

GRIN-Global Installation Guide



Revision Date [a work in progress...]

Friday, April 02, 2010

This guide contains an overview and step-by-step directions for installing the GRIN-Global application suite, including the Curator Tool.



If you will be running the Curator Tool and accessing data from a remote server, you will not need to install the server applications that are explained within these pages. Instead, load the **Updater** program and the **Curator Tool**; follow the detailed steps on pages 4 through 16 only.

However, current testers of the RC1, please read the following:

1. Because this system is significantly different from older versions of the GRIN-Global system, we strongly recommend that you uninstall any previous versions of GRIN-Global (using the Windows Control Panel) before installing this (RC1) version of GRIN-Global System.
2. This system has been rigorously tested with the Microsoft SQL Server database engine, but has only had cursory testing in MySQL, PostgreSQL, and Oracle database engines. Please perform your primary testing of RC1 with the SQL Server database engine, but feel free to experiment with the other database engines if you are so inclined.
3. What you are installing is the Full Server System (everything that will eventually reside at the Beltsville DBMU when GRIN-Global replaces the current GRIN system). Because you are essentially installing a complete suite of server components it will take a while to download and install (expect installation to take more than two hours – especially if your computer does not have some of the required Windows Operating System components used by the GRIN-Global system).
4. When you have everything installed and are ready to start the Curator Tool to look at the data, use the pre-built test accounts already on the database. The valid user accounts are test1, test2, test3, test4, ..., test19, test20. (Passwords are the same as the user name). You will see a dropdown box in the login dialog labeled “Connect To:” just below the user name and password text boxes. You can specify which server the Curator connects to, but for testing purposes stick with “localhost” because it will be much faster than the slow test servers in Ames.
5. Please read the manuals! They will help you to have a clearer understanding about how to install the system and what its capabilities are as you do your testing.

GRIN-Global Installation Guide

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Introduction to GRIN-Global

GRIN-Global has been developed jointly by the [USDA Agricultural Research Service](#), [Bioversity International](#), and the [Global Crop Diversity Trust](#).

GRIN-Global is a new version of the Germplasm Resource Information Network (GRIN), providing the world's crop genebanks with a powerful, but easy-to-use plant genetic resource (PGR) information management system.

Bioversity International will deploy GRIN-Global worldwide, working cooperatively with users to document the system in Arabic, English, French, Russian and Spanish, translate its interface, and implement it in developing countries.

GRIN-Global can be implemented different ways, ranging from a simple genebank inventory application on a single PC to a widely distributed system supporting on-line user searching and germplasm ordering:

- Operates over a network or on “stand-alone” personal computers
- Supports PostgreSQL, MS SQL Server, Oracle, and MySQL databases
- Enables maximum flexibility in delegating user rights

Because of the Curator Tool's flexibility, you can organize and keep track of data that matches your workflow or that is in line with your organization's procedures.

GRIN-Global Suite of Software Components

There are several software components that comprise the GRIN-Global germplasm information system:

Updater Program

This program is used to install the other tools in the GRIN-Global suite. The installation directions begin on the page 4.

Curator Tool

The **GRIN-Global Curator Tool** is used by curators and users who create and manage genebank data.

Public Interface

The GRIN-Global Public Interface is designed for users who will query the GRIN-Global database. It provides immediate access to PGR information for researchers and incorporates an easy-to-use interface for extracting and manipulating PGR information. The interface facilitates germplasm ordering to meet specific research needs. The Public Interface is under development and is planned for release at the end of 2010.

Database (optional)

When the **GRIN-Global Database** component is selected, a local copy of the GRIN-Global database is installed on the user's PC.

Search Engine

The GRIN-Global Search Engine works directly with the Curator Tool and the Public Interface. The Search Engine is used to perform “google-like” searches on the GRIN-Global database.

Admin Tool

[Note – under development. This tool will handle several important “behind the scenes” functions such as assigning security privileges and creating data views.]

Getting Started with GRIN-Global

Updater Program

All installations require the Updater Program to be installed. The Updater is then used to install any, or all of, the other GRIN-Global components.

However, not all GRIN-Global users need to install all components. For example, if a user’s PC will only access a GRIN-Global database on a remote computer and will not maintain a local database, then only the Curator Tool needs to be downloaded and installed.

Background Information

GRIN-Global’s suite of applications and tools originate from three different sources:

- Microsoft
- GRIN-Global Project
- SAP/Business Objects (for Crystal Reports reporting engine bundled with the Curator Tool)

General Requirements

- The user installing GRIN-Global must have administrator rights to the PC
- Requires an Internet browser: Windows Internet Explorer and Mozilla Firefox are supported; the PC’s browser must be Active-X enabled

Hardware requirements:

- 2 GB Hard drive space
- 2 GB RAM

Operating Systems

- Windows XP Service Pack 3
- Windows Vista (Home, Ultimate; 32- or 64- bit)
- Windows 7 (Home, Ultimate; 32- or 64- bit)

Microsoft Prerequisites

Several Microsoft components are required. At appropriate times, you will be guided by the installation wizard to download these Microsoft programs, which will be downloaded from Microsoft’s website if they are not already installed on the PC. They do not need to be reinstalled; however, when the PC has an older version than what is recommended, you should update to the recommended version.

(Alternatively, at any time, you can manually download these from Microsoft’s site.)

The Microsoft “Prerequisites”

Component	Function / Notes [tbd anything necessary here or just delete this half??]
Windows Installer 4.5	
Windows Powershell 1.0	

Visual Studio Tools for Applications 2.0	
Crystal Reports for Visual Studio 2008	
SQL Server 2008	
.NET Framework 3.5 (Service Pack 1)	



Sometimes when installing a Microsoft application, you may be required to reboot. After rebooting, the Microsoft application will finish installing, but the GRIN-Global **Updater** program will not automatically launch and continue. Therefore, when a reboot is involved, you will need to launch **Updater** manually again. (Click the Windows **Start button**; select **GRIN-Global Updater**.) Reselect the respective GRIN-Global application(s) to install; click Download/Install.



[tbd] When installing on a Windows 7 64-bit operating system, [tbd...] You should install anyway and then update to Service Pack 1.

Step-by-Step Installation Directions

In order to install any GRIN-Global application, you first install the GRIN-Global **Updater** program.

Step 1

Using your browser, such as Microsoft's Internet Explorer or Mozilla Firefox, download and install the **Updater** program from:

<http://grin-global-test1.agron.iastate.edu/gringlobal/downloads/default.aspx>

Documentation and Installers - GRIN-Global Beta 3 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://grin-global-test1.agron.iastate.edu/gringlobal/downloads/default.aspx

tbd Fav's botanical/bio_links LocalStuff GRIN GRIN-global USDA References MySites

Documentation and Installers - GRIN-Gl... Documentation and Installers - G...

Documentation

[Curator Tool User Manual \(work-in-progress\)](#)

Installers

File	Modified	File Size (MB)
GrinGlobal Updater Setup.exe	2009-12-12 09:04:40 AM -06:00	0.65 MB

Depending on which browser you are using, your next step will vary slightly. Since most browsers emulate either Microsoft's Internet Explorer or the Mozilla Firefox browser, steps 2A and 2B were written to accommodate the differences.

