Information Services (IIS). IIS uses the identity of a specific account to execute this ASP .NET application and the login credentials for this account must be entered in the Web Credentials screen (**Figure 6**). The account that you specify **must** be a domain level account but it does not require administrator privileges on the server.

#### Note

CodeFounders recommends that you create a new domain level account specifically to run the Cognito Search ASP .NET application. This account, which should be created before installing Cognito Search, should be added to Active Directory and to the Users group of the server on which Cognito Search is to be installed.

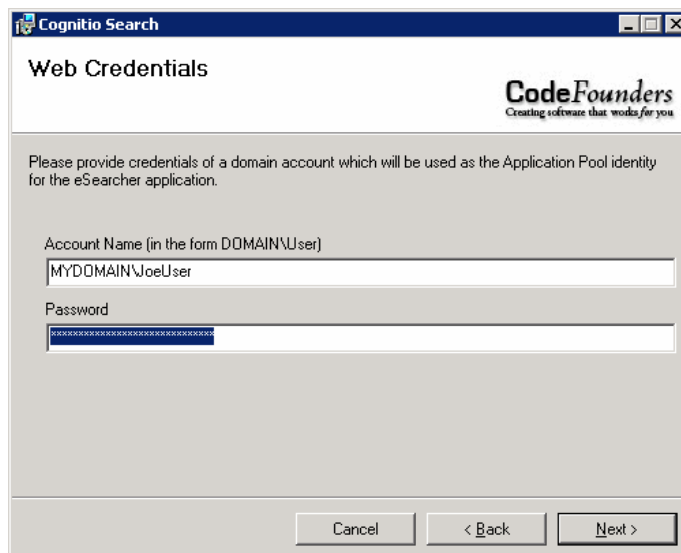
The image shows a Windows-style dialog box titled "Cognito Search" with a "Web Credentials" header. In the top right corner, there is a logo for "CodeFounders" with the tagline "Creating software that works for you". Below the header, a message reads: "Please provide credentials of a domain account which will be used as the Application Pool identity for the eSearcher application." There are two input fields: "Account Name (in the form DOMAIN\User)" containing the text "MYDOMAIN\JoeUser" and "Password" which is currently masked with dots. At the bottom of the dialog, there are three buttons: "Cancel", "< Back", and "Next >".

Figure 6: Supplying credentials for the domain account used to run the Cognito Search application

5. By default, the installation process installs the Cognito Search ASP .NET application in a new virtual directory created in the Default Web Site of the IIS server. This virtual directory is named *Cognito* and the URL used to access the application will be <http://servername/Cognito>. If you wish, you may change the name of the virtual directory, and thus the URL used to access the Cognito Search application, by entering a new name in the *Virtual directory* field of the Select Installation Address screen (**Figure 7**). If your IIS server hosts more than one web site you may also choose to install the Cognito Search application on any of these web sites by picking them from the *Site* dropdown list. In this case the URL used to access the application will depend upon the host header and port values assigned to the web site on which the application is installed.

6. On the Confirm Installation screen (**Figure 8**) click *Next* to complete the installation of the Cognitio Search application. This will copy the required files to your server and make any necessary configuration changes.

Note that during installation the progress bar may appear to not be updated for several minutes. This is normal behaviour and you should allow the installation to run to completion.

