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
Single server with the following specs:

- **CPU:** 2Ghz dual core or higher
- **Memory:** 2GB or higher
- **Storage:** 2TB
- **Operating System:** Windows Server 2008 or 2012
- **SQL Server:** SQL Server Express 2012/2014 (free) or SQL Server 2012 Standard or higher

Medium Installs

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

- **CPU:** 2Ghz quad core
- **Memory:** 8GB or higher
- **Storage:** 2TB
- **Operating System:** Windows Server 2012

Database Server
- **CPU:** 2Ghz quad core
- **Memory:** 8GB or higher
- **Storage:** 4TB
- **Operating System:** Windows Server 2012
- **SQL Server:** SQL Server 2012/2014 Standard

Large Installs

15,000+ records

Two servers with the following specs:

Web Server

- **CPU:** 2.5Ghz quad core
- **Memory:** 16GB or higher
- **Storage:** 2TB
- **Operating System:** Windows Server 2012

Database Server

- **CPU:** 2.5Ghz quad core
- **Memory:** 16GB or higher
- **Storage:** 8TB
- **Operating System:** Windows Server 2012
- **SQL Server:** SQL Server 2012/2014 Standard

> Helpful Info:
>
> If you plan to install Rock on a two server configuration (think web server, database server...), be sure to check out the *Special Configurations* chapter for information on how to do so.

Things You'll Need During Installation

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

- Email settings for your email server
- 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 Windows Server 2008, there are a few differences in the installation you will need to watch out for. Keep an eye out for the **Windows Server 2008** tips.

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.

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.

> ### Windows Server 2008
> If you are installing Rock on Windows Server 2008, you will need to install .NET Framework 4.5.1 Client from Microsoft. Click Here to download.

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
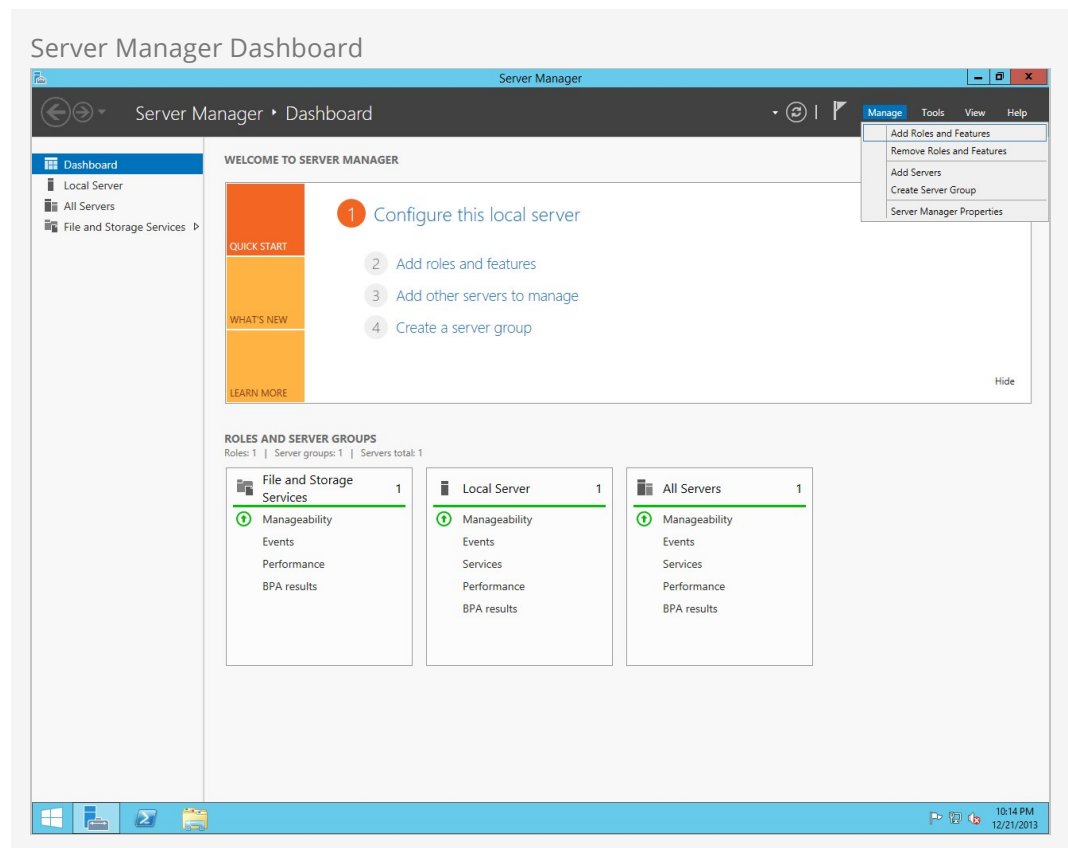
Click `Next`.

Add Roles and Features Wizard
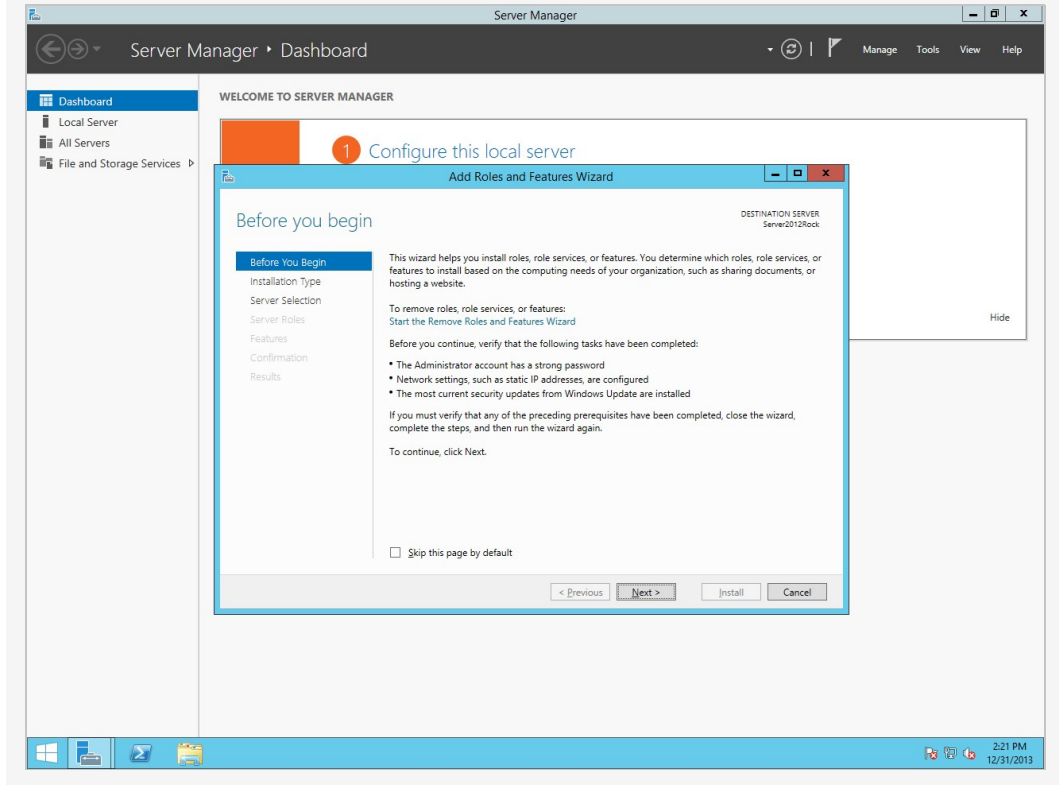
On the next screen, select `Role-based or feature-based installation`.

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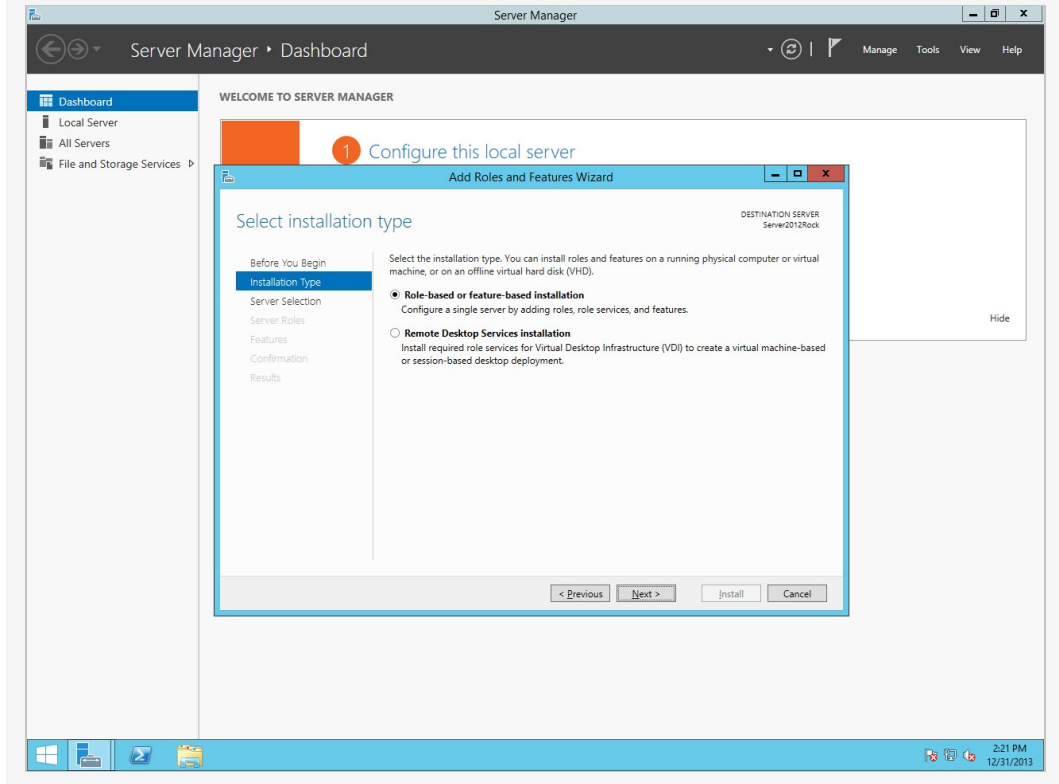
Choose `Select a server from the server pool` and then highlight your server from the list below. Click `Next`.

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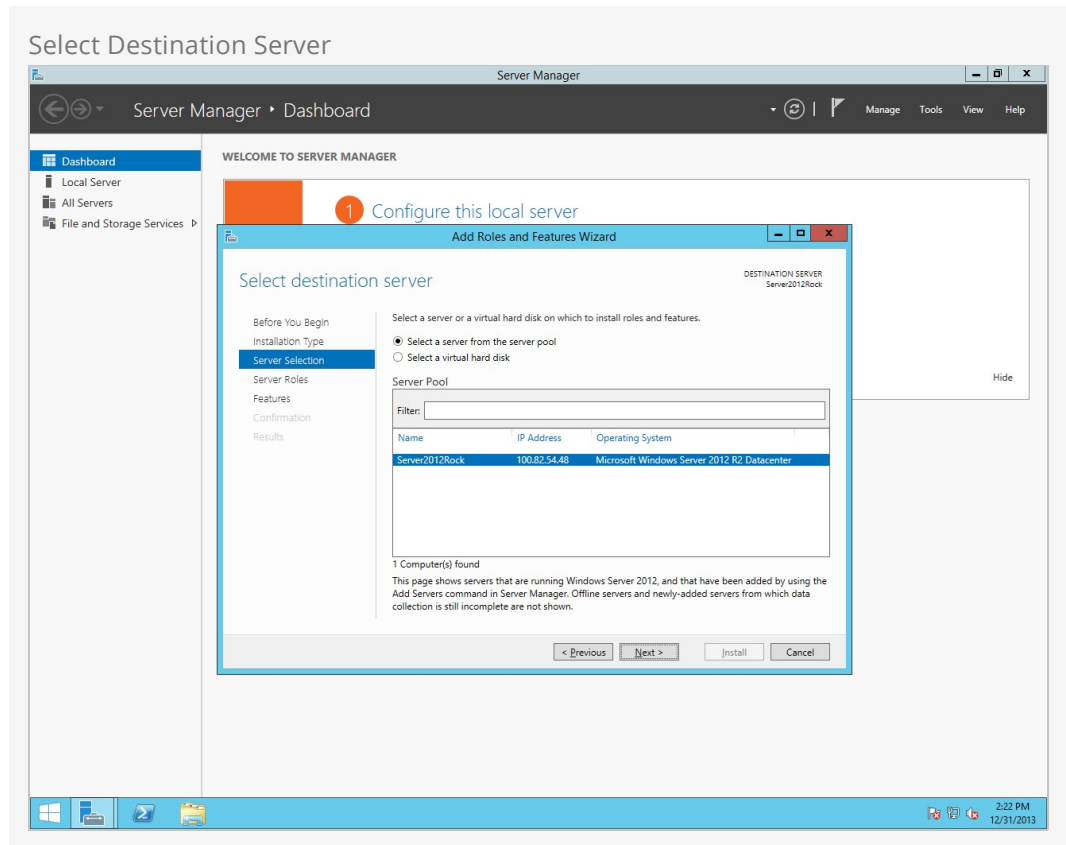
On the next screen, check the box for `Web Server (IIS)`.

> ### Windows Server 2008
> On Windows Server 2008: when selecting the *Web Server Role* and clicking `Next`, you will need to add "ASP.NET" under *Role Services*.

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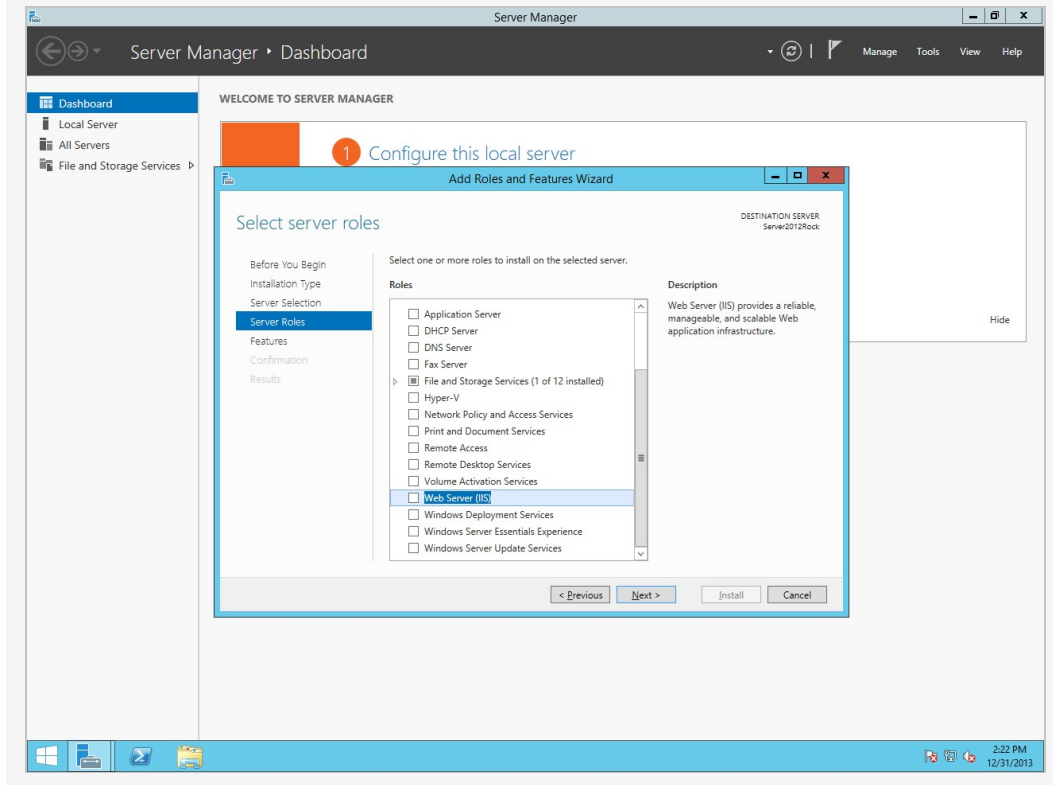
You will be prompted to add some required features for IIS. Click on `Add Features`. Then click `Next`.