- Proceed with step 2A if you are using Internet Explorer
- Skip to step 2B if you are using Firefox or a similar browser

Step 2A: (Using Microsoft's Internet Explorer)

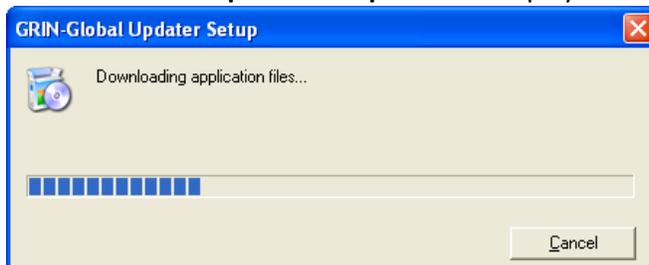
The **File Download** window displays. Unless you want to postpone initiating setup, click on the **Run** button to proceed. Then skip to step 3 in the following directions.



An Internet Explorer **Security Warning** window displays; click **Run**.



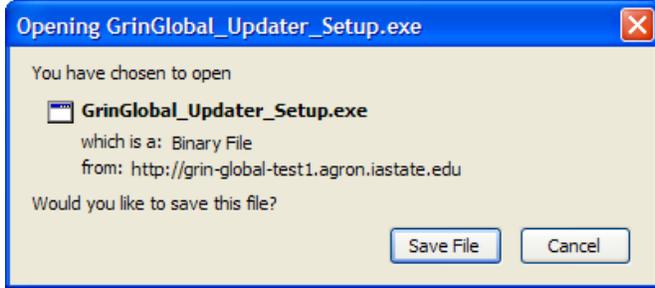
The **GRIN-Global Updater Setup** window displays:



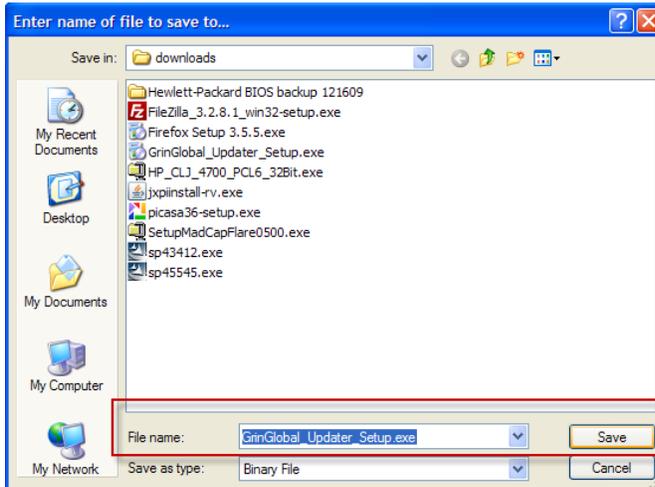
Proceed to [Step 3](#).

Step 2B: (Using Mozilla Firefox)

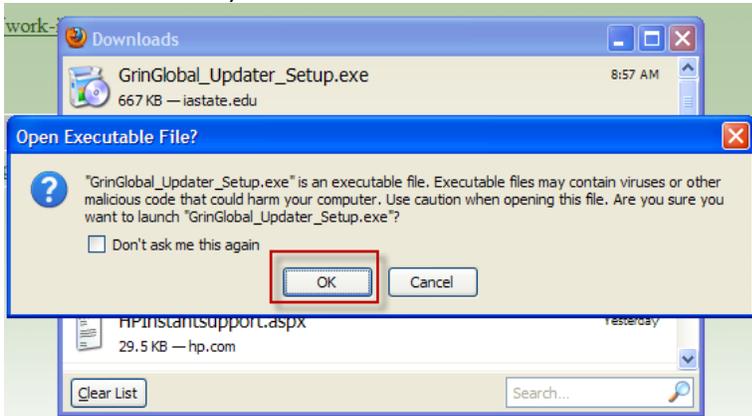
At the **Opening GRIN-Global_Updater_Setup.exe** window, click the **Save File** button.



Save the file.



Launch the file. (Double-click its filename if in Windows Explorer, or if in your browser, click on the filename. Click **OK**.)



Click the **Run** button.



Step 3

At the **Setup - Security Warning** window, click the **Run** button.



Step 4

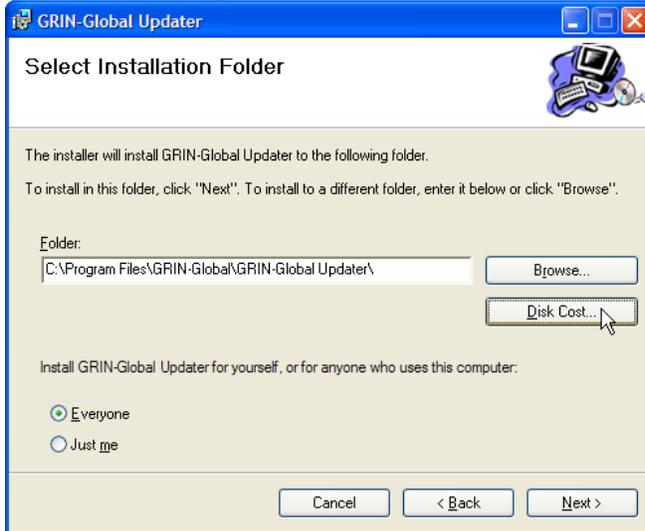
For many of the **Updater** windows, just click the **Next** button to continue.



Step 5

On the **Select Installation Folder** window you can change the default folder location and who will have access to the GRIN-Global programs (all users or the current user). Generally, you can accept the defaults. If a different location is desired, click **Browse**. (Another option is the **Disk Cost** button which can be used to determine if you have enough space on your drive. The complete installation requires less than 1 GB.)

Click **Next** to accept the defaults and continue.



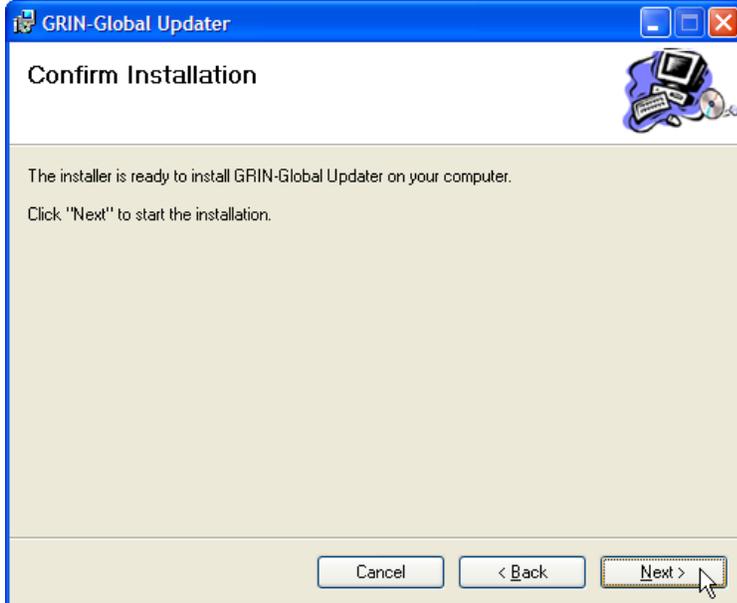
(Optional Step When the Disk Cost Button is Selected)

The **Updater Disk Space** window, indicating available and required space, is displayed when the **Disk Cost** button on the **Select Installation Folder** window is clicked. Click **OK** to continue.



