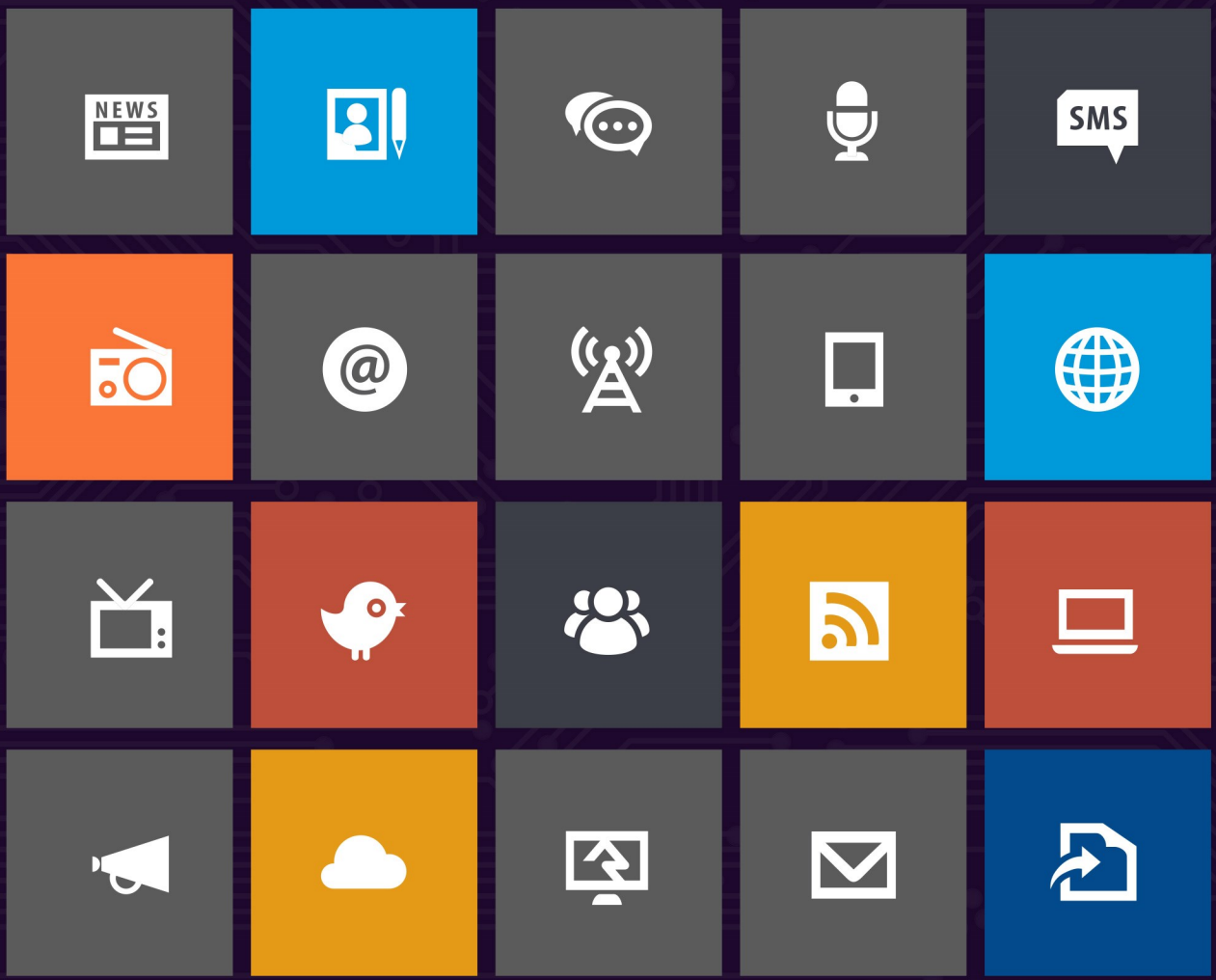
ROCK SOLID

INTERNAL HOSTING



Introduction

Looking for information on how to host Rock internally? Well look no further. In this step-by-step guide we'll walk through the process of getting Rock up and running. Before we jump in, let's cover a few things to make sure we get started off on the right foot.

Preparing for Rock

In this chapter we will cover what you need for Rock to perform at its best.

System Requirements

Rock was developed on Microsoft's ASP.Net platform so it requires a Windows Server environment to run. Below are specific requirements of the hosting platform:

Small Installs

1,000-5,000 records
One server with the following specs:

Server requirements for Small Installs

Server
• CPU: 2Ghz dual core or higher • Memory: 2GB or higher • Storage: 1TB • Operating System: Windows Server 2016 or newer • Software: SQL Server Express 2014 (free) or SQL Server 2014 Standard or higher • Note that the server versions above are the minimum. We would of course recommend using the latest versions if you can. Starting with Rock v15, SQL Server 2016 will be required at a minimum.

> #### Keep in Mind PCI Compliance
>
> While a single server configuration will do a lot quite well for small churches, you should be aware that it does not meet PCI requirements (which state you need to have your database and your web host in separate environments). So if you plan to take payments through your Rock site, or store financial information in Rock, you'll probably need to use the Medium Installs configuration instead (or use an external host).

Medium Installs

5,000-15,000 records
Two servers with the following specs:

Server requirements for Medium Installs

Web Server	Database Server
• CPU: 2Ghz quad core • Memory: 8GB or higher • Storage: 1TB • Operating System: Windows Server 2016 or newer	• CPU: 2Ghz quad core • Memory: 8GB or higher • Storage: 1TB • Operating System: Windows Server 2016 or newer • Software: SQL Server 2014 Standard (Starting with Rock v15, SQL Server 2016 will be required at a minimum)

Large Installs

15,000+ records
Two servers with the following specs:

Server requirements for Large Installs

Web Server	Database Server
• CPU: 2.5Ghz quad core • Memory: 16GB or higher • Storage: 1TB • Operating System: Windows Server 2016 or newer	• CPU: 2.5Ghz quad core • Memory: 16GB or higher • Storage: 1TB • Operating System: Windows Server 2016 or newer • Software: SQL Server 2014 Standard (Starting with Rock v15, SQL Server 2016 will be required at a minimum)

> #### SQL Server 2014
> Note that we are ending support for SQL Server 2014 as of Rock version 15.0. We generally recommend using the latest versions if you can.

> **Note:**
> The storage estimates above do not include room for backups. If you are considering local backups, please adjust the volumes appropriately.

> **More Info:**
> If you plan to install Rock on a two server configuration, be sure to check out the *Two-Server Configuration* chapter for some helpful tips.

Things You'll Need During Installation

Here is a short list of settings that you'll need to complete the Rock installation.

- Internal and external web addresses for your organization
- An email address to send exception messages to

Other Considerations

Windows Updates

Rock's foundation is built upon Microsoft's .NET technology. Since .NET is an ever-evolving technology, we recommend that you install all the latest updates for your Windows Server.

Server Version

The instructions and pictures in this guide are written for Windows Server 2012. If you plan to install Rock on a newer version, there are a few differences in the installation you will need to watch out for.

Certificates

As you configure Rock, make sure you purchase and configure an SSL certificate before making it available at a publicly accessible domain. Prices range from $9–$100+ per year, and while the setup may seem daunting, there are plenty of helpful tutorials that walk you through the setup process. Also, you can check with your current domain registrar to see if they offer SSL Certificates. If you're new to SSL, Google provides a detailed list of best practices.

> ### Free SSL Plugin Available
>
> Thanks to the Rock Community, there is an easier option available for configuring SSL. Check out the Acme Certificate plugin in the Rock Shop. This will walk you through getting and installing a free Lets Encrypt certificate - a much easier route for anyone who has never set up website encryption before.

> ### Encryption Best Practice
>
> You might be wondering where and when you should add your encryption for your website. Every secure website will have an HTTPS address on every page. The simplest way of doing this for each site within Rock is by encrypting at the Site Level. This is done by checking the box for every site at: `Admin Tools > CMS Configuration > Sites > Edit Site > Require Encryption`. The two Rock sites for which you should enable SSL are the internal RockRMS Site, and the external facing website. Even if you don't plan to use Rock for your main website, it's important to protect the information flowing between your server and those who are giving you their information. Users typing http:// addresses in their browsers to visit your pages will be redirected automatically to the secure https:// site when "Require Encryption" is checked.

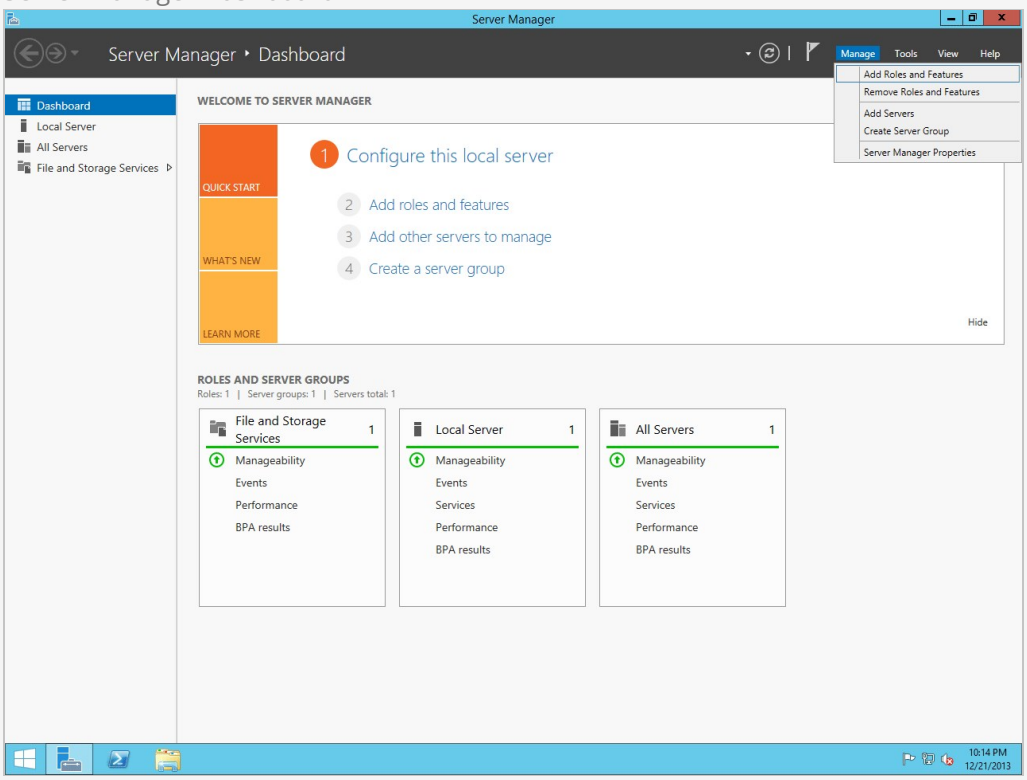
Now that we have these things covered, let's begin!

Installing Server Roles & Features

In this chapter, we'll install the required server roles and features needed for Rock.

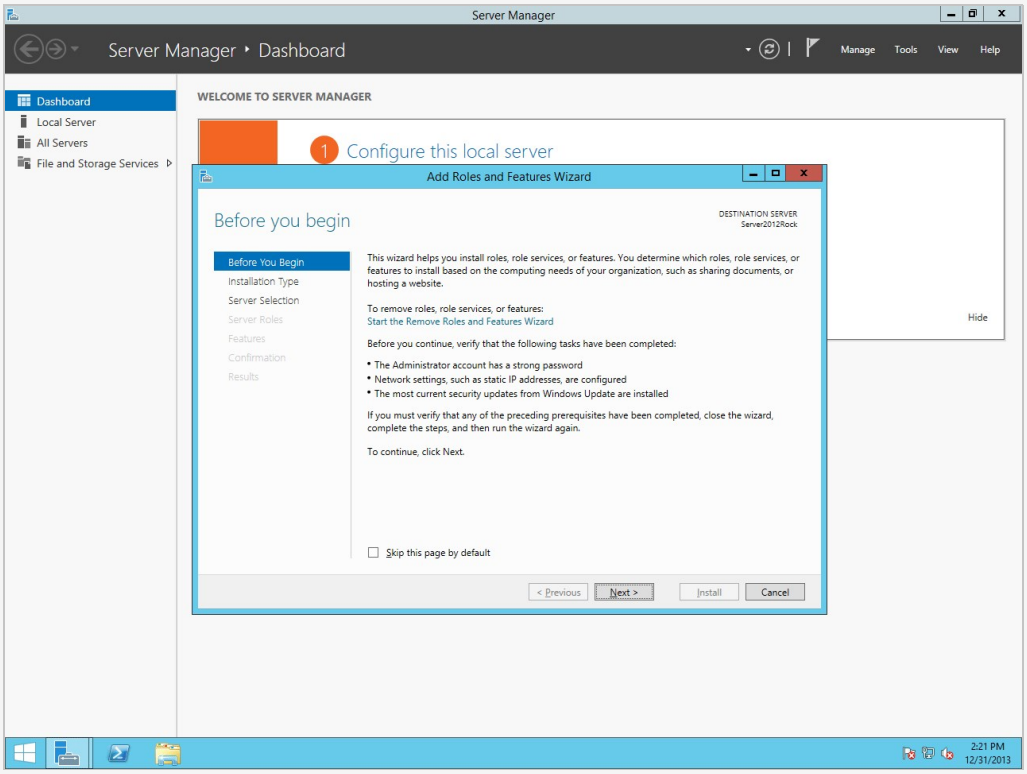
Let's open up `Start > Server Manager`. Once opened, the first thing we need to do is to install the Web Server role. That can be done by clicking on `Manage` and then `Add Roles and Features`.

Server Manager Dashboard



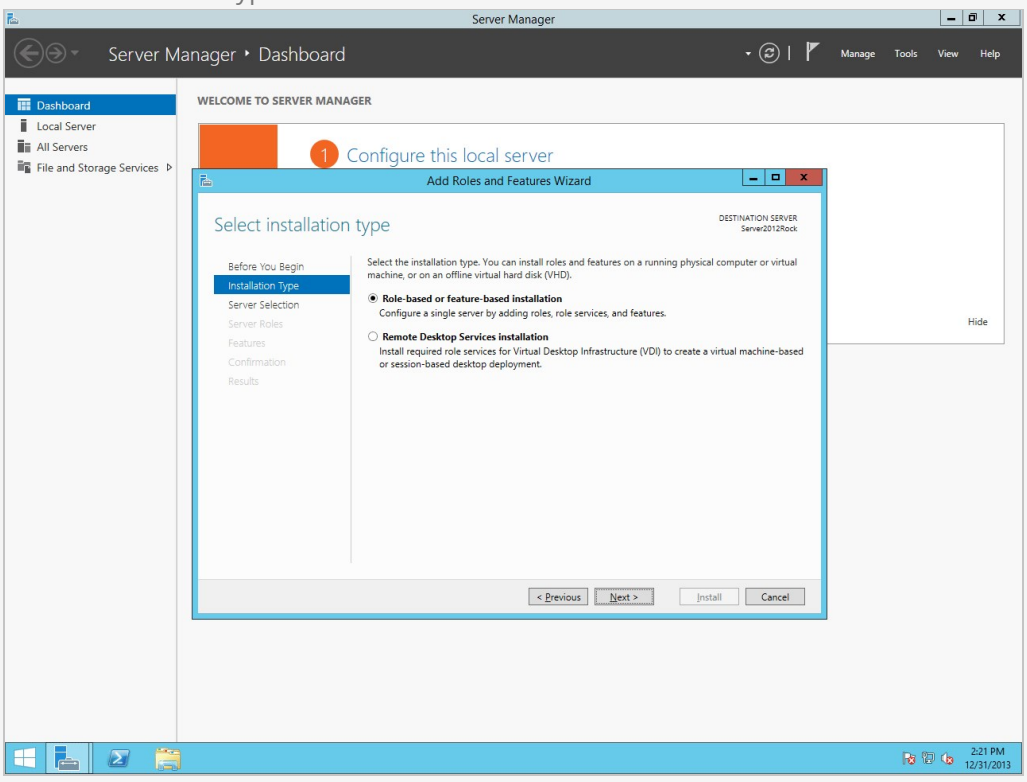
Click `Next`.

Add Roles and Features Wizard

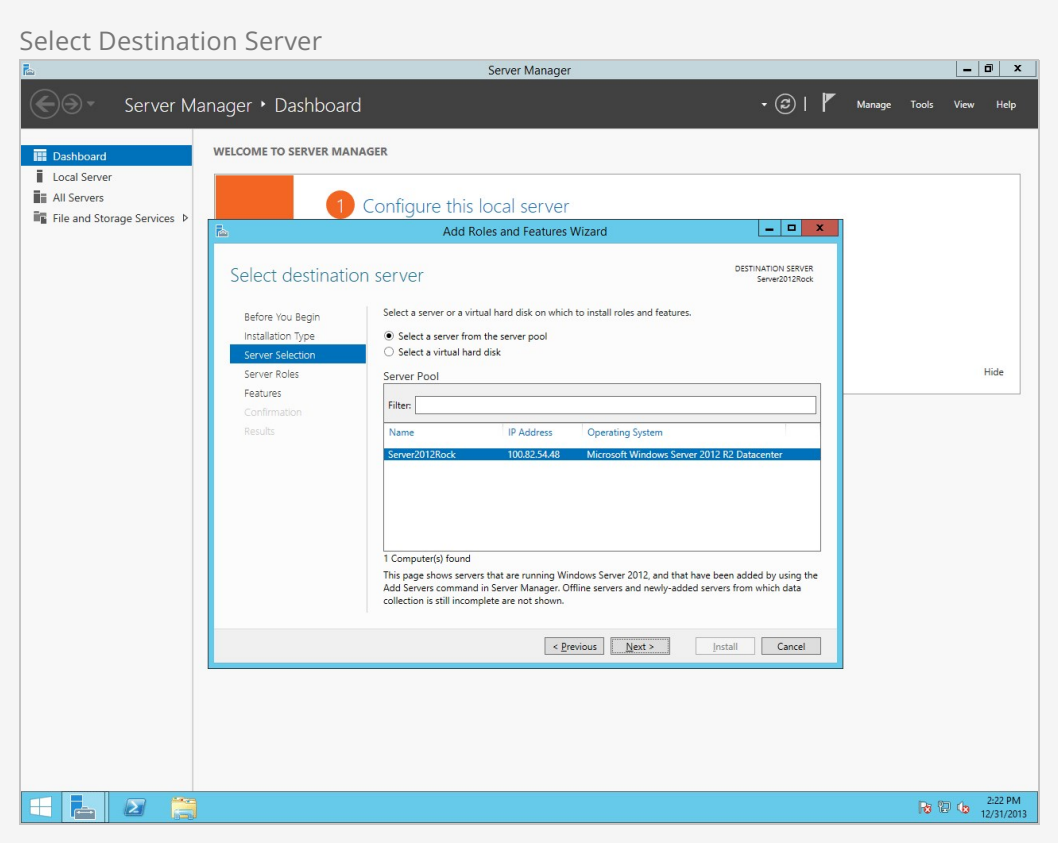


On the next screen, select `Role-based or feature-based installation`.