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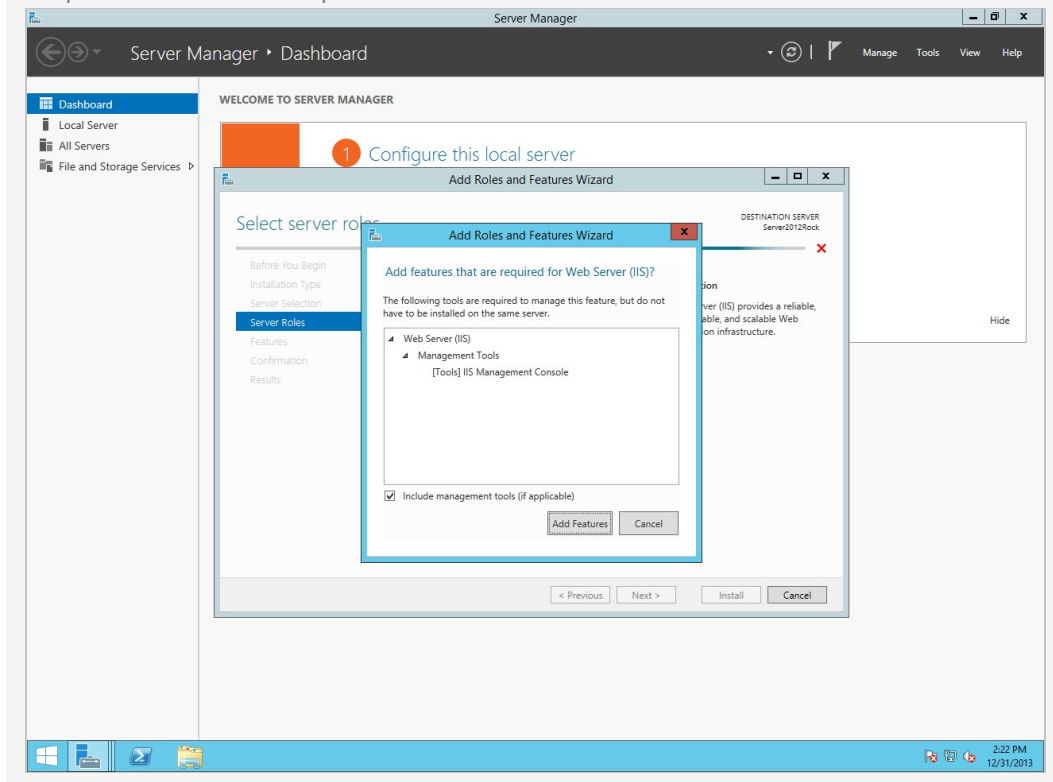
On the *Select Features* screen, add `.NET Framework 3.5 Features` and click `Next`.

> ### Windows Server 2008
> On Windows Server 2008: when adding features you'll need to check *.NET Framework 3.5.1 Features.*
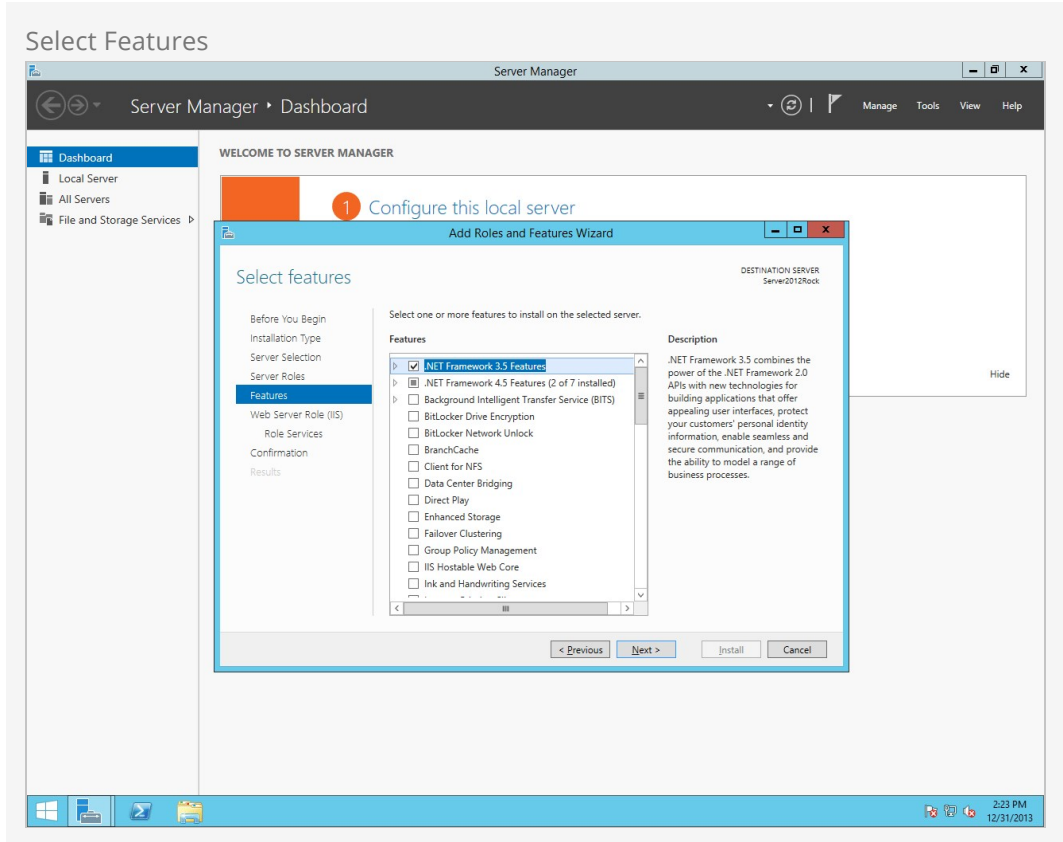
Select Features

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

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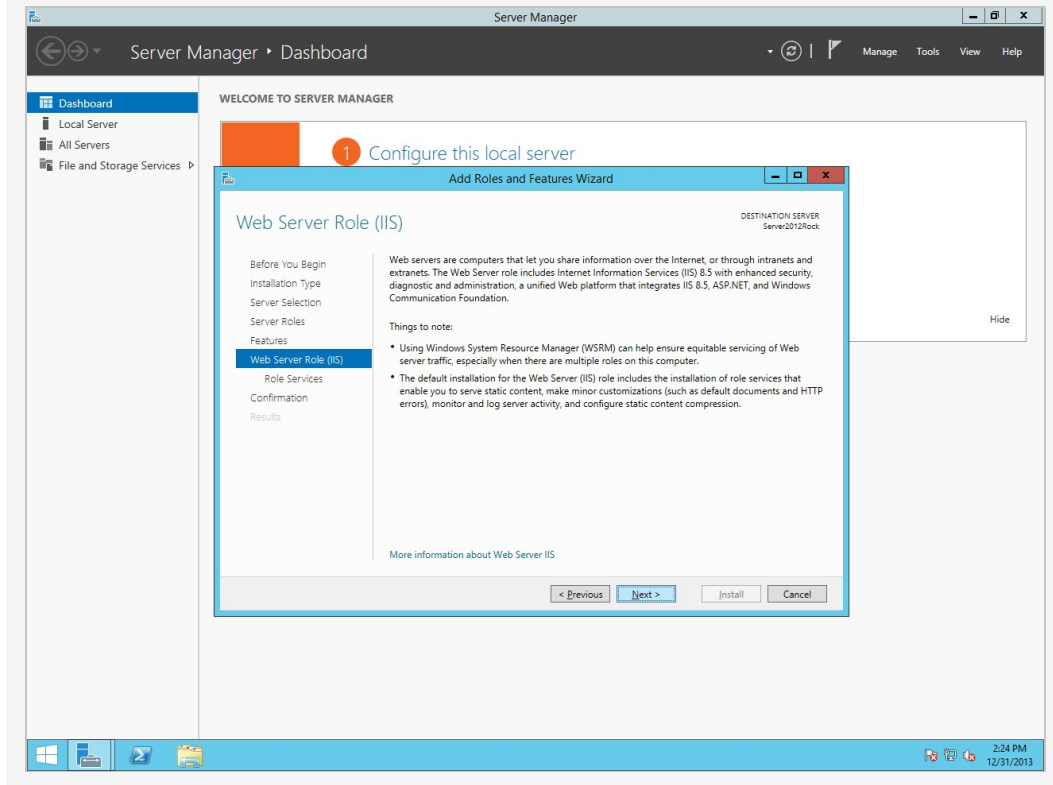
On the *Select Role Services* screen, scroll down to *Application Development* and check the box for *ASP.NET 4.5*.

Select Role Services
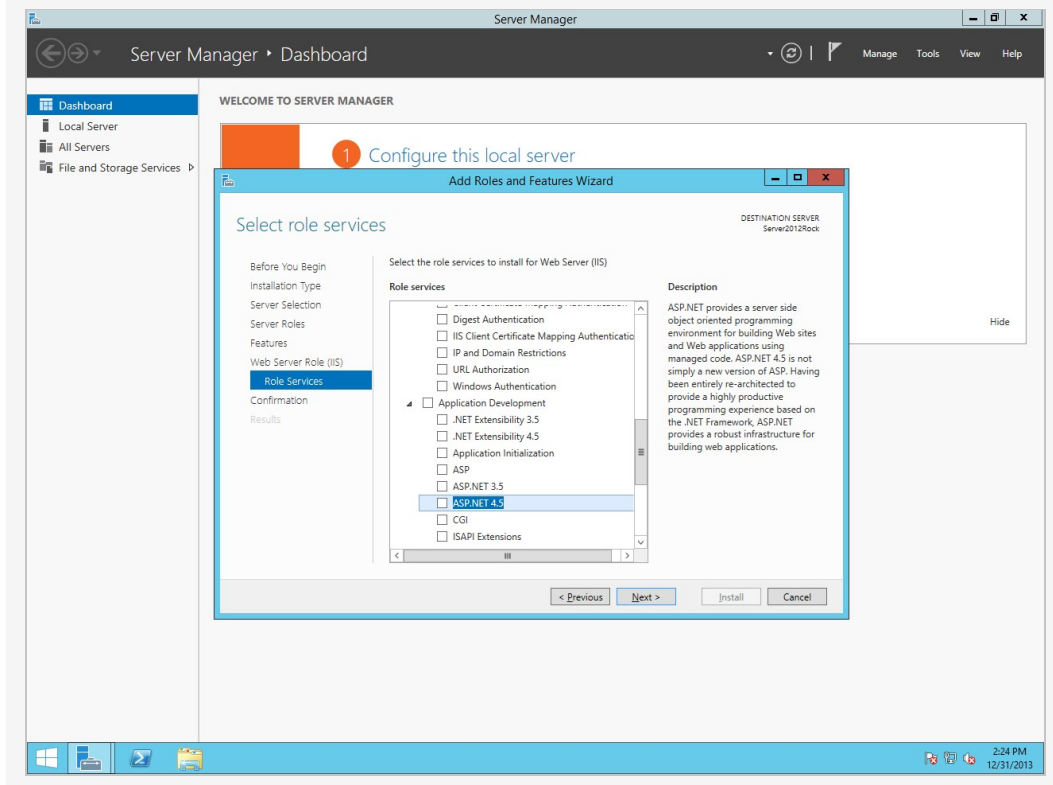
You will be prompted to add some required features for ASP.NET 4.5. Click on `Add Features`. Then click `Next`.

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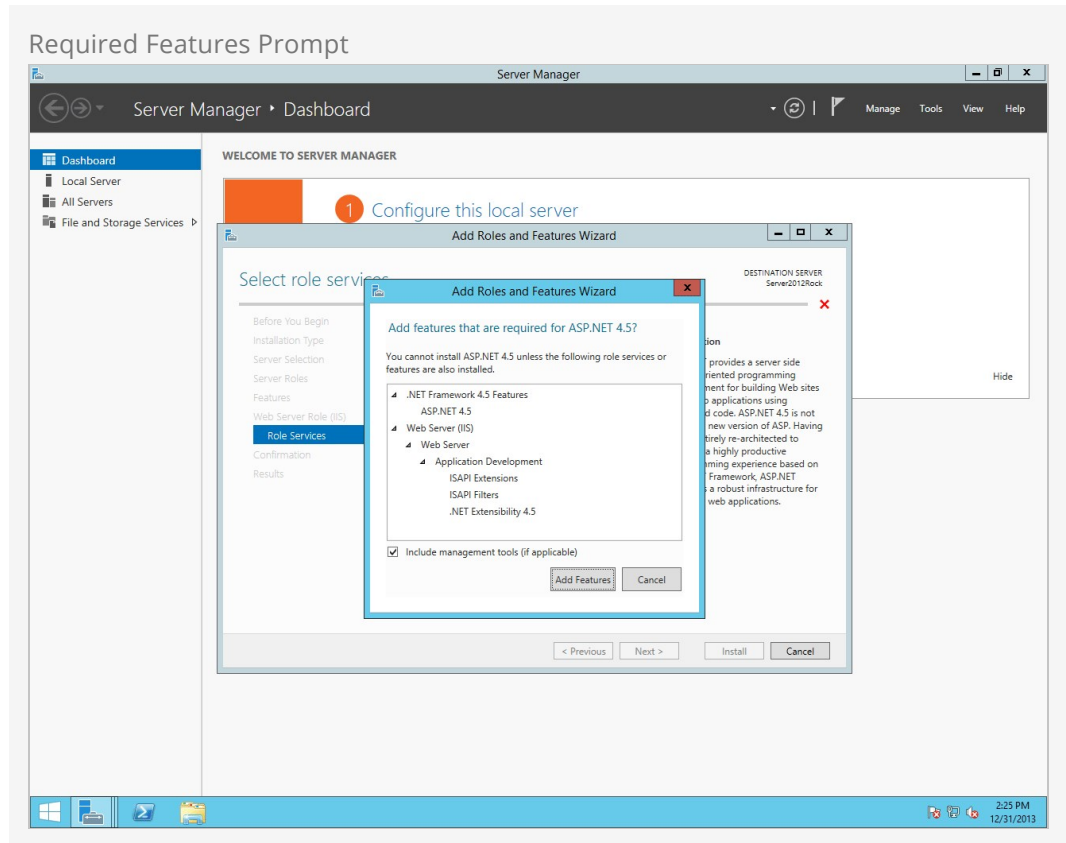
On the final screen, select `Restart the destination server automatically if required` and click `Install`.