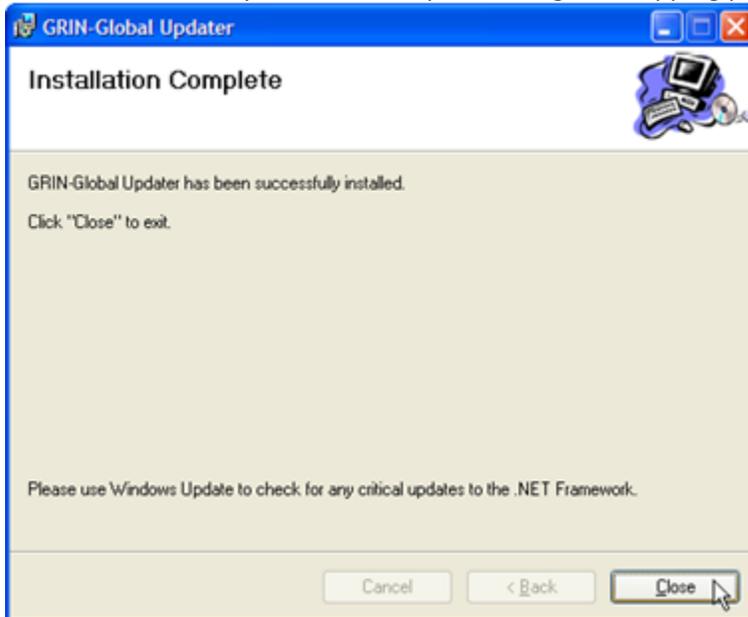
Step 6

Click **Next** to continue with the Installation process.



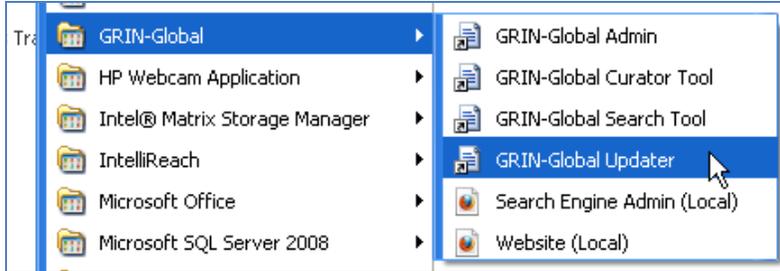
Step 7

Click **Close**. Note: If you need to stop, this is a good stopping point.



Step 8

[Note: if you interrupt the installation process, you can return to this point via the Windows **Programs** menu by selecting **Start | All Programs | GRIN-Global | GRIN-Global Updater.**]



Determining if Your GRIN-Global Software is Current

The **Updater** window is used to check for both server and client updates. *If you are installing only the Curator Tool client on your PC, you do not need to download any of the server components (listed in the top half of the Updater window).*

Local vs. Remote



If you do not load the server components, then you cannot run the Curator Tool locally using data stored on your PC's hard drive. Instead, you must have a network/Internet connection to connect to a remote server. Currently there is a "test" server running out in Ames, Iowa.

Alternative 1: Stand-alone PC

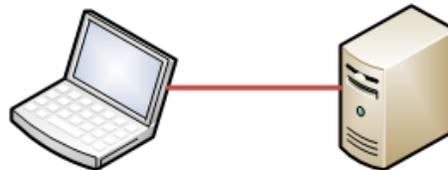
Install the 4 server components & the Curator Tool client component



localhost

Alternative 2: Your PC networked to a server

Only the Curator Tool client component must be installed



remote host
(server connection)

In the following window, two of the server components have an “Outdated” Status and have not been updated, whereas the lower, client panel indicates that the Curator Tool has a “Current” status. If you will be storing and maintaining a local GRIN-Global data on your PC, then you should update the four server components.



During this initial, testing phase of the GRIN-Global project, **we recommend that you load the entire set of server components including the database onto your PC and run the Curator Tool locally.** You would then not be dependent on Internet connections to the Ames servers, etc.

The one disadvantage in this approach is that the initial downloading/installing takes longer, up to several hours. Part of this time is due to the downloading of a sample database, as well as the installation of any prerequisite Microsoft components.

GRIN-Global Updater v 1.5.1034.0

Download From Server: <http://grin-global-dev1.agron.iastate.edu/gringlobal/gui.aspx> Use Offline...

Check For Server Updates

Component	Installed Version	Latest Version	Size (MB)	Status	
<input checked="" type="checkbox"/> GRIN-Global Admin	1.5.1034	1.5.1043	2.40	Outdated	Uninstall
<input type="checkbox"/> GRIN-Global Database	1.5.1034	1.5.1034	6.43	Current	Uninstall
<input checked="" type="checkbox"/> GRIN-Global Search Engine	1.5.1034	1.5.1043	2.30	Outdated	Uninstall
<input type="checkbox"/> GRIN-Global Web Application	1.5.1034	1.5.1034	6.55	Current	Uninstall

Download / Install

Check For Client Updates

Component	Installed Version	Latest Version	Size (MB)	Status	
<input type="checkbox"/> GRIN-Global Curator Tool	1.0.3707	1.0.3707	2.48	Current	Uninstall

Download / Install

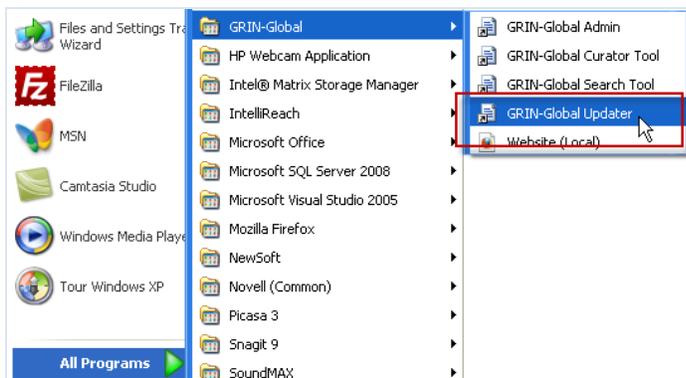
Checking for new version of GRIN-Global Client...Done

Curator Tool: Installing (or Updating)