Select Installation Type

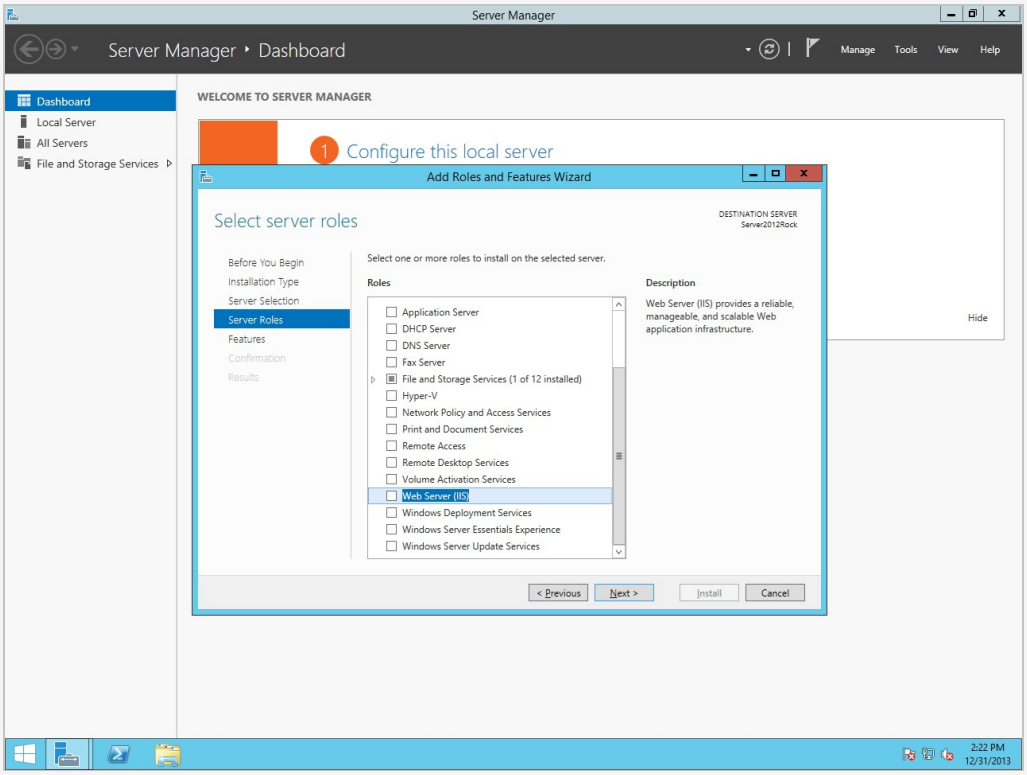


Choose `Select a server from the server pool` and then highlight your server from the list below. Click `Next`.



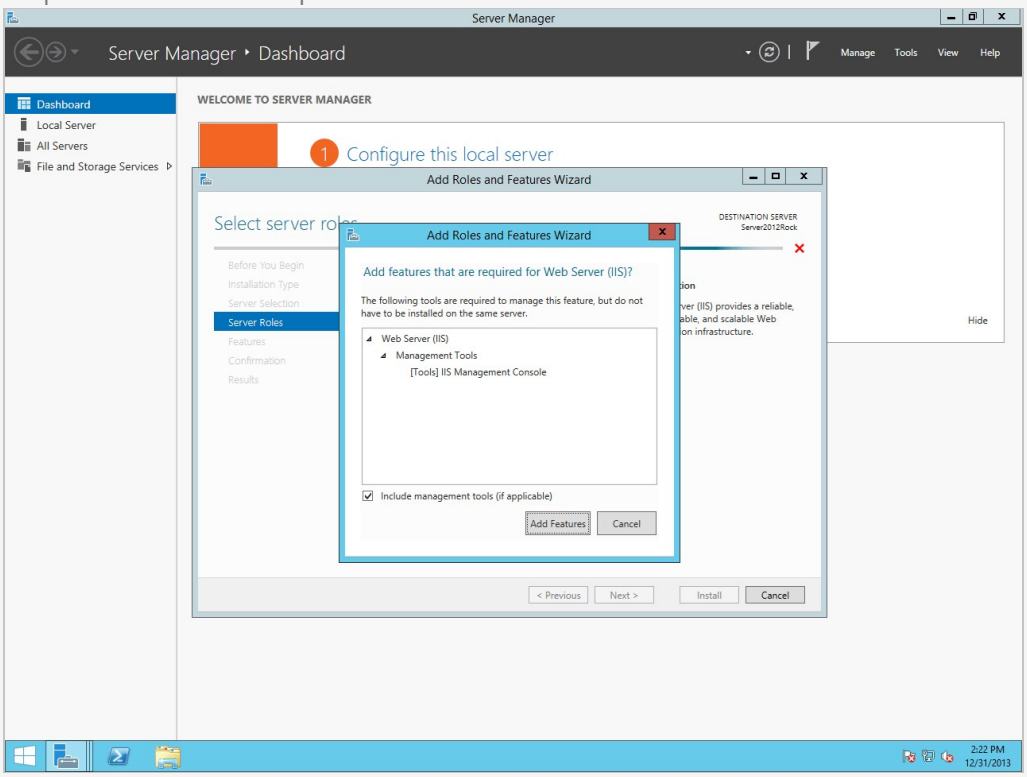
On the next screen, check the box for `Web Server (IIS)`.

Select Server Roles



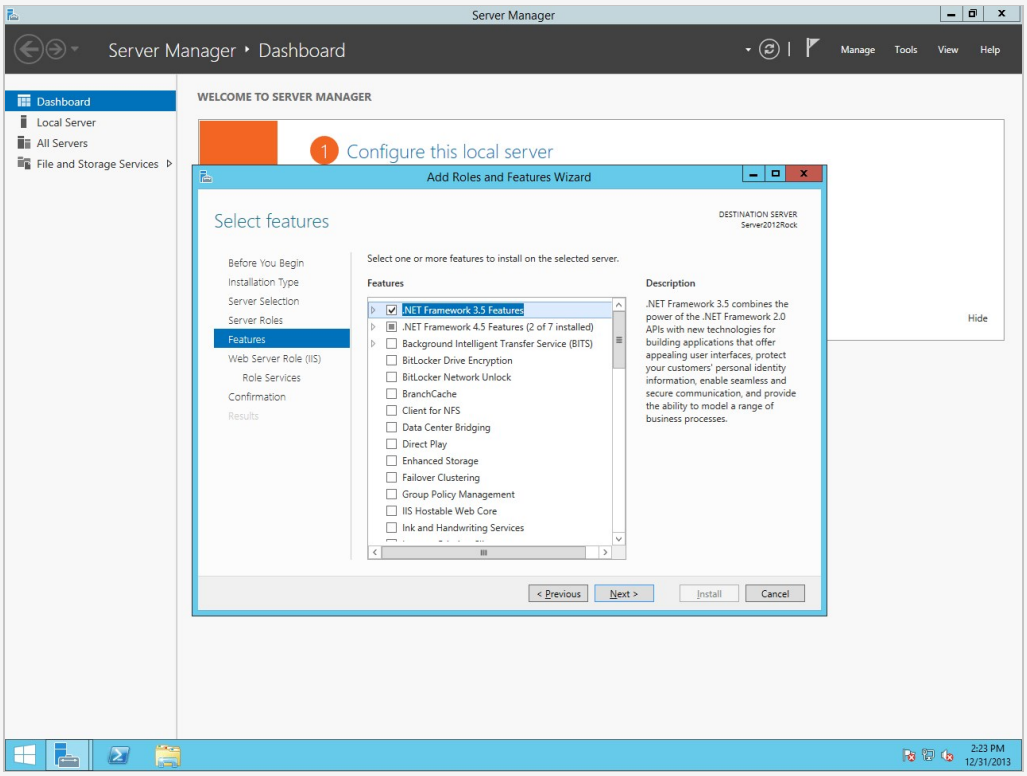
You will be prompted to add some required features for IIS. Click on `Add Features`. Then click `Next`.

Required Features Prompt



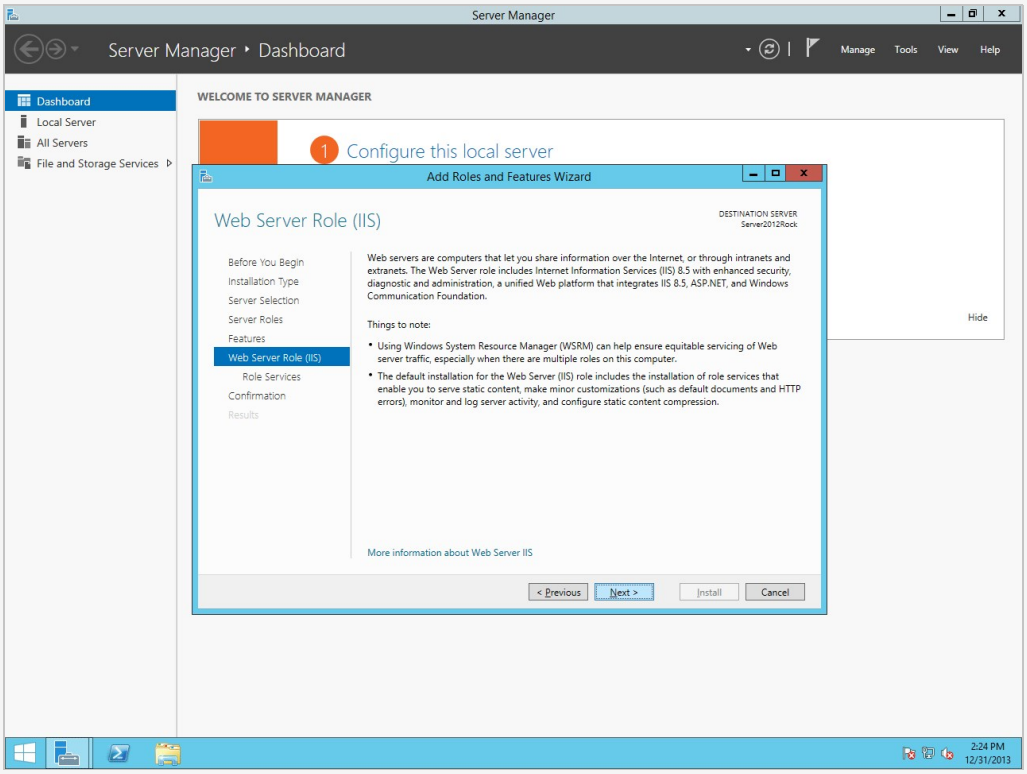
On the *Select Features* screen, add `.NET Framework 3.5 Features` and click `Next`.

Select Features



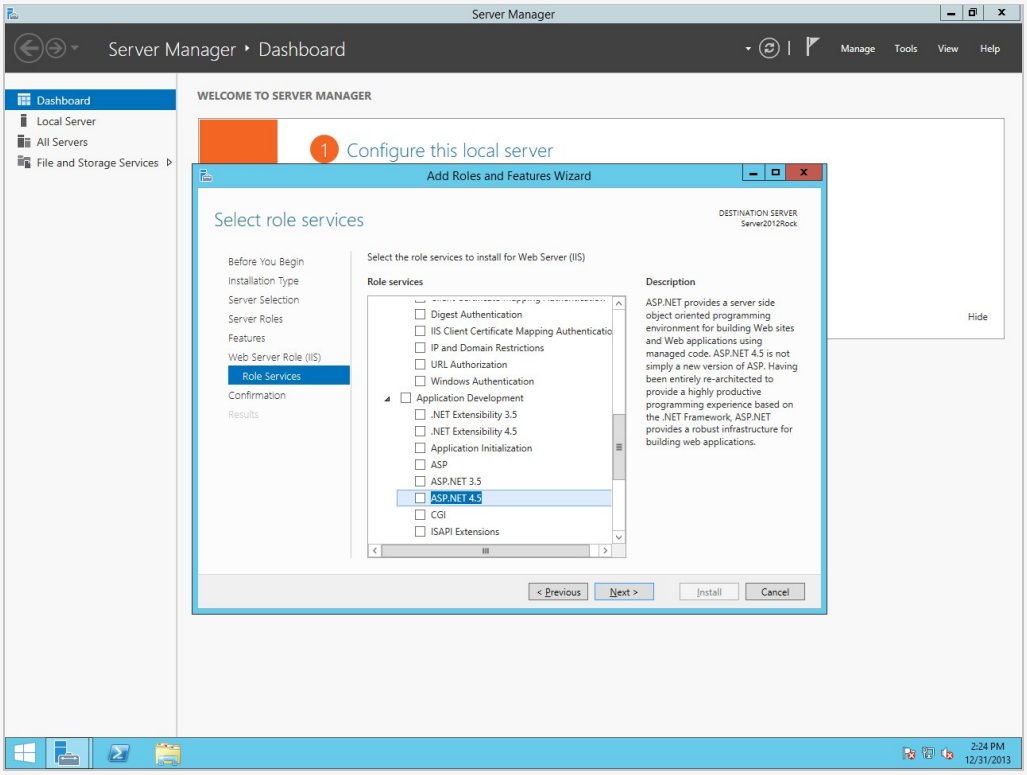
You will be presented with some information about the IIS feature. Click `Next`.

Web Server Role (IIS)



On the *Select Role Services* screen, scroll down to *Application Development* and check the box for *ASP.NET 4.5*.

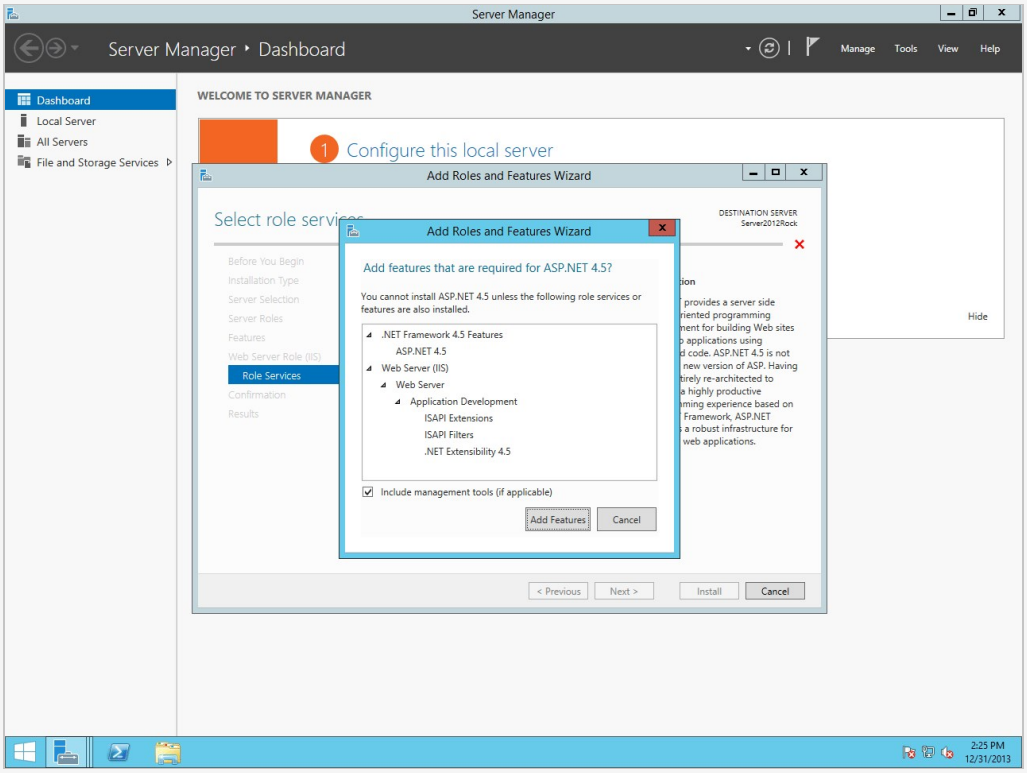
Select Role Services



> **Version information**
>
> Server 2016 has ASP.NET 4.6 instead, and the upcoming Server 2019 has ASP.NET 4.7 instead of ASP.NET 4.5. Don't worry about that difference; just check the box next to those versions instead and it'll work the same.

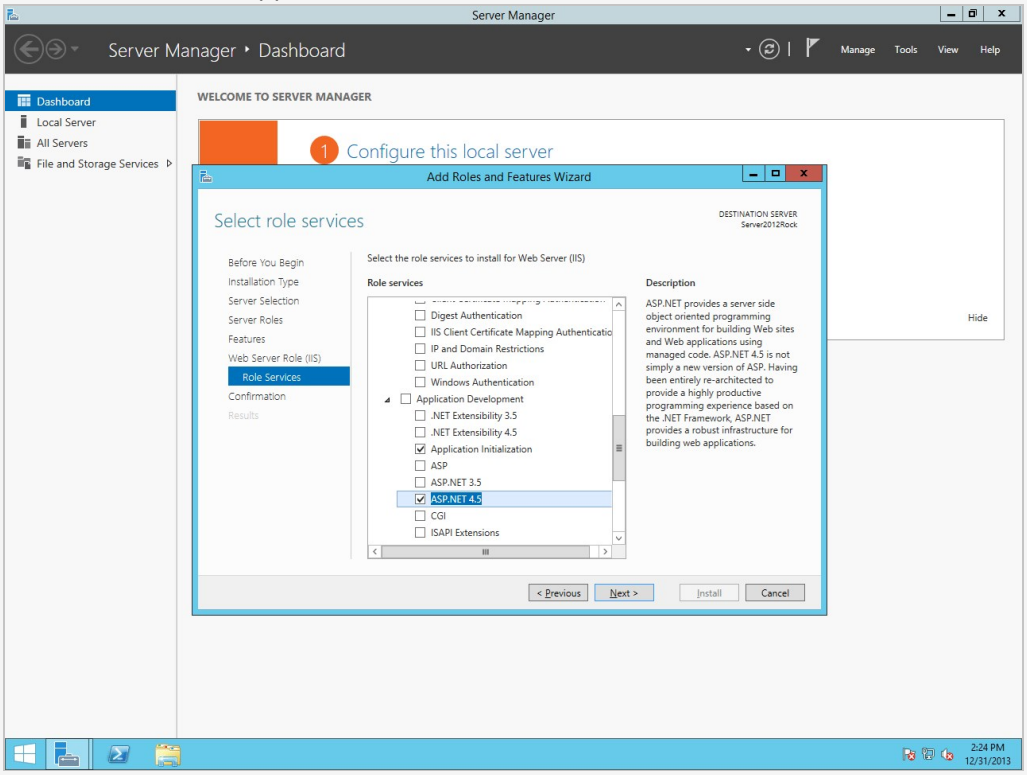
You will be prompted to add some required features for ASP.NET 4.5. Click on `Add Features`.

Required Features Prompt



Next, check the box labeled *Application Initialization*. Then click `Next`.