Warning:

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

Confirming Installation Settings
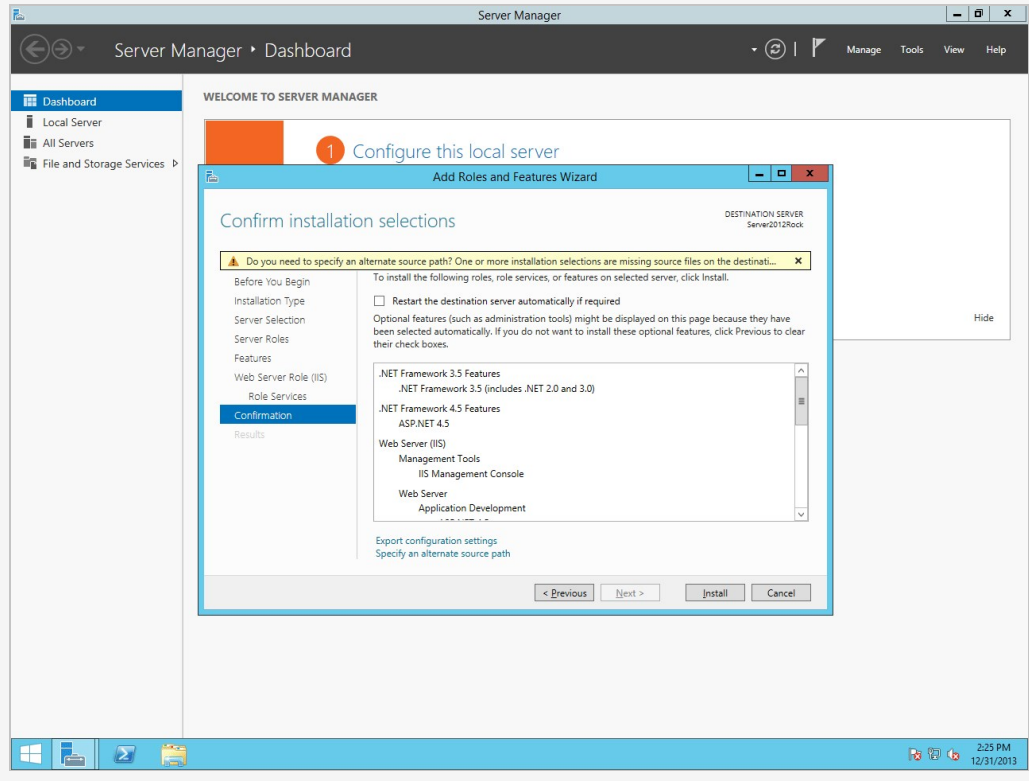
Installation will begin.

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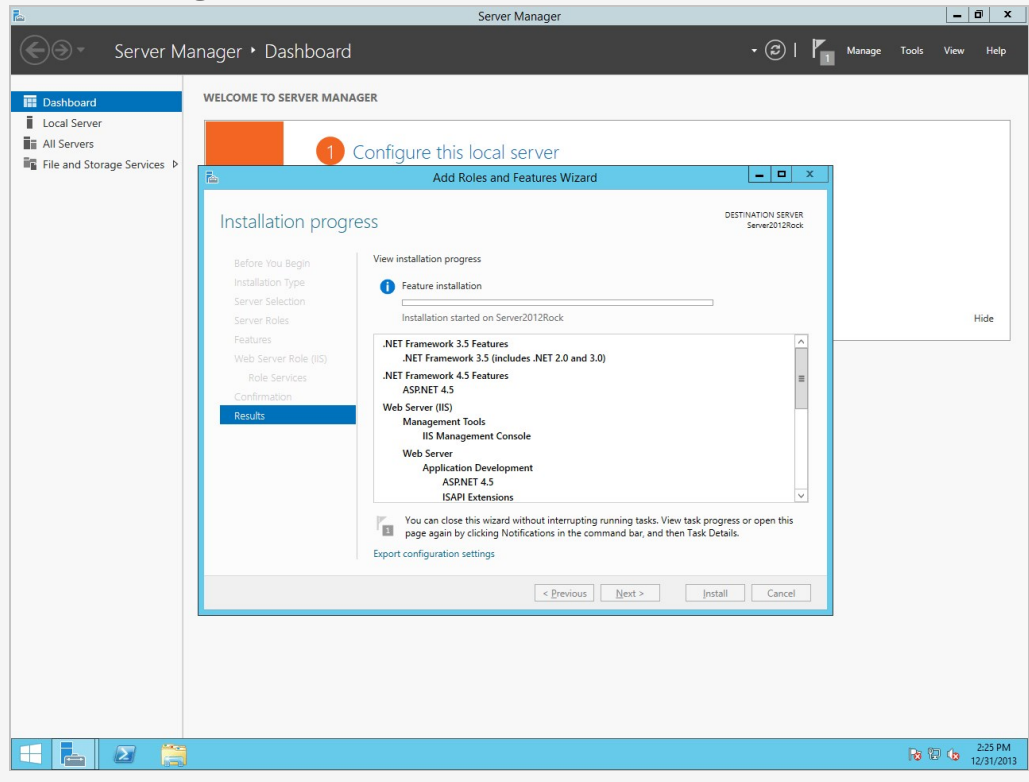
Congratulations! The web server is now installed. Let's move on to configuring Internet Information Services.

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`. Right click on `DefaultAppPool` and click on `Advanced Settings`.

Application Pools
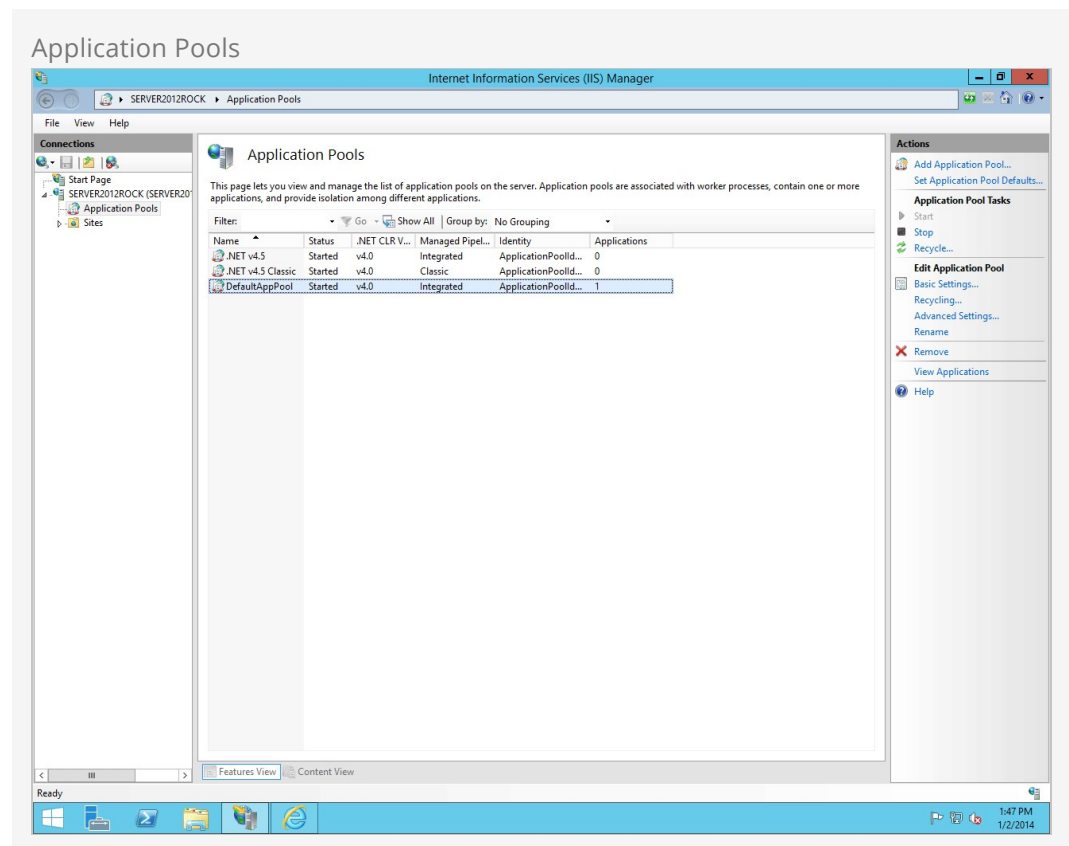
Change the .NET Framework Version to v4.0 and then change *Identity* setting to *LocalSystem*. Then click `OK`.

> ## Windows Server 2008
> If you are using Windows Server 2008: you will also need to change the .NET Framework Version setting to v4.0.

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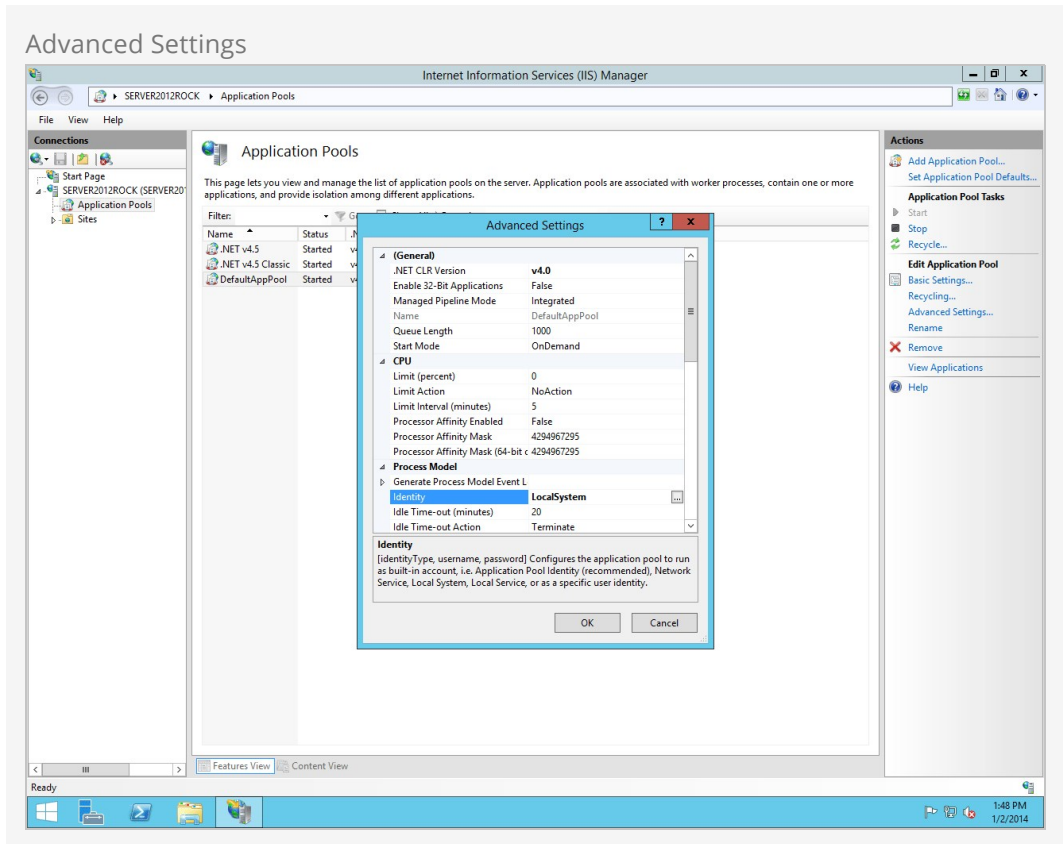
That was easy! Now let's move on and set up our database.

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 below for version 2012.

Getting SQL Server Express

To download SQL Server Express, Click Here.

SQL Server Express comes in different editions. The version we recommend is the 64-bit version of SQL Server Express with Tools. This version includes the management tools you need to set up the Rock database. 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
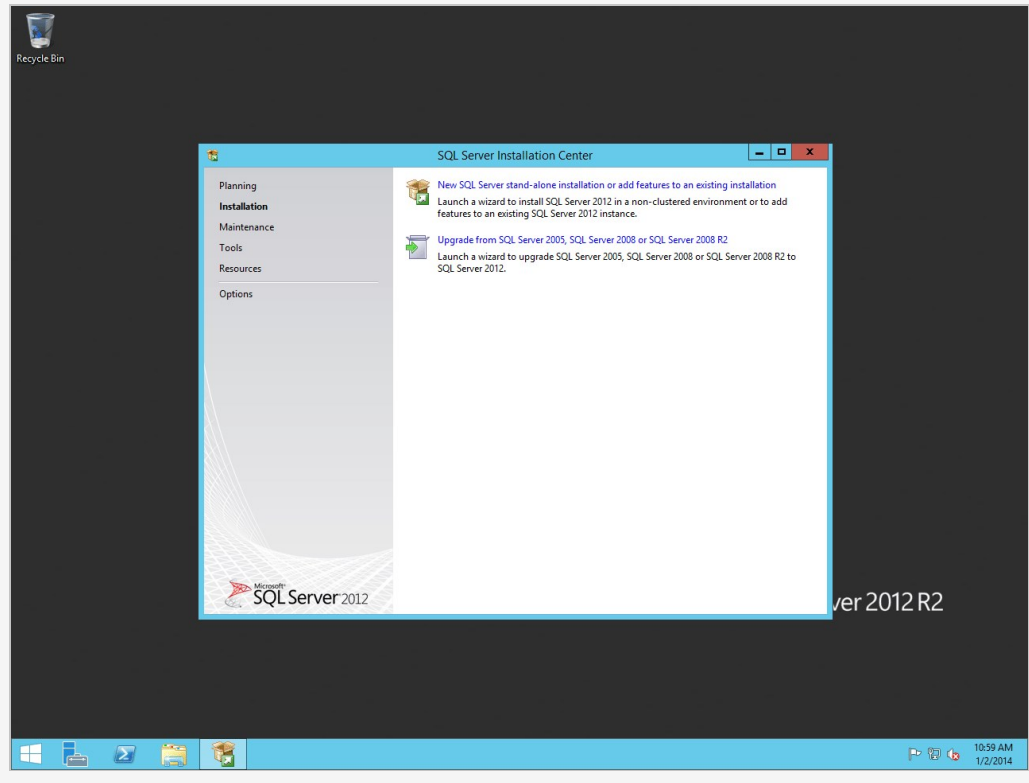
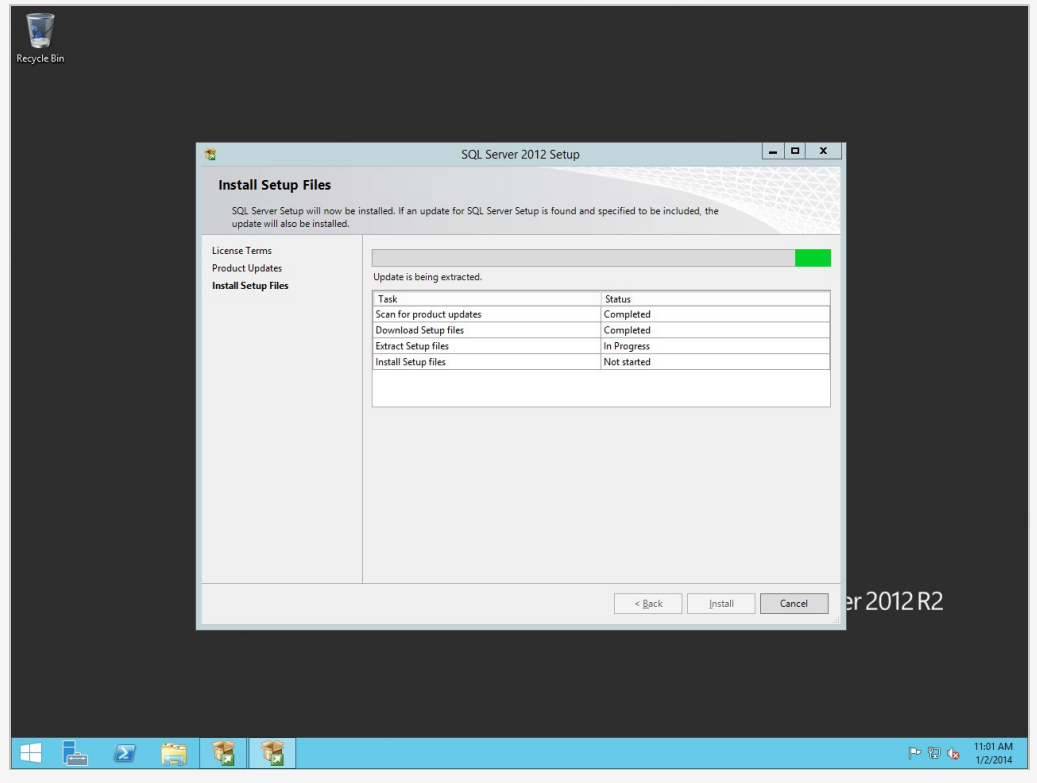On the next screen, agree to the license agreement and then click `Next`.