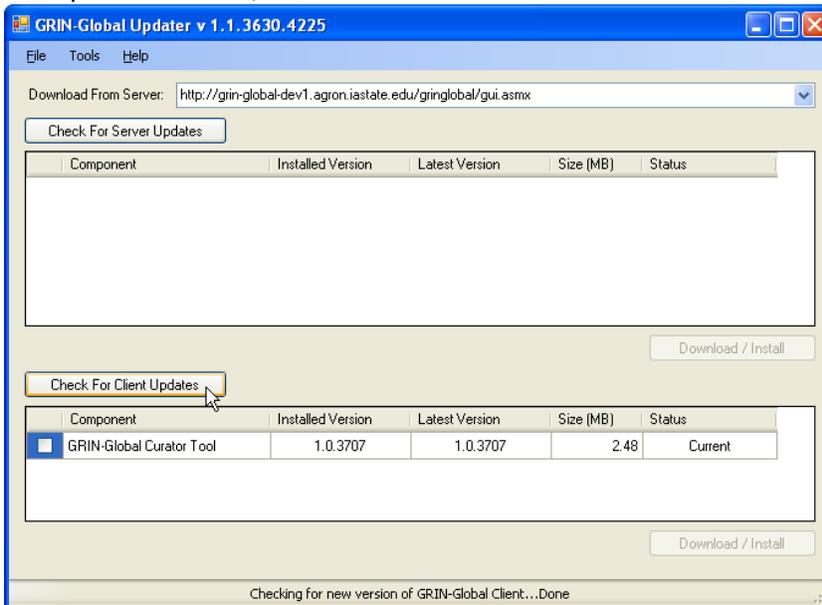
To ensure you have the current version of the Curator Tool, use the **GRIN-Global Updater** program. Click the Windows **Start** button. On the Start Menu's recent programs list, click on **GRIN-Global Updater**. If that selection is not displayed, click on **All Programs | GRIN-Global | GRIN-Global Updater**.



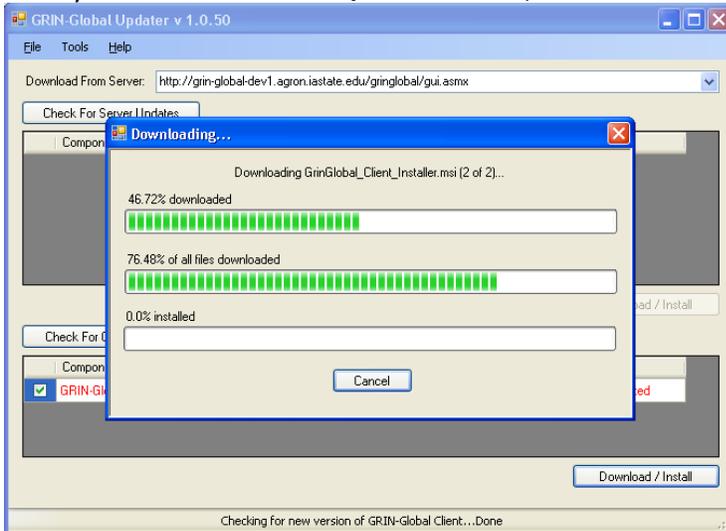
-Or-



Click the **Client Updates** button. If the Status is "Outdated," click the **Download / Install** button. In the example shown here, the version is current.



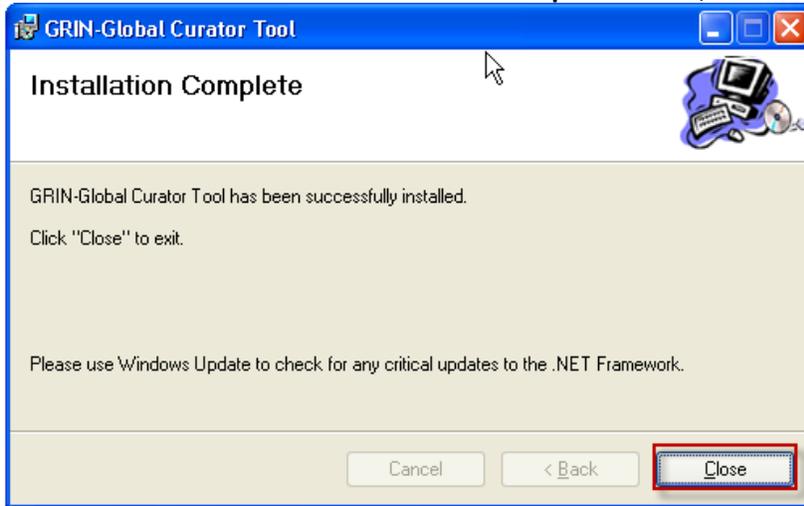
After you click the **Download/Install** button, the **Client Installer** program will proceed to download.



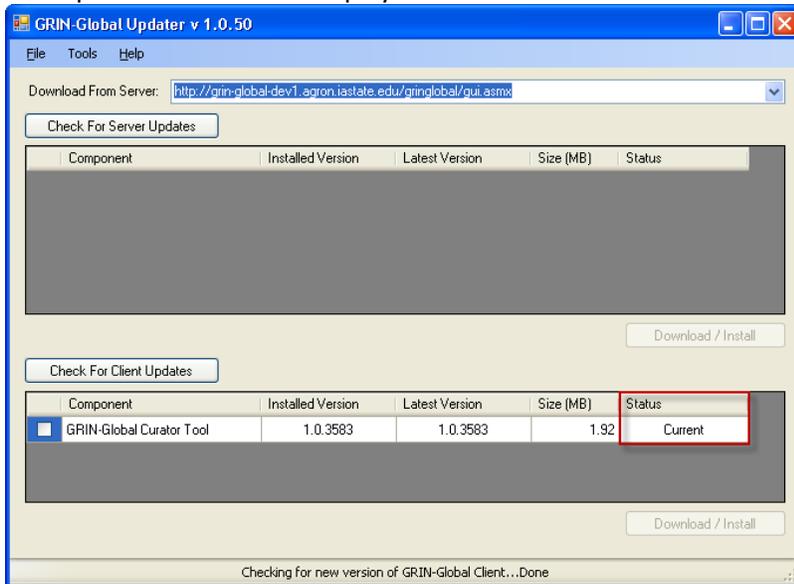
After the download completes, follow through with the installation wizard; you will be prompted by a series of screens to continue with the installation. On the **Select Installation Folder** screen, you can keep the default folder as listed or indicate a different location to store the Curator Tool. We recommend that you keep the folder information as it is listed.



Click the **Close** button on the **Installation Complete** screen; this completes a successful installation.

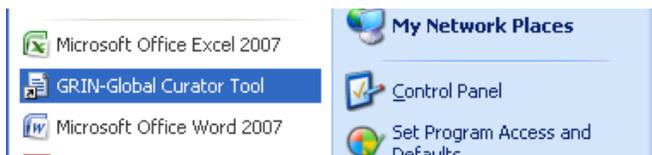


The Updater window will display the status for the Curator Tool as “Current.”

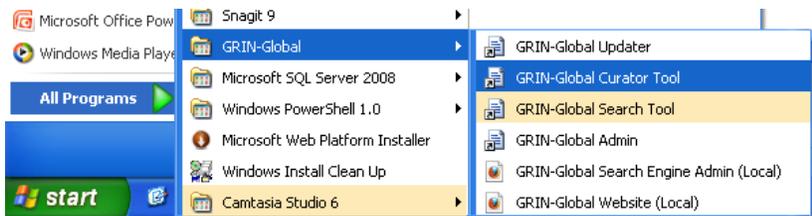


To Start Up the Curator Tool

After installing, select the **GRIN-Global Curator Tool** from the Windows program menu.



or...