Install ASP.NET and Application Initialization

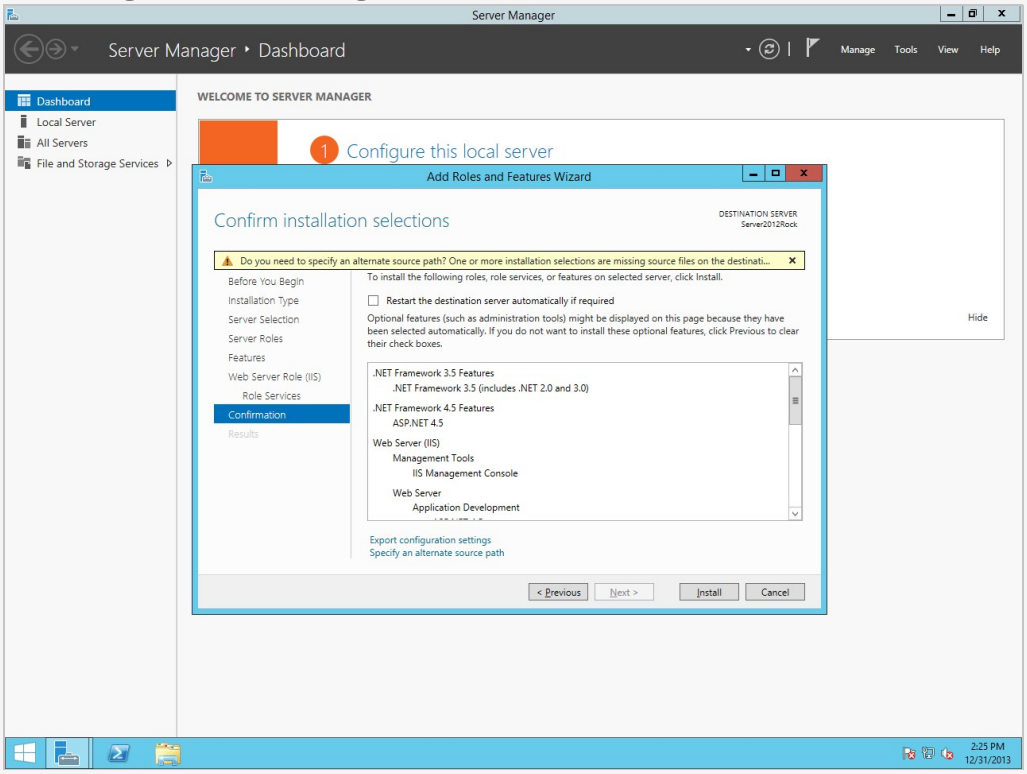


On the final screen, select `Restart the destination server automatically if required` and click `Install`.

Warning:

If this is a production server, you might not want to have the server automatically reboot.

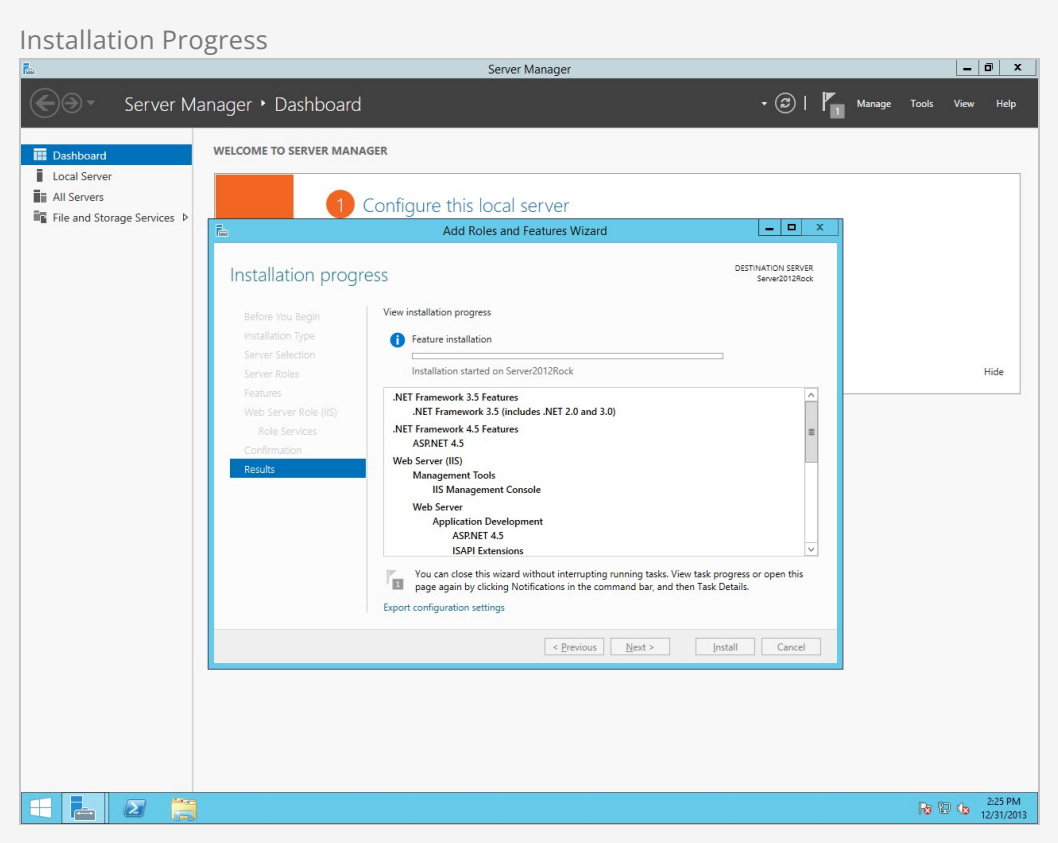
Confirming Installation Settings



Alternate Sources

If the installation gives you an error about sources not being available (as in the screenshot above), you can click `Specify an alternate source path` before beginning installation. Make sure that your installation disc (or image) is available, then type in the path to it's the "sources\sxs" directory. For instance, if the Windows Server installation DVD is inserted in your D:\ drive on the server, type `d:\sources\sxs` in the alternate source path dialogue and click OK.

Installation will begin.



Congratulations! The web server is now installed. Let's move on to configuring Internet Information Services.

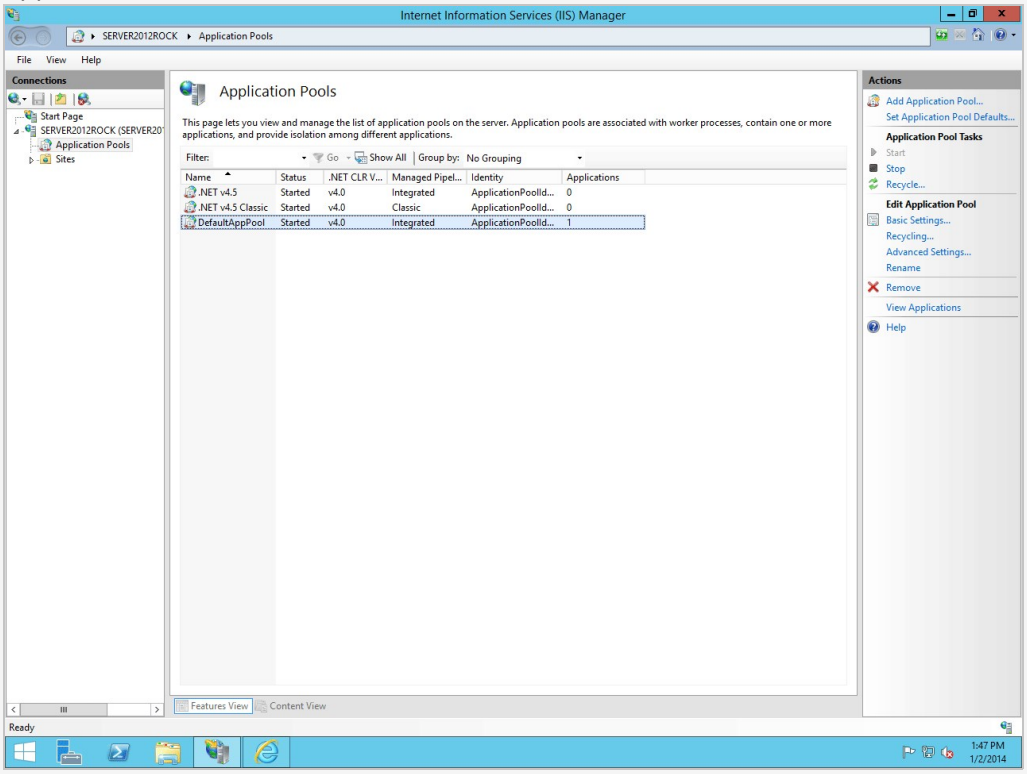
Configuring Internet Information Services (IIS)

Now we will configure Internet Information Services for Rock.

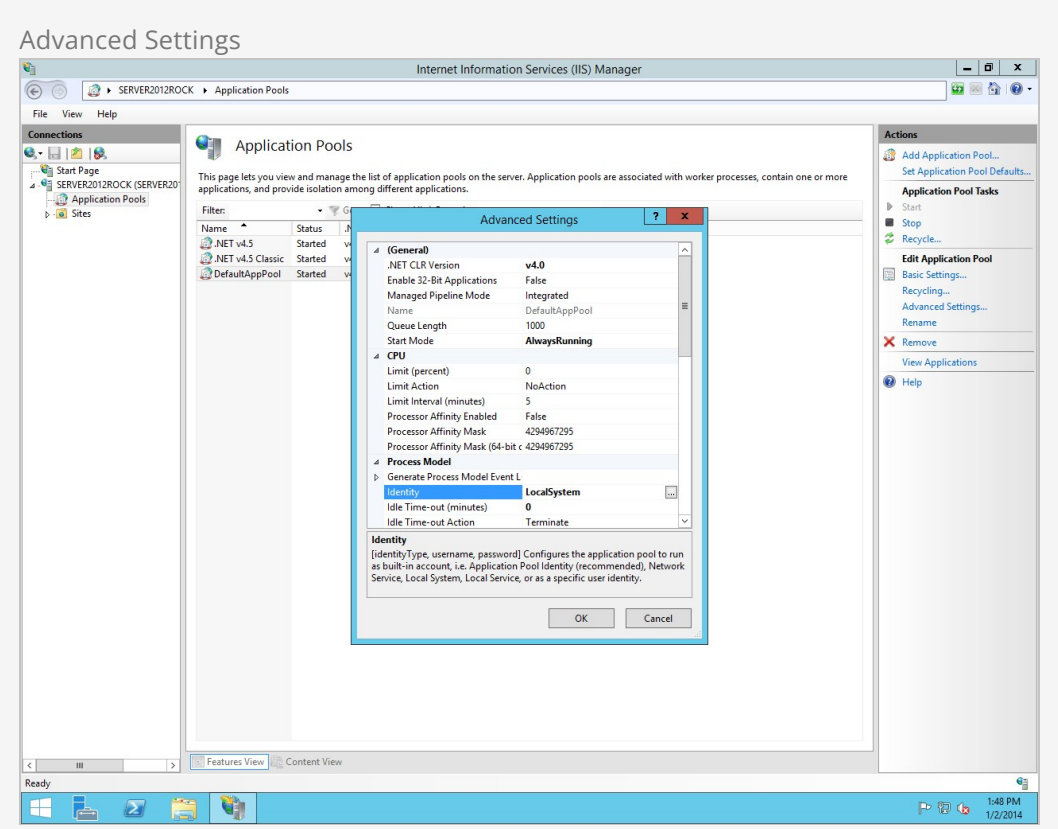
Configuring IIS

Open up the Internet Information Services Manager by clicking `Start > Administrative Tools > Internet Information Services (IIS) Manager`. Expand your server's node in the treeview on the left side, then click on *Application Pools*. Right click on `DefaultAppPool` and click on `Advanced Settings`.

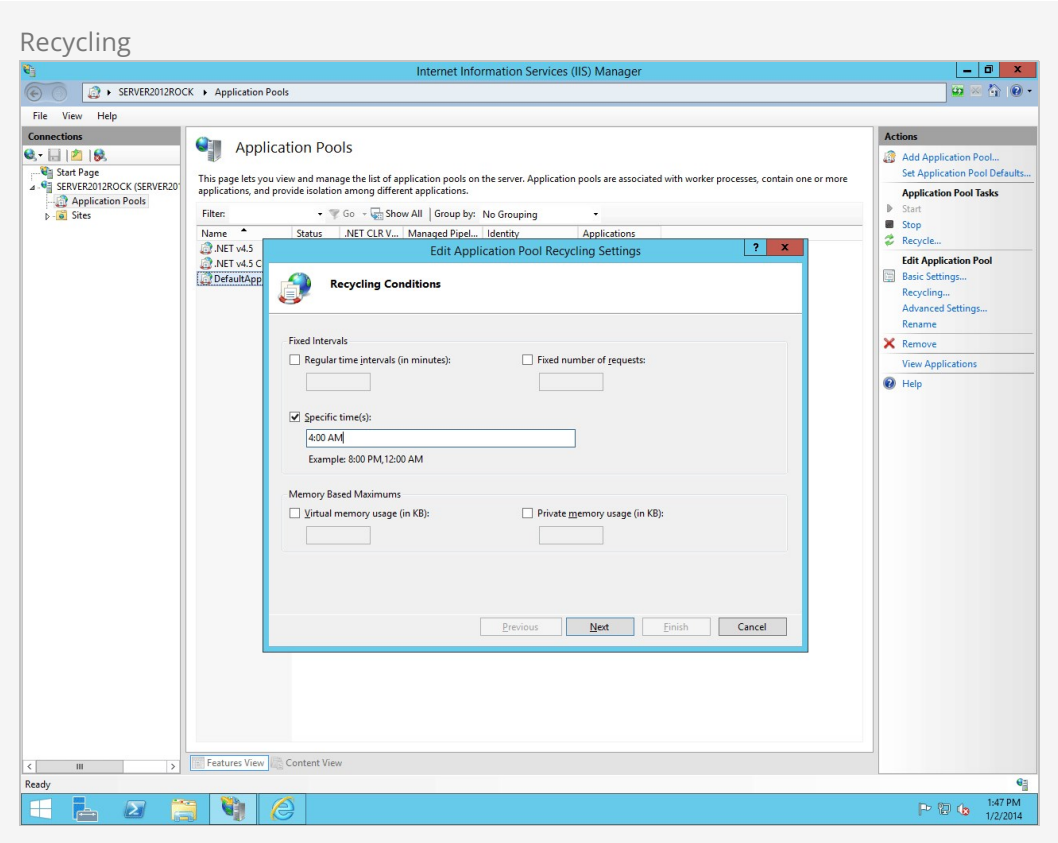
Application Pools



Change the *Application Pools*.NET Framework Version to v4.0 (if it's not already) and change the Start Mode to *Always Running*. Then change *Identity* setting to `LocalSystem` and change *Idle Time-out (minutes)* to *0*. Then click `OK`.

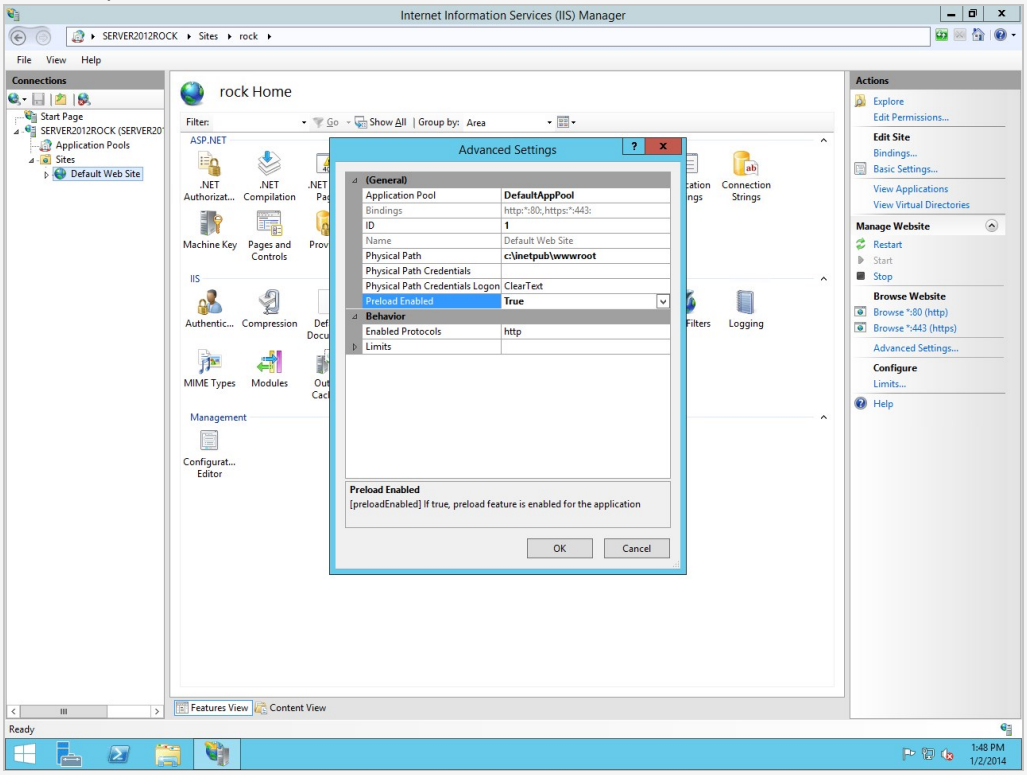


Now right-click on *DefaultAppPool* and click on *Recycling*. Un-check `Regular Time Intervals` and instead provide a convenient time for Rock to restart each day (such as 4:00am) in the *Specific Time(s)* option. Click `next` and then click `Finish`.



Finally, expand *Sites* (below Application Pools on the left side) and right-click *Default Web Site*. Choose *Manage Website -> Advanced Settings*. Change *Preload Enabled* to True and click `OK`.

Turn on preload



That was easy! Now let's move on and set up our database.

Installing & Configuring SQL Server

In this chapter we will walk through installing SQL Server. If your organization doesn't have a SQL Server license, no worries. Rock works great with Microsoft's free version of SQL, SQL Server Express. Please note that SQL Server Express will work best with fewer than 20,000 records. If you are working with more than 20,000 records, your best option would be SQL Server Web or Standard edition.

> ### Installing SQL Server 2016
>
> The installation steps for SQL Server 2016 are an almost exact match to those pictured below for 2012. Note that we are ending support for SQL Server 2012 in Rock version 11.0.

Getting SQL Server Express

To download SQL Server Express, Click Here.

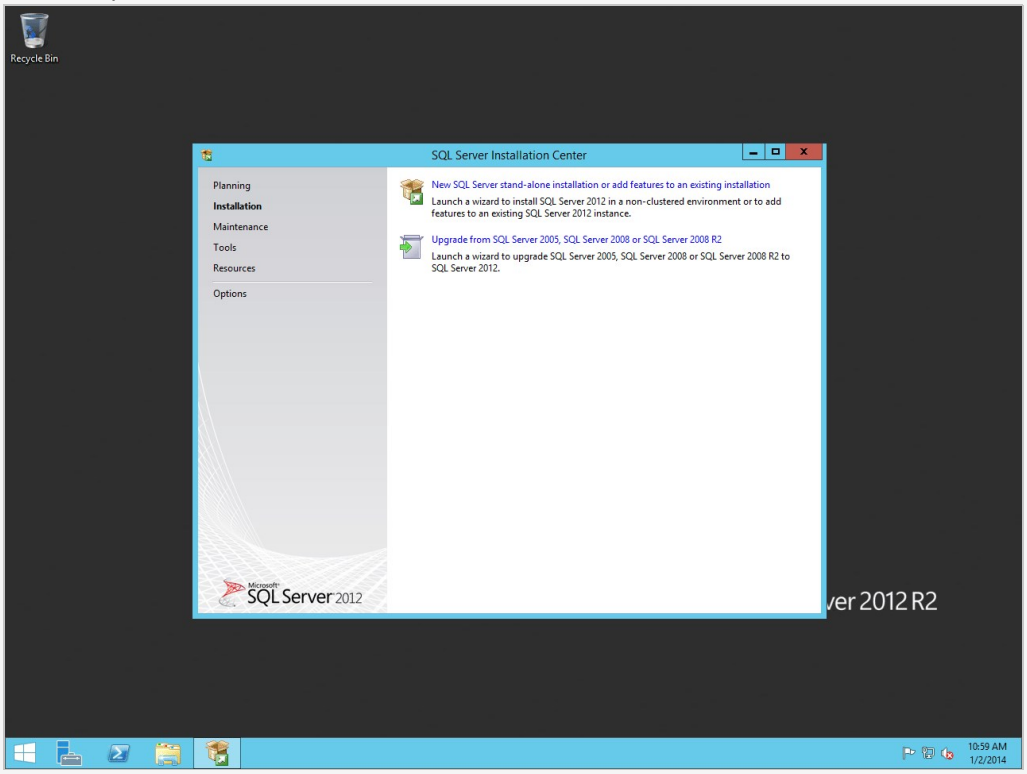
Some versions of SQL Server Express come in different editions. The version we recommend is the 64-bit version of SQL Server Express. Once you have SQL Server downloaded, let's move on to the next section.