License Agreement
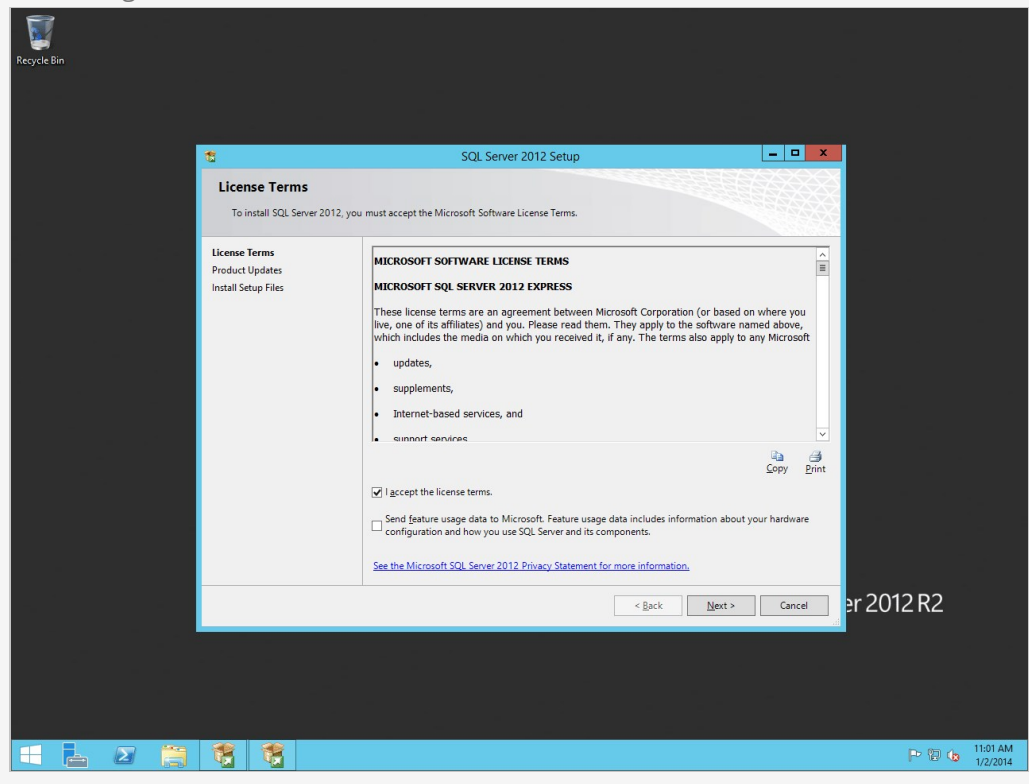
Keep the *Include SQL Server Product Updates* checkbox checked and click `Next` .
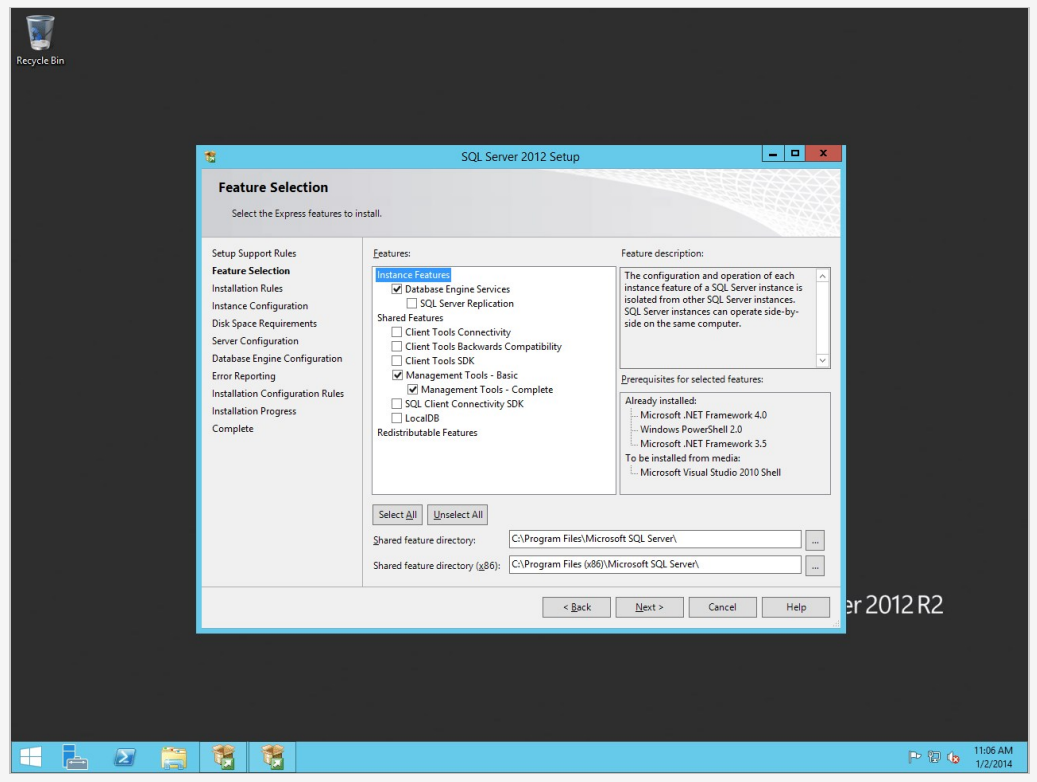
Product Updates
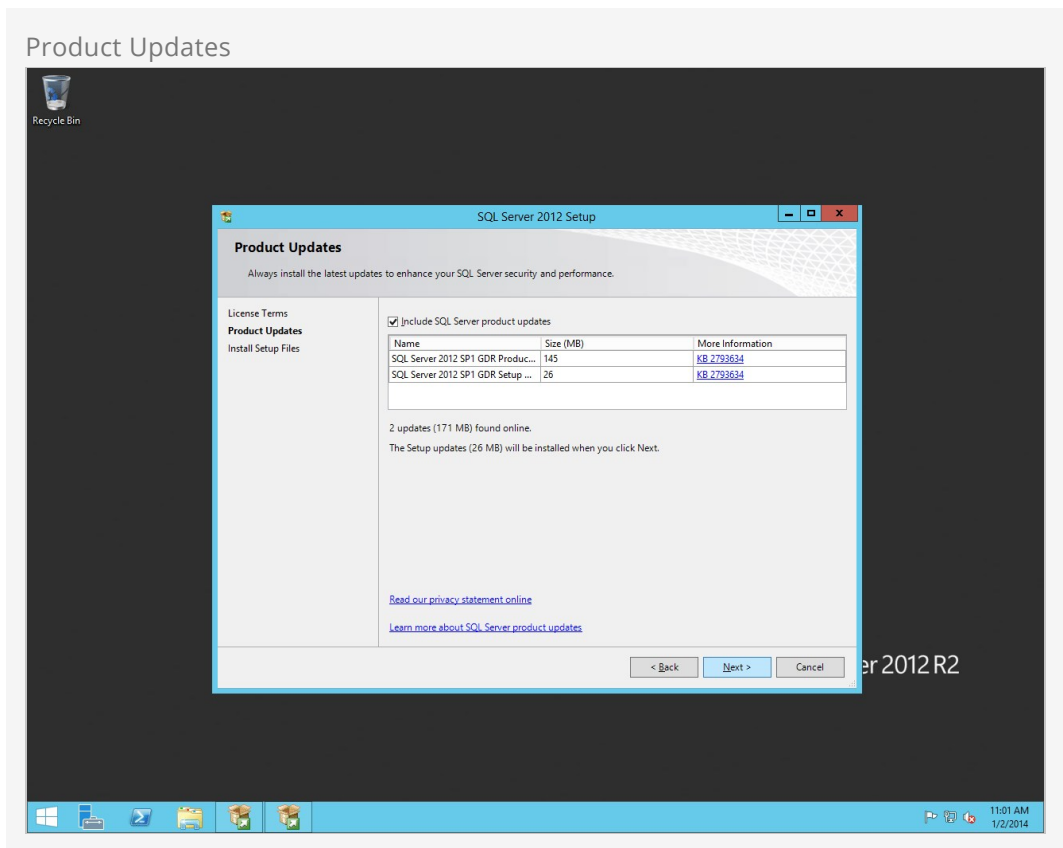
Next, the SQL installer will prepare to set up.

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.
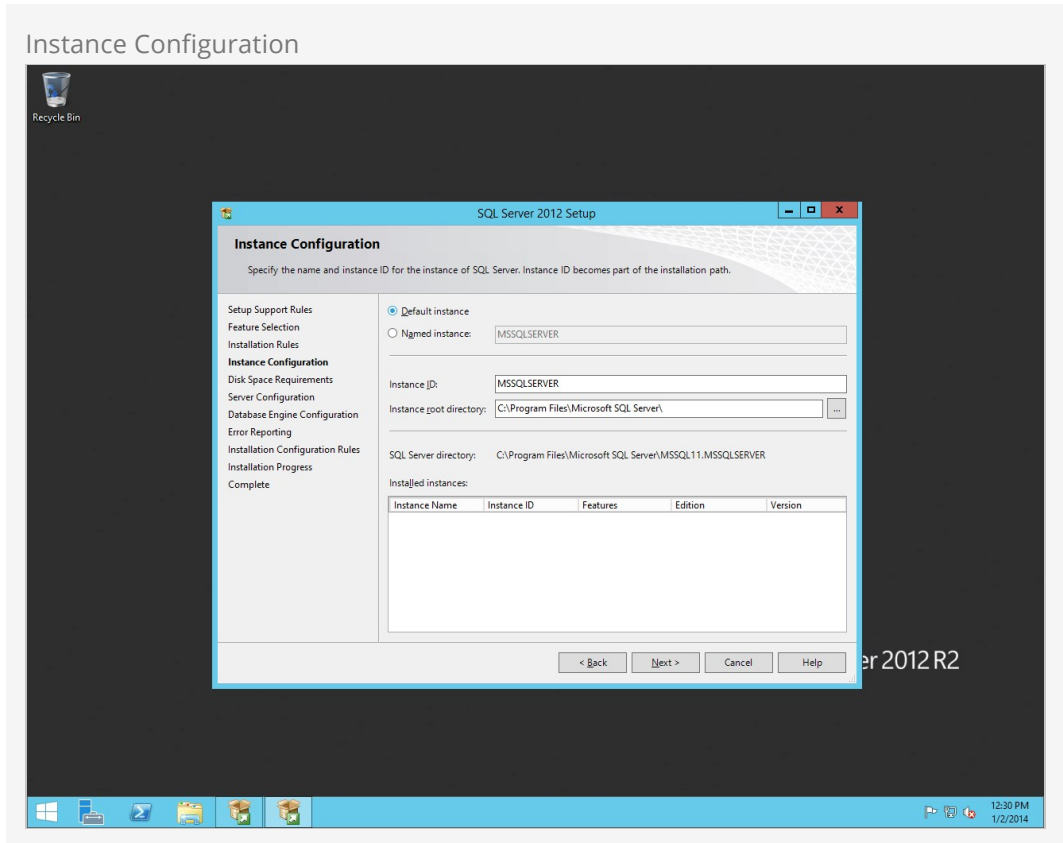
Feature Selection

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 familar with them.

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

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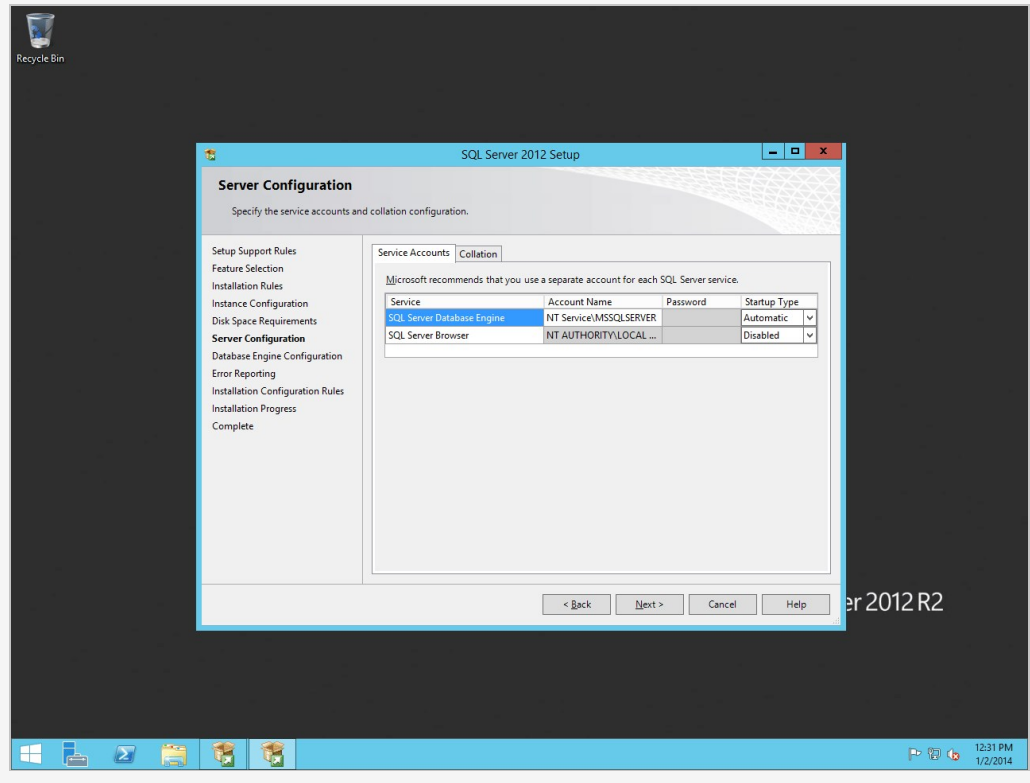
On the *Database Engine Configuration* screen, set the *Authentication Mode* to `Mixed Mode` and set a password for SQL Server. Click `Next`.

> Note:
> Keep this password handy since it will be needed later to set up the Rock RMS database.

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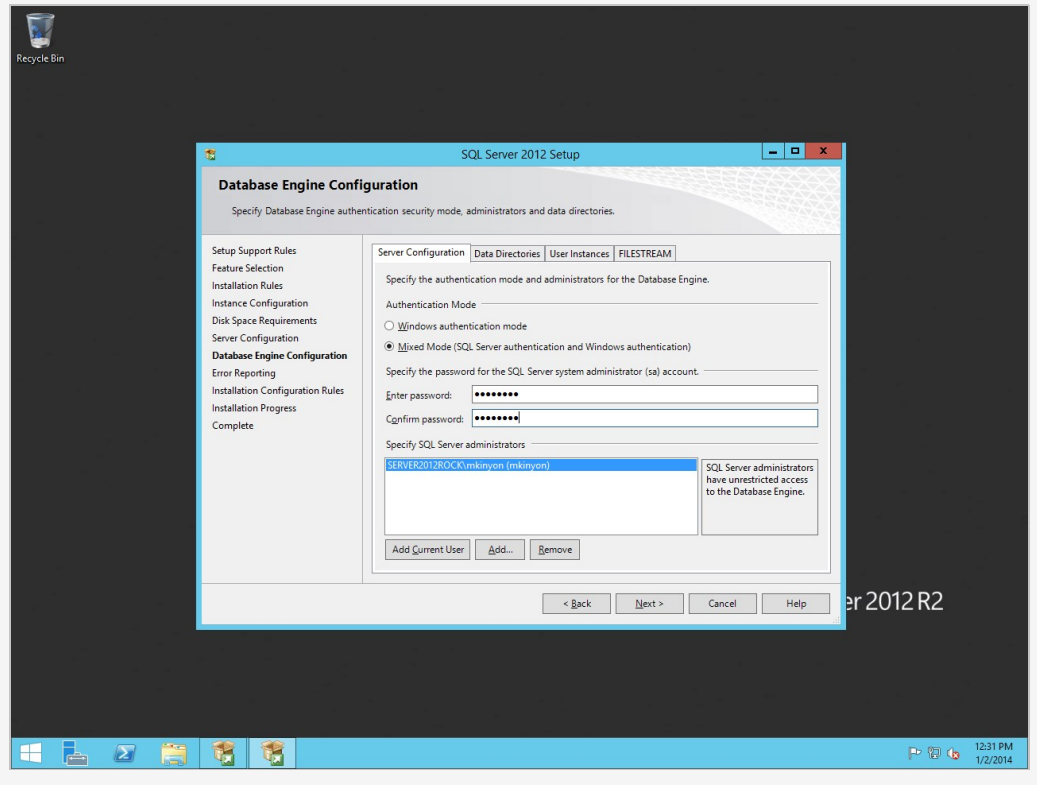
Skip past the *Error Reporting* unless you would like to send Microsoft error reports. Click Next .