Login

The Login window is the first window to display. During testing, use **test1** (through **test16**) as both the **Username** and the **Password**.



In the **Connect To:** box, we recommend you use **localhost**. You will be using your PC to run the program as well as store and retrieve database records from your PC's local hard drive. During the testing phase of GRIN-Global, there is a remote server in Ames, Iowa, but then you are dependent on an Internet connection. (See the discussion under [Local vs. Remote](#) for more details.) The address for this test server is <http://grin-global-test1.agron.iastate.edu/GRINGlobal/GUI.aspx>.

Server Components: Installing (or Updating)

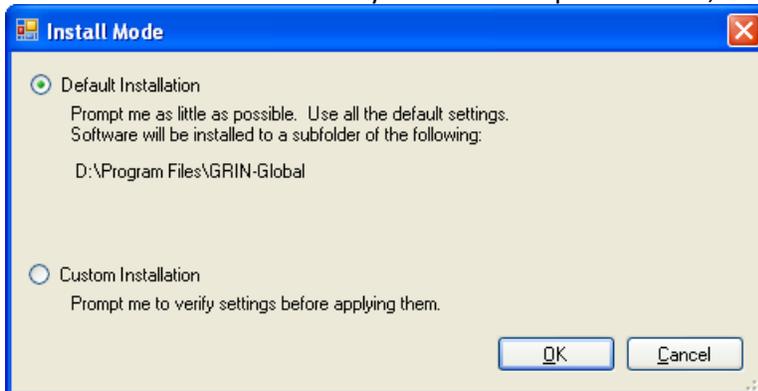
There are four main server components in the GRIN-Global suite:

GRIN-Global Server Components Installed via the Updater

Component	Purpose
Admin	Tool for GRIN-Global administrators to create new logins (users), new cooperators, data views, and assign security levels
Database	A local copy of the database on the PC
Search Engine	This is the middle tier search engine that performs the actual search processing against the database
Web Application	The middle tier web services, shopping cart, etc.
[Curator Tool]	[Note: this client program will eventually be removed from the Updater window, but for now, during testing. The CT application is designed primarily for curators and managers of genebanks for viewing and manipulating GRIN-Global data.]

Default and Custom Installation Options

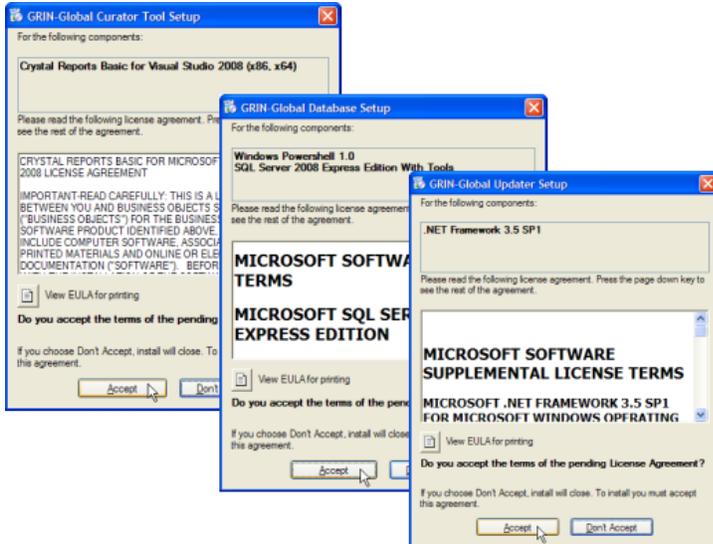
When installing any of the GG components, you will first be prompted with an **Install Mode** window in which you can select either **Default Installation** or **Custom Installation**. Default is recommended and is the simplest to do; you will not be prompted to confirm intermediate screens. Use the Custom installation when it is necessary to indicate a specific folder, etc.



General Requirements

Installing Microsoft Applications

When the respective acceptance windows displays, click **Accept** to proceed with the installation.



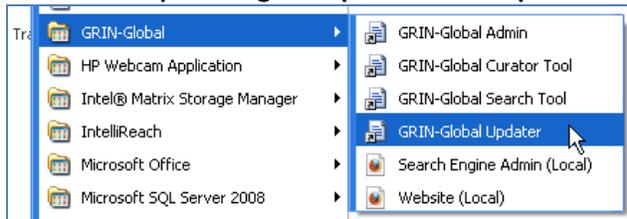
Installing the Database

When the **GRIN-Global Database** component is selected, a local copy of the GRIN-Global database will be installed on your PC's hard drive.

[Note to **RC1 testers**: we recommend that you follow through with these directions and **install the GRIN-Global database on your local PC**. You would then not be dependent on Internet connections to the Ames servers, etc.]

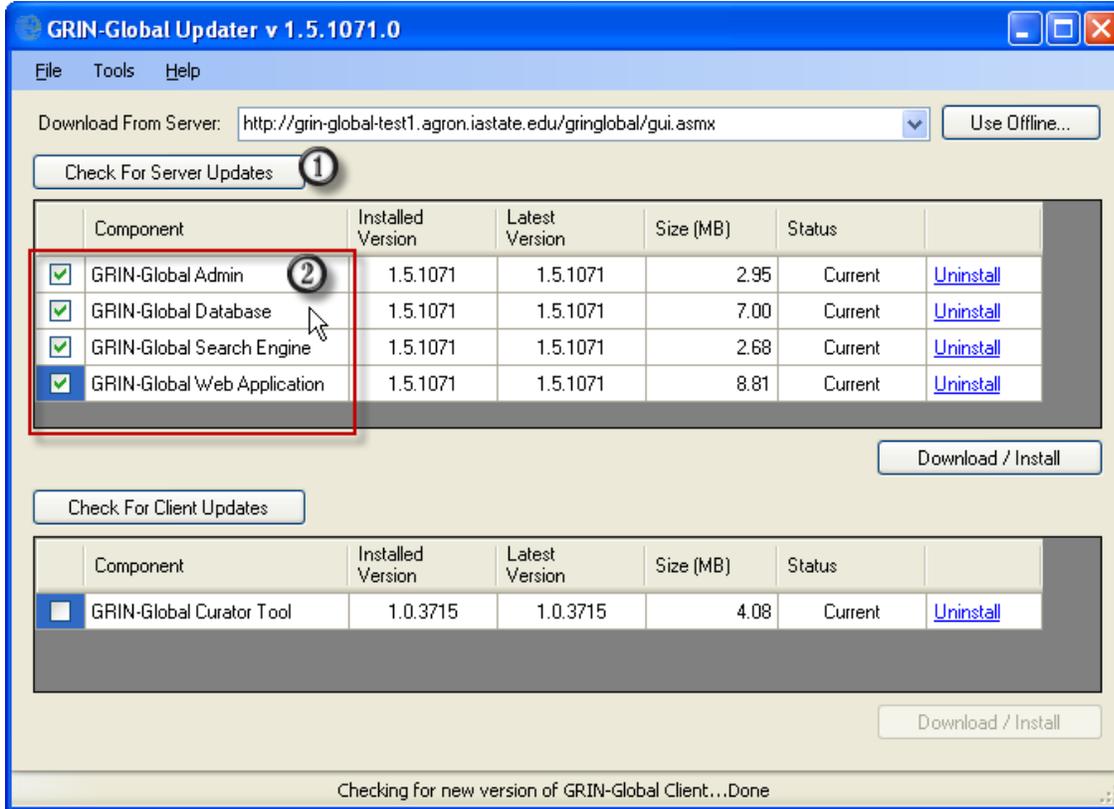
Step 1

Select **Start | All Programs | GRIN-Global | GRIN-Global Updater**



Step 2

First click the **Check for Server Updates** button. The **Updater** screen displays the versions and statuses for each of the server components. To run the Curator Tool from your local PC, select all of the Components listed in the top section (“Server Updates.”)



