

# Messaging with RabbitMQ and .NET review part 2: installation and setup

AUGUST 3, 2016   4 COMMENTS ([HTTPS://DOTNETCODR.COM/2016/08/03/MESSAGING-WITH-RABBITMQ-AND-NET-REVIEW-PART-2-INSTALLATION-AND-SETUP/#COMMENTS](https://dotnetcodr.com/2016/08/03/messaging-with-rabbitmq-and-net-review-part-2-installation-and-setup/#comments)).

## Introduction

In the [previous post](https://dotnetcodr.com/2016/08/02/messaging-with-rabbitmq-and-net-review-part-1-foundations-and-terminology/) (<https://dotnetcodr.com/2016/08/02/messaging-with-rabbitmq-and-net-review-part-1-foundations-and-terminology/>) we went through a general introduction of RabbitMq and its terminology. RabbitMq is a message broker that helps to solve communication between disparate systems in a reliable and maintainable manner. It is a very fast and highly scalable open-source messaging system which by default supports the AMQP messaging protocol. We discussed the key terms exchange, binding, queue, connection and channel. We also listed the 4 exchange types which are direct, header exchange, topic and fan-out.

In this post we'll install RabbitMq on Windows. I have Windows 10 on my laptop but the RabbitMq installation package should work equally well on other versions of Windows. The most recent version of RabbitMq at this time of writing this post is 3.6.4. There may be a later version by the time you read this.

## Installation

Go to the [RabbitMq installation page](https://www.rabbitmq.com/download.html) (<https://www.rabbitmq.com/download.html>). Click the following Windows installer link:

### Downloading and Installing RabbitMQ

The latest release of RabbitMQ is 3.6.4.



(<https://dotnetcodr.files.wordpress.com/2016/08/rabbitmq-windows-installer-link1.png>)

We'll first need to install Erlang. Click the following link on the Windows installation page:

## Installing on Windows

### Download the Server

Description	Download	
Installer for Windows systems (from rabbitmq.com)	<b>rabbitmq-server-3.6.4.exe</b>	(Signature)
Installer for Windows systems (from github.com)	<b>rabbitmq-server-3.6.4.exe</b>	(Signature)

### Uninstall previous version

If you have an existing installation and are planning to upgrade the Erlang VM from a 32bit to a 64bit version then you must uninstall the broker before upgrading the VM. The installer will not be able to stop or remove a service that was installed with an Erlang VM of a different architecture.

### Install the Server

Firstly, download and run the **Erlang Windows Binary File**. It takes around 5 minutes.

Then just run the installer, **rabbitmq-server-3.6.4.exe**. It takes around 2 minutes, and will set RabbitMQ up and running as a service, with a default configuration.

(<https://dotnetcodr.files.wordpress.com/2016/08/install-erlang-for-rabbitmq-link.png>).

This will get you to the Erlang page. Select either the 32 or 64 bit installation package depending on your system....:

### DOWNLOAD OTP 19.0

Erlang/OTP 19.0 is a new major release.

OTP 19.0 Readme File

OTP 19.0 Source File (100446095)

OTP 19.0 Windows 32-bit Binary File (100446095)

OTP 19.0 Windows 64-bit Binary File (102501445)

OTP 19.0 HTML Documentation File (34550919)

OTP 19.0 Man Pages File (1405918)

Some highlights of the release are:

(<https://dotnetcodr.files.wordpress.com/2016/08/erlang-installation-links-for-windows.png>).

This will download an installation package. Go through the installation process accepting the defaults. Then go back to the Windows installation on the RabbitMQ page and click the following link:

## Installing on Windows

### Download the Server

Description	Download	
Installer for Windows systems (from rabbitmq.com)	<b>rabbitmq-server-3.6.4.exe</b>	(Signature)
Installer for Windows systems (from github.com)	<b>rabbitmq-server-3.6.4.exe</b>	(Signature)

(<https://dotnetcodr.files.wordpress.com/2016/08/install-rabbitmq-on-windows-from-rabbitmq-org.png>).

Again, go through the installation process and accept the defaults.

RabbitMQ is by default installed into the Program Files folder in a sub-folder called RabbitMQ Server. Open a Windows command prompt and navigate to the following folder:

C:\Program Files\RabbitMQ Server\rabbitmq\_server-3.6.4\sbin

If there's a newer version number then update the folder name in the command prompt accordingly.

