How To Update JQuery to 3.5.x

At the time this guide was written, external scans of Wasp AC and IC claim they use JQuery 1.2. This poses a problem for some customers, who demand a newer version.

In our case, RabbitMQ is easily locked down so no security vulnerability is exposed, but some customers find it preferable to upgrade RabbitMQ rather than explain the presence of an obsolete JQuery.

One does not upgrade JQuery like an application. Instead, one must upgrade the software that uses JQuery. In the case of AC and IC, this is RabbitMQ. Since RabbitMQ is tightly bound to Erlang, we cannot upgrade RabbitMQ without upgrading Erlang.

Neither of these packages make upgrading easy. But it can be done.

Note: This document refers to the program files folder C:\Program Files. The actual drive and folder may be different. A safe approach is to use the Windows command-line variable %ProgramFiles%.

If your %ProgramFiles% are on some alternate drive, such as drive x:, then it would resolve to X:\Program Files rather than C:\Program Files.

1 Prerequisites

Prepare for this procedure by organizing the pieces you will need.

1.1 RabbitMQ

Before beginning, obtain an installer for RabbitMQ that will use a new enough JQuery, version 3.8 or newer. The example here calls out RabbitMQ 3.9.5. The installer is rabbitmq-server-3.9.5.exe.

Every version of RabbitMQ has a specific range of Erlang versions that may be used.

The website pages for RabbitMQ shift frequently, so you will likely have to search for the correct download and compatibility pages. Here is what worked when this document was written:

- <u>RabbitMQ Erlang Version Requirements RabbitMQ</u> (https://www.rabbitmq.com/whicherlang.html)
- <u>Installing on Windows RabbitMQ</u> (https://www.rabbitmq.com/install-windows.html)

1.2 Erlang

This example uses Erlang 24, which the RabbitMQ website says is appropriate for RabbitMQ 3.9.5. The installer for this is otp_win64_24.0.exe.

Website pages change frequently, so you will likely have to search for the appropriate Erlang. At the time of writing, the site was

• <u>Erlang Programming Language</u> (https://www.erlang.org/downloads)

1.3 RabbitMQ Configuration JSON

Prepare a JSON file that will later be used to configure RabbitMQ. The easiest and safest way to do this is to export the existing configuration.

1.3.1 Export Existing RabbitMQ Configuration

Open a browser such as Edge (do not use IE).

- □ Navigate to http://127.0.0.1:15672/#/
- □ Log in to the RabbitMQ Console. In this example, the guest account was left active.

L.	RabbitMO	
Username:	guest	*
Password:	•••••	<u>_</u> *
	Login	

□ Scroll down the Overview tab

H Rat	obitMQ	3.7.17 Erla	ang 21.2	
Overview	Connections	Channels	Exchanges	Queues
Overvie Totals Queued messag	W ges last minute ?			
1.5 1.0 0.5 0.0 13:19:00	13:19:10 13:19:20	13:19:30 13:19	:40 13:19:50	Ready Unacked Total

□ Expand the Export definitions section

▼ Export definitions	
Filename for download: rabbit_DESKTOP-I975M	Download broker definitions

□ Click "Download broker definitions" and save the file.

Downloads		… ☆
rabbit_DESKTOP-I975MSM_2021- Open file	9-8.json	
See more		

If your browser is not set up to let you pick the name and location, you may find it useful to move it to a better location with a better name.

1.4 System

Make sure the OS is completely updated. Check for Windows updates multiple times. Reboot until no pending restarts remain. This will often require more than cycle of checking for updates, applying them, rebooting, and checking again.

2 Procedure

2.1 Stop the Websites

□ In IIS, stop the Wasp websites (STS, API and WASP_AC or WASP_IC). Note that old versions will have an MVC site instead of WASP_AC or WASP_IC.



2.2 Stop the Services

□ In Services.msc, set the "Recovery" properties of both Wasp Now and Wasp Later services to "take no action". This makes stopping the services easier.

WASP Later Service	WASP Later Service Properties (Local Computer) X						
General Log On	Recovery	Dependenci	es				
Select the comput actions.	ter's respons	e if this servic	e fails. <u>Help me set up recovery</u>				
First failure:		Restart the	Service 🗸 🗸				
Second failure:		Take No Action Restart the Service					
Subsequent failures:		Run a Progr Restart the (am Computer				
Reset fail count a	fter:	0	days				
Restart service af	ter:	0	minutes				
Enable actions	s for stops wi	th errors.	Restart Computer Options				

- □ Check the "Recovery" settings for the RabbitMQ service. Set them to "take no action" if necessary.
- □ Stop the Wasp Later service, then the Wasp Now service.
- \Box Stop the RabbitMQ service.

2.3 Uninstall Erlang and RabbitMQ

Note that this must be done from the same user account that was used when the Wasp Barcode AC or IC software was installed.

2.3.1 Deactivate the RabbitMQ Service

- □ Open a command prompt in Administrator mode.
- □ Enter: pushd %RABBITMQ_SERVER%

If your Wasp installation was set up correctly, you are now in something like:

C:\Program Files\RabbitMQ\rabbitmq_server-3.7.17>

- □ Enter: pushd sbin
- □ Enter: rabbitmq-service.bat remove

Check in Services.msc to see that the RabbitMQ service is gone. You may have to refresh.

If the service is still there and has a "disabled" status, you will need to reboot the computer before proceeding.

Leave the command prompt around. You'll need it later.

2.3.2 Uninstall Erlang

- \Box In the Appwiz.cpl, uninstall Erlang OTP 21 (10.x).
- □ When done with the uninstall, open the task manager, switch to the Details tab, sort by Name, and then look for epmd.exe.