Installing SQL Server

In this section, we will be installing SQL Server onto our Rock server. Let's begin.

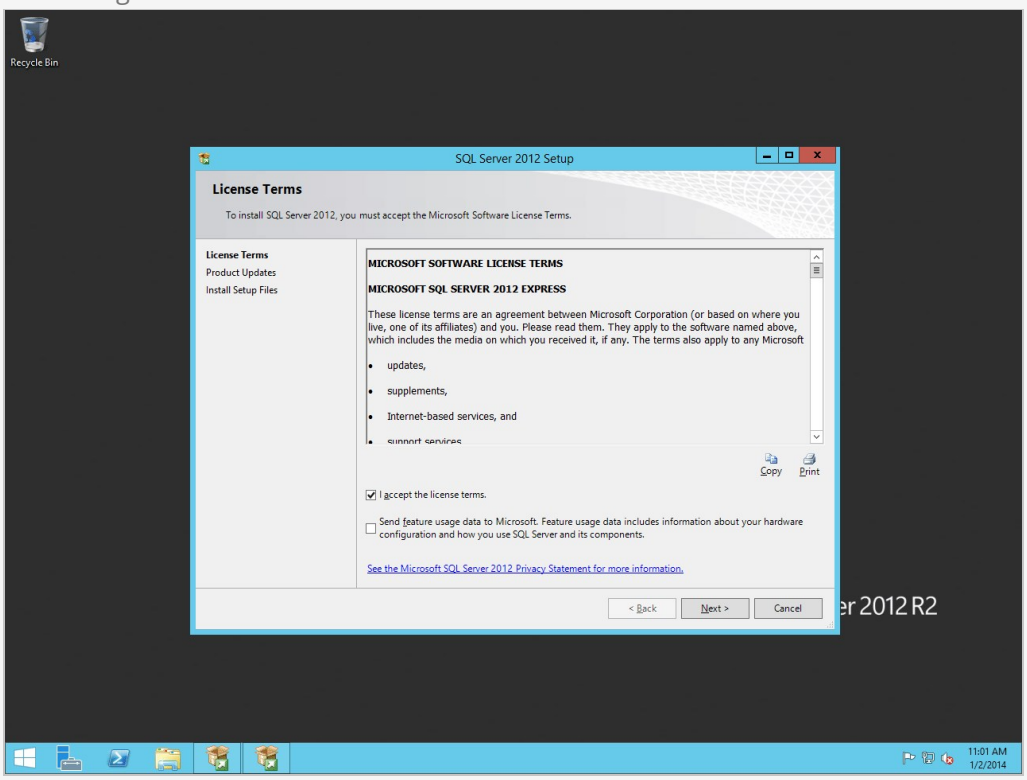
Start the SQL Server installer and on the first screen click on `New SQL Server stand-alone installation or add features to an existing installation`.

SQL Setup



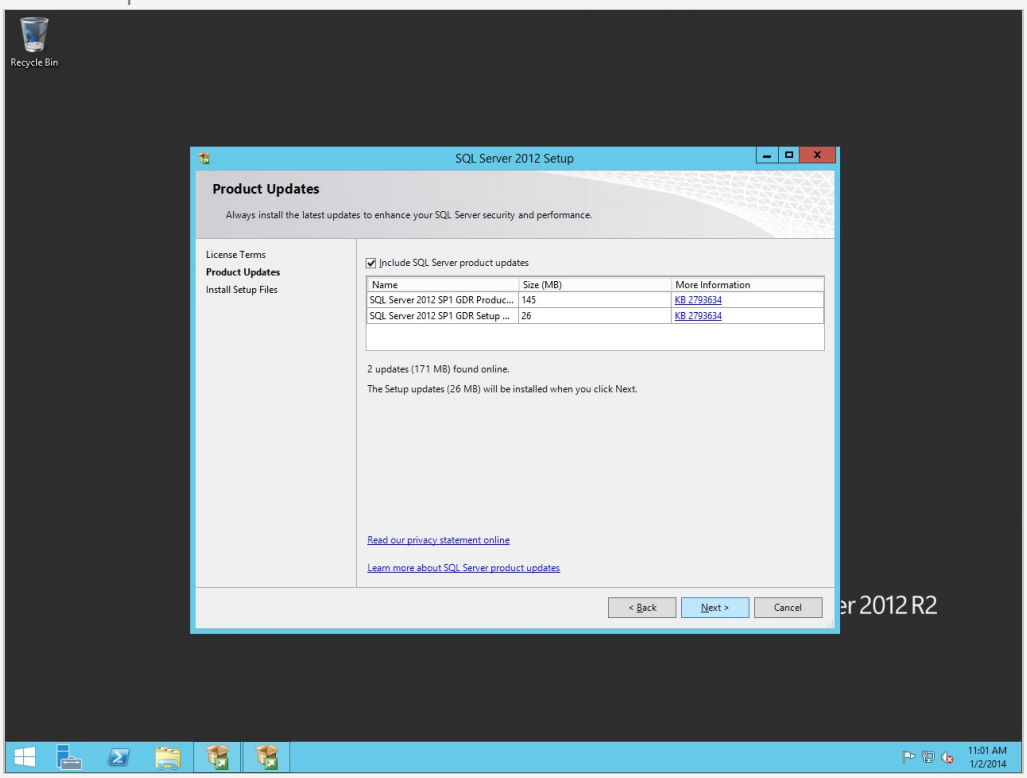
On the next screen, agree to the license agreement and then click `Next`.

License Agreement



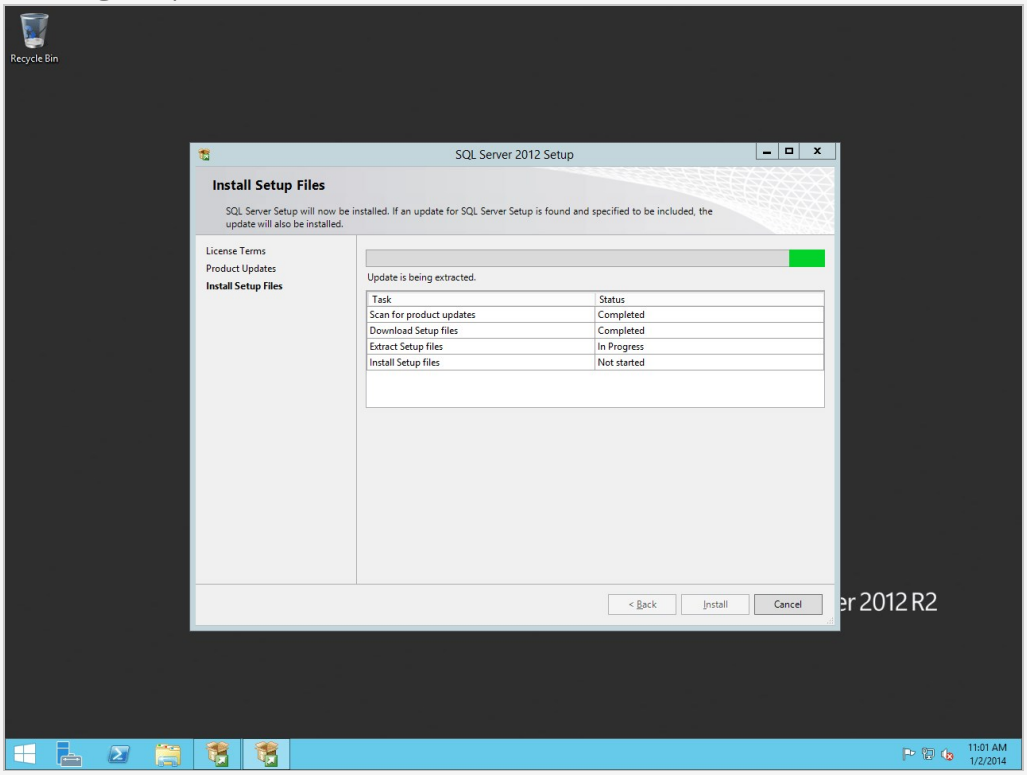
Keep the *Include SQL Server Product Updates* checkbox checked and click `Next`.

Product Updates



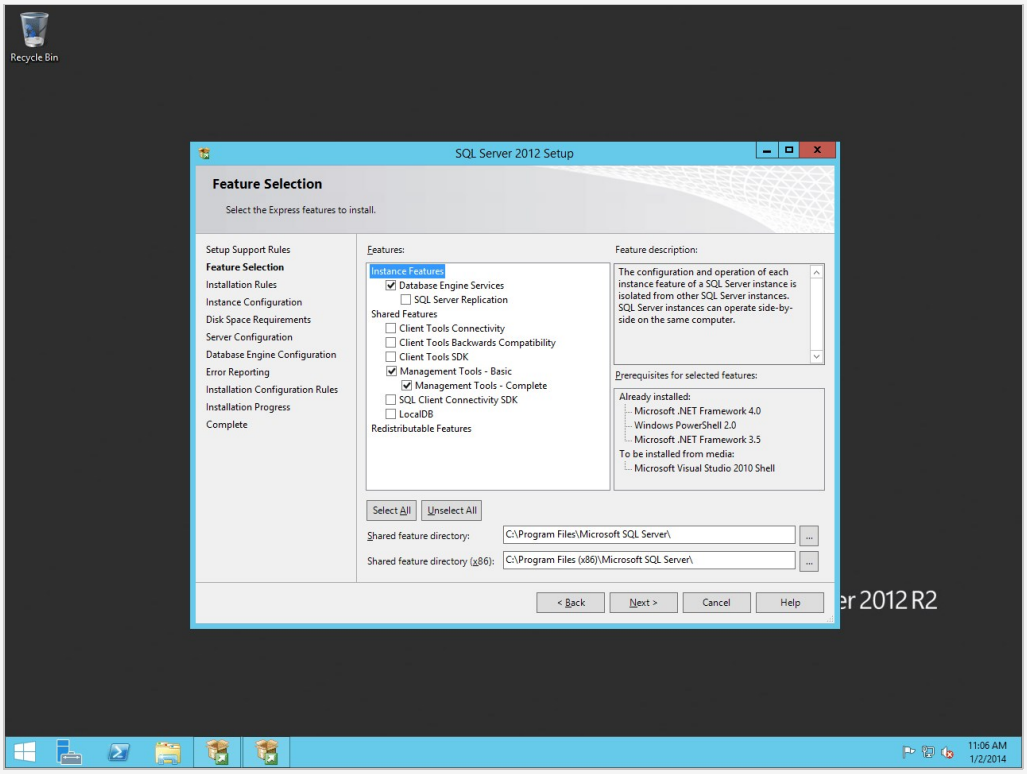
Next, the SQL installer will prepare to set up.

Installing Setup Files



On the *Feature Selection* screen, we recommend using the settings shown in Figure 4.8. These are the minimum required settings needed for Rock. Click `Next` to continue.

Feature Selection

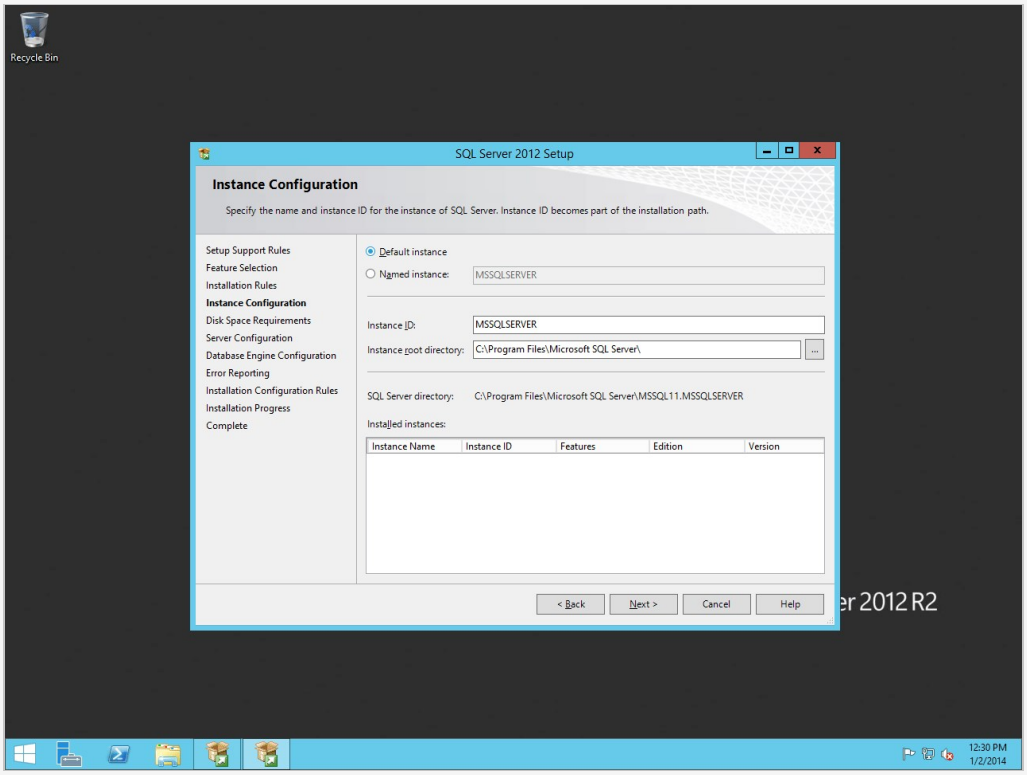


On the *Instance Configuration* screen, click on the `Default Instance` button. Click `Next`.

Warning

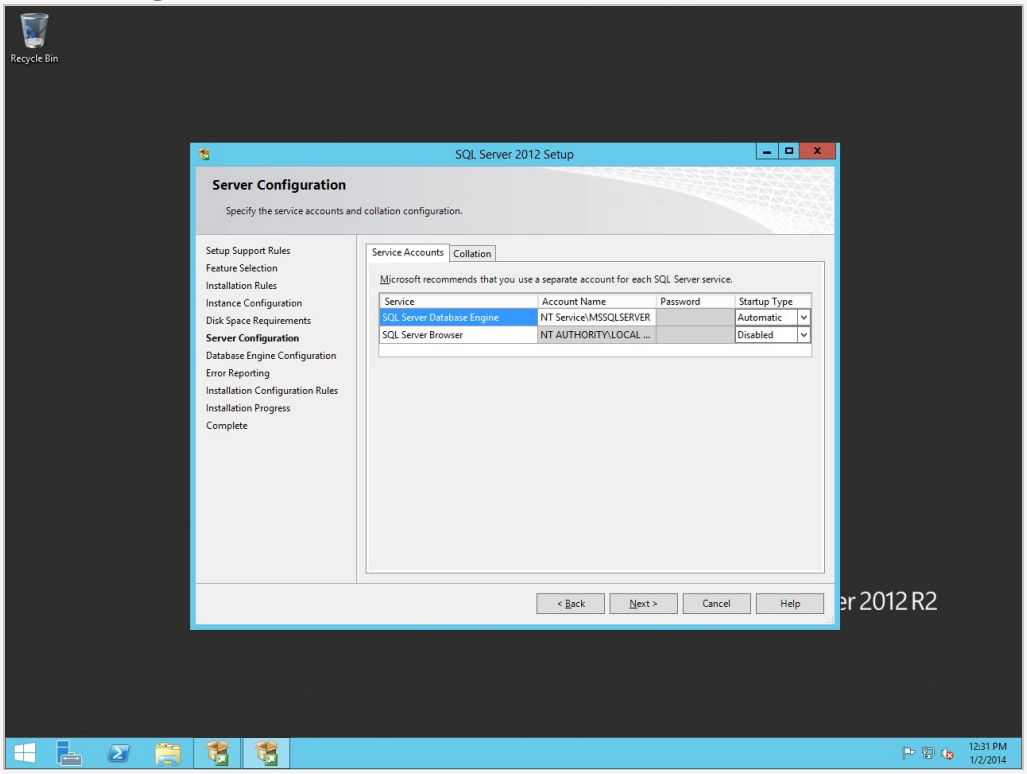
Be sure to use *Default Instance* if you are unfamiliar with SQL Server. This will simplify our Rock setup. We only recommend using *Named Instances* if you are familiar with them.

Instance Configuration



Leave the default settings on the *Server Configuration* screen and click `Next`.

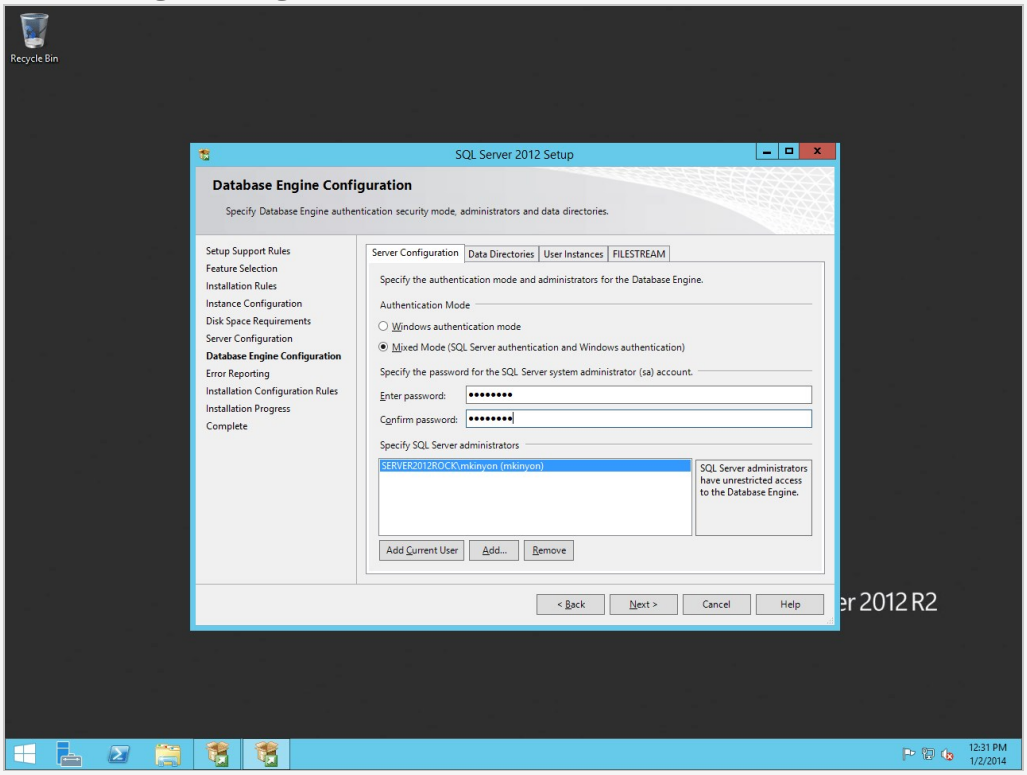
Server Configuration



On the *Database Engine Configuration* screen, set the *Authentication Mode* to `Mixed Mode` and set a password for SQL Server. Click `Next`.