Error Reporting
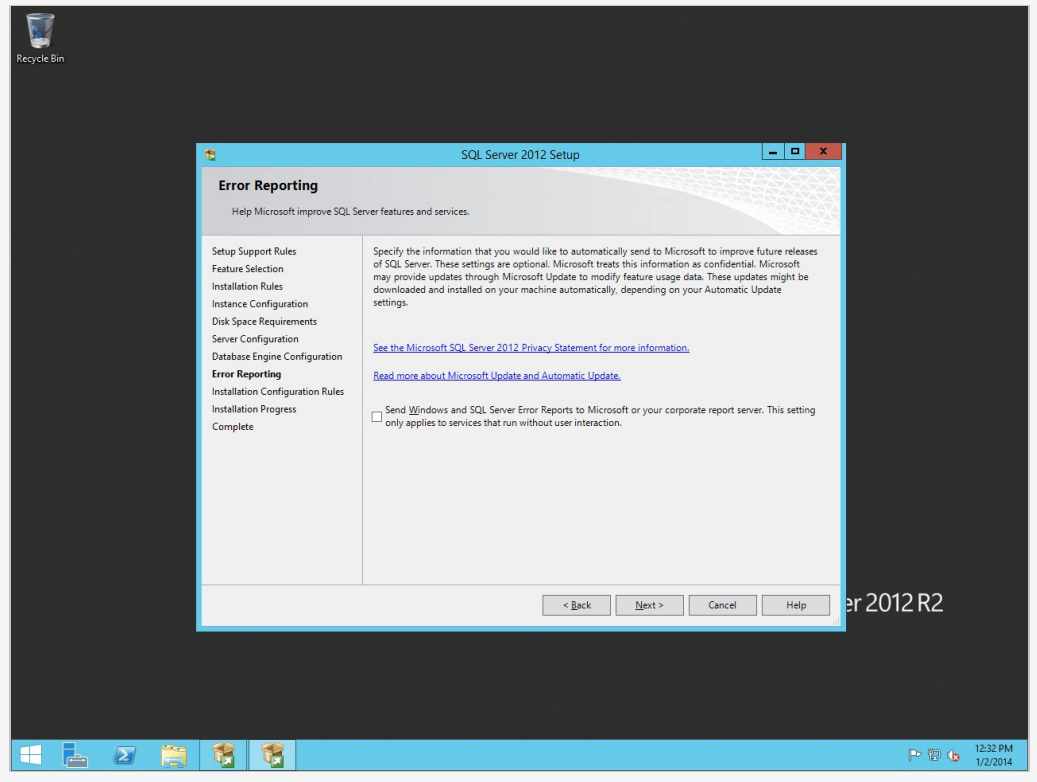
Installation will begin, so hold tight.
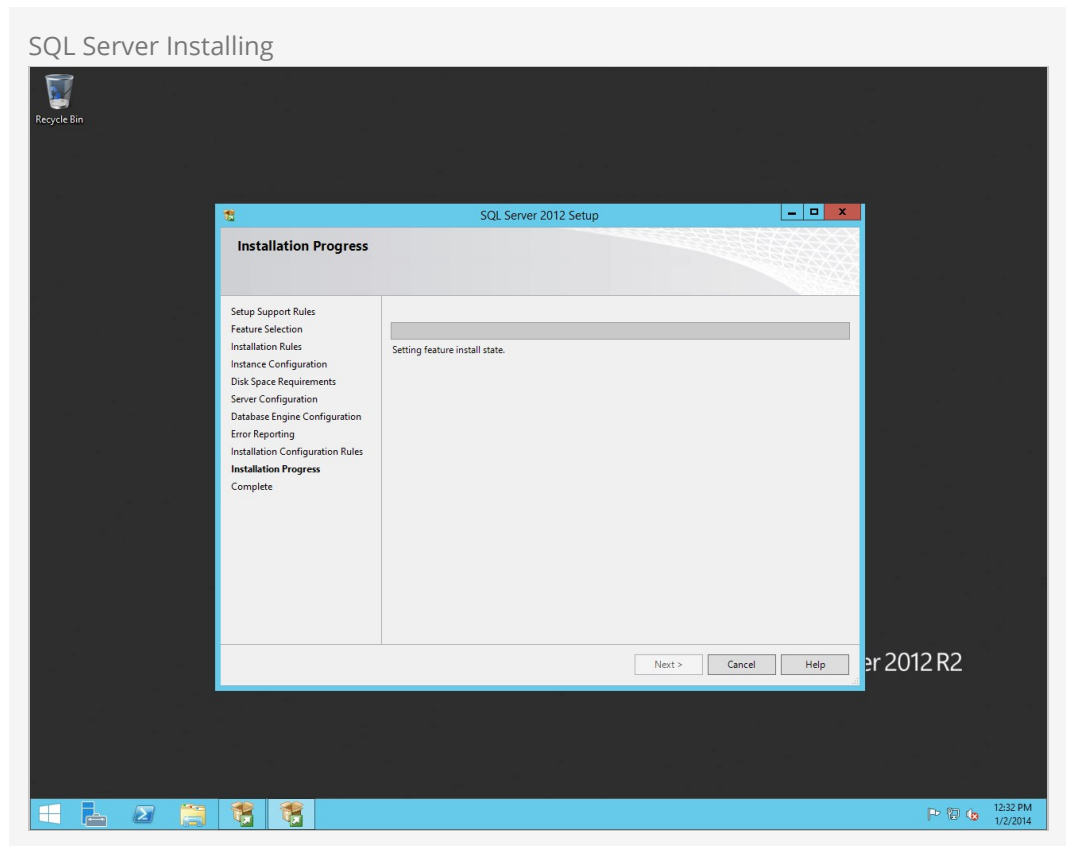
When complete, close the installer.

Installation Complete
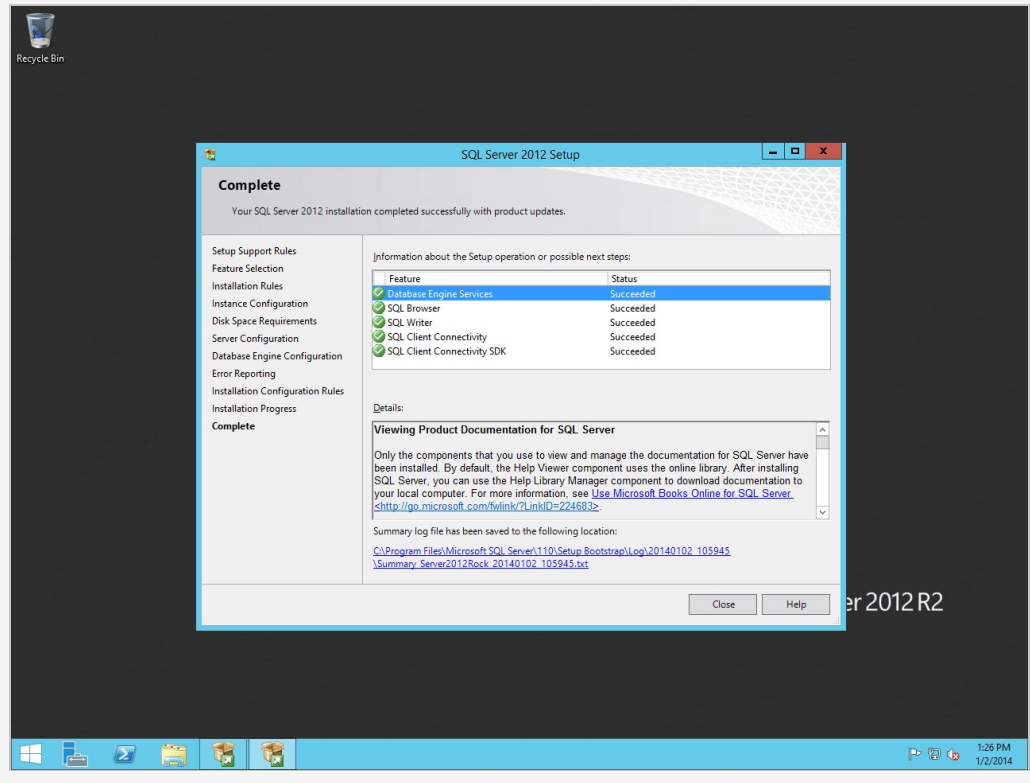
Configuring SQL Server