Notes on Selecting a Database

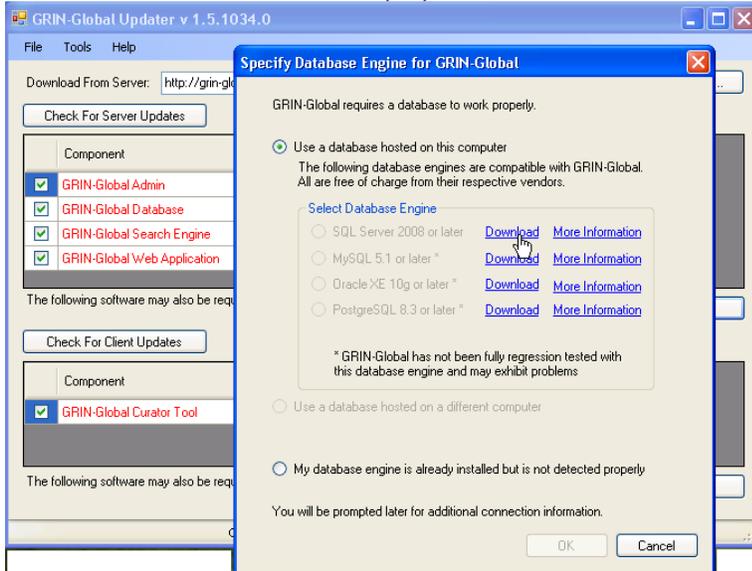
When installing the Server Components locally on your PC’s hard drive, a database engine is required. The Server Components have been tested on the following four database products:

- Microsoft SQL Server
- MySQL
- PostgreSQL
- Oracle

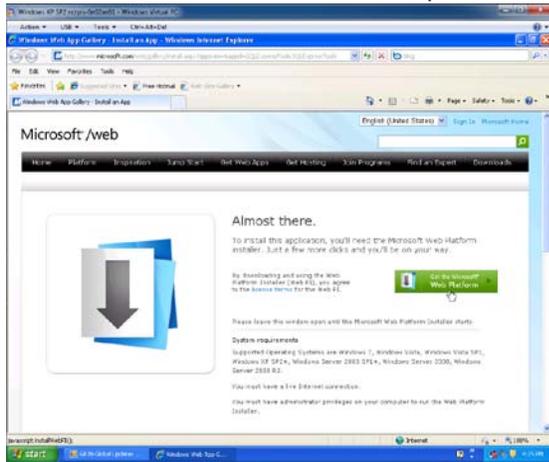
If you are installing the Database, Search Engine, or Web App, and a local database engine is not found, a database engine dialog is shown which prompts you to choose which engine you intend to use.

Installing Microsoft SQL Server

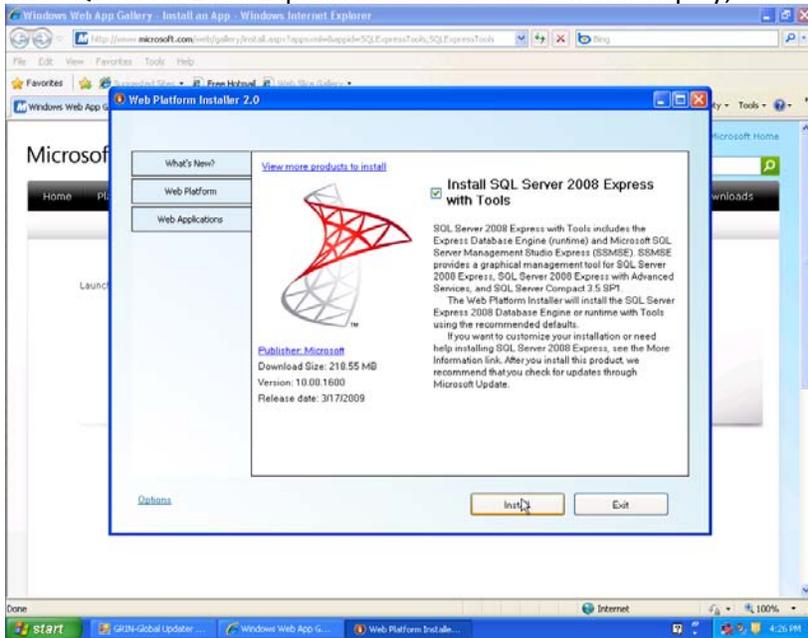
The screens that follow reflect the installation of Microsoft SQL Server. When the other engines are installed, similar screens will display:



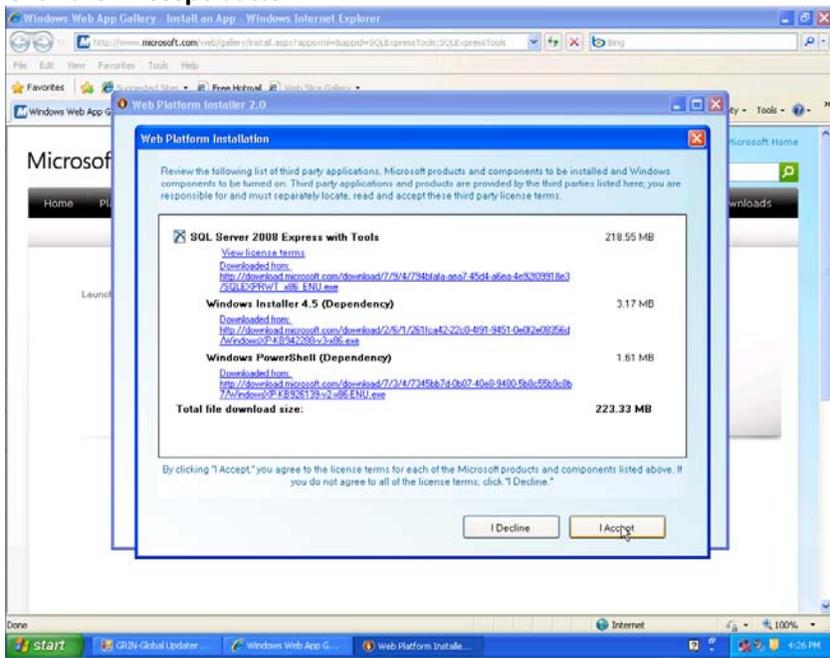
As part of the installation, Microsoft will install its “Web Platform” installer. Click on the **Get the Microsoft Web Platform** button to proceed.



