

Installing GRIN-Global Server Components



Revision Date

November 16, 2016

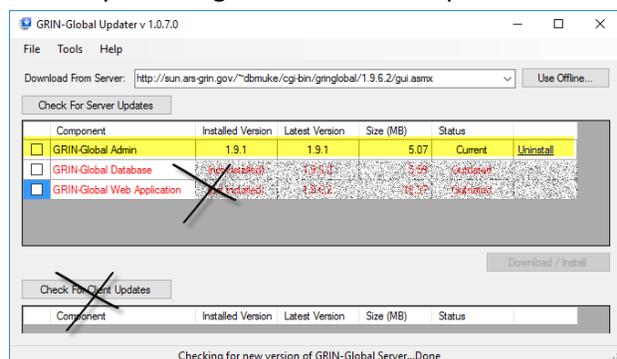
This guide contains directions for installing the GRIN-Global server database and public website components. For most organizations, this guide is intended for the technical person charged with installing the GG database on a server and administering GRIN-Global.



These directions do not cover the installing of the Curator Tool. Please refer to the [GG Curator Tool Installation Guide](#). If your organization has a GG server and database already set up, discuss with your GG administrator what is needed to connect with it.

The GRIN-Global application requires an underlying database management system such as Microsoft's SQL Server. Currently, the only database system for which a complete set of GG dataviews has been written is SQL Server. (Besides Microsoft's SQ Server, GG was designed to run under various engines such as MySQL, PostgreSQL, and Oracle.)

Originally the installation of the GG server components and the application tool (the Curator Tool) were handled via the **GG Updater** program. However, the Updater has *not been* modified to handle the currently available database systems. Therefore, the current GRIN-Global installer does not automatically install the GRIN-Global Database or Web Application ("public website") components into Windows 10 or SQL Server 2014 – hence this document was written to detail the instructions for manually installing the database and public website components.



Comments/Suggestions:

Please contact feedback@ars-grin.gov with any suggestions or questions related to this document. This and other GRIN-Global –related documentation can be downloaded from the [GRIN-Global project website](#).

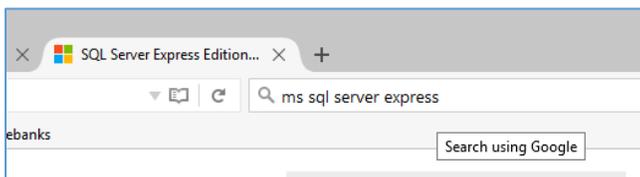
These directions explain how to do the following:

1. [Install a database engine](#) such as SQL Server Express
2. [Restore a backup](#) of a GRIN-Global Database
3. [Install the GG Admin Tool](#) using the GG Updater Program
4. [Configure IIS with .NET v2.0](#)
5. [Manually install the GG Public Web Application](#) (the GG “website”)

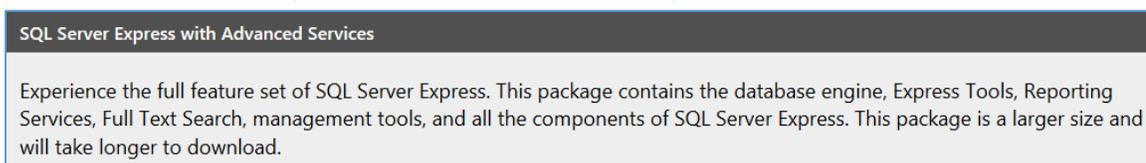
Install a Database Engine (SQL Server Express)

Microsoft provides a free version of SQL Server Express which can be downloaded from a Microsoft website.

Search the web or see step 1 below.



1. As of this writing, download from: <https://www.microsoft.com/en-us/server-cloud/products/sql-server-editions/sql-server-express.aspx>
2. Select the **SQL Server Express with Advanced Services** option.



Restore a Backup of a GRIN-Global Database

A backup GRIN-Global database must be restored. The current GG version is 1.9.6.2.

You have two alternatives:

- [Download](#) an “empty” GG database (a few minor requisites are included along with mostly empty GG tables)
- [Download](#) the GG database with the NPGS taxonomy data (+100K species) (recommended)

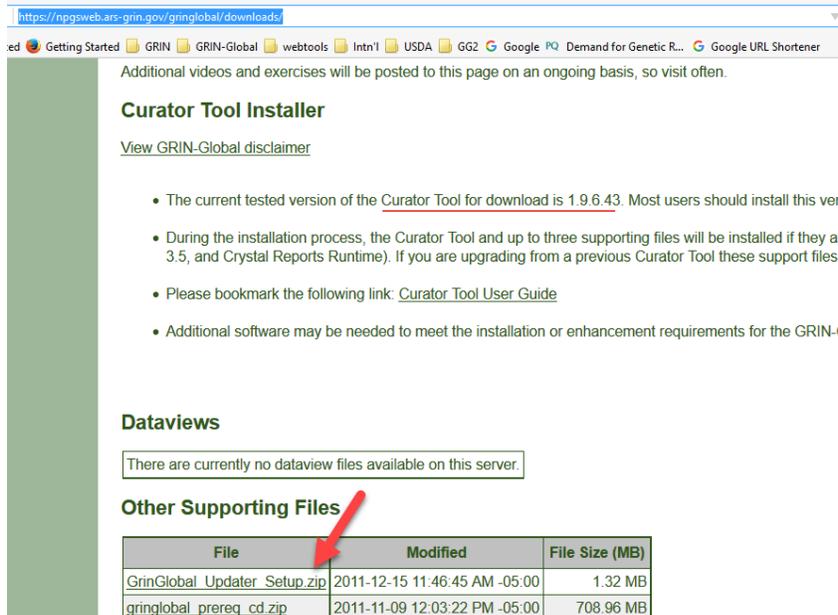
Install the GG Updater Program and the GG Admin Tool

The **GRIN-Global Updater** program must be installed before you can install the **GG Admin Tool** application. The following instructions provide an overview for installing the GG Updater and Admin Tool programs; for detailed step-by-step installation directions, please refer to the [GG Installation Guide](http://www.ars-grin.gov/npgs/gringlobal/docs/gg_installation_guide.pdf). [http://www.ars-grin.gov/npgs/gringlobal/docs/gg_installation_guide.pdf]

Installation Directions

Install the **GG Updater** application. The **Updater** is available from the GRIN-Global [download page](https://npgsweb.ars-grin.gov/gringlobal/downloads/): [<https://npgsweb.ars-grin.gov/gringlobal/downloads/>]

Extract the zip file; run the .msi file.



The screenshot shows a web browser window with the address bar displaying <https://npgsweb.ars-grin.gov/gringlobal/downloads/>. The page content includes a navigation bar with links like 'Getting Started', 'GRIN', 'GRIN-Global', 'webtools', 'Intn'l', 'USDA', 'GG2', 'Google', 'Demand for Genetic R...', and 'Google URL Shortener'. Below the navigation bar, there is a message: 'Additional videos and exercises will be posted to this page on an ongoing basis, so visit often.' The main heading is 'Curator Tool Installer', followed by a link to 'View GRIN-Global disclaimer'. A list of instructions follows: 'The current tested version of the Curator Tool for download is 1.9.6.43. Most users should install this version.', 'During the installation process, the Curator Tool and up to three supporting files will be installed if they are 3.5, and Crystal Reports Runtime). If you are upgrading from a previous Curator Tool these support files s', 'Please bookmark the following link: Curator Tool User Guide', and 'Additional software may be needed to meet the installation or enhancement requirements for the GRIN-G'. Below this is a 'Dataviews' section with a message: 'There are currently no dataview files available on this server.' The 'Other Supporting Files' section contains a table with columns 'File', 'Modified', and 'File Size (MB)'. A red arrow points to the 'GrinGlobal Updater Setup.zip' file in the table.

File	Modified	File Size (MB)
GrinGlobal Updater Setup.zip	2011-12-15 11:46:45 AM -05:00	1.32 MB
gringlobal_prereq_cd.zip	2011-11-09 12:03:22 PM -05:00	708.96 MB

Using your browser, such as Microsoft’s Internet Explorer or Mozilla Firefox or Google Chrome, download and install the **Updater** program (zip installation file) from the GG “downloads” page: <https://npgsweb.ars-grin.gov/gringlobal/downloads/>

[Login](#) for returning member. Don't have an online profile? [Register Now](#) [Contact Us](#)

U.S. National Plant Germplasm System



Documentation

Please bookmark the following link:

- <http://www.ars-grin.gov/npgs/gringlobal/sb/home.html>

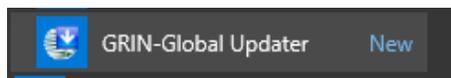
This page contains links to the following:

There are currently no data view items available on this server.