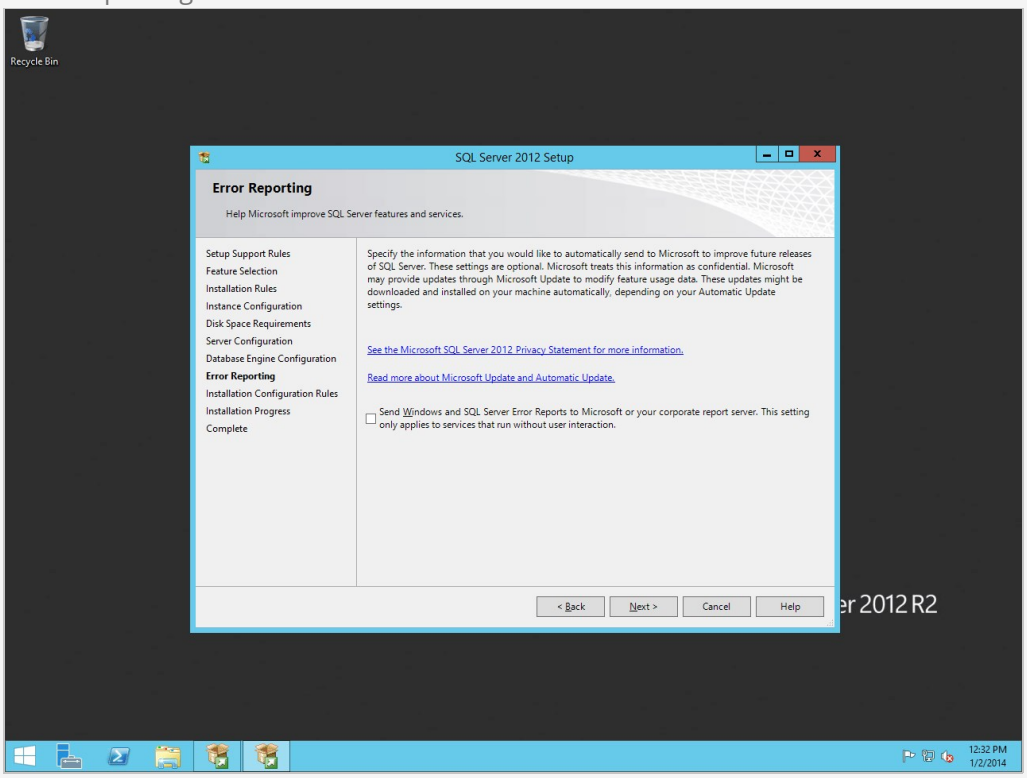
> Note:
> Keep this password handy since it will be needed later to set up the Rock RMS database. But remember to keep this password secure, and only share it with those who truly need it.

Database Engine Configuration



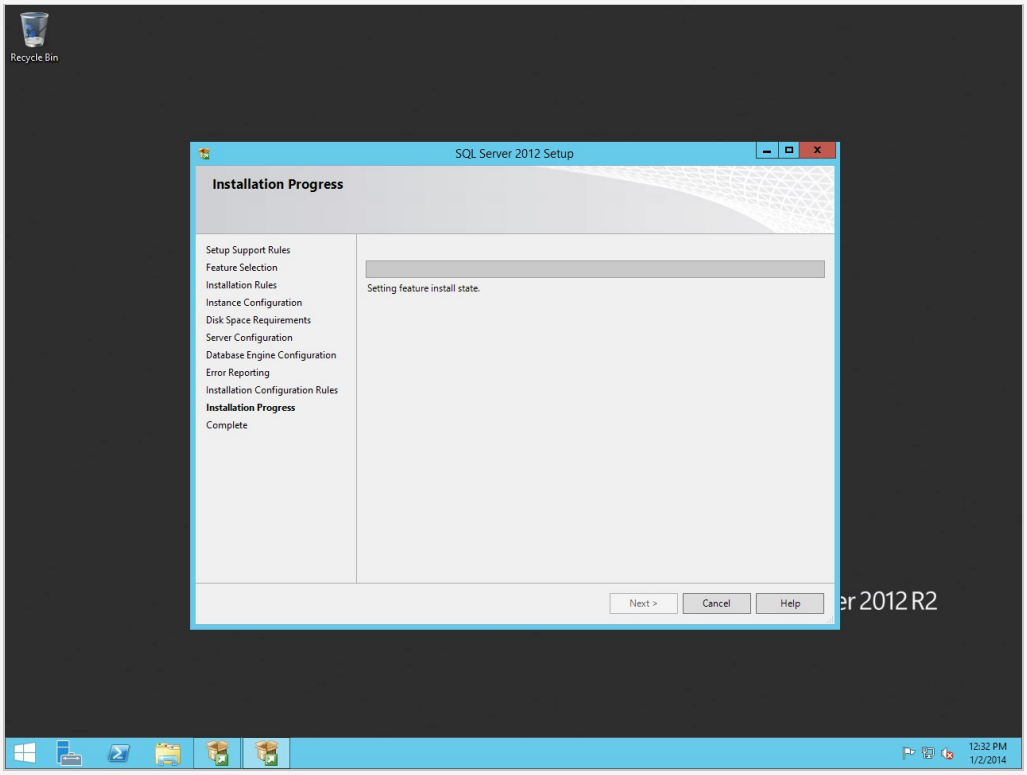
Skip past the *Error Reporting* unless you would like to send Microsoft error reports. Click `Next`.

Error Reporting



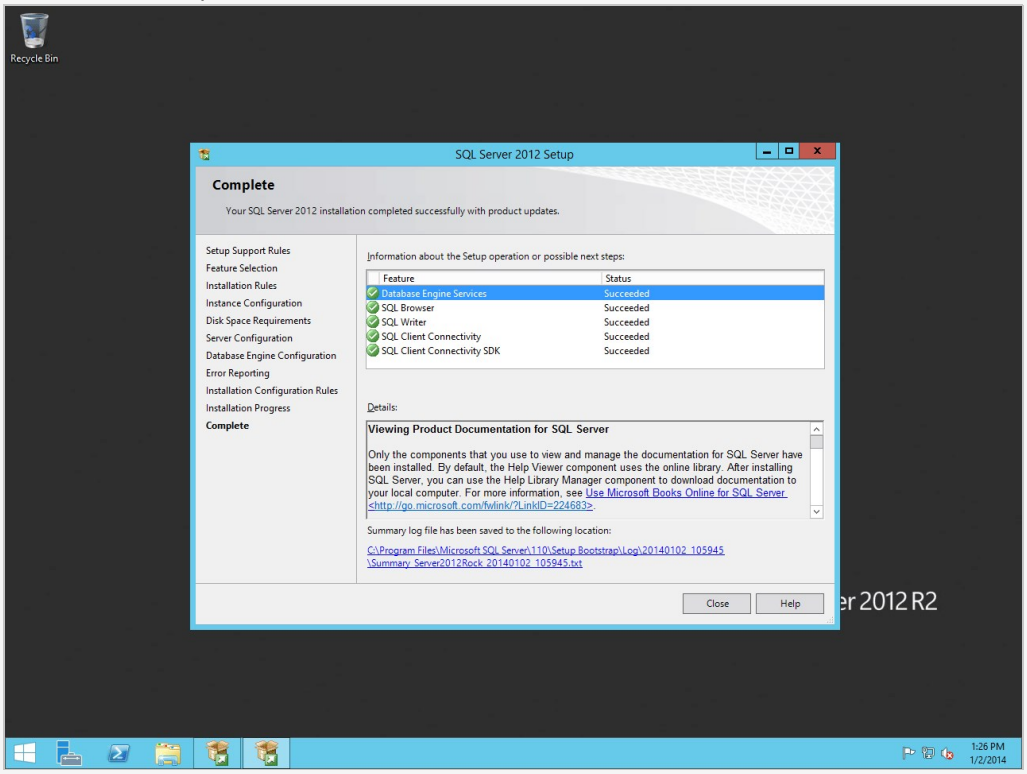
Installation will begin, so hold tight.

SQL Server Installing



Once it's complete with the installation, you can close the installer.

Installation Complete



Now, the *SQL Server Installation Center* (the first screen of the installer) should still be open on your desktop. Whereas you clicked the first option last time, now we need to click *Install SQL Server Management Tools*. This will launch the web browser, pointed to the SSMS Download page. You need to download *SQL Server Management Studio*, not just the upgrade package. Download and then run this package. (You can close the Installation Center window now). There aren't many options in the installation of this package- just accept the license and let the installer run.

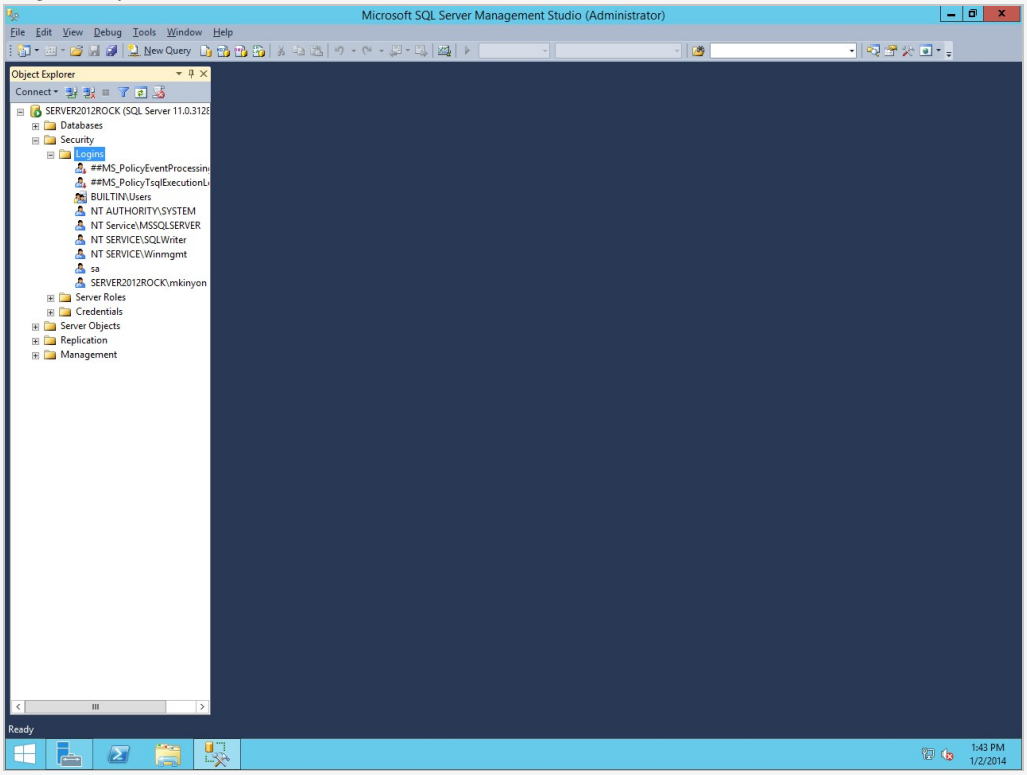
Configuring SQL Server

In this section, we will be setting up a user account for Rock to use to access the SQL Server. To begin, let's open the SQL Server Management Studio. Change the `Windows Authentication` option to `SQL Server Authentication` and log in using the password we created during the SQL Server installation.

> **Note:**
> By default, the admin username for SQL is “sa”. Use that username when logging in for the first time.

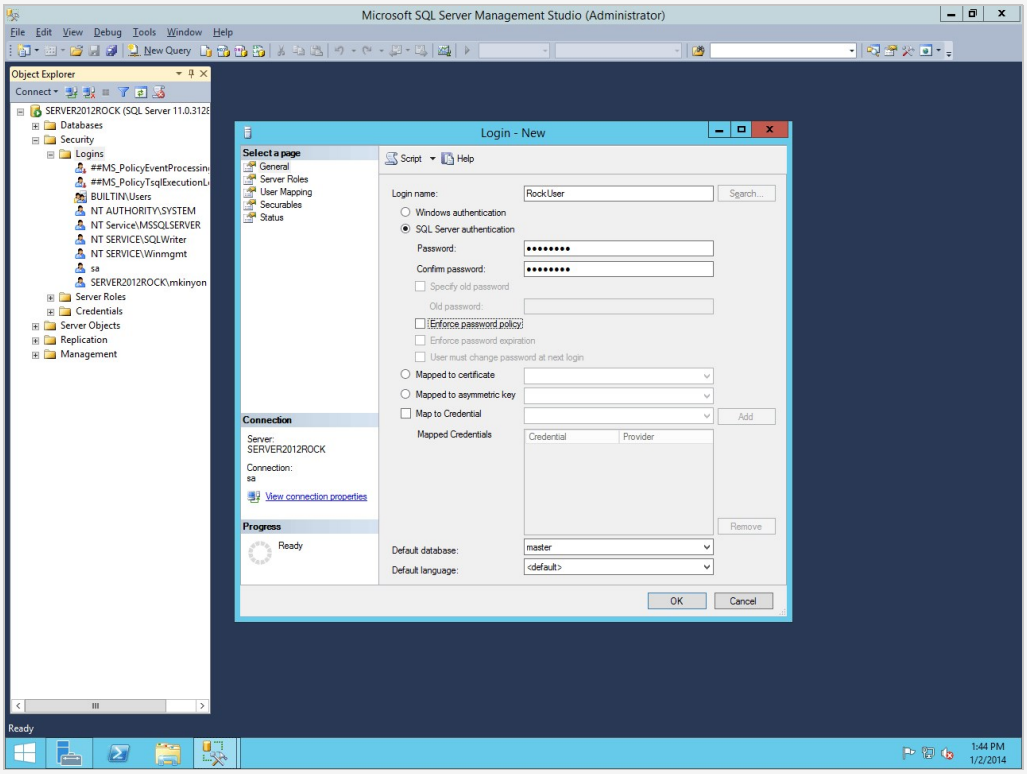
On the Object Explorer, expand the *Security* folder and right click on Logins and click on `New Login`.

Object Explorer



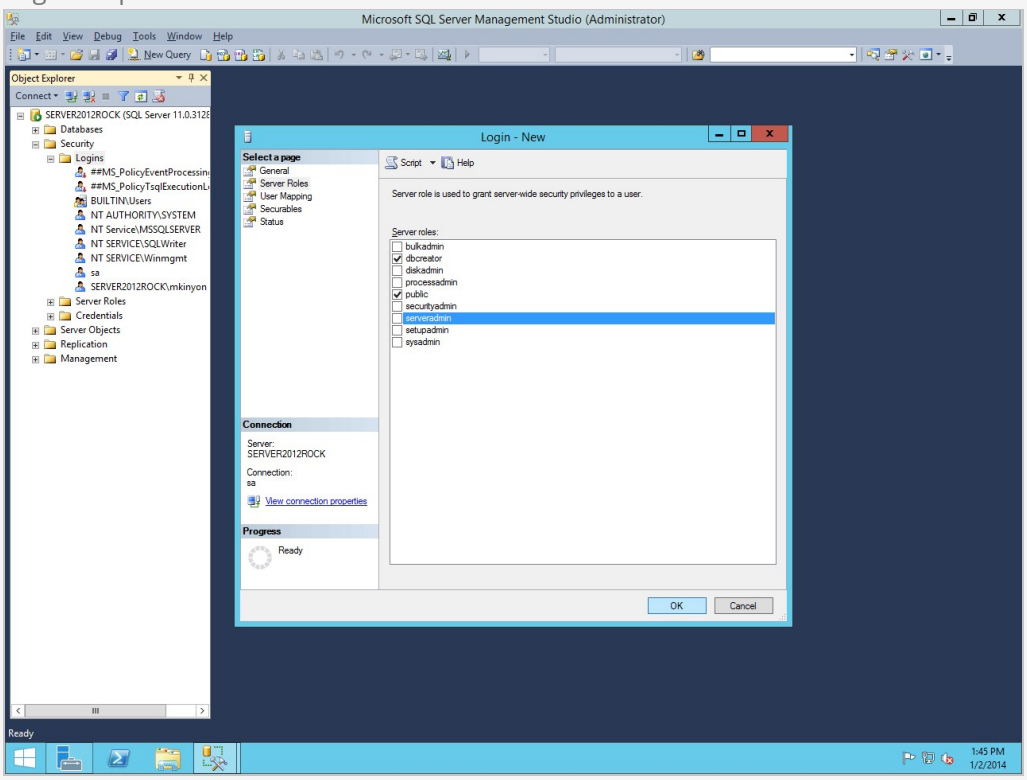
Create a user called RockUser (or another username if you prefer), set the `Authentication Type` to `SQL Server authentication`, and create a password. Be sure to keep this password secured and only share it with those who truly need it. Also, uncheck the *Enforce password policy setting* for this account.

New User Window



Next, click on *Server Roles*. Check the `dbcreator` role. Then click `OK`.