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 and log in using the credentials 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
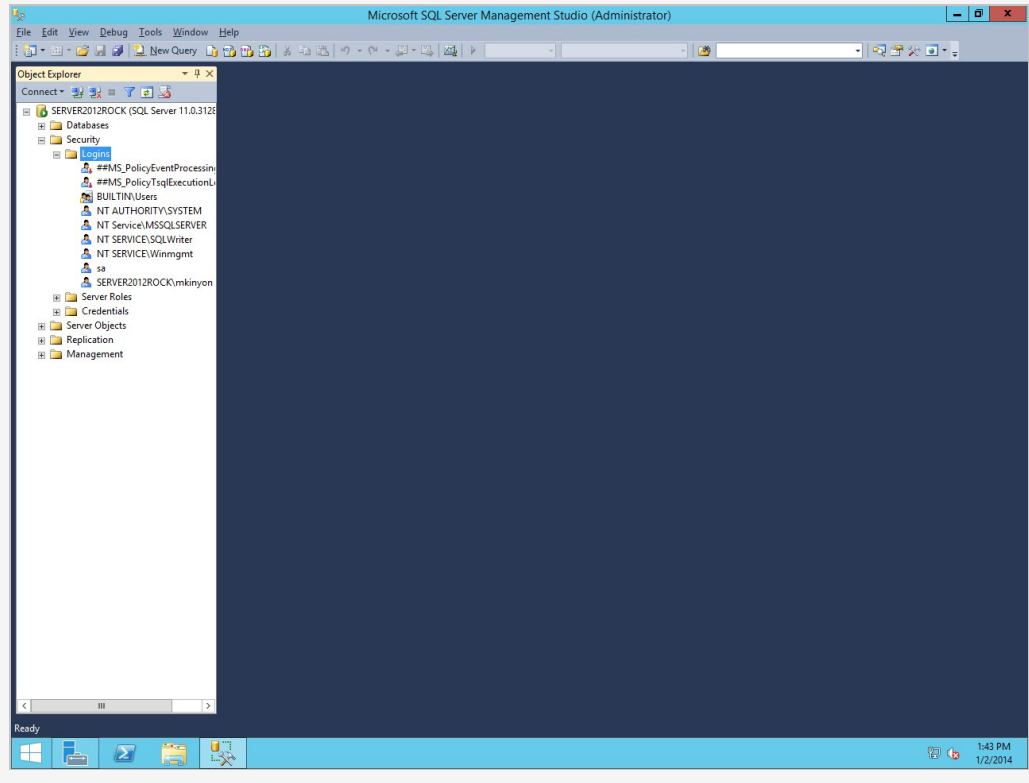
Create a user called RockUser (or another username if you prefer) and create a password. Also, uncheck the *Enforce password policy setting* for this account.
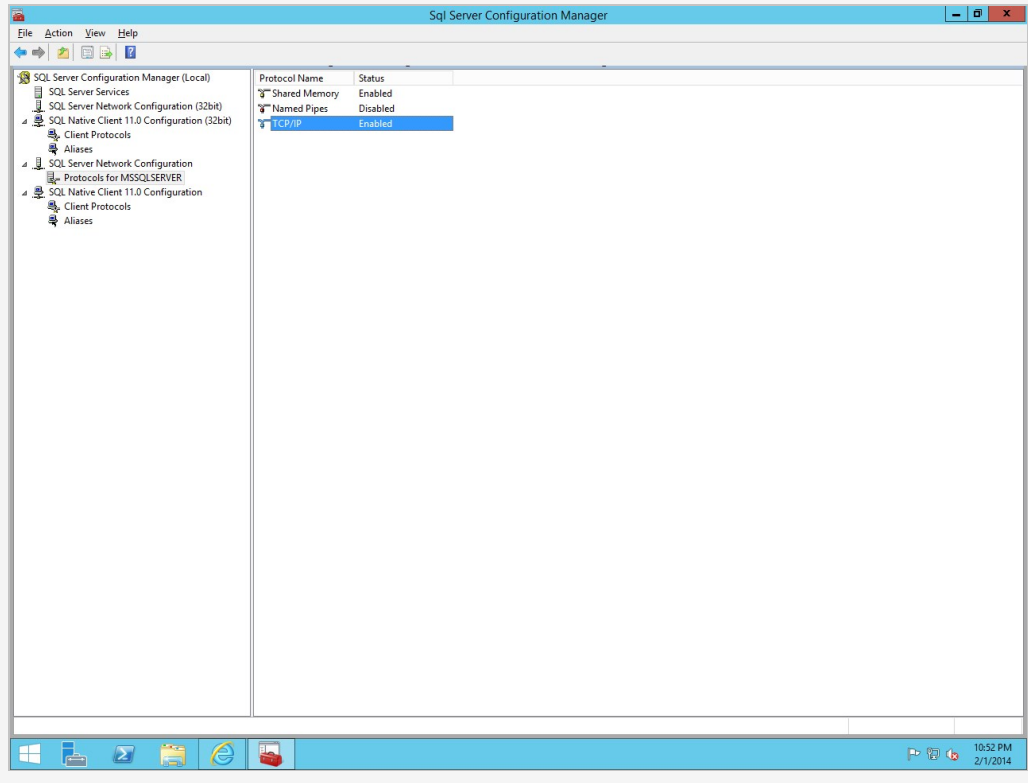
New User Window
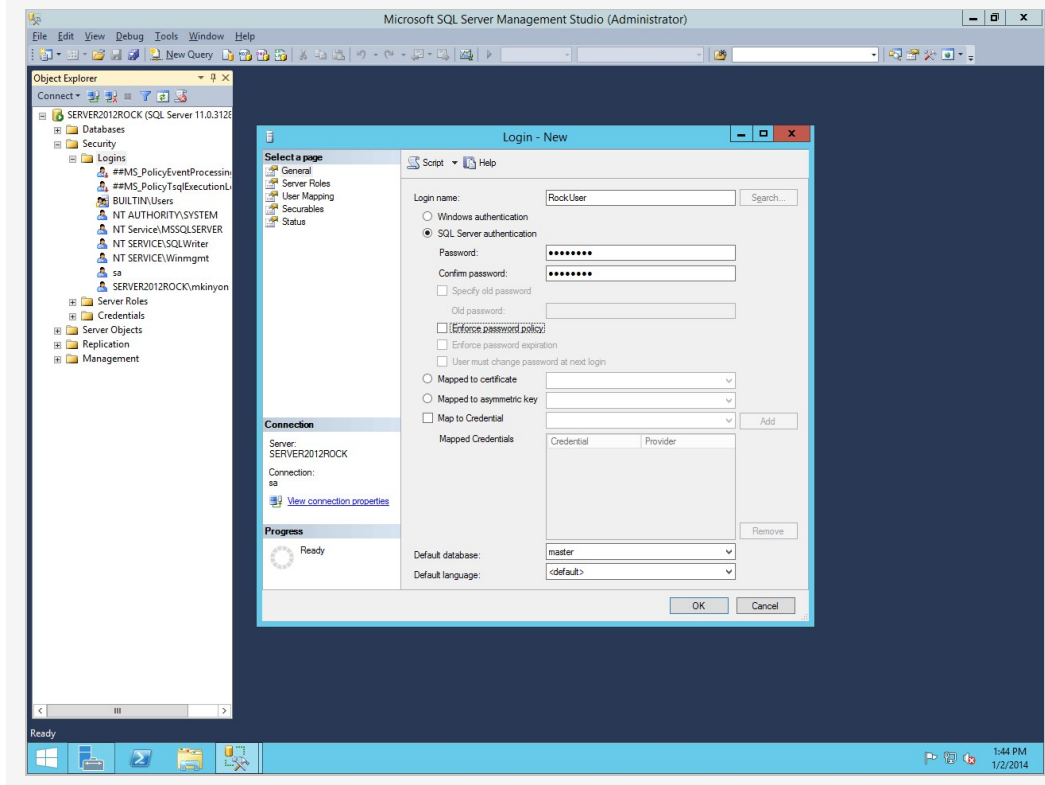
Next, click on *Server Roles*. Check the `dbcreator` role. Then click `OK`.
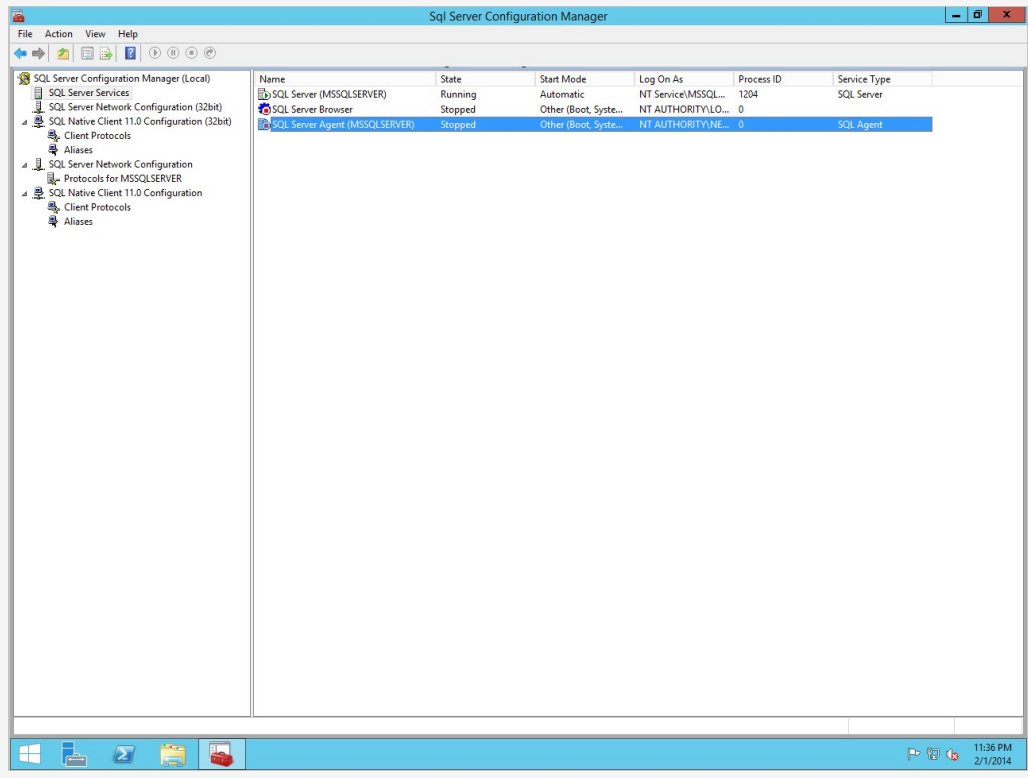
Login Properties
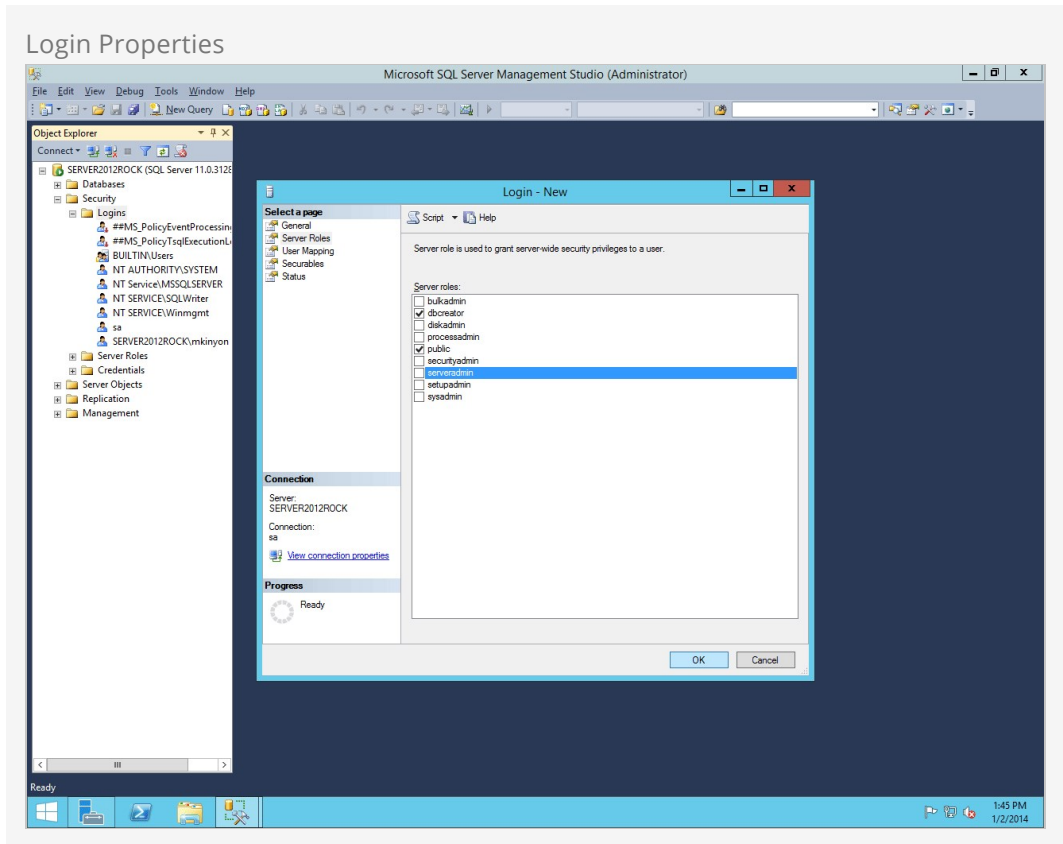
Now let's open up *SQL Server Configuration Manager*. Expand the *SQL Server Network Configuration* item and click on *Protocols for MSSQLSERVER*. Right click on *TCP/IP* and click on `Enable`.
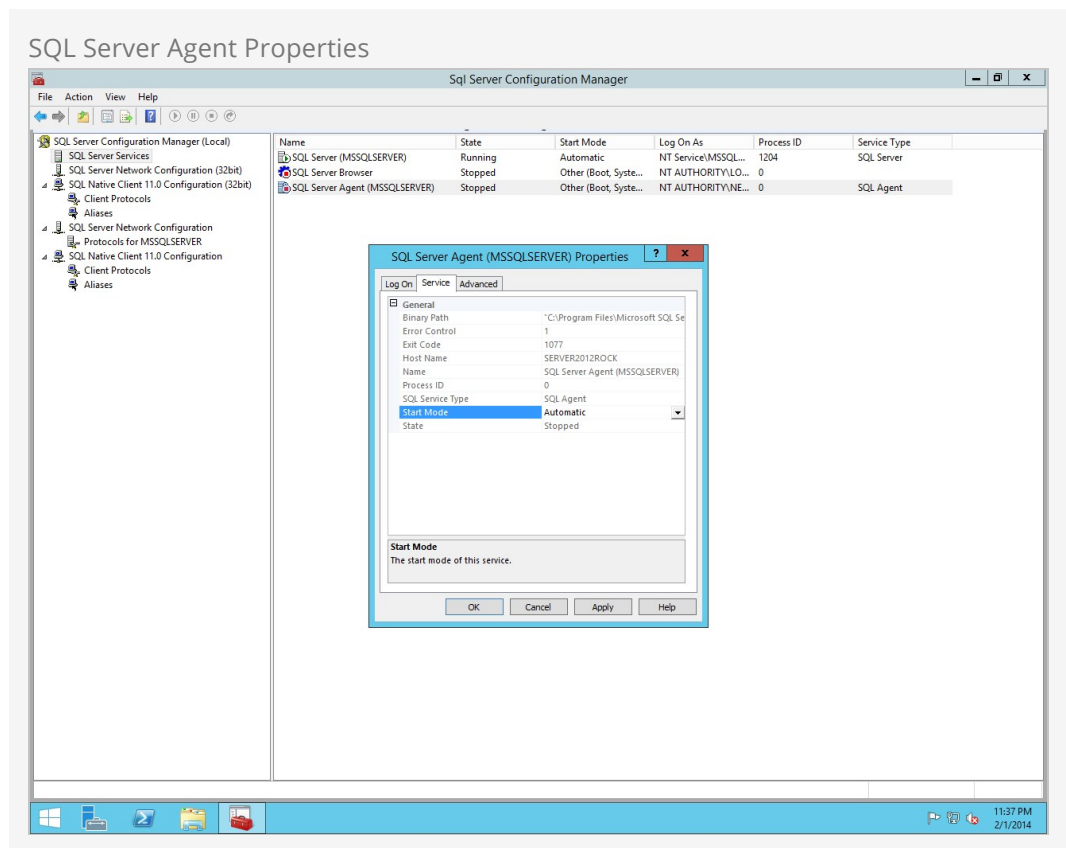
Enabling TCP/IP

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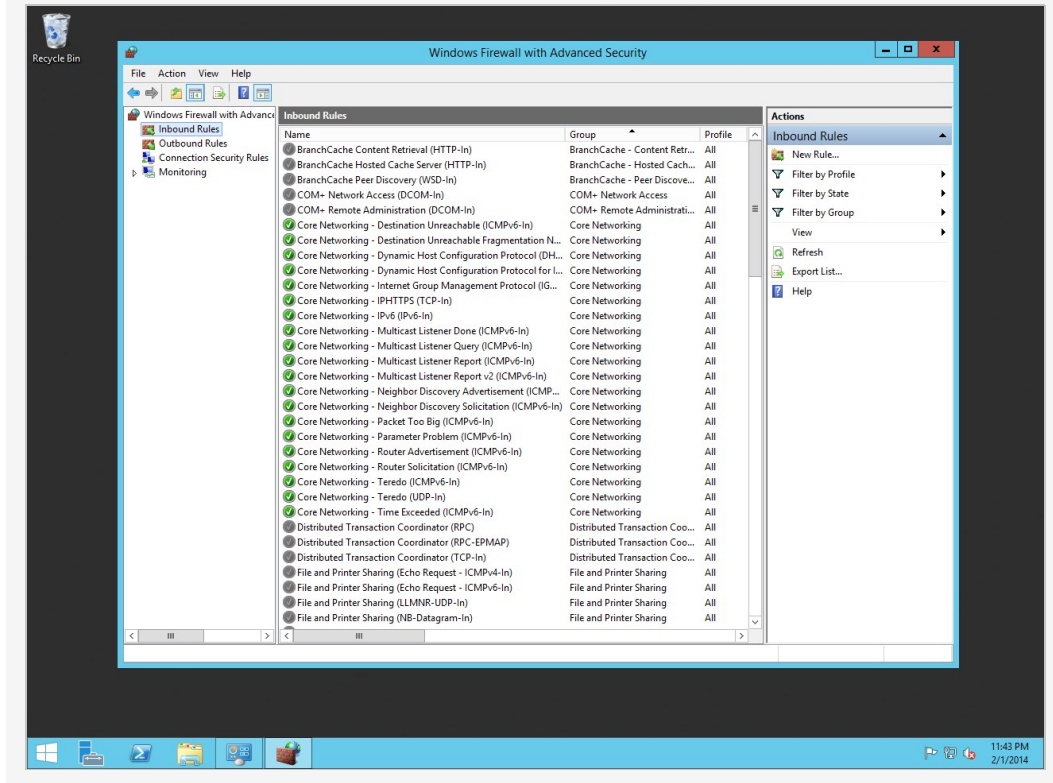
SQL Server Services

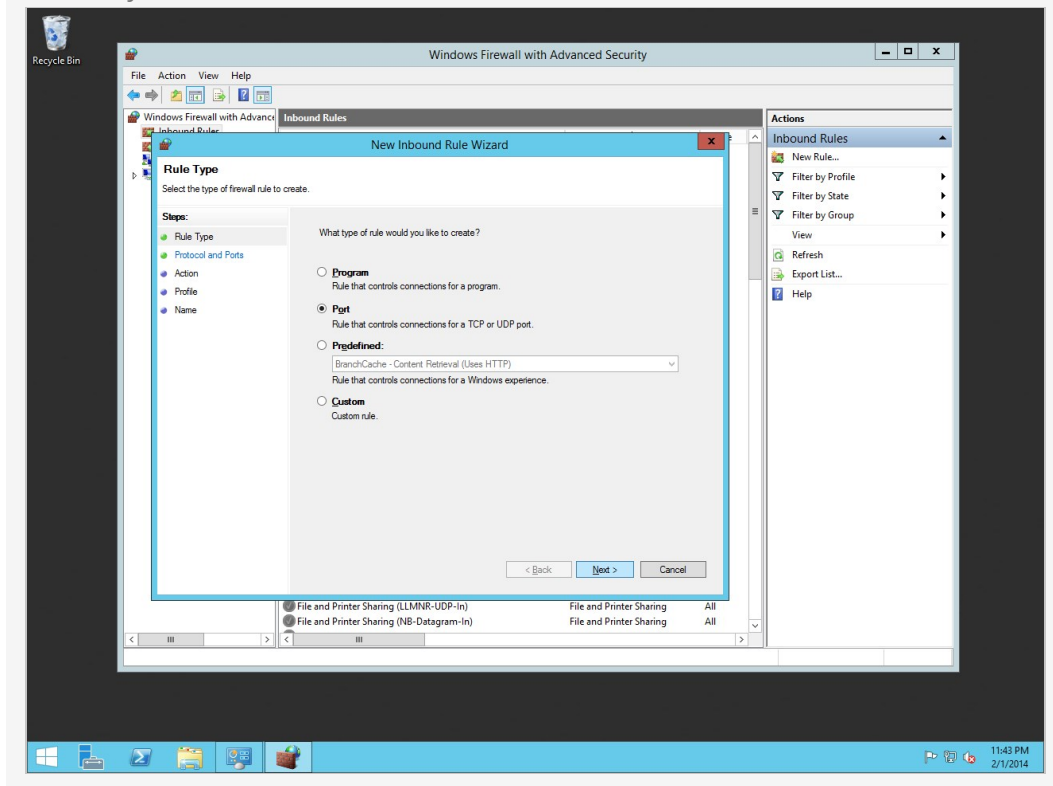Set the start mode to *Automatic* and click on `Apply`.