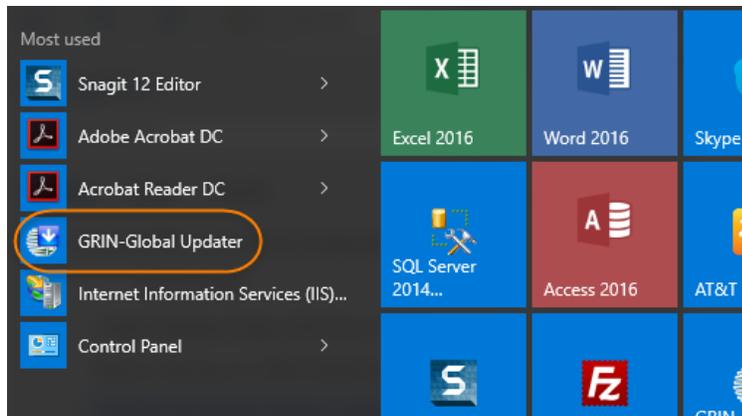
Other Supporting Files

File	Modified	File Size (MB)
GrinGlobal_Updater_Setup.zip	2011-12-15 11:46:45 AM -05:00	1.32 MB
gringlobal_prereq_cd.zip	2011-11-09 12:03:22 PM -05:00	708.96 MB

Most of the Updater steps are obvious – click the **Run**, button, **OK** button, etc.



After the Updater program has been installed, run (execute) it:

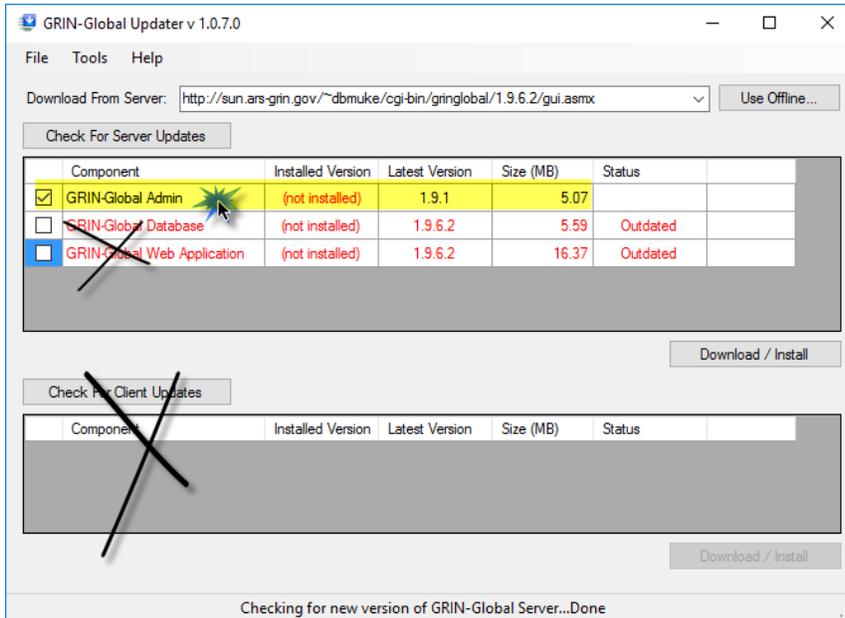


The Updater version number is not significant – an older Updater version can be used to install the latest GG components. Basically, the Updater will work with any version of GG.

Set the location for the server component files to:

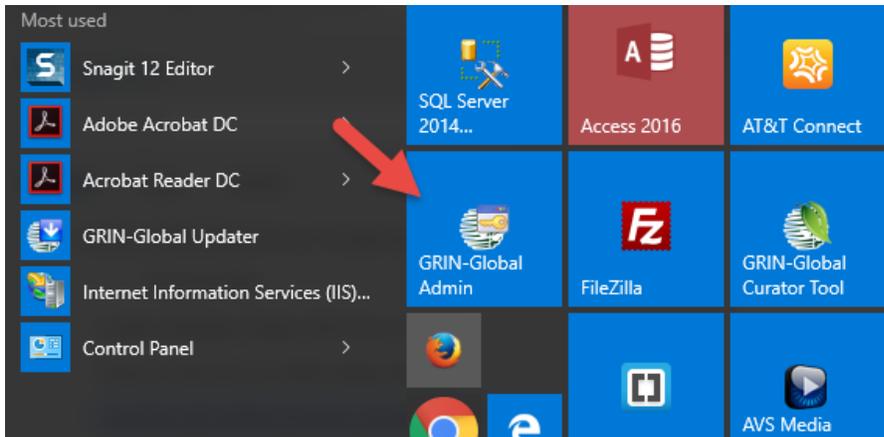
<http://sun.ars-grin.gov/~dbmuke/cgi-bin/gringlobal/1.9.8.2/gui.asmx>

Select only the first server component “GRIN-Global Admin.” *



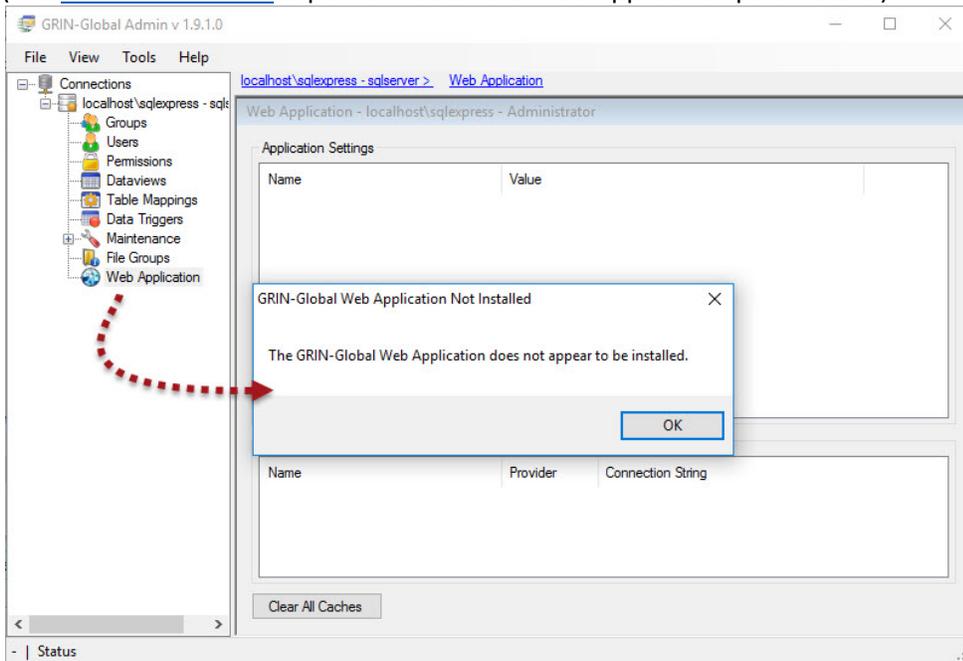
* the version shown in the graphic is not necessarily the latest version; please contact feedback@ars-grin.gov to verify the latest version.

A successful installation will create a GG Admin Tool program tile for Windows which can be added to your Startup window.



Unfortunately, the Admin Tool will not by default recognize the location of the **Web Application**. To change any of the Web Application parameters, you will need to either manually edit the **web.config** file or complete an additional step (shown on the next page).