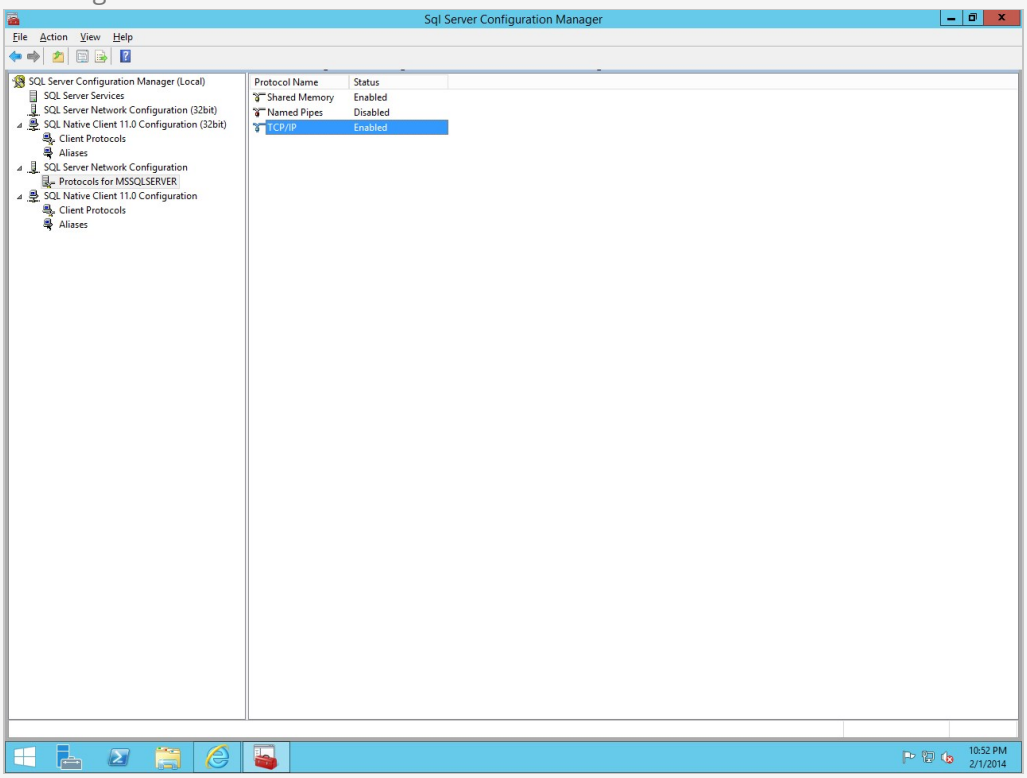
Login Properties



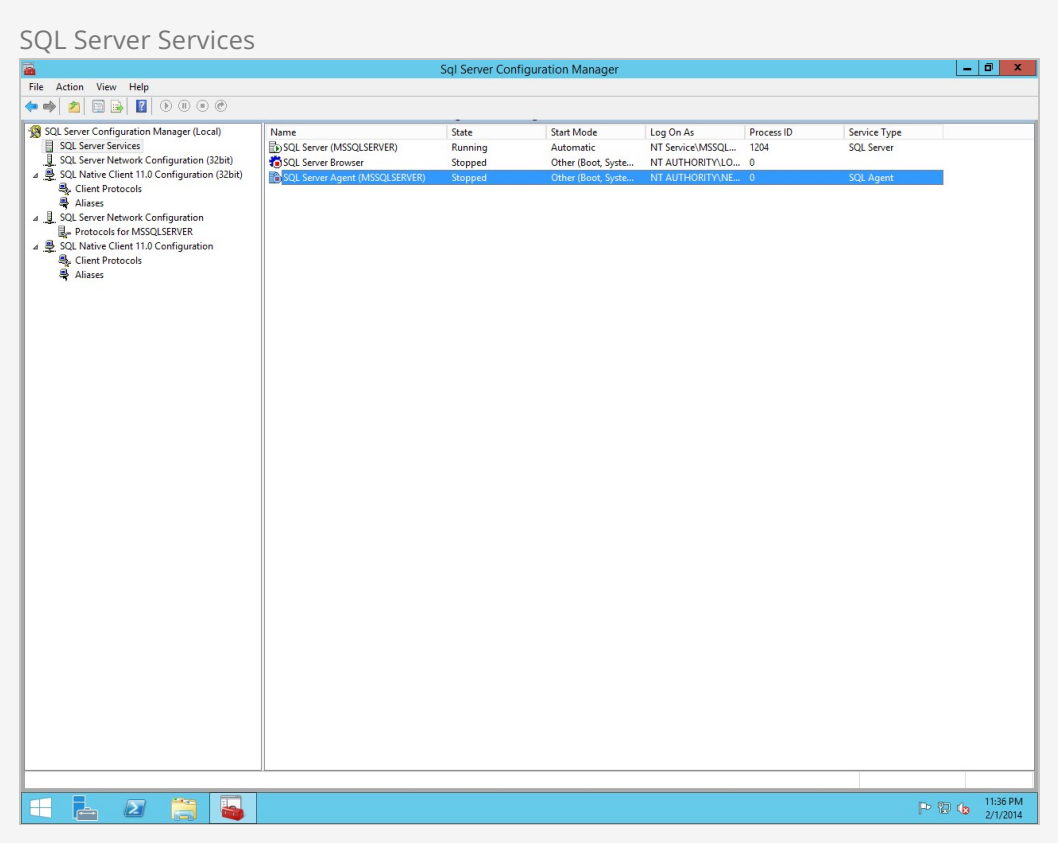
Now let's open up *SQL Server Configuration Manager*. Expand the *SQL Server Network Configuration* item and click on *Protocols for MSSQLSERVER*. Right click on *TCP/IP* and click on `Enable`.

> ### Opening the SQL Manager
>
> You can run the *SQL Server Configuration Manager* by navigating to Start > Microsoft SQL Server yyyy > SQL Server yyyy Configuration Manager, or by navigating to Start > Run. Refer to the SQL Server Configuration for instructions for your file name depending on your version of SQL Server.

Enabling TCP/IP

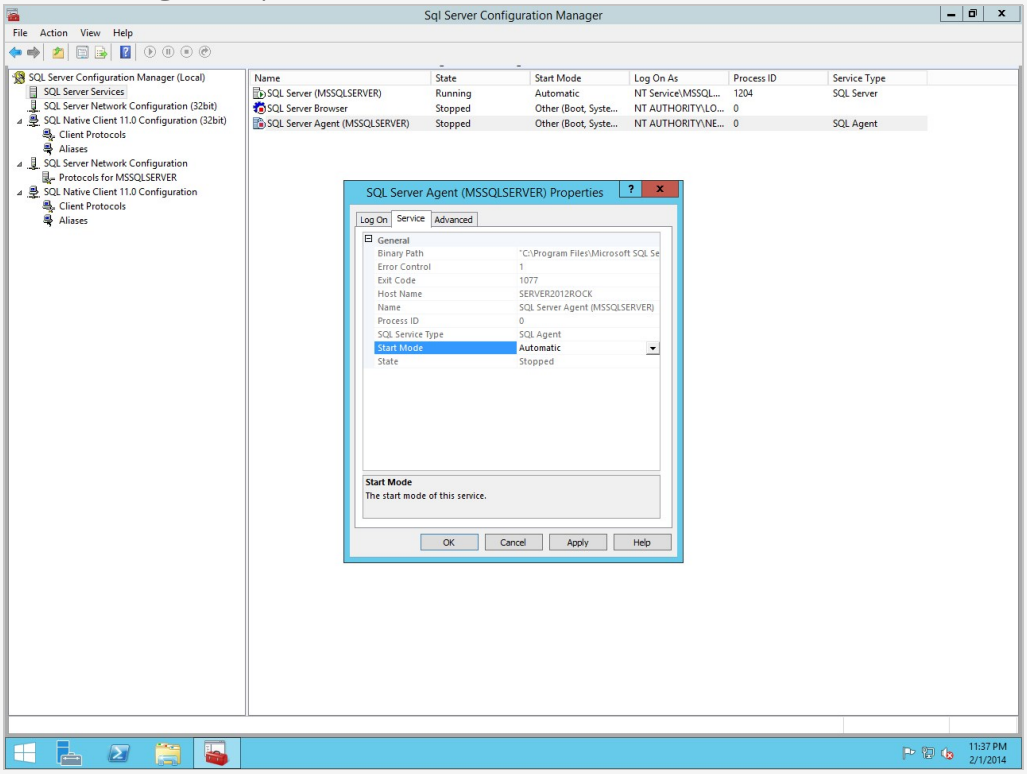


Next, click on *SQL Server Services* and then right click on `SQL Server Agent (MSSQLSERVER)` and click on `Properties`.



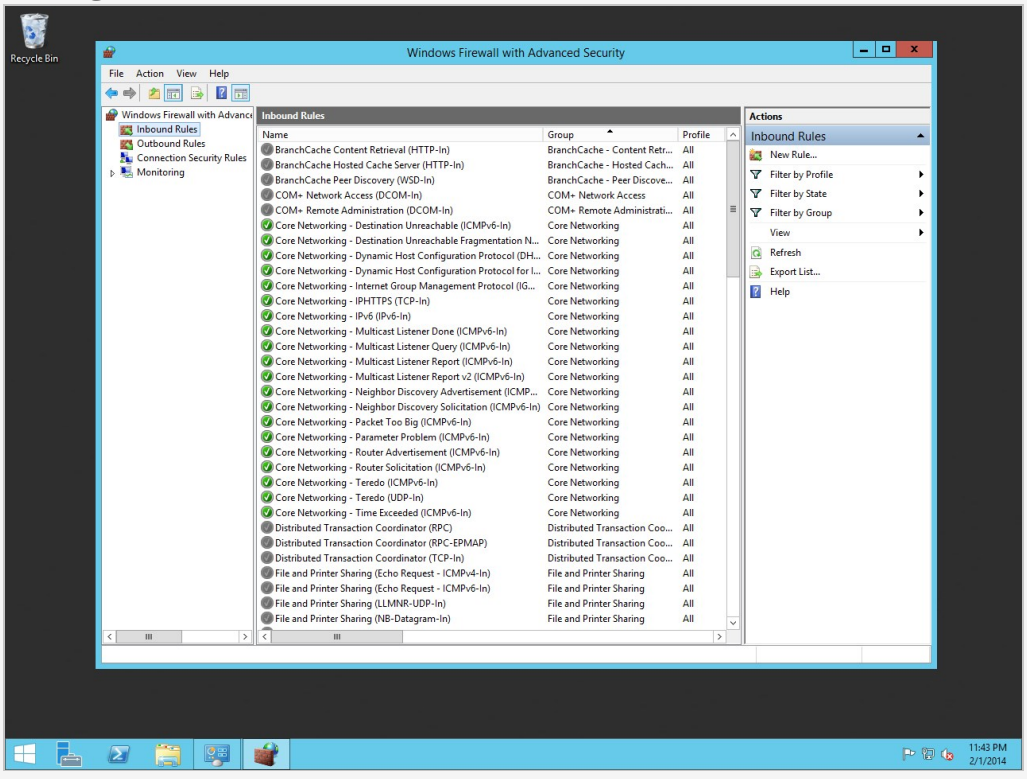
Set the start mode to *Automatic* and click on `Apply`. Now, since our earlier changes warned us that we'd need to restart the service to take effect, you should right-click the SQL Server service and choose "Restart".

SQL Server Agent Properties



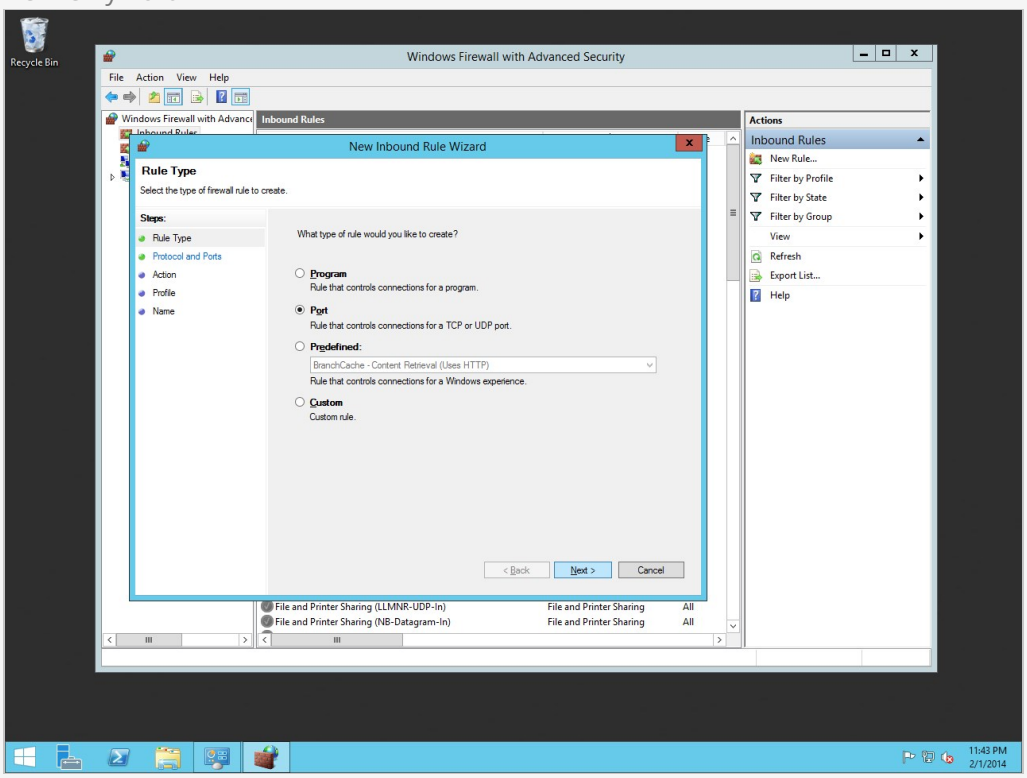
Next, let's open up *Firewall with Advanced Security*. Right click on `Inbound Rules` and click `New Rule`.

Creating a New Rule



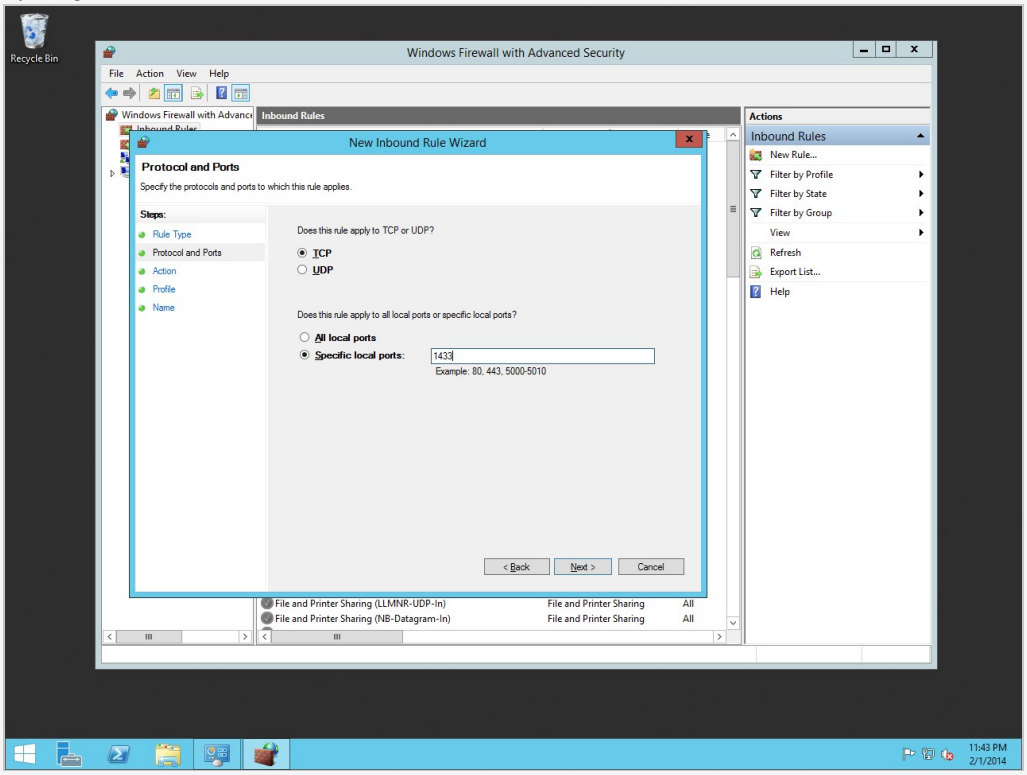
Click on `Port` and click `Next`.

Define By Port



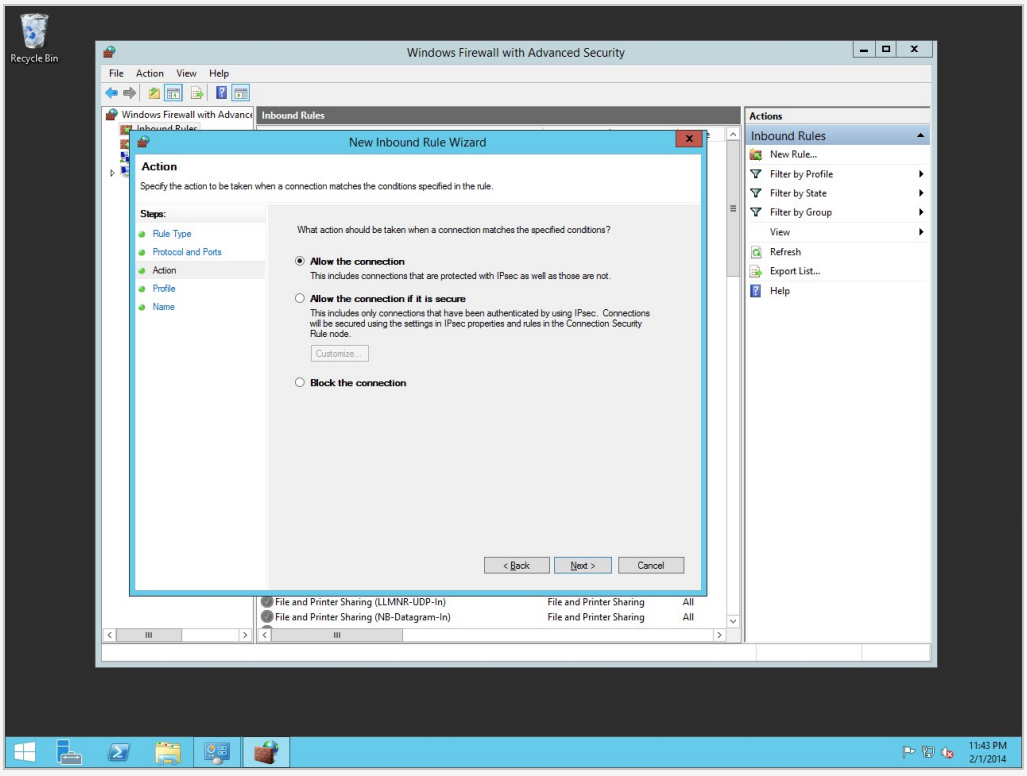
Choose `TCP` and type in the specified local port, "1433."

Specify Port 1433



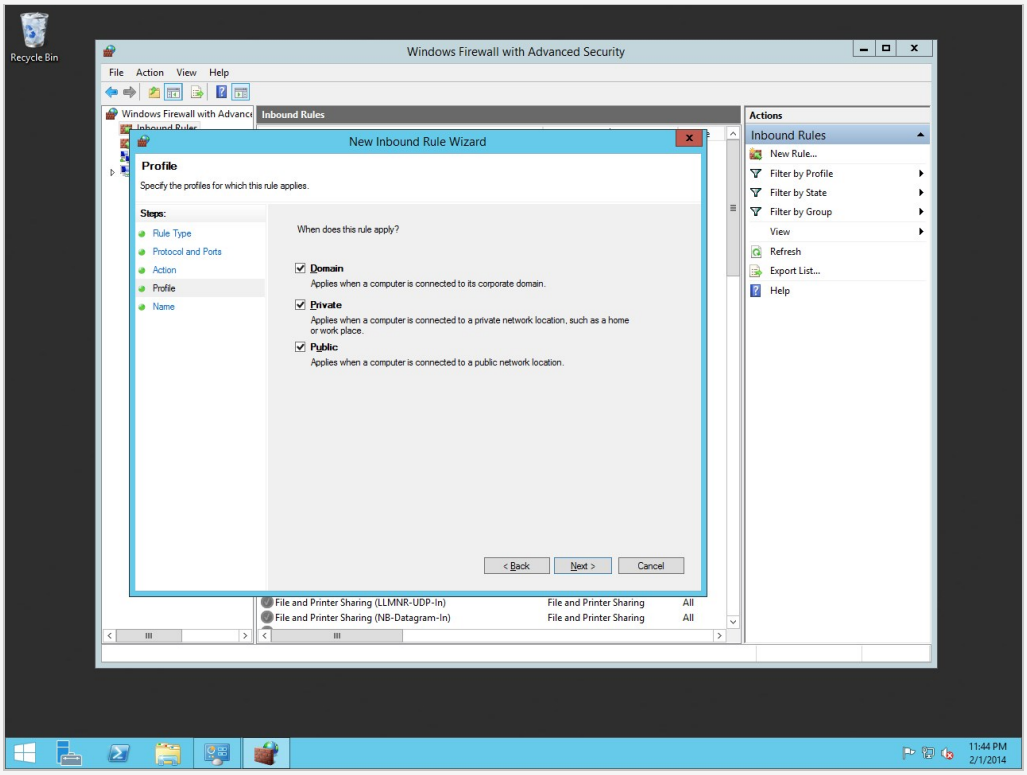
Click on `Allow the connection` and click `Next`.