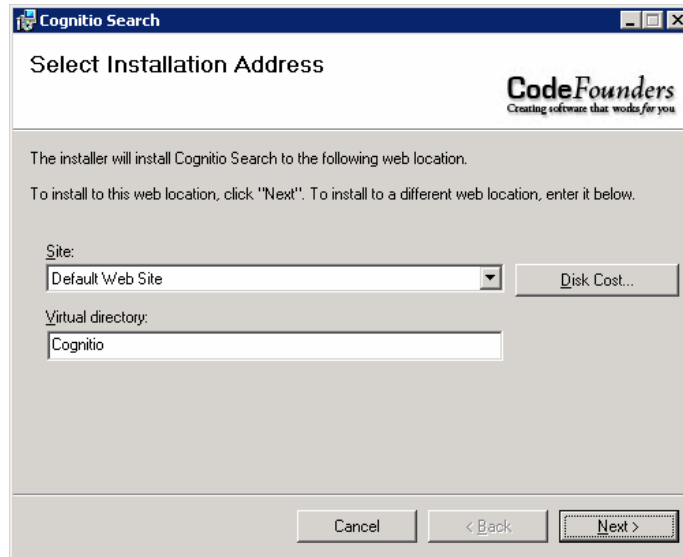


Figure 7: Choosing the installation web site and virtual directory name

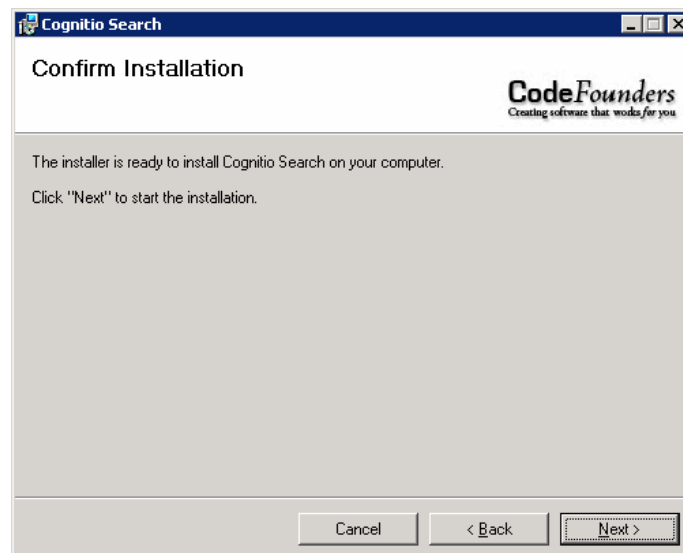


Figure 8: Confirming and completing the installation

## Security Changes Made by Cognitio Search Installer

During installation the setup program makes a number of changes to the configuration of your server machine. These changes involve the creation of two machine level Windows accounts and a modification to the server's Hosts file

### Machine User Accounts Created by Cognitio Search

Cognitio Search creates two machine-level (i.e. non-domain) accounts on the server on which it is installed. These accounts, called `CognitioUser` and `CognitioSubscriber` respectively, are required for correct functioning of the Cognitio Search database and should not be disabled. The passwords for these two accounts are randomly generated and comply with Windows password strength requirements, with a minimum length of 30 characters. You should ensure that the passwords for these accounts are not changed otherwise Cognitio Search will cease to operate correctly.

The `CognitioUser` and `CognitioSubscriber` accounts are completely removed from the server when Cognitio Search is uninstalled.

### Changes to the Hosts File

The Cognitio Search application periodically updates the contents of its database from information held on a server on the CodeFounders network. In order for update to operate correctly the installation routine has to add an additional entry for `cognitio` to the `%SystemRoot%\drivers\etc\hosts` file. The `hosts` file is reverted to its original condition when Cognitio Search is uninstalled.

## Cognitio Search Installation Troubleshooting

If the Cognitio Search installation does not complete successfully for any reason, all databases will be removed and any configuration changes that had been made before the failure will be undone, leaving the server in its original condition.

In the event of the installation failing, verify that all the steps outlined above have been followed correctly then try installing the application again. A complete log of the installation process is written to `C:\Program Files\CodeFounders\Cognitio\Install.log`. If the installation still fails examining the contents of this log file may offer some insight into what is going wrong. If the Cognitio Search installation continually fails you should email [support@codefounders.com](mailto:support@codefounders.com) and attach the contents of this log file so that CodeFounders support staff can diagnose the problem and offer advice on how best to rectify it.