Issue the following command:

rabbitmqctl status

You'll get a series of status messages in JSON format:

```
C:\Program Files\RabbitMQ Server\rabbitmq_server-3.6.4\sbin>rabbitmqctl status
Status of node rabbit@andraspc1 ...
[{pid,12180},
 {running_applications,[{rabbit,"RabbitMQ","3.6.4"},
                        {mnesia,"Mnesia CXC 138 12","4.14"},
                        {ranch,"Socket acceptor pool for TCP protocols.",
                          "1.2.1"},
                        {os_mon,"CPO CXC 138 46","2.4.1"},
                        {rabbit_common,[],"3.6.4"},
                        {xmerl,"XML parser","1.3.11"},
                        {sas1,"SASL CXC 138 11","3.0"},
                        {stdlib,"ERTS CXC 138 10","3.0"},
                        {kernel,"ERTS CXC 138 10","5.0"}]},
 {os,{win32,nt}},
 {erlang_version,"Erlang/OTP 19 [erts-8.0] [64-bit] [smp:4:4] [async-threads:64]\n"},
 {memory,[{total,40959888},
          {connection_readers,0},
          {connection_writers,0},
          {connection_channels,0},
          {connection_other,0},
          {queue_procs,2736},
          {queue_slave_procs,0},
```

(<https://dotnetcodr.files.wordpress.com/2016/08/rabbitmq-status-message-in-windows-command-prompt.png>).

The fact that we received all this text confirms that the RabbitMQ server is up and running and can receive messages.

Next enter the following command:

`rabbitmq-plugins enable rabbitmq_management`

This command will enable the management UI for RabbitMQ for easy administration. The answer should say that a number of plugins have been enabled:

```
C:\Program Files\RabbitMQ Server\rabbitmq_server-3.6.4\sbin>rabbitmq-plugins enable rabbitmq_management
The following plugins have been enabled:
mochiweb
webmachine
rabbitmq_web_dispatch
amqp_client
rabbitmq_management_agent
rabbitmq_management

Applying plugin configuration to rabbit@andraspc1... started 6 plugins.
```

(<https://dotnetcodr.files.wordpress.com/2016/08/enable-rabbitmq-management-ui-through-windows-command-prompt.png>).

Open a web browser and navigate to the following URL:

<http://localhost:15672/> (<http://localhost:15672/>).

This will open the RabbitMQ management login page. The default username and password is “guest”. Click around in the menu a bit. You won’t see much happening yet as there are no queues, no messages, no exchanges etc. Under the Exchanges link you’ll find the 4 exchange types we listed in the introduction. You can add exchanges and queues and other stuff directly here in the GUI but we’ll do that in code instead later on.

We’re done with the RabbitMQ server setup.

There are two things in the management UI that we can take a look at now: users and virtual hosts.

## Virtual hosts

A virtual host in RabbitMQ is kind of a namespace with which you can isolate groups of exchanges and queues. There can be a virtual host called “accounting” and another called “management”. The exchanges and queues of the accounting virtual host won’t normally have access to those assigned to the management namespace. In other words a virtual host is a container for related resources. Even users can be assigned per virtual host.

Click on the Admin menu item and then select the virtual hosts option:



(<https://dotnetcodr.files.wordpress.com/2016/08/virtual-hosts-link-in-the-rabbitmq-management-ui.png>).

By default there's a root namespace called "/" with an admin user called "guest" assigned to it. That's how we logged in in the first place.

Click on "Add a new virtual host" and name it "accounting":

Overview		Messages		N
Name	Users (?)	Ready	Unacked	Total
/	guest	NaN	NaN	NaN

Filter:  ☐ Regex (?)(?)

**Add a new virtual host**

Name:

**Add virtual host**

[HTTP API](#) [Command Line](#)

<https://dotnetcodr.files.wordpress.com/2016/08/adding-a-new-virtual-host-in-rabbitmq.png>

There are no users assigned to it yet. We'll create a new user in the next section.

## Users

Click on the Admin menu item and then select the Users option:

Overview | Connections | Channels | Exchanges | Queues | **Users** | Admin

**Users**

Filter:  ☐ Regex (?)(?)

Name	Tags	Can access virtual hosts	Has password
guest	administrator	/	•

[HTTP API](#) [Command Line](#)

<https://dotnetcodr.files.wordpress.com/2016/08/users-link-in-the-rabbitmq-management-ui.png>

Click on "Add a user" and create a new user called "accountant" with the password "accountant". I'll also add the tag "accountancy":

Name	Tags	Can access virtual hosts	Has password
guest	administrator	/	•

**Add a user**

Username:

Password:   (confirm)

Tags:

**Add user**

[HTTP API](#) [Command Line](#)

<https://dotnetcodr.files.wordpress.com/2016/08/adding-a-new-user-in-rabbitmq.png>

Click on the name of the new user in the list of users so that we can edit it further. We can in particular set the permissions for this new user:

(<https://dotnetcodr.files.wordpress.com/2016/08/set-permissions-for-the-new-user-in-rabbitmq.png>).