Allow The Connection



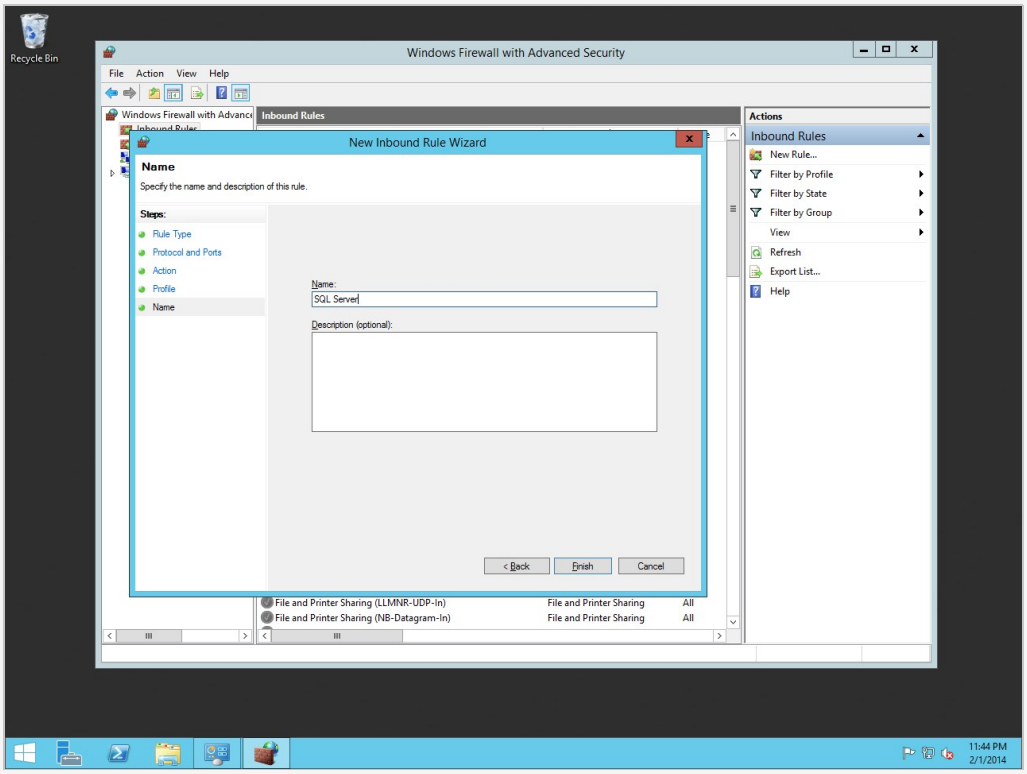
Choose which profiles this rule is applied to and click `Next`.

Firewall Profiles



Give the rule a name and click `Finish`.

Firewall Rule Name



That's it! Let's move on to the next chapter.

Installing Rock

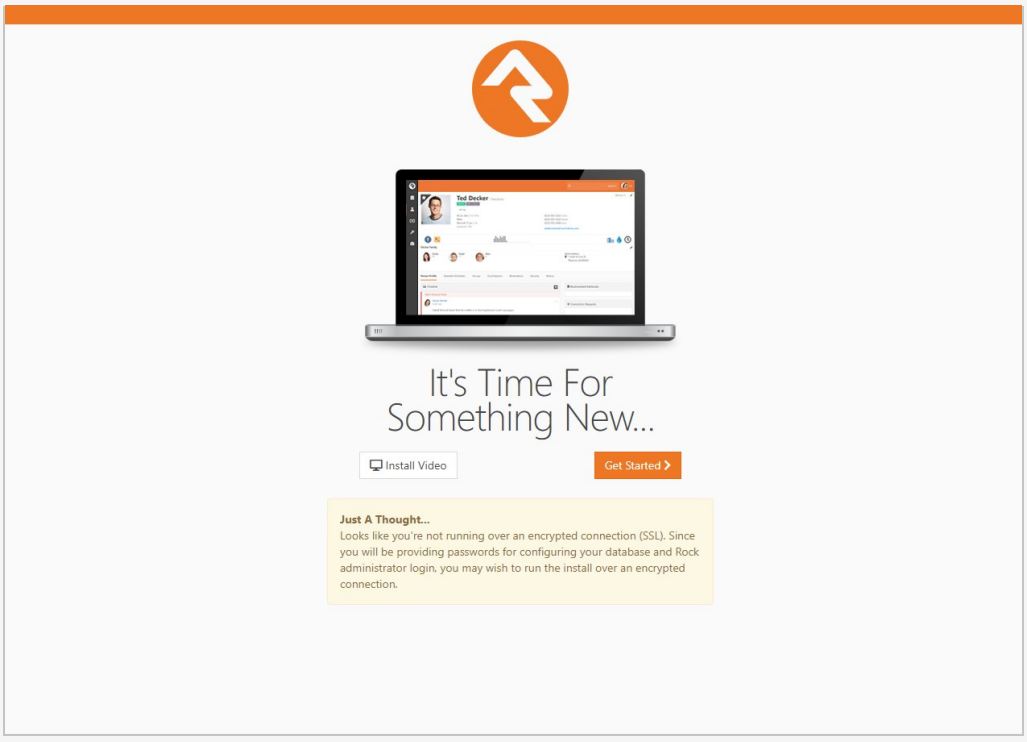
Now that our foundation is set, we can begin the best part - installing Rock!

The first thing we need to do is to download the Rock installer, which you can find at rockrms.com/Rock/GetStarted. Place the *Start.aspx* and *web.config* files from the installer package in the root of the web folder. By default, the web root folder will be located here: C:\inetpub\wwwroot.

> Tip: make a fresh start!
>
> If you're installing in the default wwwroot folder, you'll see that Windows has already placed some content here. Be sure to delete that before starting your installation; only Start.aspx and web.config should be in that directory.

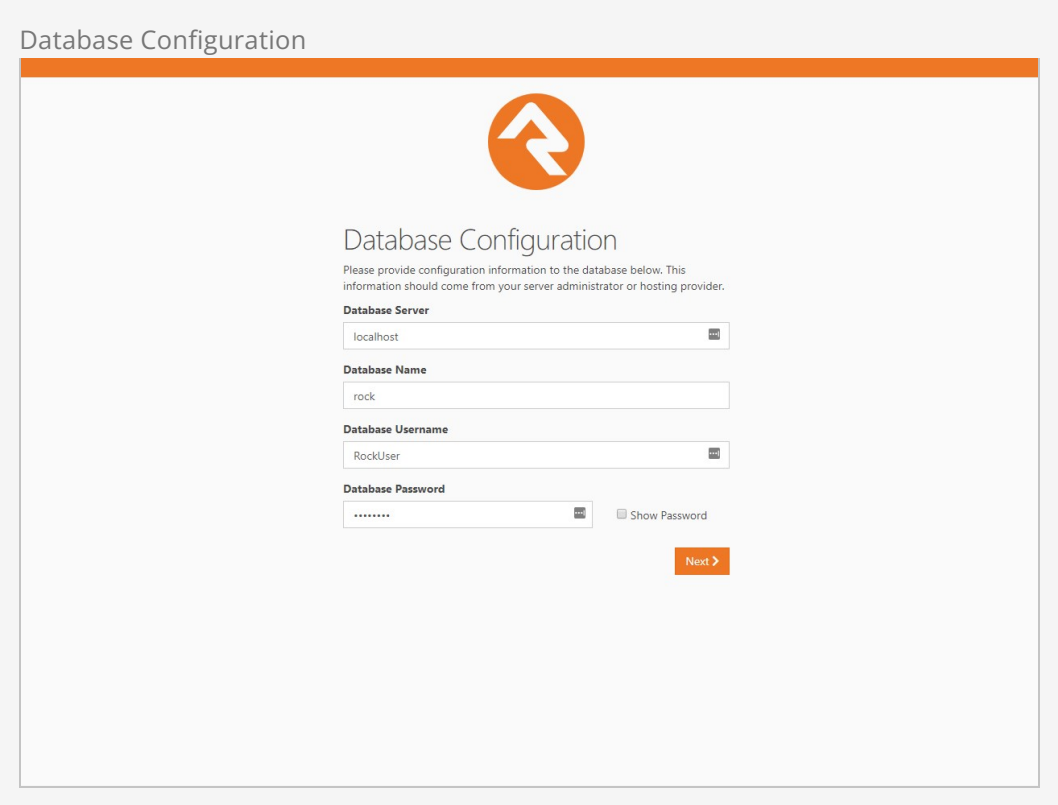
Open up a web browser and go to http://localhost/Start.aspx to begin the installation process.

Rock Installer

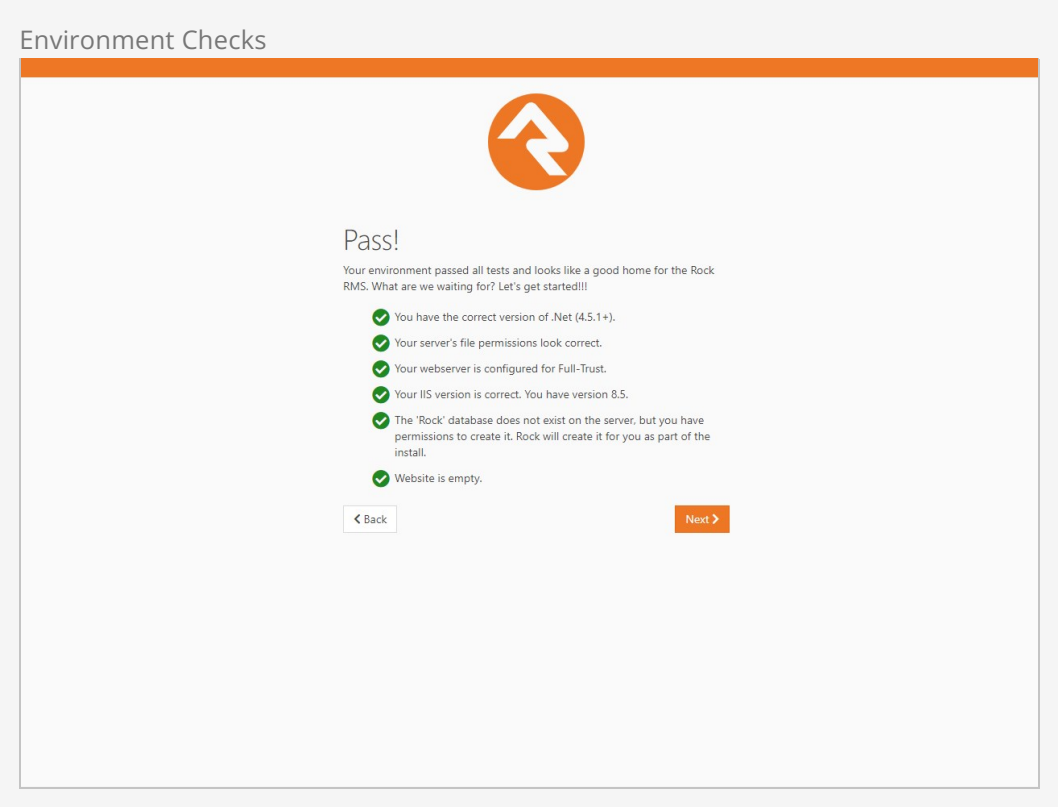


Now we will enter in the SQL server information. If the SQL server is installed on this server, you can type in "localhost" in the *Database Server* box. If you are using another server for SQL, you can enter the server name instead.

Next, enter in a name for the Rock Database (e.g. "Rock") and enter in the username and password we created earlier in the SQL Chapter. Click `Next`.

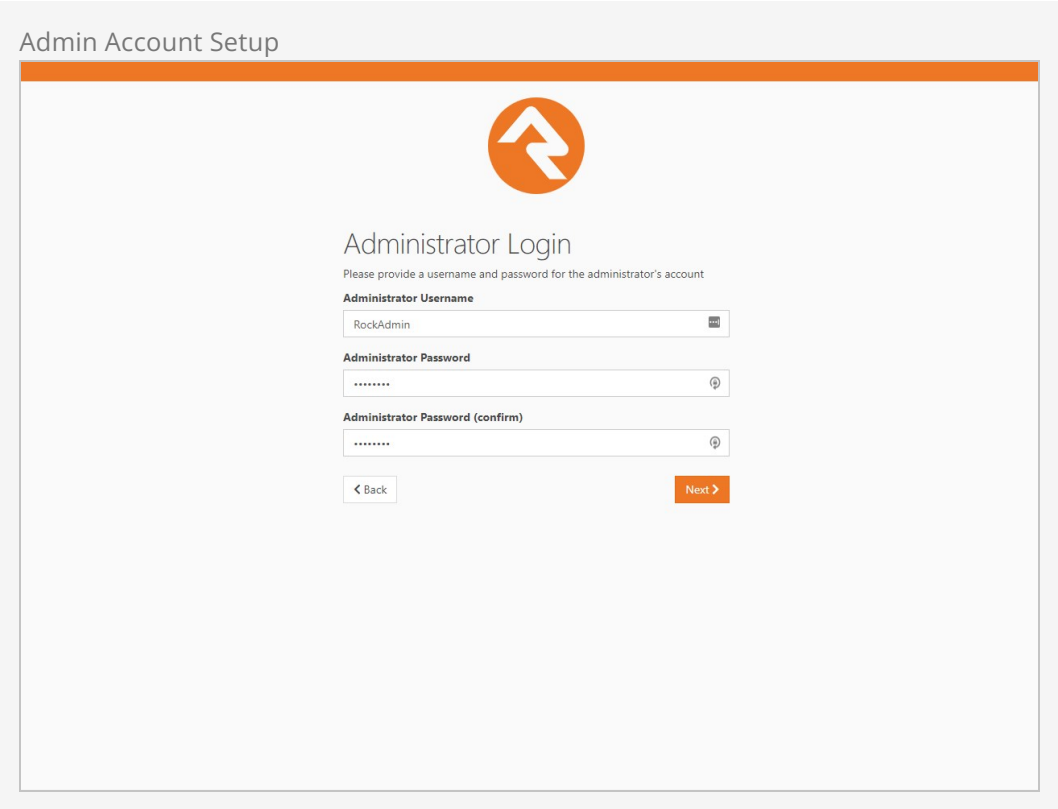


Now the Rock installer will run some checks to make sure the environment is ready for use. If everything checks out, you will see the *Pass!* screen. Click `Next`.



The next screen will allow us to create an admin username and password for Rock. This will be the default admin account for Rock. Be sure to use a good password, and limit who has access to it. Click `Next`.

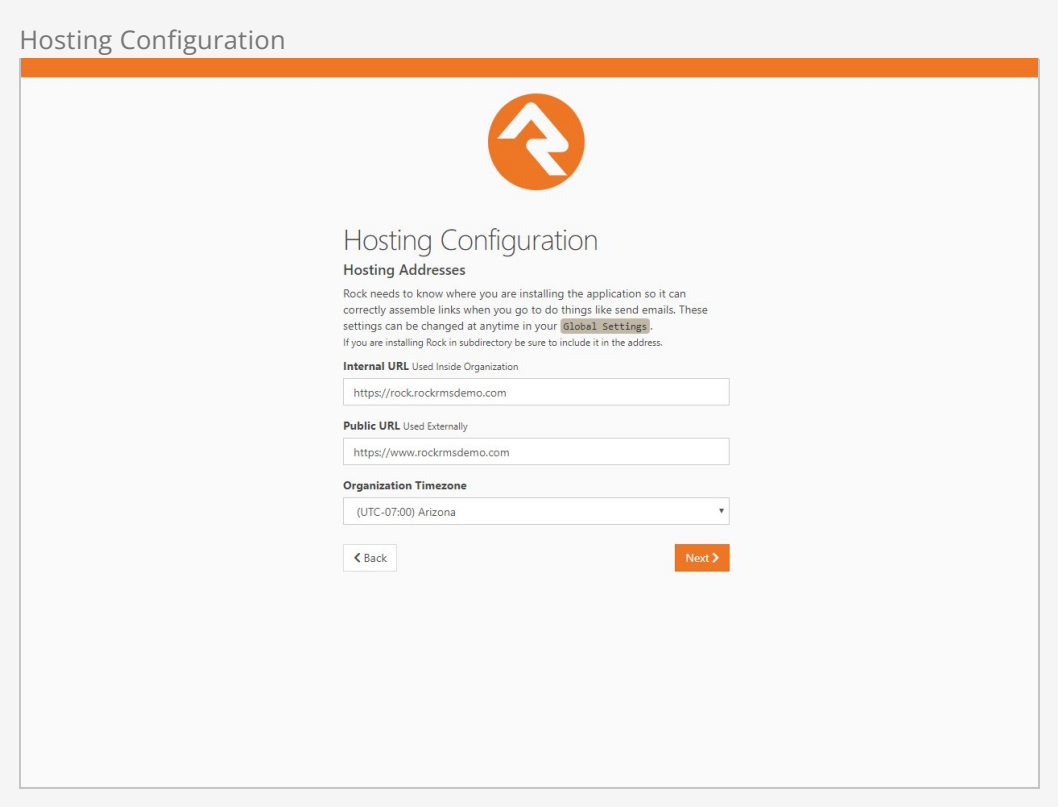
> **Note:**
> We recommend using a general or organization account, not a personal one. You can create your own login after the install.



Now you'll need to enter in your organization URLs.

- **Internal URL:** The web address you'll use to connect to Rock internally. (Example: http://admin.rocksolidchurchdemo.com)
- **Public URL:** The public facing website for your organization. (Example: http://www.rocksolidchurchdemo.com)

> Note:
> Don't worry if these addresses aren't configured to point to your new server yet. These addresses are intended to be the ones you'll use once you're ready to go live.

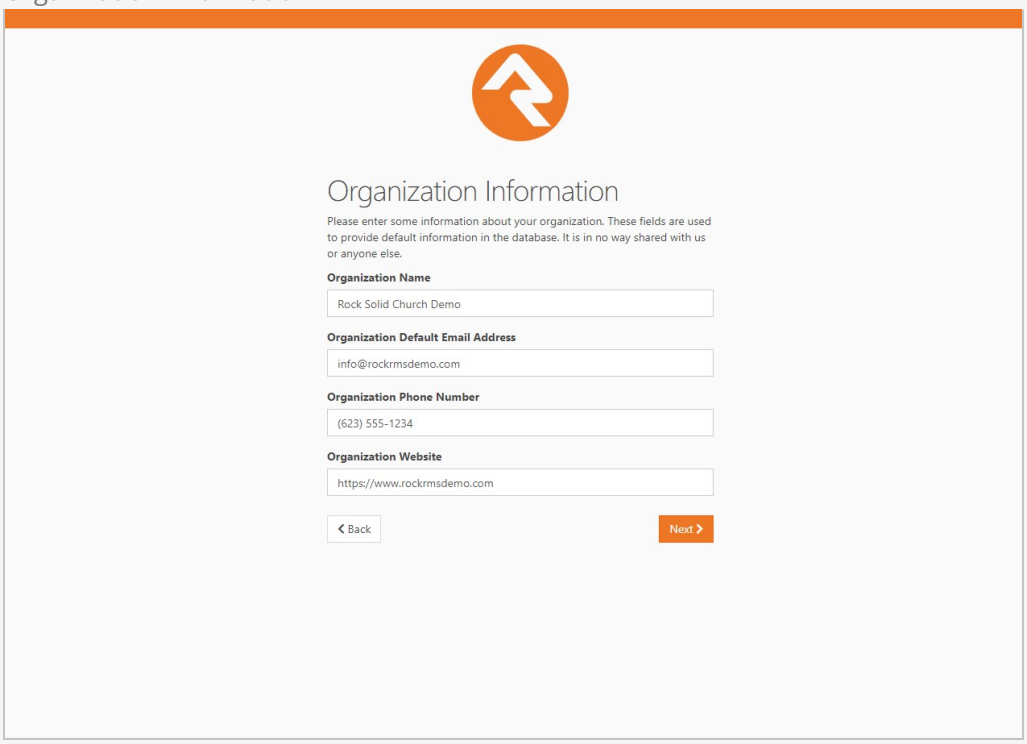


Now let's enter in your Organization Information.