## Uninstalling Cognitio Search

*This section describes the steps required to remove Cognitio Search from your system*

Cognitio Search can be removed from your system at any time using the Add/Remove Programs option in the Control Panel. When Cognitio Search is removed all changes made to the system when it was installed are also undone. The CognitioUser and CognitioSubscriber accounts are deleted and the cognitio entry is removed from the hosts file. The Cognitio database is not removed from the server and is left intact so that a subsequent re-installation of Cognitio Search can connect to and make use of the database and the data it contains.

Cognitio Search can be removed by performing the following steps

1. Log in to the server which hosts Cognitio Search using an account that has administrative privileges.
2. From the *Start Menu* select *Control Panel*, then *Add/Remove Programs*
3. Click the Cognitio Search icon in the list of programs, then click *Delete*

In the confirmation window that appears, click *Yes*. Cognitio Search will now be removed from your server but the Cognitio Search database will be left behind so that no data will be lost.

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# Configuring Cognito Search for First Use

## Activating Cognito Search

THIS OPERATIONS IS NOT REQUIRED IN THE COGNITIO SEARCH RELEASE CANDIDATE VERSION

## Accessing Cognito Search as an Administrator

As soon as the Cognito Search application completes any valid network user will be able to access the system. By default all network users are granted access to Cognito Search in the Researcher role with a minimal set of user permissions. The only exception to this is the user account from which the Cognito Search application was executed. This account is granted System Administrator privileges for the Cognito Search application and must initially be used to set up department information and modify the permissions granted to other users of the system.

After the installation completes you should log in to the Cognito Search application by entering the application URL into your Web browser; for a default installation this is <http://servername/Cognito>. A login window will appear and you should enter the login credentials of the account which was used to install Cognito Search. After you have logged in to the application you may add information about the academic departments in your institution as described below.

Roles and permissions for individual users can be modified using the procedures outlined in the *Managing Users* section of the *Cognito Search Users Manual*. Note that a role cannot be set for an individual user until after that user has logged in to the system at least once.

## Adding Departments

Cognito Search generates reports about the funding activities of researchers in the institution. This information is organized by academic department and Cognito Search must contain basic details about each academic department in the institution.

Before Cognito Search is made available to users the system administrator should add information about each academic department in the institution. This can be done by logging in

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to Cognitio Search as outlined above and selecting the *Departments* option from the *Settings* menu. This presents the Departments page as shown in **Figure 9**.



Figure 9: Adding details for each academic department

For each academic department in the institution the following steps should be performed

1. Click the *Add Department* button
2. Enter the name of the Department in the *Name* box at the foot of the page
3. At this time the *Head of Department* information should be ignored.

After information has been entered for all academic departments Cognitio Search is ready for use.

# Publishing the Cognito Search Installation

## Linking from an existing site

To make life simple for your users you may wish to place a link to the Cognito Search site on another, more memorable, institutional Web site (e.g. the research office pages). This eliminates the need for users to remember the name of the server on which Cognito Search is installed.

Alternatively, you may wish to assign a DNS alias for the Cognito Search host server and/or use host headers on the Cognito Search web site to assign a more appropriate URL to the Cognito Search application.

## Improving Cognito Search Security

Although Cognito Search has been designed with security in mind, CodeFounders recommends using the application in conjunction with Secure HTTP, particularly if your users will be permitted to access the application from machines outside the campus network. This requires Secure Sockets Layer (SSL) to be enabled on the Web site in which Cognito Search is installed. As this requires the installation of an SSL certificate specific to your institution this operation cannot be performed automatically by the installation routine.

A valid SSL certificate for your Web site must be obtained if you wish to use Secure HTTP. The steps needed to acquire this will depend on whether your institution has an existing digital certification authority or whether a certificate needs to be obtained from a certification authority such as Verisign. Once a valid certificate has been obtained it must be installed on to the Web site as described in the IIS product documentation and a port configured for Secure HTTP. After enabling Secure HTTP the URL used to access Cognito Search will changed to <https://servername/Cognito>.

For further details on configuring Secure HTTP, SSL or host headers please see the Internet Information Server Resource Kit documentation.

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