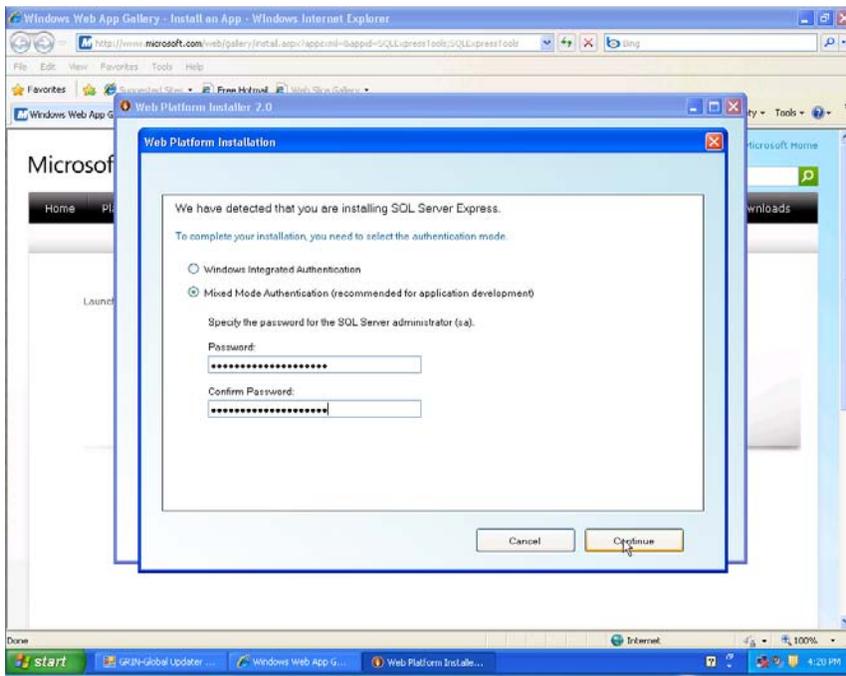
The SQL Server 2008 Express installation window will display; click on the **Install** button.



Click the **I Accept** button.

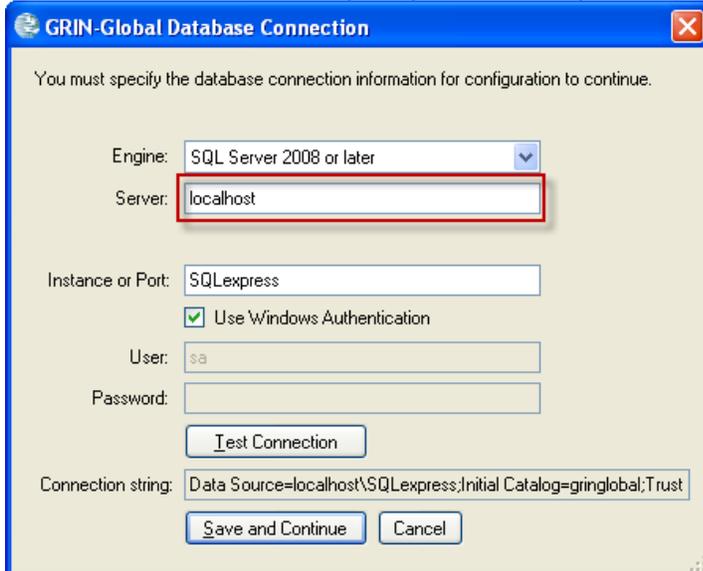


When prompted for the type of authentication, select **Windows Integrated Authentication**. However, in the screen shown here, the server administrator option is selected, which will work also and which is generally the option recommended for the other three database engines. Click **Continue**.



Database Setup Wizard

The initial database window prompts for some specific connection information.



Background

All database engines require some kind of authentication to determine what rights you have to various operations. Some allow you to use the credentials with which you login to Windows -- this is known as "Windows Authentication." For this to work properly, your Windows login must be configured in the database engine as a valid user. Other database engines require you to enter a username and password that is specific to the database -- similar to logging in to a website.

To visit a website, all you need is the web address, such as <http://www.grin-global.org/>. In this example, the server name is `grin-global.org`. There is also an implicit port number of 80. Written explicitly, the address would be: <http://www.grin-global.org:80/>. This will work for any of your favorite web sites, go ahead and try it! At a bare minimum, a web address consists of a server and a port.

This connection method is exactly the same regardless of what kind of software the web server is running. To connect to a database a similar approach is used -- you must tell it some details about the server to which you are trying to connect.

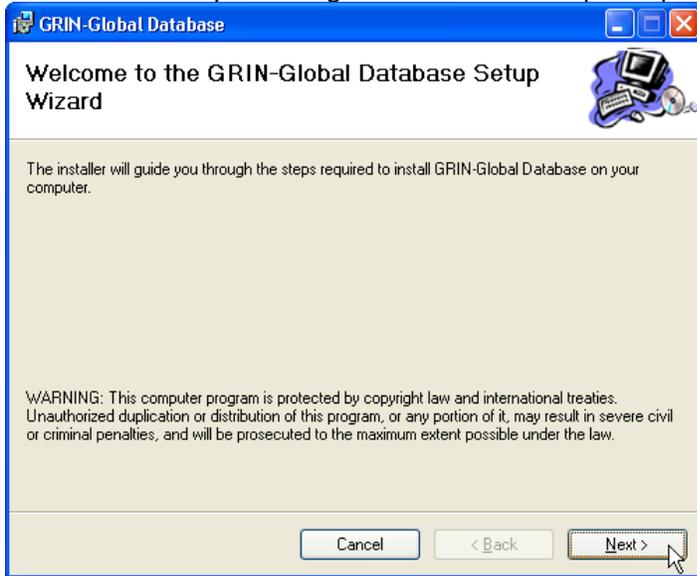
However, unlike a web server, different database engines require different information when connecting. All require a server name, but some may require a specific "port" or "instance name". Think of this as somewhat similar to the "80" portion of the web address example from above.

Examples of connecting to the various database engines supported by GRIN-Global (assuming the server name is "localhost"):

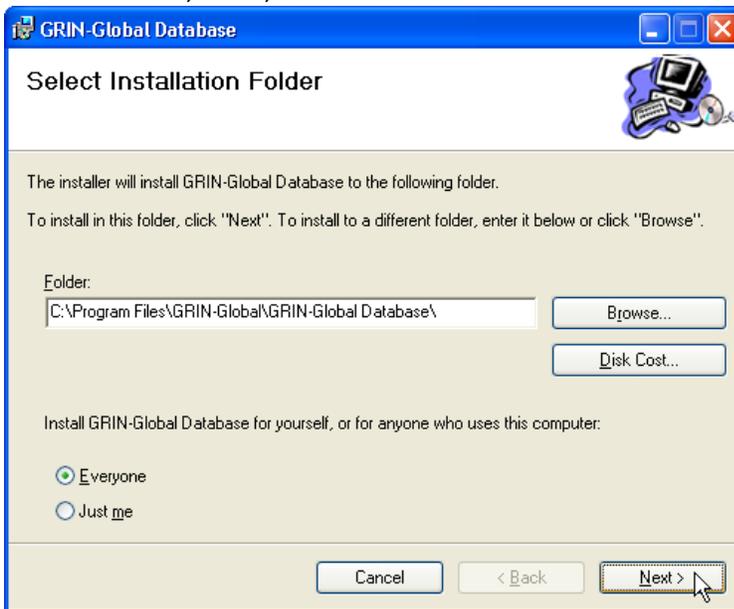
- SQL Server: `localhost\SQLEXPRESS`
- Oracle: `localhost:1521`
- PostgreSQL: `localhost:5432`
- MySQL: `localhost:3306`

As you can see, they are all similar, but slightly different.