- **Organization Name:** The name of your organization
- **Organization Default Email Address:** The default email sending address for Rock
- **Organization Phone Number:** The main phone number of your organization
- **Organization Website:** The website of your organization

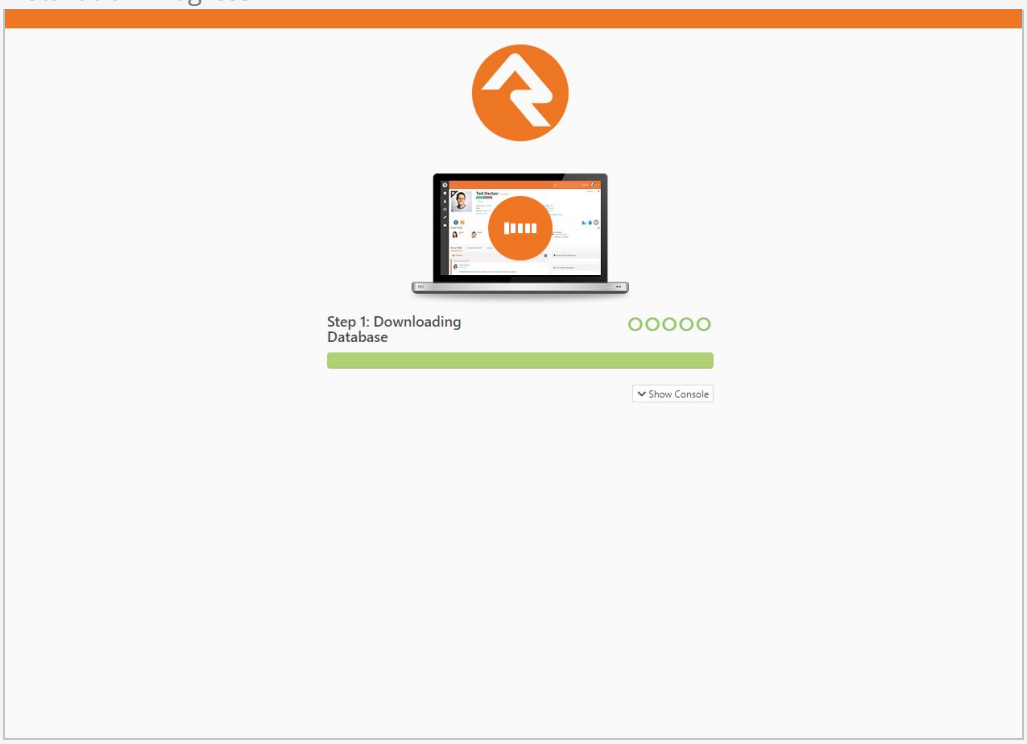
> Note:
>
> Don't worry, these settings can be changed later under `Admin Tools > General Settings > Global Attributes`

Organization Information



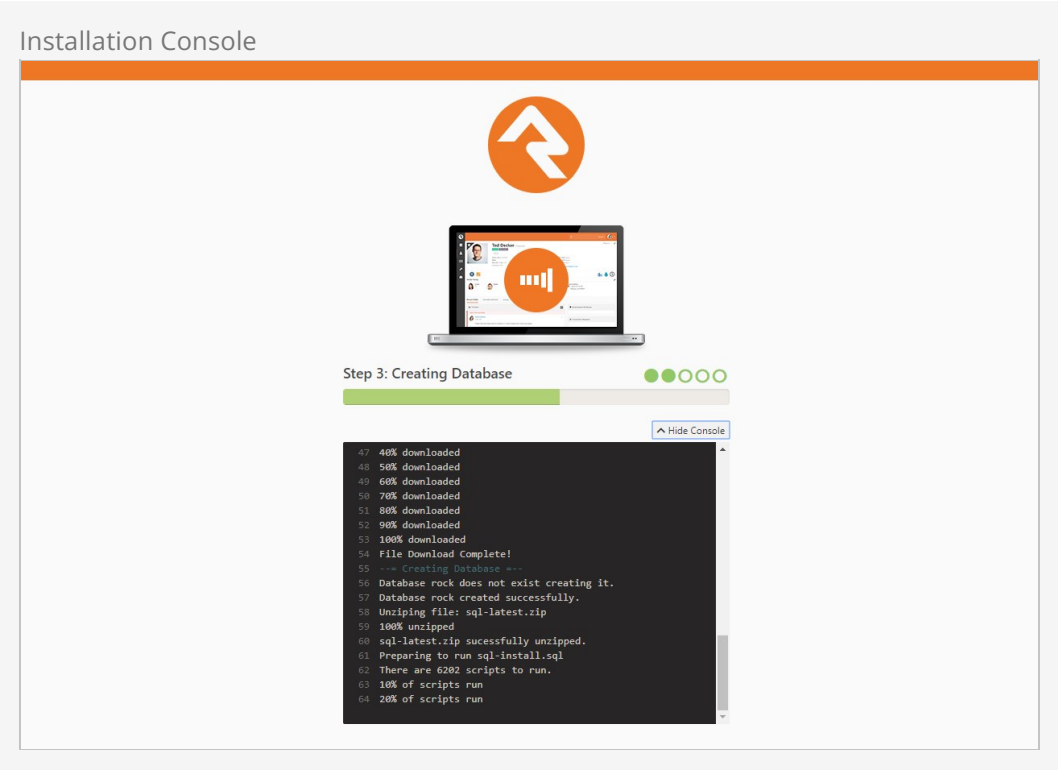
Now that you have all of your organization's information entered into Rock, click `Next` to begin the Rock installation.

Installation Progress

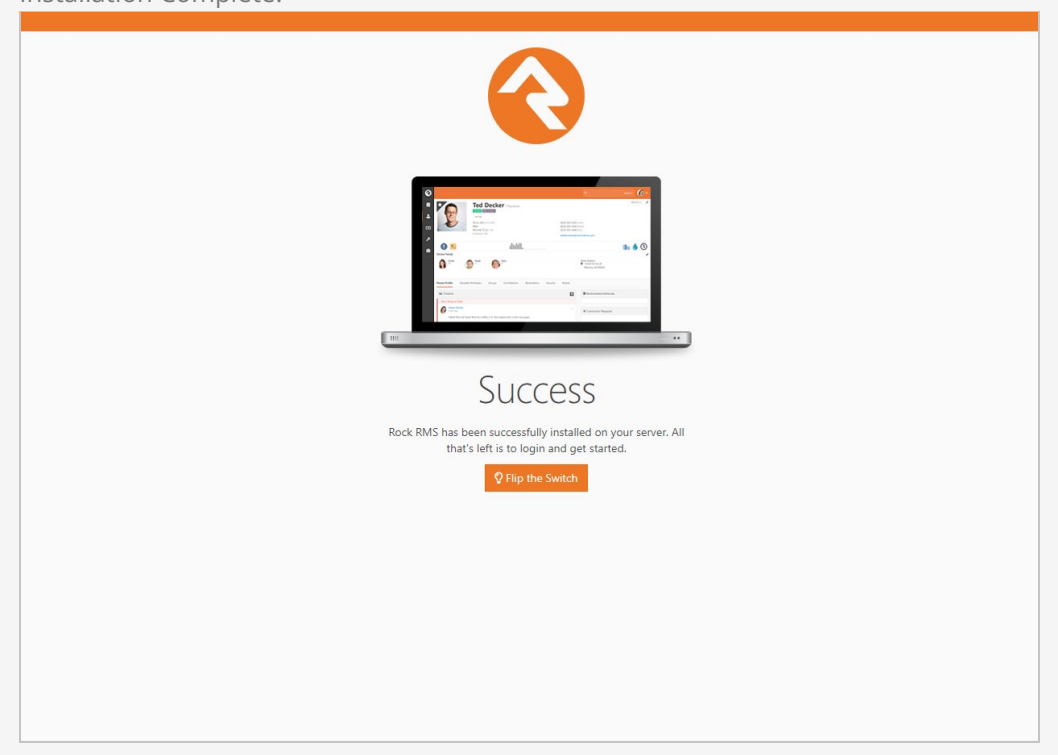


Rock will begin downloading the needed files onto the webserver and configuring the

database. You can observe this process by clicking on the `Show Console` button.



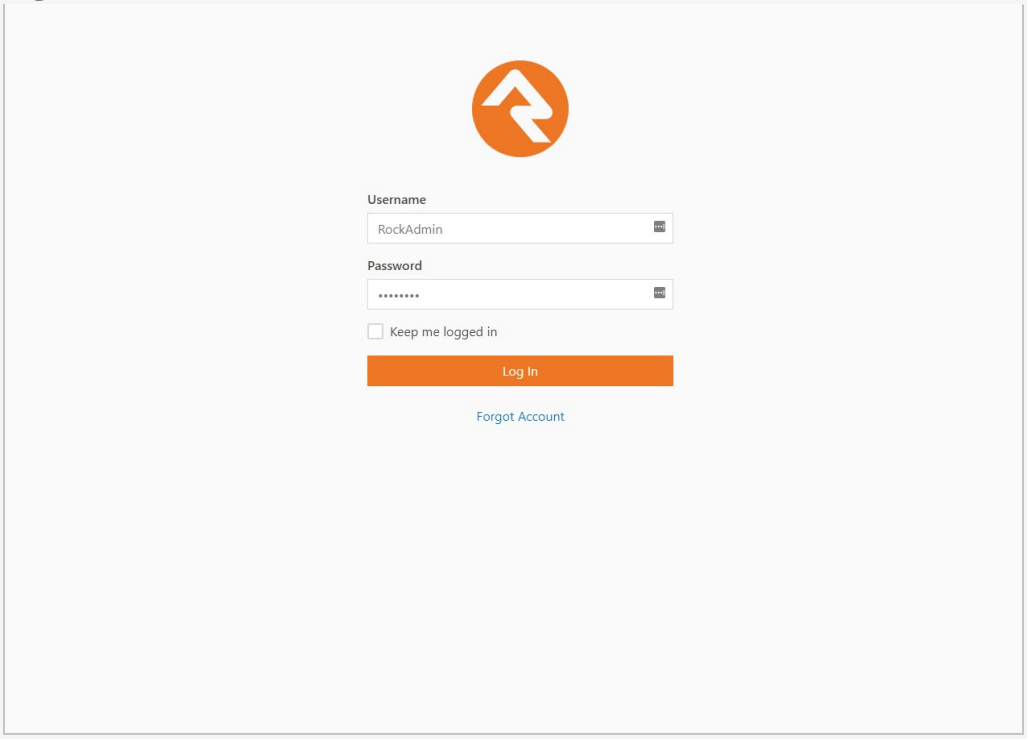
When complete, click on the `Flip the Switch` button. Keep in mind, this loading screen will take the longest to load since Rock is starting up for the first time.



> **Note**
>
> If you arrive at the external site instead of the internal login page it could be that the domain name is set to be used as the external site. When Rock isn't provided with a specific page to load in the URL it looks at the domain and finds a site in the database that matches. If this happens to you, you can get to the internal site by this URL: http://{yourserver}/page/12

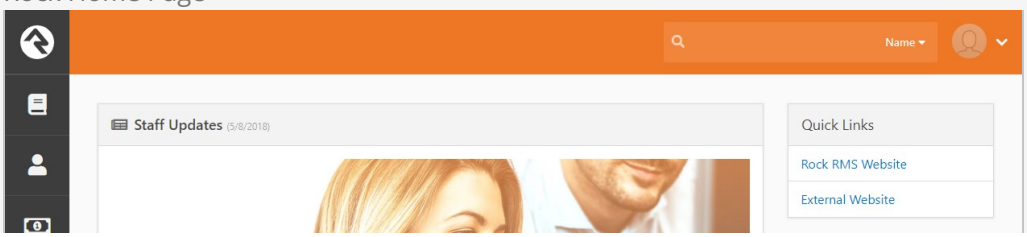
Now that Rock is installed, you can begin by logging in. Log in with the Rock admin account you created during the installation.

Logon Screen



Once logged in, you'll be taken to the Rock homepage. You will see the *Administrator Checklist*, which is a list of the recommended first steps to maximize the potential of Rock at your organization. Don't worry about completing the list today. You can get to it as you become more familiar with Rock. The list will disappear once you mark off all the items. It may reappear after updates, if special configurations are needed. Think of it as a friend that only shows up in your time of need.

Rock Home Page



Let The Adventure Begin

Adjust that cape, because it's time to fly. Prepare to unlock your inner superhero as you learn and discover what Rock can do for you. With a little effort and help from the community, you'll soon be faster than a locomotive and able to leap over a building of any height.

Your first step... Update the content on this page to engage your peers in the adventure ahead. You can edit this content here, or watch this video for more information on Rock's Staff Update feature.

Superhero Training

Increase your knowledge in all things Rock with our wide array of training materials. No matter your learning style, we have you covered.

More Info

Partners, We All Need A Hand

Every superhero has a side-kick. Pick yours from our list of Rock partners. Together you can beat any challenge.

More Info

Our Community Rocks

Rock isn't a product, it's a community of like-minded individuals banded together to make a difference.

More Info

Metrics

Active Records
1/3/2019
2
People

Active Families
1/3/2019
2
Families

Active Connection...
1/3/2019
0
Requests

Administrator Checklist

This checklist contains items for the administrator to complete. Once all items are complete it will disappear until new items are available.

- Update Your Install
- Create Your Account
- Add Organization Address
- Input Google Maps Key
- Update Email Templates
- Update System Workflows
- Define Person Attributes
- Setup Group Types
- Enable Following Jobs
- Update External Applications
- Enable Family Analytics

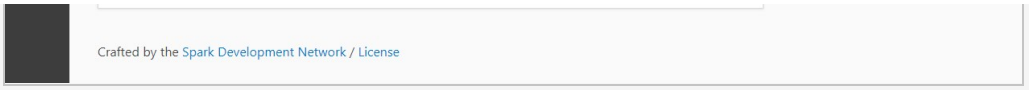
Active Internal Users

There are no logged in users on the Rock RMS site.

Current Guests: 1

Active External Users

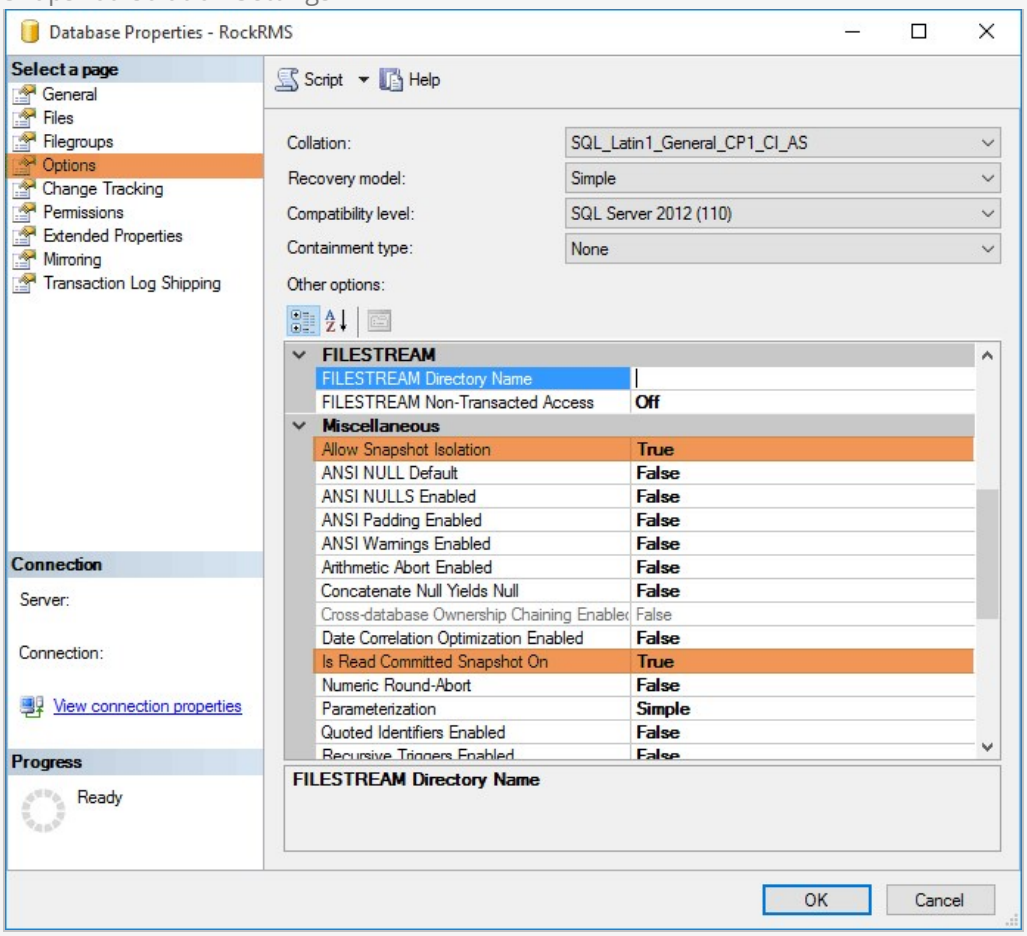
There are no logged in users on the External Website site.



Snapshot Isolation Settings

We recommend enabling snapshot isolation for your Rock database. This keeps database reads from being locked by database writes. Below are the settings we recommend (found by right-clicking on the database name in SQL Server Management Studio and selecting `Properties`.)

Snapshot Isolation Settings



> **Default Settings May Vary**
>
> Depending on your SQL Server edition and version this may already be the default.

Two-Server Configuration

If you were looking at the system requirements in this guide's introduction, you might have noticed that there is a two-server configuration for larger installations. Even for smaller installations, we recommend two servers for the following reasons:

- **Performance:** Having your Rock Database and Web Environment on separate servers means they won't be sharing resources and will be able to perform at a higher capacity.

- **Security:** If you plan to use a public website with Rock, you can put the web server in a DMZ for added network security. Setting up a DMZ is outside the scope of this guide, but if this is something you plan on pursuing, reach out to the Rock community.

- **PCI Compliance:** PCI Requirements in the U.S. require that if you are taking or storing financial information through your website, your database must be separate from your web host.

It's All in the Details

The process for setting up a two-server environment is not that much different from the single-server setup described in this guide. Here is a high-level task list for each server:

Database Server

- Install & Configure SQL Server

Web Server

- Install the required Server Roles and Features
- Configure Internet Information Services (IIS)
- Point Rock at the database server during installation

Be sure to check out the rest of the Rock guides and manuals to help you get started.