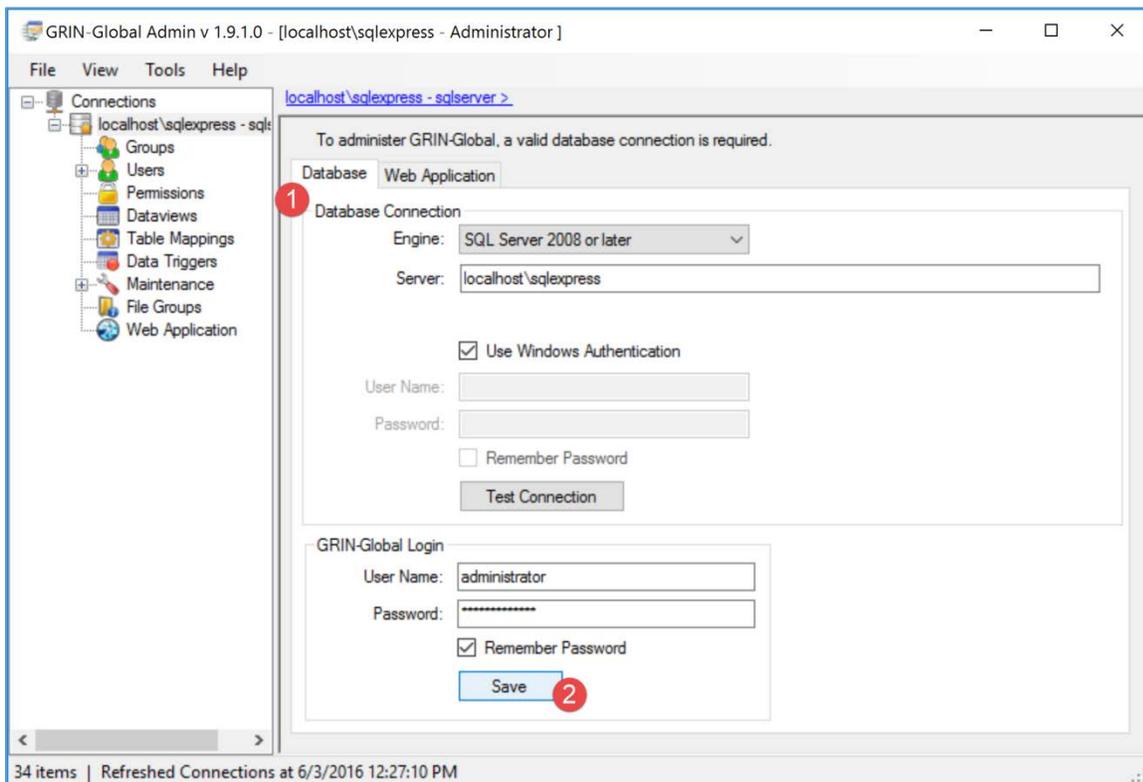
To manually edit, use Notepad or a text editor the file at `c:/inetpub/wwwroot/gringlobal/web.config`. (The [Admin Tool Guide](#) explains in detail the Web Application parameters.)



To be able to use the Admin Tool to edit the Web Application parameters, edit the **Web Application** tab and specify the folder **C:\inetpub\wwwroot\gringlobal** as the “**Directory containing Web.config for GRIN-Global.**” (Either input the location or use the ellipsis button to locate the folder.)



Remember to switch back to the **Database** tab and **Save**

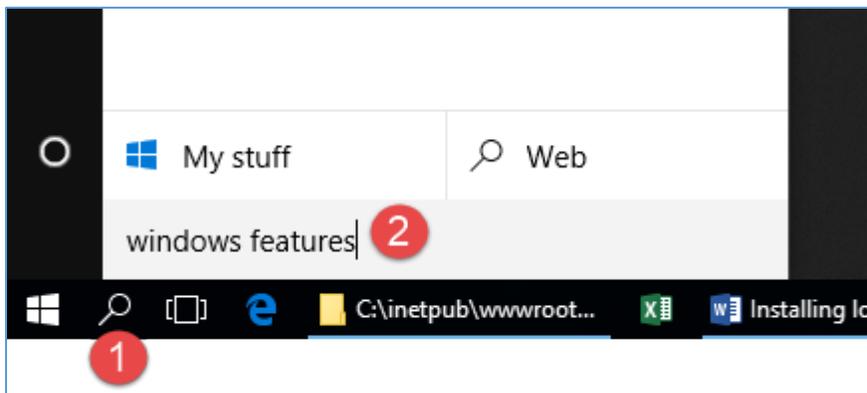


Configure IIS with .NET 2.0

The GG Public Web application (the “GG website”) requires Windows IIS (Internet Information Services). ([Wikipedia](#) has a complete history of the many IIS versions.) The issue you most likely will bump into in installing GG is that not all IIS components are activated by default; you must turn on these features before you can successfully run the GG website.

Open the **Windows Features** window – to do so:

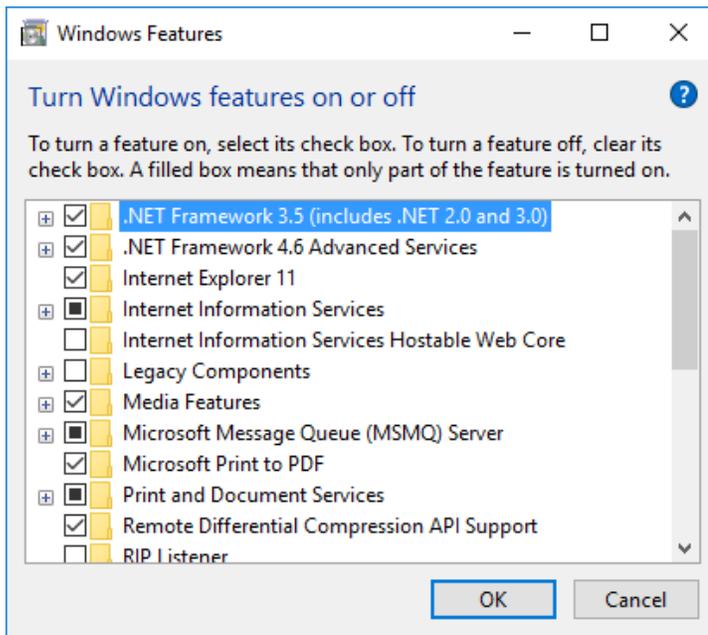
(1) use the **Search** tool on the Windows Taskbar; (2) type “windows features” :



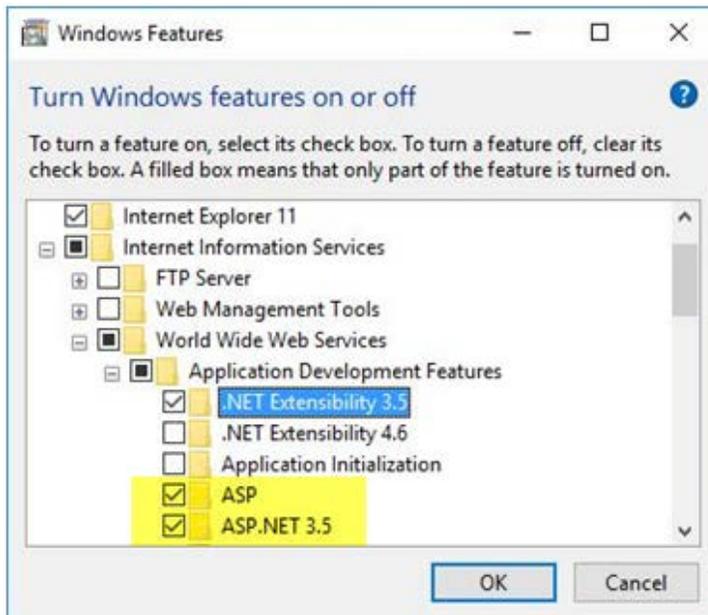
Windows Features



A black box indicates a partial selection – not all of the possible options have been checked.



Under **Internet Information Services**, under **World Wide Services**, select **ASP** and **ASP.NET 3.5**.



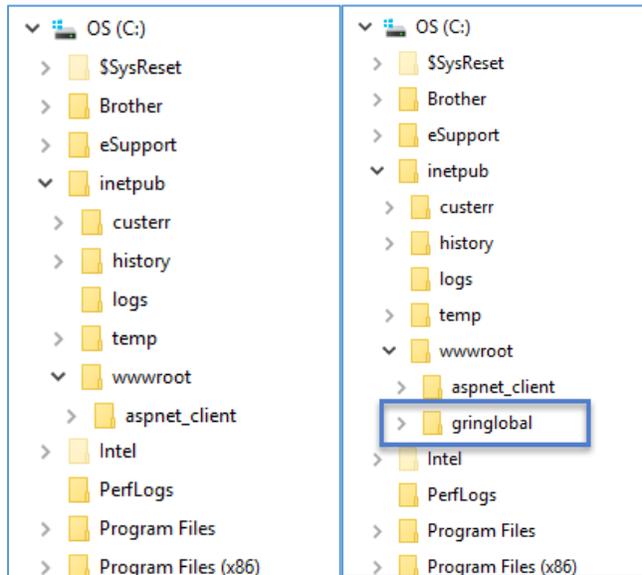
Manually Install the GG Public Web Application

Copy gringlobal folder

You need a gringlobal web site folder `inetpub/wwwroot/gringlobal`. Unzip this folder from [here](#) – copy the gringlobal folder structure as shown below