SQL Server Agent Properties

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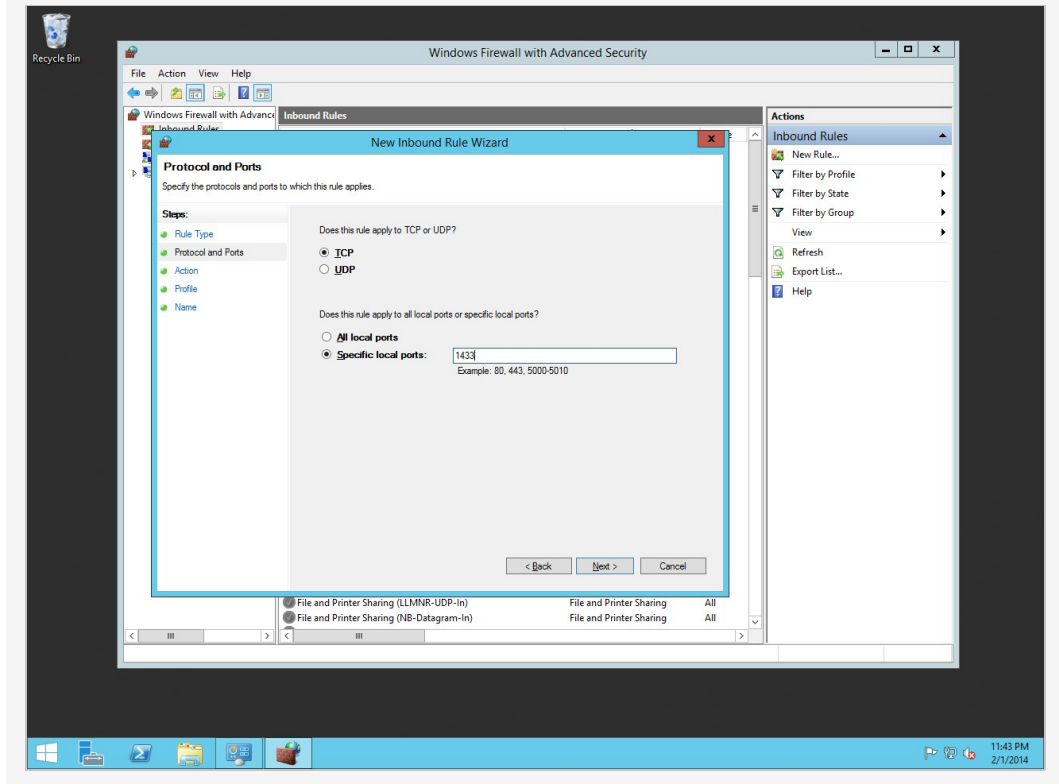
Creating a New Rule

Click on Port and click Next .
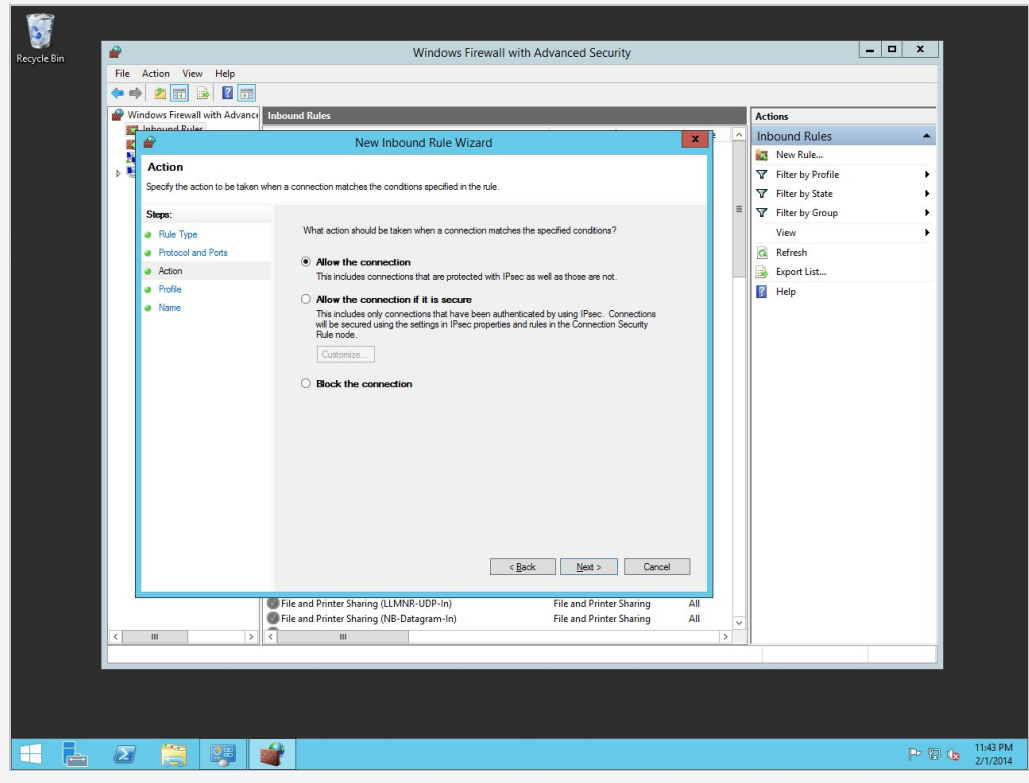
Define By Port

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

Specify Port 1433
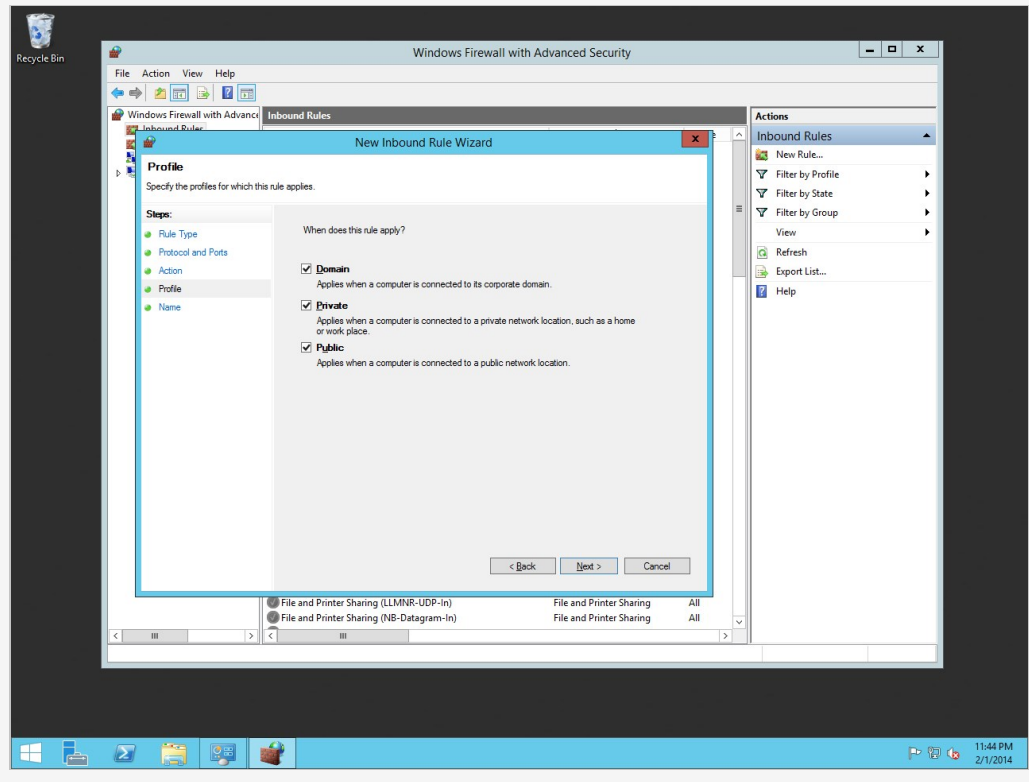

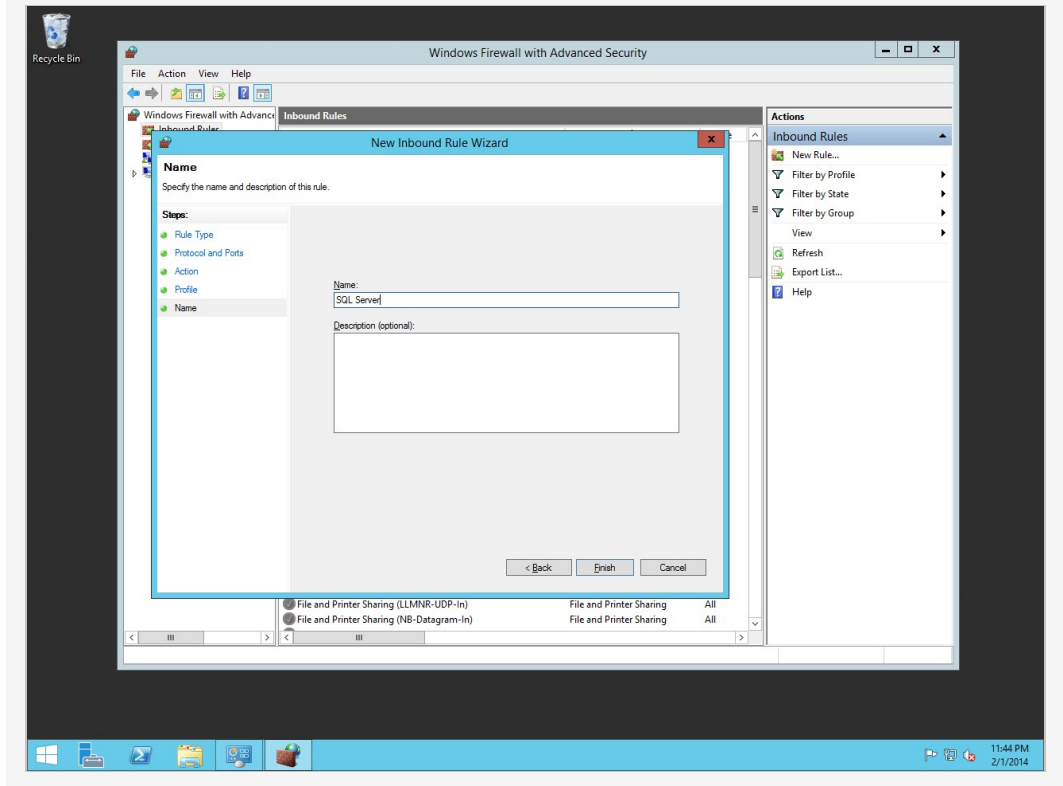Click on `Allow the connection` and click `Next`.

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* file from the installer package in the root of the web folder. By default, the web root folder will be located here: C:\inetpub\wwwroot.

Open up a web browser and go to http://localhost/Start.aspx to begin the installation process.
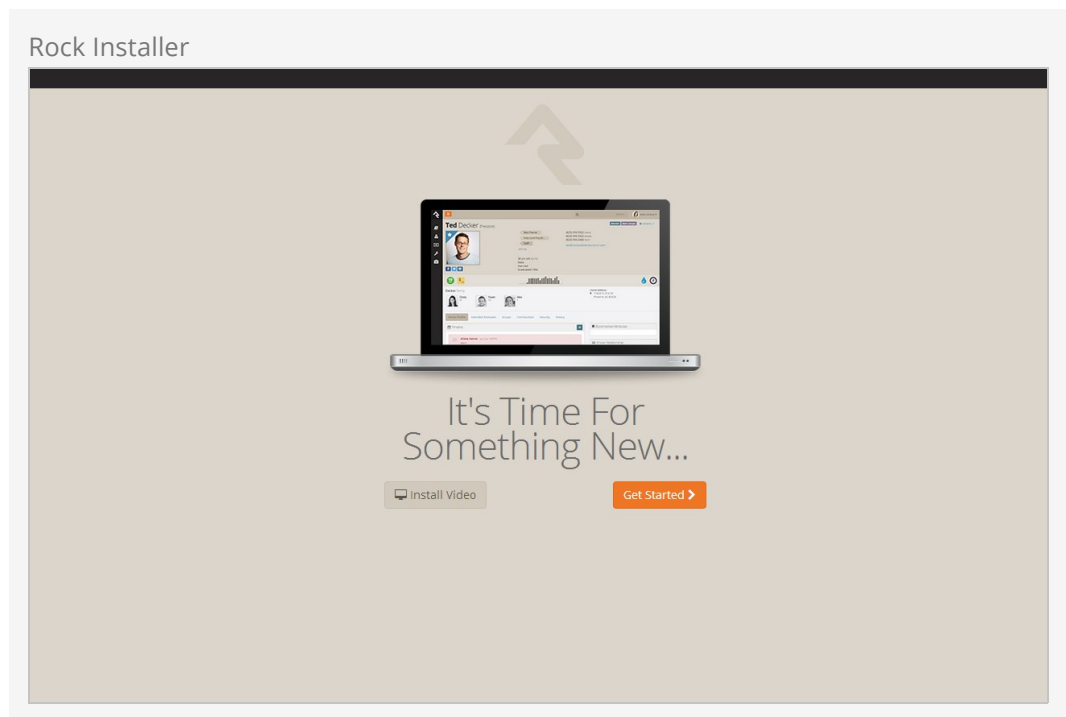
Now we will enter in the SQL server information. If the SQL server is installed on this server, you can type in "localhost" in the *Database Server* box. If you are using another server for SQL, you can enter the server name instead.

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 .

Database Configuration

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` .
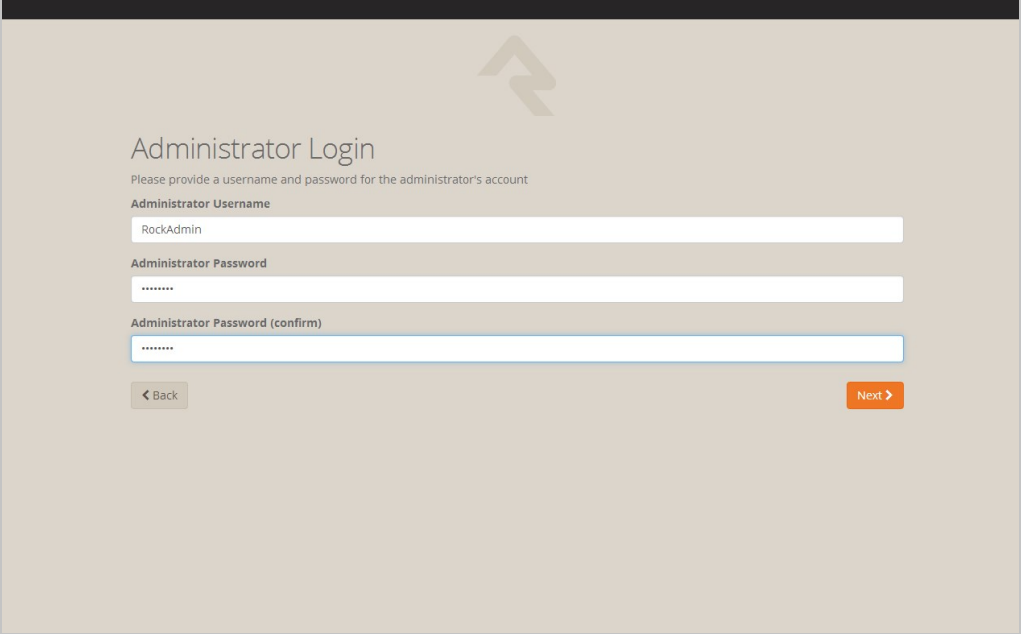
Environment Checks

The next screen will allow us to create an admin username and password for Rock. This will be the default admin account for Rock. Click `Next` .

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

Admin Account Setup

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

- **Internal URL:** The web address you'll use to 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.

Hosting Configuration

Hosting Configuration

Hosting Addresses

Rock needs to know where you are installing the application so it can correctly assemble links when you go to do things like send emails.
These settings can be changed at anytime in your `Global Settings`.
If you are installing Rock in subdirectory be sure to include it in the address.