The wizard takes you through the installation steps. To proceed, click **Next**.



Generally the defaults on this window will be adequate for most users. If you need to change something on this window, do so, otherwise click **Next**.

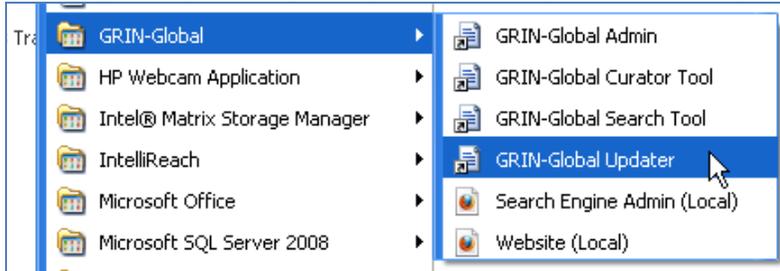


Search Engine (Installing)

The steps for installing the Search Engine are straight forward. When you complete this installation procedure, the Search Engine will be installed on your PC.

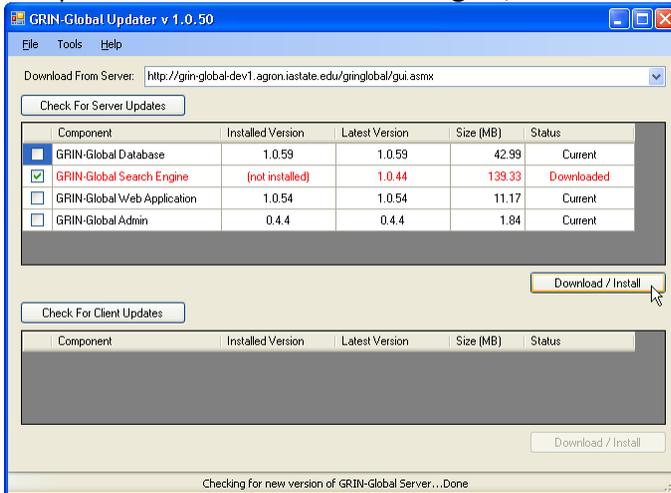
Step 1

Selecting **Start | All Programs | GRIN-Global | GRIN-Global Updater**

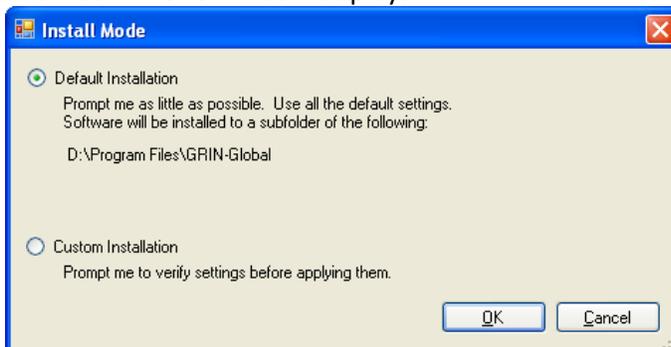


Step 2

If desired, you can exclude the other components from being installed – in that case, uncheck all boxes except for the **GRIN-Global Search Engine**; click the **Download/Install** button.



The **Install Mode** window displays.



Note: the following screens display when you select **Custom Installation** on the **Install Mode** window.

Step 3

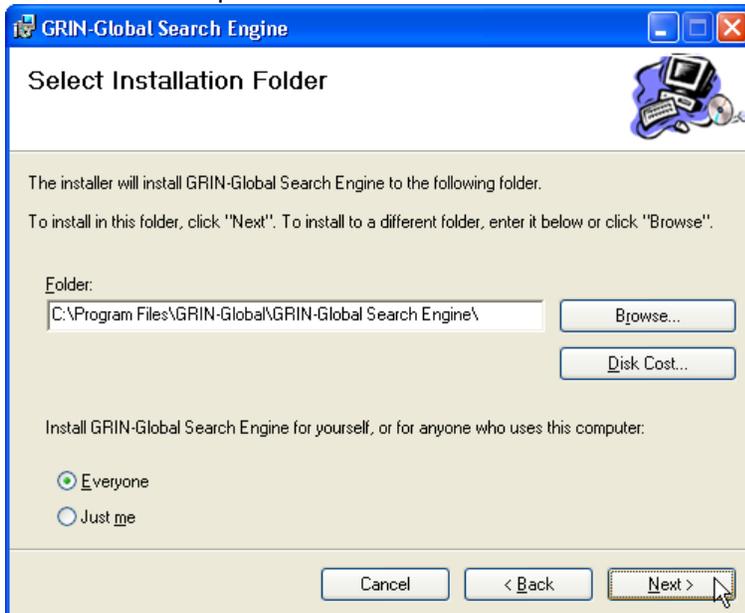
Click **Next** to proceed.



Step 4

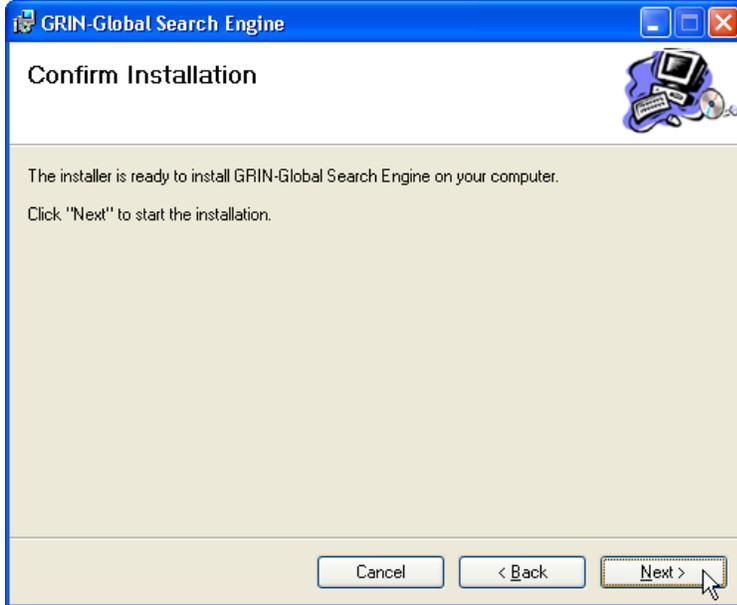
On the **Select Installation Folder** window you can change the default folder location and who will have access to the GRIN-Global programs (all users or the current user). Generally, you can accept the defaults. If a different location is desired, click **Browse**. (Another option is the **Disk Cost** button which can be used to determine if you have enough space on your drive. The complete installation requires less than 1 GB.)

Click **Next** to accept the defaults and continue.



Step 5

Click **Next** to proceed.



Step 6

Click **Close**.