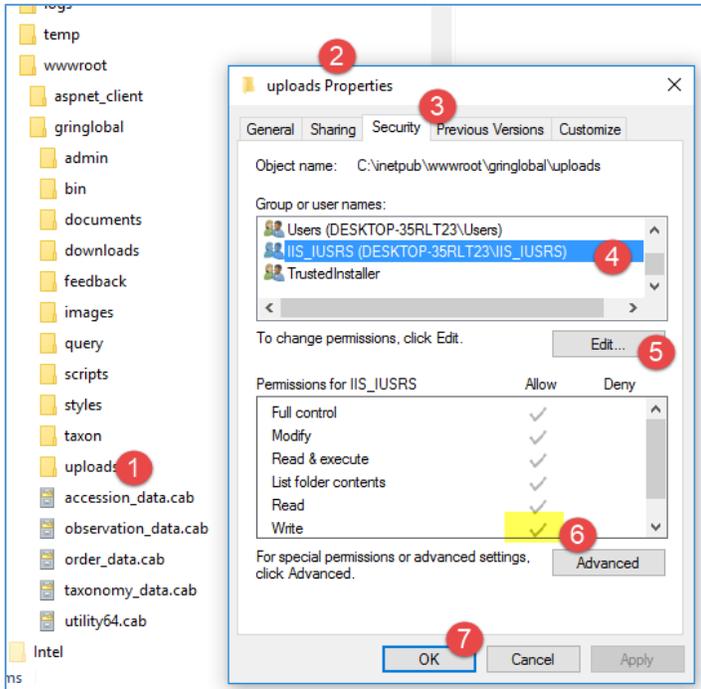
Before

After



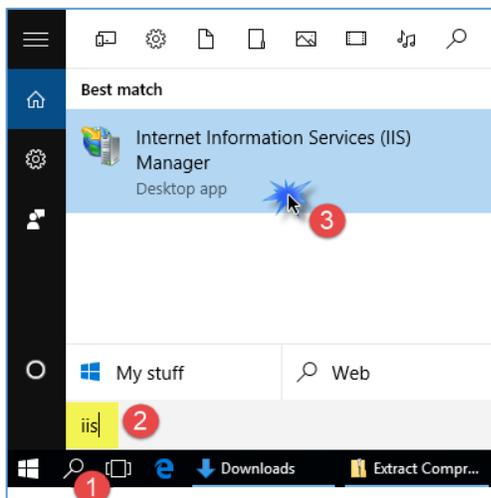
Grant write access to uploads directory for download and upload options:

- right click on the **uploads** folder in **C:\inetpub\wwwroot\gringlobal**
- select **Properties; Security tab; Edit**
- allow **Write** access to the **IIS_IUSRS** group



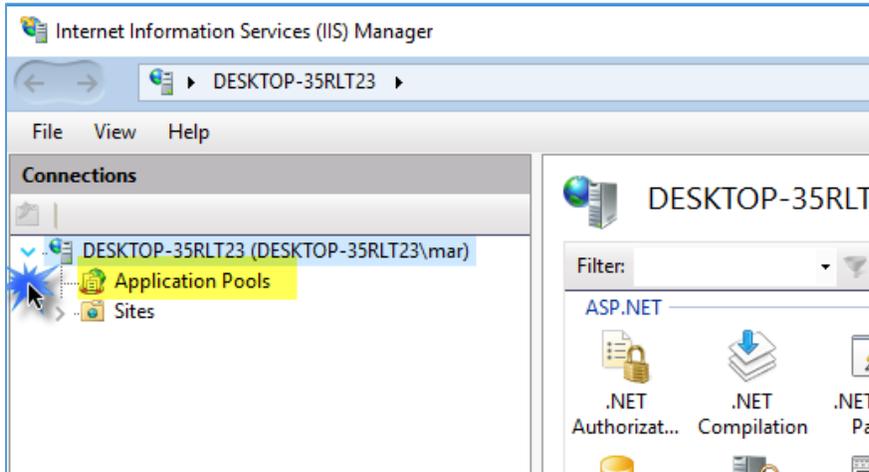
Configure the identity of the .NET 3.5 application pool

Open the **IIS Manager** – type **iis** after clicking the search icon:

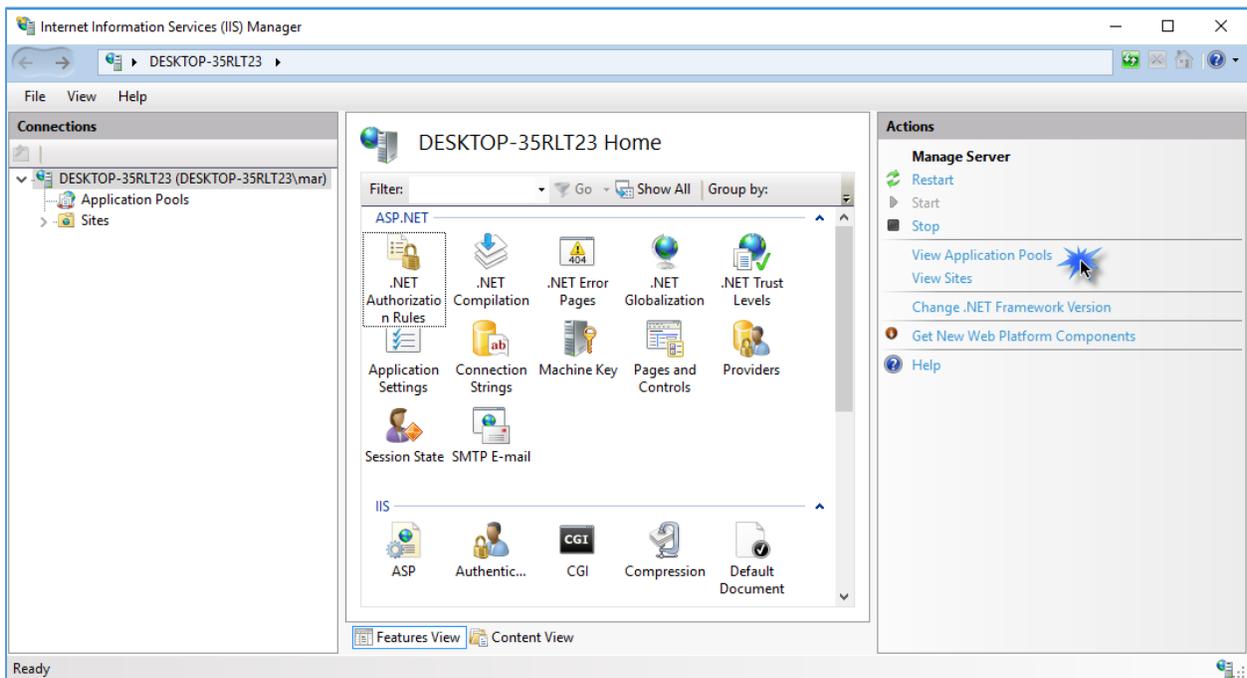


(Alternatively, IIS can be accessed via the Windows Start menu – select **Administrative Tools | Internet Information Services (IIS) Manager**)

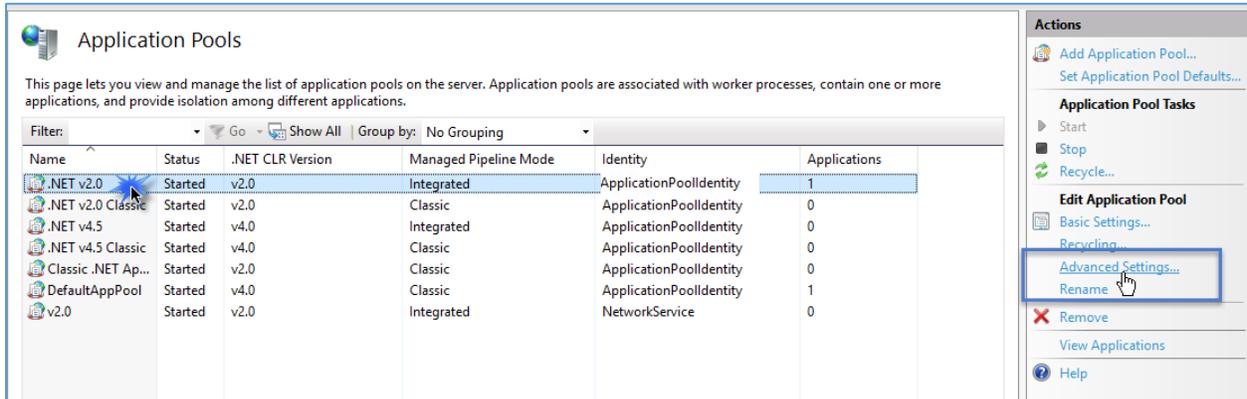
Open the **Application Pools** node:



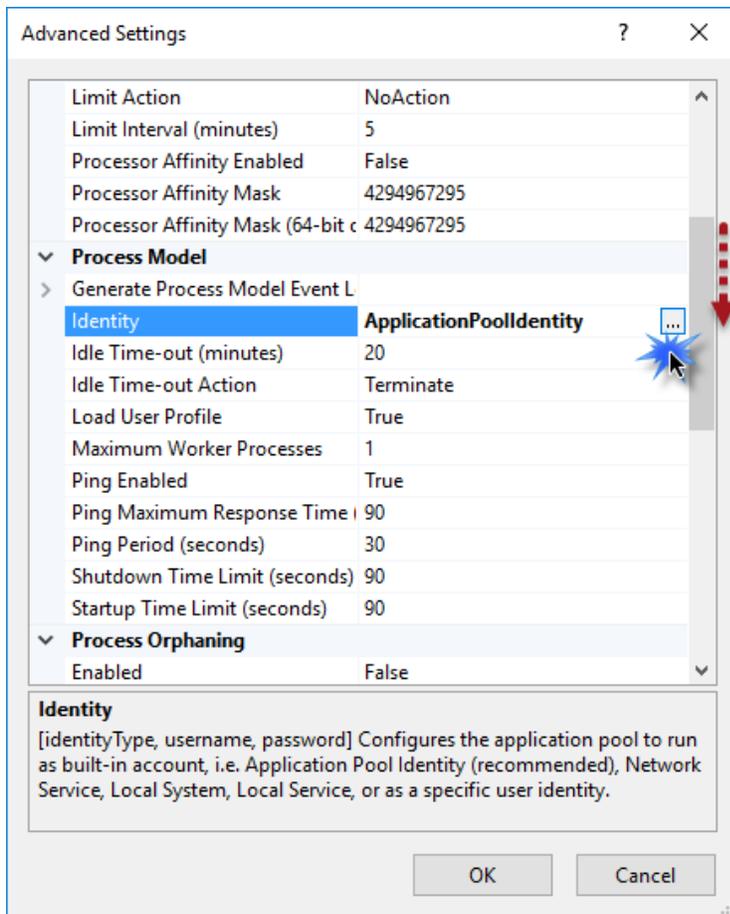
Select **View Application Pools** in the right **Actions** panel:



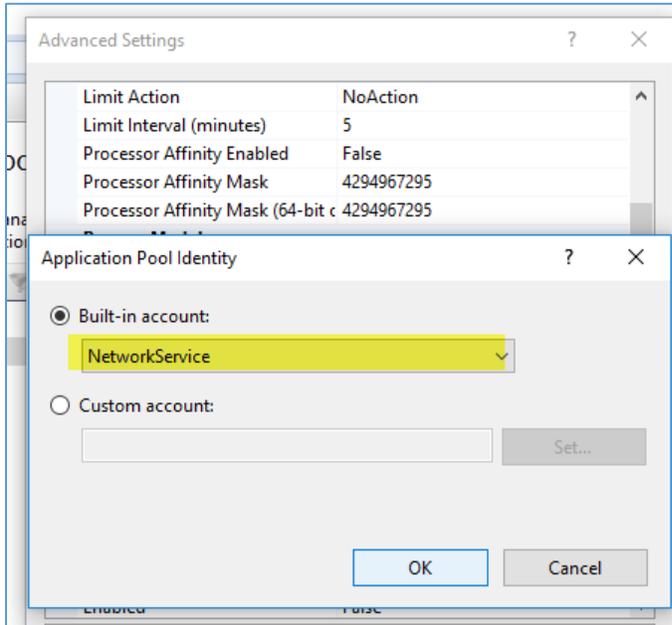
Select the **.NET v 2.0** pool; in the right Actions panel, select **Advanced Settings**:



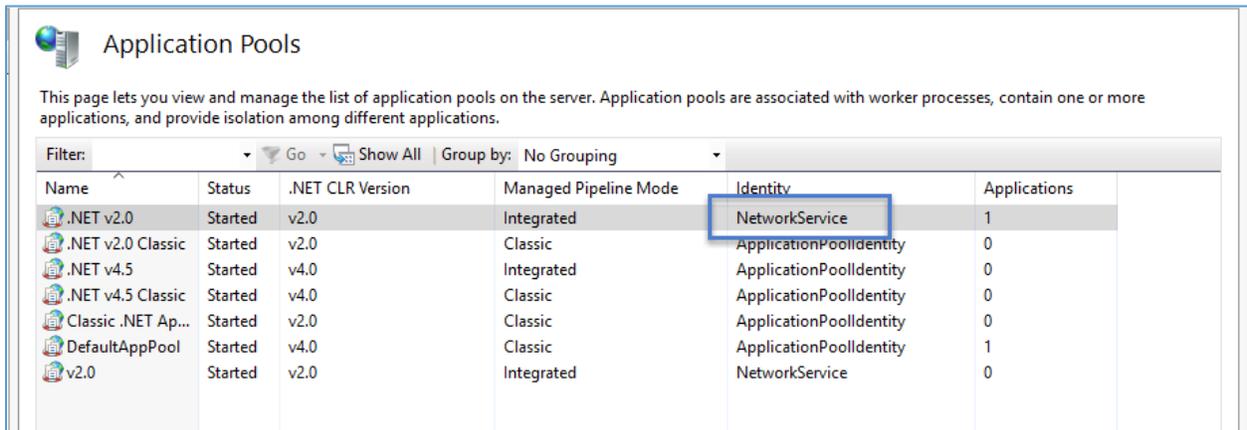
On the **Advanced Settings** popup, select the **Identity** option:



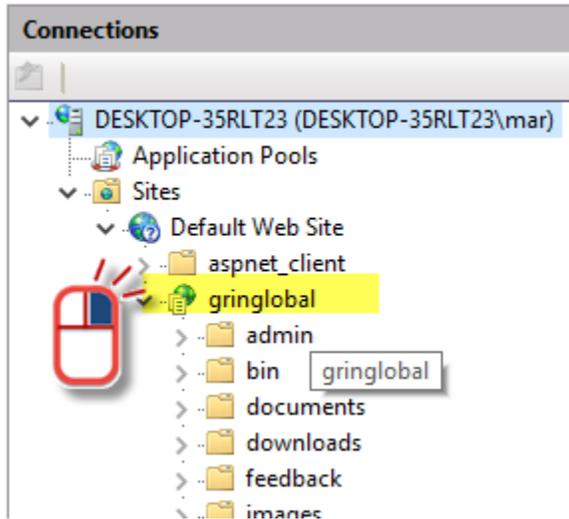
Select **Network Service** from the list for **Built-in account**:



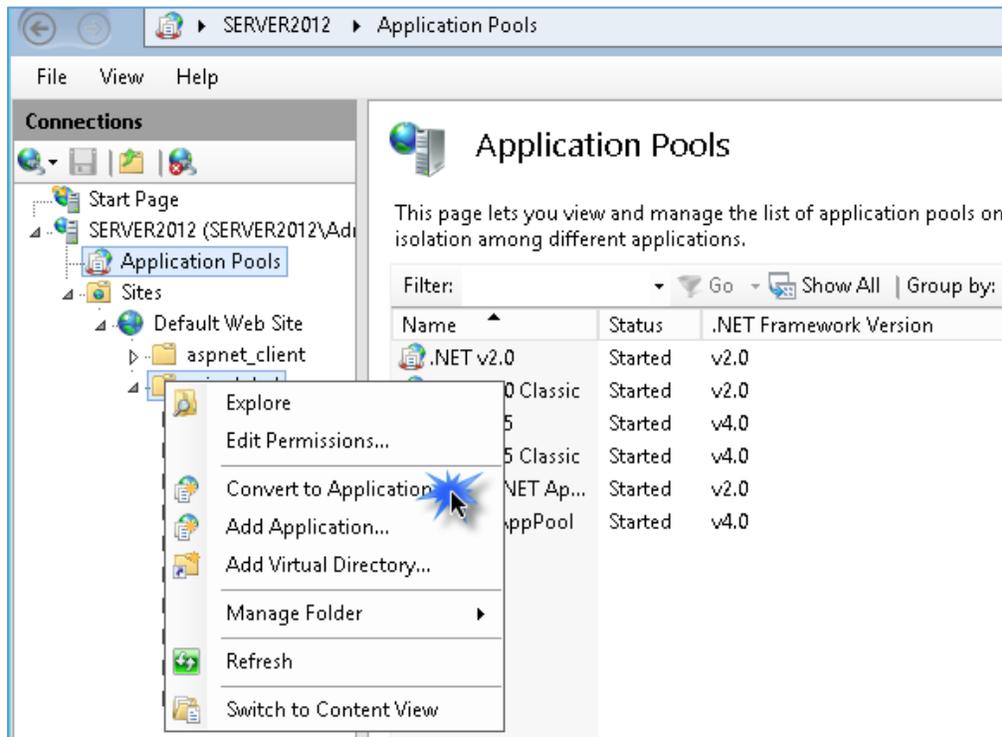
Click **OK** – the Application Pools should display and look similar to this:



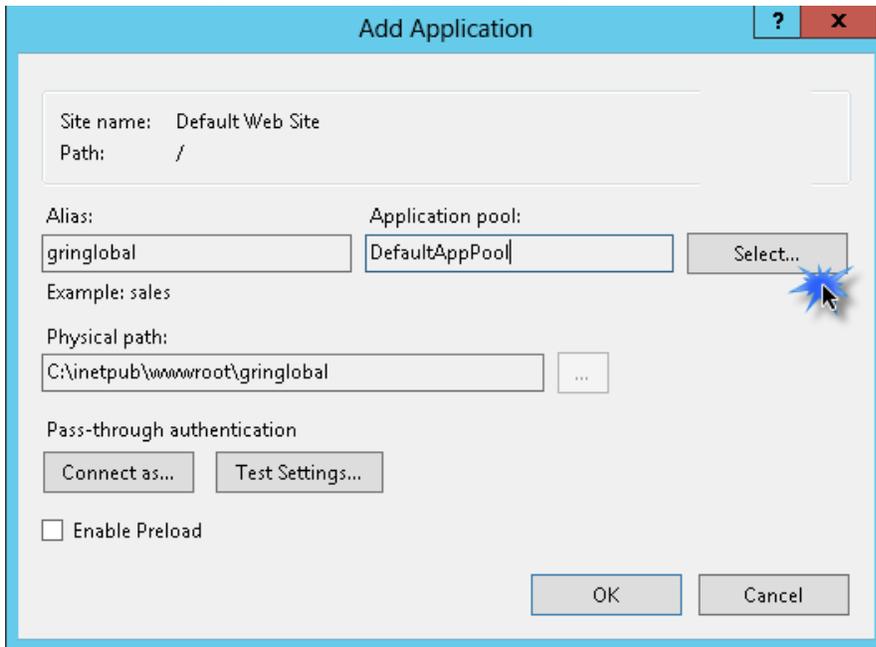
Configure the gringlobal application – Expand the **Sites** node; under the Sites node, right-click on the **gringlobal** folder;



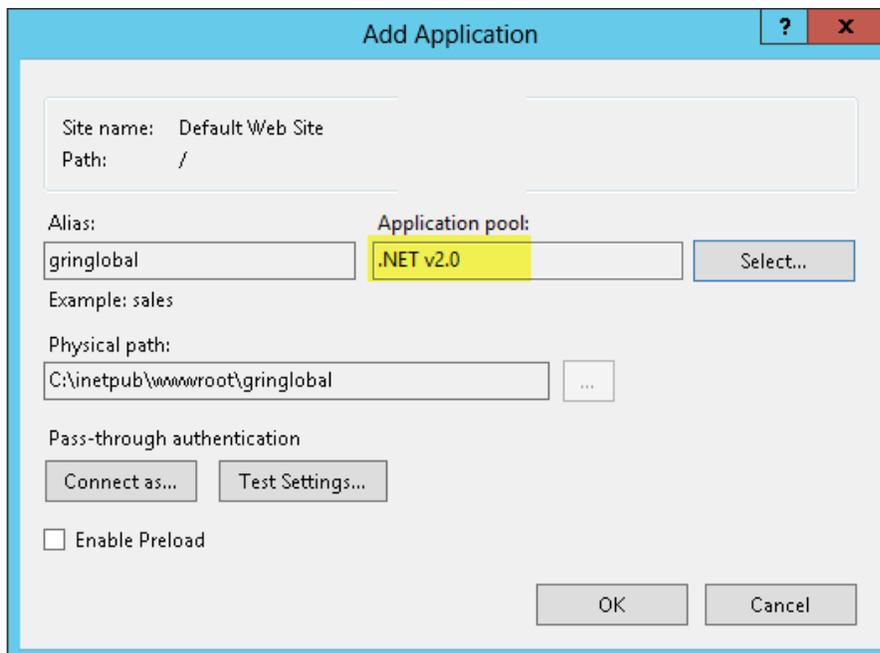
...select **Convert to Application**



When the **Add Application** dialogue box displays, click **Select**:



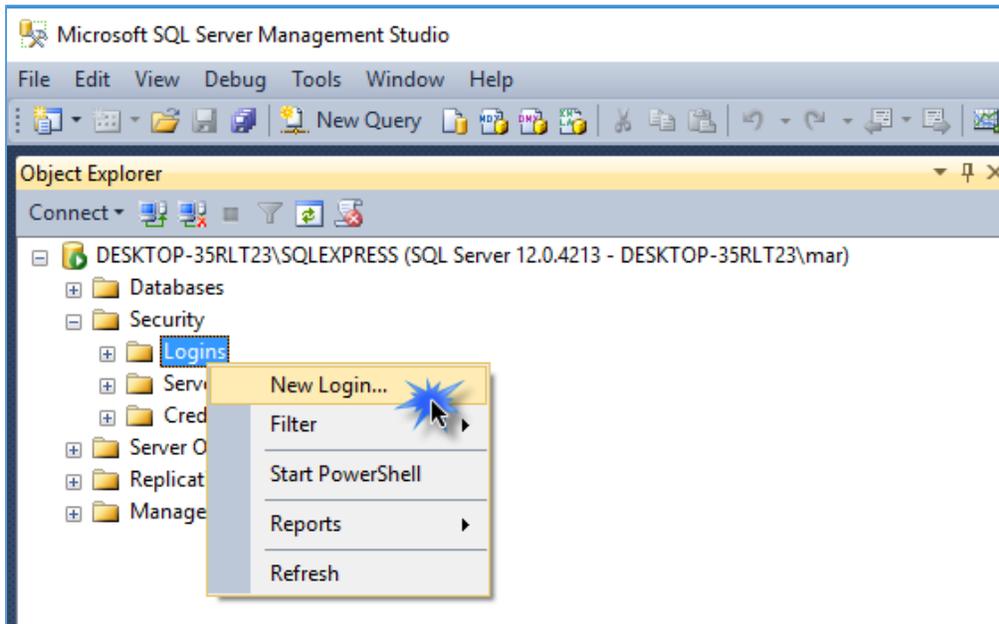
Select **.Net v2.0** from the list –the result should be similar to the following; click **OK** to complete the application configuration.



Open SQL Server Management Studio.

In this step, you will add the **Network Service** login to SQL Server. This is the user account which the Curator Tool uses to connect.

Open the **Security** tab, right-click on **Logins**; Select **New Login**:



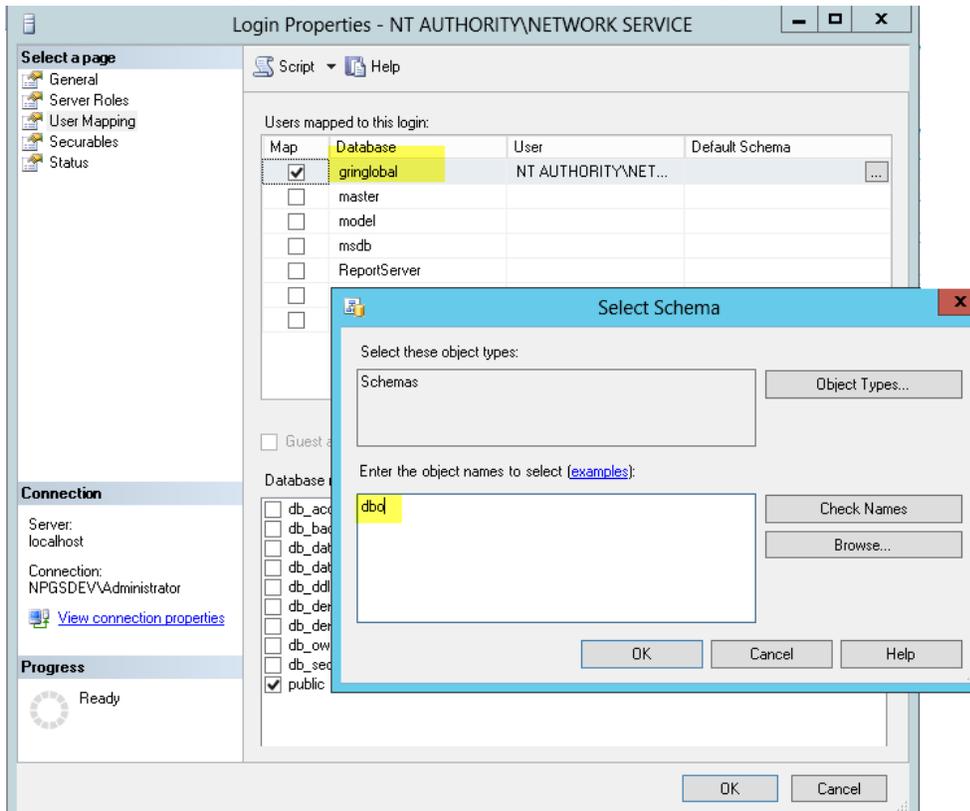
Type **NT AUTHORITY\NETWORK SERVICE** in the login name; click **OK**:

The screenshot shows the 'Login - New' dialog box with the following configuration:

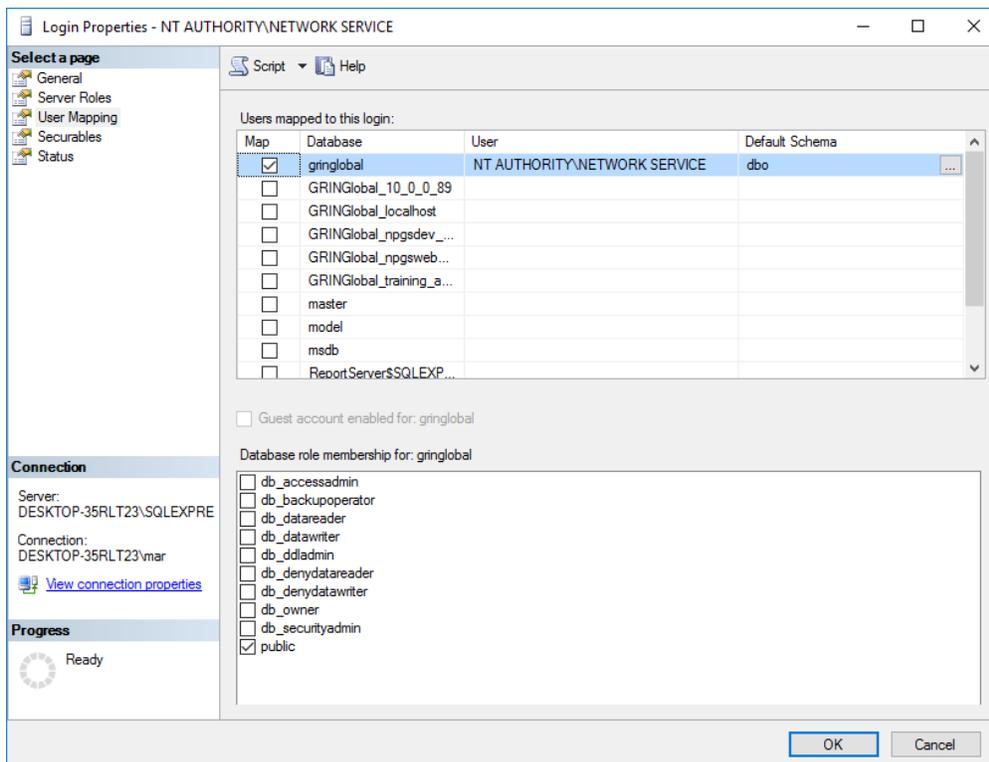
- Login name:** NT AUTHORITY\NETWORK SERVICE (highlighted in yellow)
- Authentication:** Windows authentication (selected)
- Password fields:** Password, Confirm password, and Old password (all empty)
- Options:**
 - Specify old password
 - Enforce password policy
 - Enforce password expiration
 - User must change password at next login
- Mapping:** Mapped to certificate, Mapped to asymmetric key, and Map to Credential (all unselected)
- Mapped Credentials:** A table with columns 'Credential' and 'Provider' is empty.
- Default database:** master
- Default language:** <default>

The 'OK' button is highlighted with a blue border.

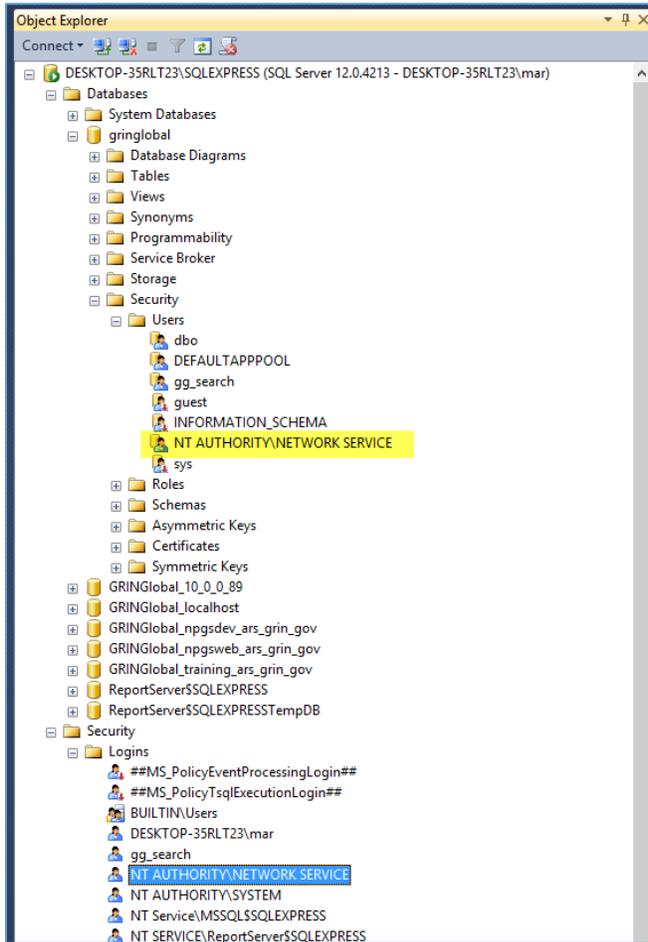
Select the **User Mapping** node; set the user mapping to **gringlobal** and **dbo**:



Select **OK**:

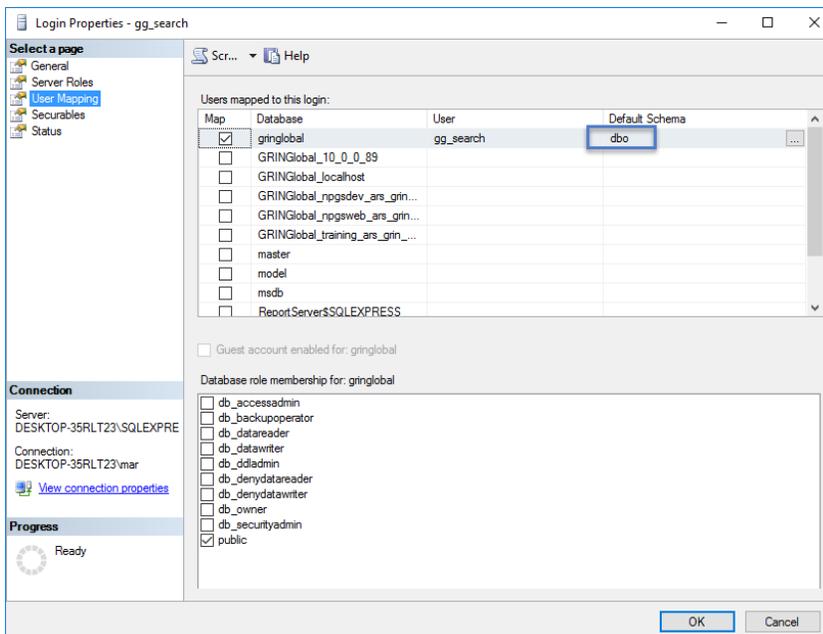
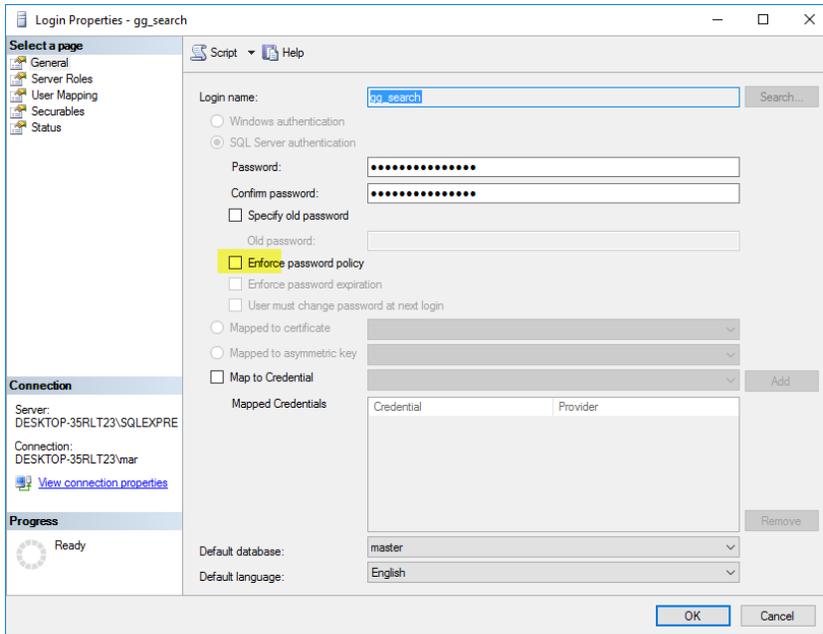