Internal URL Used Inside Organization

```
http://admin.rocksolidchurchdemo.com
```

Public URL Used Externally

```
http://www.rocksolidchurchdemo.com
```

Organization Timezone

```
(UTC-07:00) Arizona                                                        ▼
```

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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`
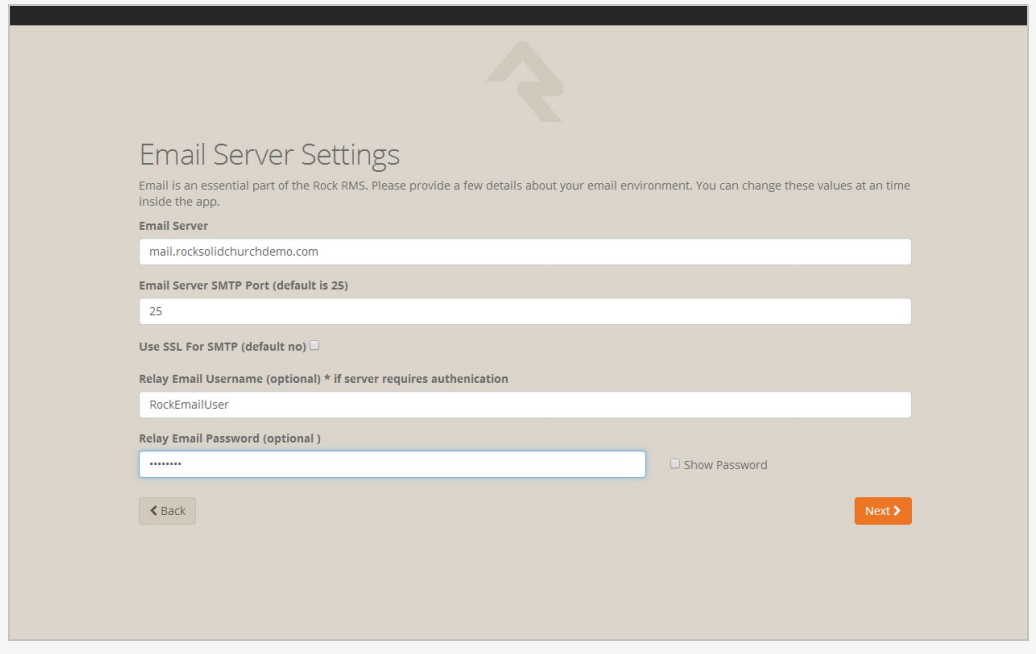
Next, we'll need to add your email server settings. These settings will be used so Rock can send Communication emails to your organization's members. If you don't have a self-hosted email server, there are many services out there that can send email on your behalf. One of these is MailJet www.mailjet.com. If you decide to use a cloud-hosted email solution, speak with their support team to get the required settings you need for Rock.

> Tip:
>
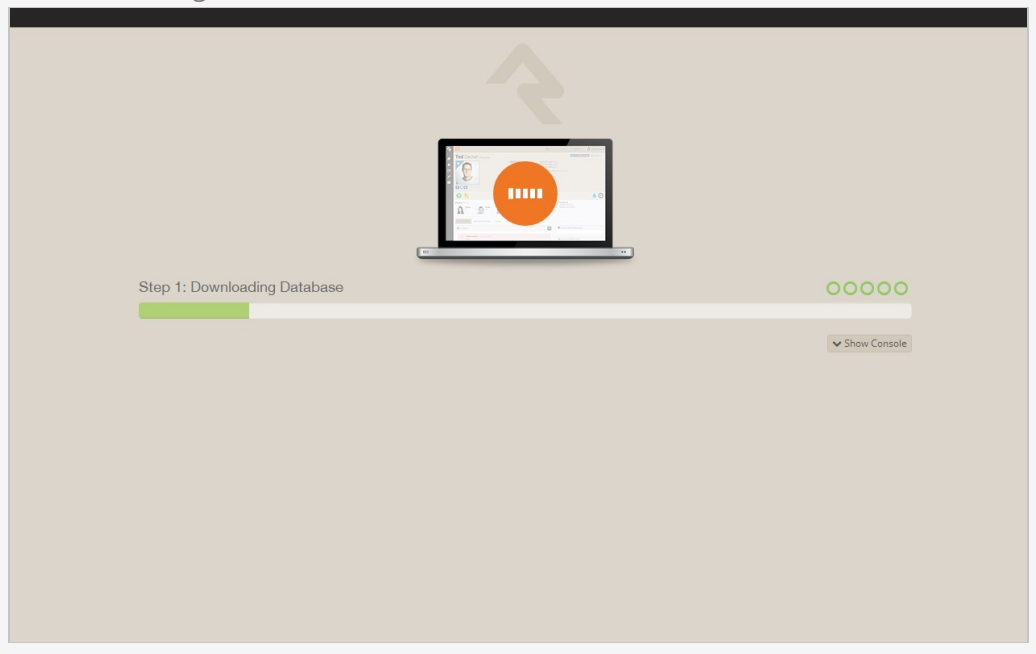> See the `Admin Hero Guide` for more on email service settings and using email services.

http://www.rockrms.com/Rock/Book/9

Email Settings

Email Server Settings

Email is an essential part of the Rock RMS. Please provide a few details about your email environment. You can change these values at an time inside the app.

Email Server

mail.rocksolidchurchdemo.com

Email Server SMTP Port (default is 25)

25

Use SSL For SMTP (default no) ☐

Relay Email Username (optional) * if server requires authenication

RockEmailUser

Relay Email Password (optional)

●●●●●●●● ☐ Show Password

< Back   Next >

> **Note:**
>
> Your email settings can be updated at any time under `Admin Tools > Communication`
> `Settings > Communication Transports> SMTP`

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

Installation Progress

Step 1: Downloading Database   ○○○○○

                                                    ˅ Show Console

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.

Installation Console
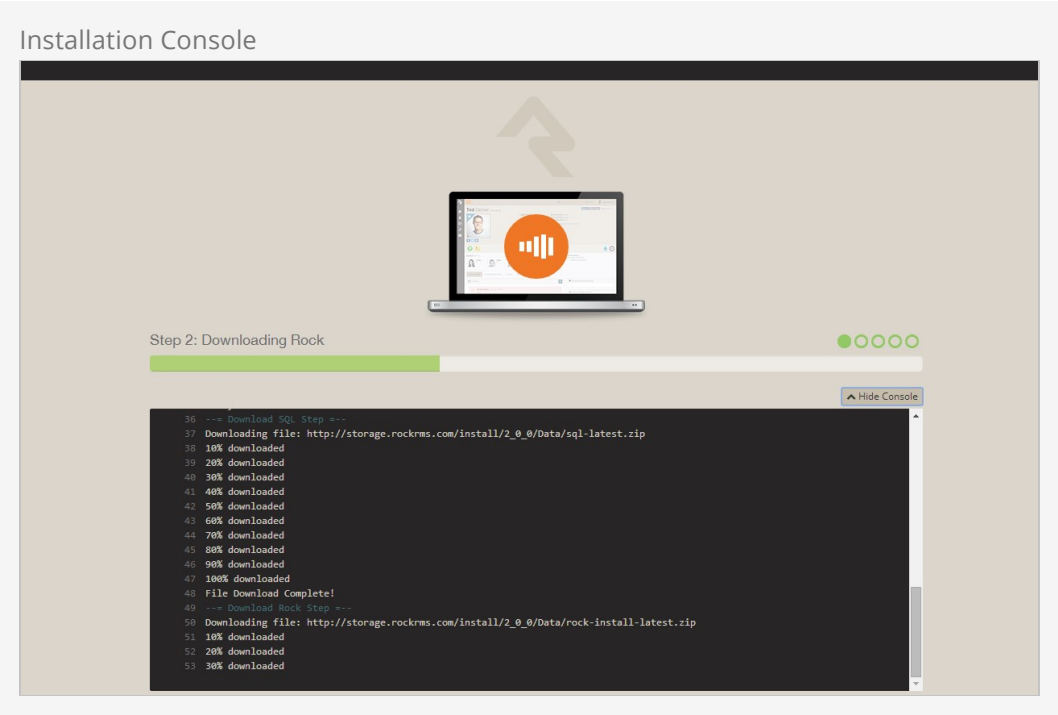
When complete, click on the `Flip the Switch` button. Keep in mind, this loading screen will take the longest to load since Rock is starting up for the first time.
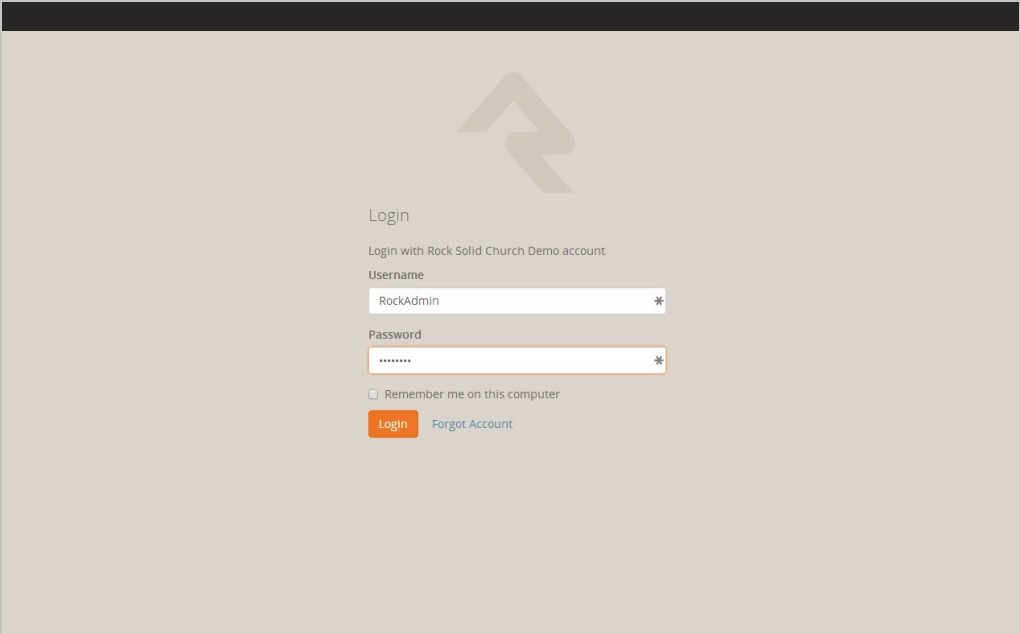
Installation Complete!
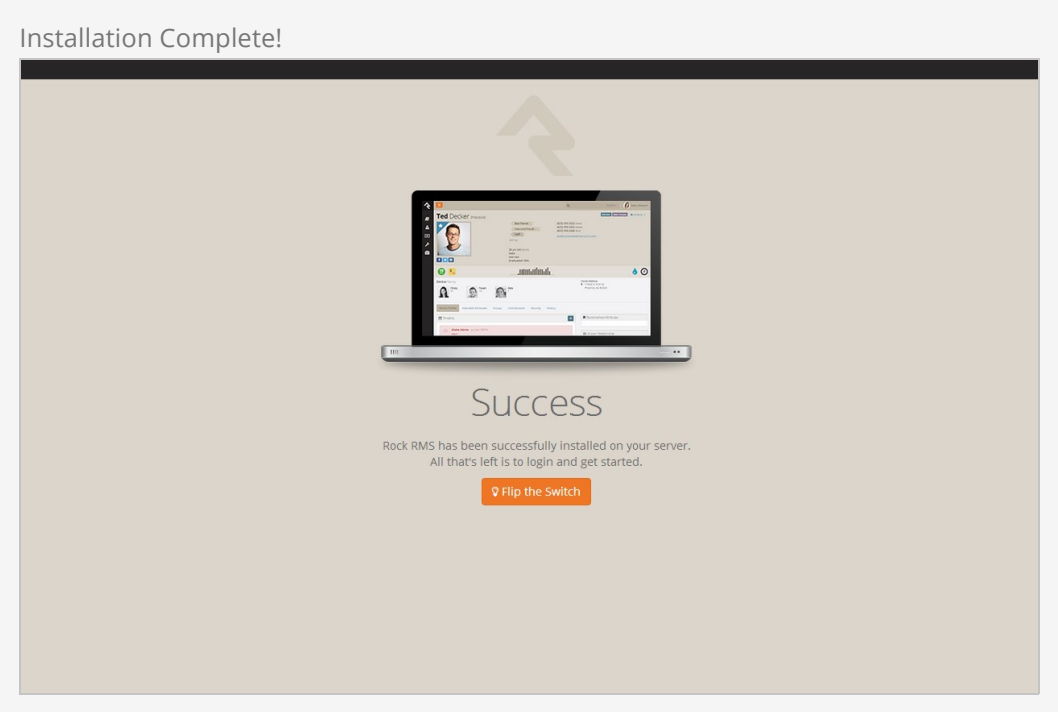
> **Note**
>
> If you arrive at the external site instead of the internal login page it could be that the domain name is set to be used as the external site. When Rock isn't provided with a specific page to load in the URL it looks at the domain and finds a site in the database that matches. If this 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 maxmize the potential of Rock at your organization. Don't worry about completing the list today. You can get to it as you become more familar 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.
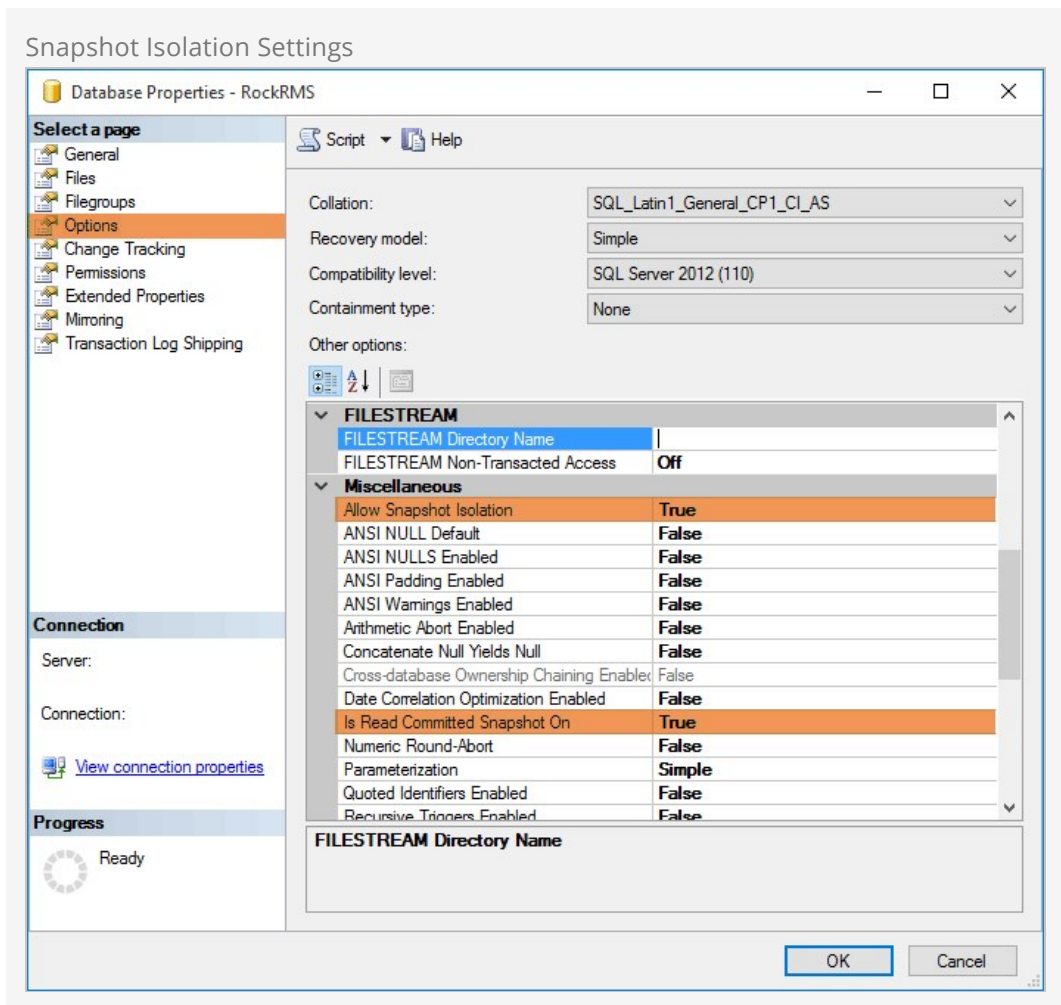
Rock Home Page

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 Manager and selecting `Properties` .)

Snapshot Isolation Settings

Default Settings May Vary

Depending on your SQL Server edition and version this may already be the default.

Special Configurations

In this chapter, we will go over some ways that you can maximize the performance of Rock.

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. There are a few benefits for this kind of configuration.

- **Performance:** Having your Rock Database and Web Environment on seperate 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.

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 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.