The Virtual Host drop-down list allows us to set which virtual host the new user will have access to. Then come three text fields with regular expressions: configure, write and read. These specify the configure, write and read access level to the resources in the given virtual host for the user. The default value is “.” which allows access to all exchanges and queues in the virtual host. E.g. the regular expression “^account” means that we give access to all resources whose name starts with “account”. We’ll leave the full access variants untouched for now. Click the Set permission button.

If you’re done creating the new user then log out from the RabbitMq management GUI. Now try to log in with the new user “accountant”. It should fail. The reason is that our tag “accounting” doesn’t follow the set of predefined roles available in RabbitMq. Log in with “guest” and go to the update section for the user “accountant”. Click the “?” link to the right of the Tags field to see which predefined values there are and what roles are attached to them:

(<https://dotnetcodr.files.wordpress.com/2016/08/rabbitmq-default-roles-and-user-tags.png>).

Update the user to have the “administrator” tag. Log out and log in with the “accountant” user. It should work this time. Note that this tag is only necessary for the management UI. If you don’t want the user to be able to log on to the management console then give it a new tag like “accountancy” which has no predefined roles attached.

In the [next post](https://dotnetcodr.com/2016/08/05/messaging-with-rabbitmq-and-net-review-part-3-the-net-client-and-some-initial-code/) (<https://dotnetcodr.com/2016/08/05/messaging-with-rabbitmq-and-net-review-part-3-the-net-client-and-some-initial-code/>), we’ll start looking at some C# code.

View the list of posts on Messaging [here](https://dotnetcodr.com/messaging/) (<https://dotnetcodr.com/messaging/>).

FILED UNDER [.NET](#), [MESSAGING](#) TAGGED WITH [C#](#), [MESSAGING](#), [RABBITMQ](#)  
**About Andras Nemes**

I’m a .NET/Java developer living and working in Stockholm, Sweden.

## 4 Responses to *Messaging with RabbitMQ and .NET review part 2: installation and setup*

**ramessesx says:**

August 3, 2016 at 9:53 am

Thanks Andras, very informative

### Reply

**Alexander DiMauro says:**

August 8, 2016 at 5:03 pm

Unfortunately, I can't get RabbitMQ to work on my Windows 10. When I run rabbitmqctl status, I get the error:

- \* TCP connection succeeded but Erlang distribution failed
- \* Authentication failed (rejected by the remote node), please check the Erlang cookie

Googled it and every attempt to fix has failed.

### Reply

**Foo says:**

January 10, 2017 at 11:23 am

Long time since you posted, but others might end up here from Google.

You (probably) did not run the installer as admin. This leaves the erlang cookie in a wrong folder.

Solution:

1. Uninstall rabbitMQ
2. Re-install RabbitMQ but this time run installer as admin

See <https://www.rabbitmq.com/windows-quirks.html> for further windows quirks

### Reply

**peter says:**

January 19, 2018 at 3:18 am

Hi, I have tried installing on two different windows 10 workstations.

I am using:

otp\_win64\_20.2.exe

rabbitmq-server-3.7.2.exe

Each time I run on either workstation I get the same error.

I have run each install as the admin.

I see cookies under and they are in sync under c:\users\username, c:\windows, and C:\Windows\System32\config\systemprofile

Please help, I can not understand why this is happening.

C:\Program Files\RabbitMQ Server\rabbitmq\_server-3.7.2\sbin>rabbitmqctl status

Status of node rabbit@WHITEKNIGHT-HP ...

Error: unable to perform an operation on node 'rabbit@WHITEKNIGHT-HP'. Please see diagnostics information and suggestions below.

Most common reasons for this are:

- \* Target node is unreachable (e.g. due to hostname resolution, TCP connection or firewall issues)
- \* CLI tool fails to authenticate with the server (e.g. due to CLI tool's Erlang cookie not matching that of the server)
- \* Target node is not running

In addition to the diagnostics info below:

- \* See the CLI, clustering and networking guides on <http://rabbitmq.com/documentation.html> to learn more
- \* Consult server logs on node rabbit@WHITEKNIGHT-HP

### DIAGNOSTICS

=====

attempted to contact: ['rabbit@WHITEKNIGHT-HP']

rabbit@WHITEKNIGHT-HP:

- \* connected to epmd (port 4369) on WHITEKNIGHT-HP
- \* epmd reports node 'rabbit' uses port 25672 for inter-node and CLI tool traffic
- \* TCP connection succeeded but Erlang distribution failed
- \* Authentication failed (rejected by the remote node), please check the Erlang cookie

Current node details:

- \* node name: 'rabbitmqcli33@WHITEKNIGHT-HP'
- \* effective user's home directory: C:\Users\WhiteKnight
- \* Erlang cookie hash: 0GbRAhLGCw9qS+B89gjBaQ==

Reply

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