The new Login account should display in the list of gringlobal Users and SQL Server Logins:



Now add the **gg_search** user for the public web site and extended reports and tools. Using the same basic procedure for the above account:

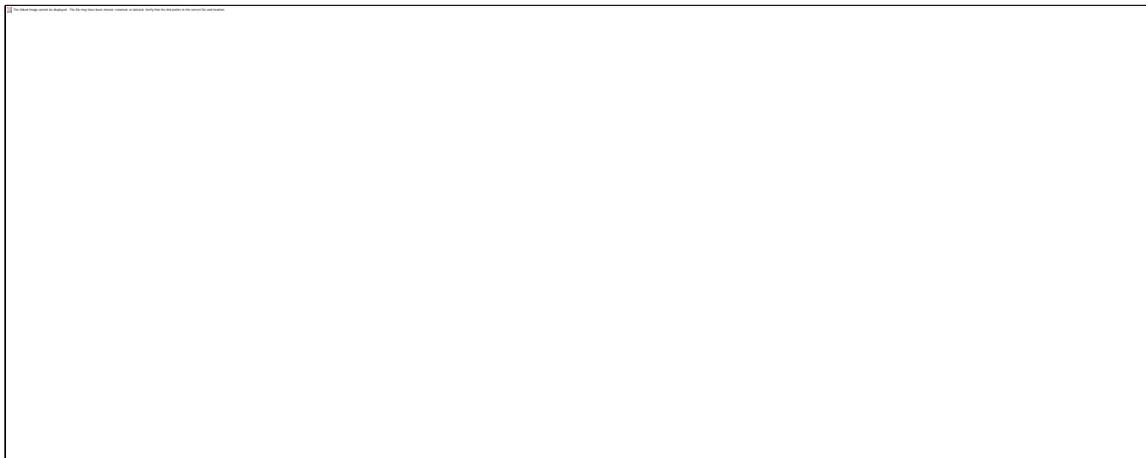
- delete any existing **gg_search** logins and users if present
- create the **gg_search** login and map to **gringlobal.dbo** as above – except in this case use **SQL Server Authentication** and paste in the password for **gg_search**. (The password is in the **web.config** file (see section below for editing web.config and changing the default password).)
- Also turn off **Enforce password policy**



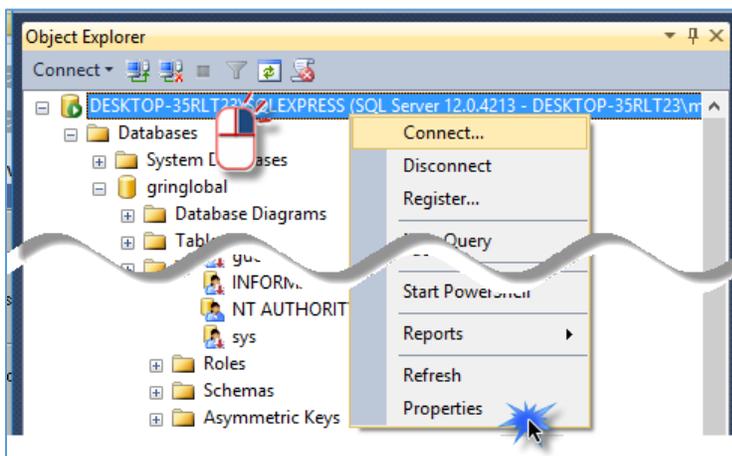
Create Permission Scripts for Both New Users to Tables and Views

In this next step, you will create permission scripts for the new user and for **gg_search**. Run the script below which will create a larger script; copy and paste the created script (4) --> (1) to a new Query Window and execute it:

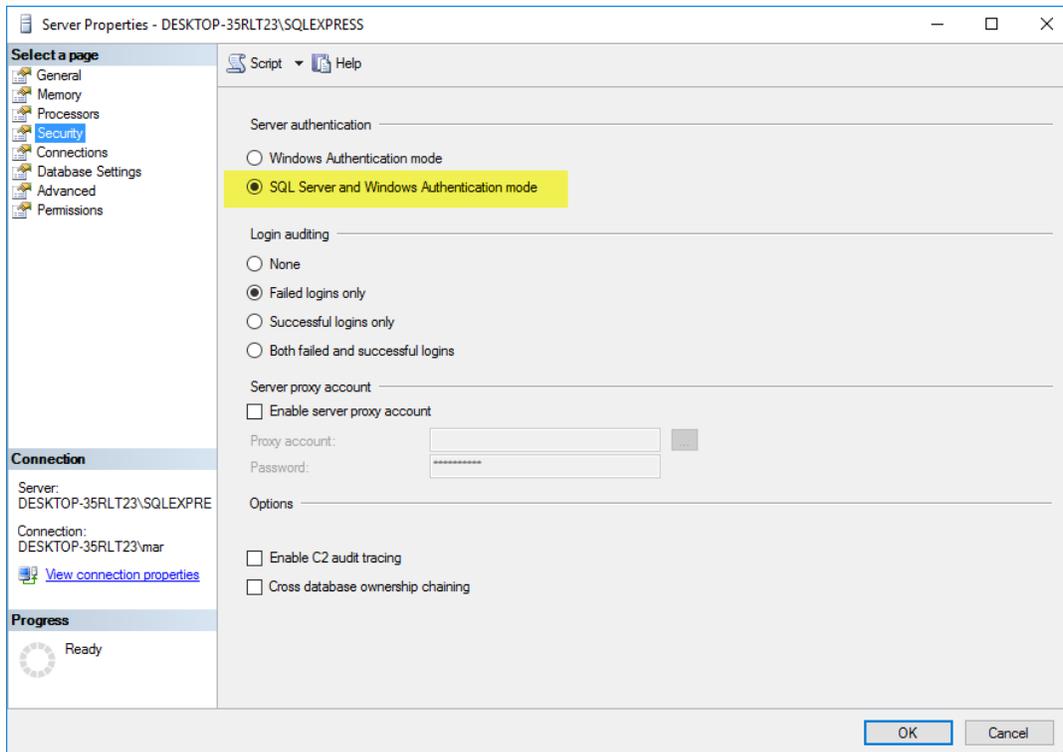
```
-- grant both new users permissions to tables and views
use gringlobal
select 'grant select,insert,update,delete on ' + name+ ' to
"NT AUTHORITY\NETWORK SERVICE"' FROM sys.tables
union select 'grant select on ' + name+ ' to
"NT AUTHORITY\NETWORK SERVICE"' FROM sys.views
union select 'grant select on ' + name+ ' to "gg_search"' FROM
sys.tables
union select 'grant select on ' + name+ ' to "gg_search"' FROM
sys.views
```



Ensure your database is set up for both Windows and SQL Server login (right click on the database connection; select **Properties**;



...select **Security**. A restart of SQL Server is required.



If your database is not the Express version, edit the **Web.config** file in the **C:\inetpub\wwwroot\gringlobal** folder. (Use Notepad or some text editor; open the Web.config file. Locate the lines below for the two connections:

```
<!-- CONNECTIONSTRING -->
<!-- COMMENT -->
<add providerName="sqlserver" name="DataManager" connectionString="Data
Source=localhost\sqlexpress;Database=gringlobal;Integrated
Security=SSPI" />
<add providerName="sqlserver" name="DataManagerWeb"
connectionString="Data
Source=localhost\sqlexpress;Database=gringlobal;User
Id=gg_search;password=sPA55w0rd!" />
<!-- ENDCOMMENT -->
```

If you are not using the Express version of SQL Server, edit both connectors to the following by removing the **\sqlexpress**

```
<!-- CONNECTIONSTRING -->
<!-- COMMENT -->
<add providerName="sqlserver" name="DataManager" connectionString="Data
Source=localhost;Database=gringlobal;Integrated Security=SSPI" />
<add providerName="sqlserver" name="DataManagerWeb"
connectionString="Data Source=localhost;Database=gringlobal;User
Id=gg_search;password=sPA55w0rd!" />
<!-- ENDCOMMENT -->
```

At this point it is recommended to change the default password for **gg_search**. Ensure that if you change the password, that the login for **gg_search** reflects the change. Save the file. The web site and the Curator Tool should be able to connect.