1월 Task Manager File Options View								
Processes Performance App history Startup Users Details Services								
Name	^	PID	Sta	itus			Username	CPU
epmd.e	xe	7864 Running				SYSTEM	00	
🐂 explore	r.exe	4280	Running			DevTest	00	
🐂 explore	r.exe	508	Ru	nning			DevTest	00

Deactivating RabbitMQ and uninstalling Erlang should have stopped this exe, but it doesn't.

□ Right click epmd.exe and bring up its properties. This will provide the location you will need next.

📧 epmd.exe Properties							
General	Comp	atibility	Security	Details	Previous Versio		
		epmd.	exe				
Type of Descrip	file: tion:	Applica epmd.e	ation (.exe) exe				
Locatio	n:	C:\Pro	gram Files\	erl10.2∖e	ts-10.2\bin		

□ In the administrator command prompt, navigate to the location indicated.

pushd "C:\Program Files\erl10.2\erts-10.2\bin"

- □ Enter: epmd.exe -kill
- \Box In the task manager, check that epmd.exe is no longer present.
- □ Navigate back up to "Program Files" so the command prompt isn't locking the folder.

2.3.3 Delete .erlang.cookie Files

 $\hfill\square$ \hfill Find the old .erlang.cookie files and delete them.

Look in both <code>%userprofile%</code> and <code>Windows\System32\config\systemprofile\</code> for copies of the file. Note that modern Windows may try to prevent you from accessing the system profile directory directly. You may have to drill down, one folder at a time, granting permission to access to each one.

2.4 Install New Erlang

- □ Rename the existing Erlang folder (%ProgramFiles%\erl10.2) to erl10.2.deprecated. Or just delete it.
- □ Install Erlang. In this example, otp_win64_24.0.exe.
- □ In this example, we will install to the default location of %ProgramFiles%\erl-24.0.
- □ You may choose the option "Do not create shortcuts".
- □ The erlang 64-bit installer may be downloaded from this site: <u>https://www.erlang.org/downloads</u>

2.5 Install the New RabbitMQ

- □ Rename the existing old RabbitMQ folder (%ProgramFiles%\RabbitMQ) to RabbitMQ.deprecated.
- □ Install the new RabbitMQ. In this example the installer is rabbitmq-server-3.9.5.exe.
- □ Make sure the "RabbitMQ Service" component is checked.
- □ The latest version of RabbitMQ may be downloaded from this site: <u>https://github.com/rabbitmq/rabbitmq-server/releases</u>

HabbitMQ Server 3.9.5 Setup	,	– 🗆 X				
Choose Components Choose which features of RabbitMQ Server 3.9.5 you want to install.						
Check the components you wa install. Click Next to continue.	nt to install and uncheck the comp	onents you don't want to				
Select components to install:	RabbitMQ Server (require RabbitMQ Service Start Menu	Description Set up RabbitMQ as a Windows Service.				
Space required: 28.7 MB	< >>					
Nullsoft Install System v3.04-1 —	[Next > Cancel				

□ Install to the folder %ProgramFiles%\RabbitMQ. You should choose the folder name that was originally used by the old RabbitMQ. While you may install to a different folder, configuring that folder for use with Wasp AC or IC is beyond the scope of this document.

HabbitMQ Server 3.9.5 Setup	_		×
Choose Install Location			ц.
Choose the folder in which to install RabbitMQ Server 3.9.5.			•
Setup will install RabbitMQ Server 3.9.5 in the following folder. To in click Browse and select another folder. Click Install to start the insta	stall in a di lation.	fferent fo	lder,
Destination Folder	Bro	owse	
Space required: 28.7 MB			
Space available: 18.0 GB			
Nullsoft Install System v3.04-1			
< Back	install	Ca	ncel

□ Installation of RabbitMQ will trigger two Windows Security Alerts. Allow Access on both.

2.6 Configure RabbitMQ

2.6.1 Environment Variables

Use your favorite method to set environment variables. Some use Setx in an administrator command prompt, others bring up the old System Properties dialog and go to Environment Variables.

- □ If the prior steps went correctly, ERLANG_HOME is already set correctly. If not, execute these commands from the Administrator command line (cmd.exe):
- Determine the MSDOS 8.3 short file name for the Program Files directory using the command: dir /x "%ProgramFiles%\.."

This	should	display	the short	file name	for "Program	Files":
		1 2			U	

Directory c	of C:\				
01/02/2020	10:21	<dir></dir>	MICROS~1	Microsoft	
05/26/2020	07 : 57	<dir></dir>		PerfLogs	
08/25/2021	19:54	<dir></dir>	PROGRA~1	Program Files	
08/02/2021	09 : 13	<dir></dir>	PROGRA~2	Program Files (x86)	
06/17/2021	10 : 31	<dir></dir>		temp	

"PROGRA~1" is the short name we want. Ignore the one for "Program Files (x86)".

Use the 8.3 short file name for "Program Files" to set the ERLANG_HOME environment variable. setx /M ERLANG HOME "C:\PROGRA~1\erl-24.0"

Note: pay close attention to the digit in the string PROGRA~1 and the drive letter. It is not always #1 and not all machines use drive C:\

- Set the RABBITMQ_SERVER environment variable. In our example, this is "C:\Program Files\RabbitMQ\rabbitmq_server-3.9.5". setx /M RABBITMQ_SERVER "%ProgramFiles%\RabbitMQ\rabbitmq_server-3.9.5"
- Set the RABBITMQ_BASE environment variable.
 setx /M RABBITMQ_BASE "%ProgramFiles%\RabbitMQ\rabbitmq_server-3.9.5"
- □ At this point close any command prompts to make sure the variables are set.

Note: You can get the old run "env" from the windows Taskbar and edit [Environment Variables] instead of using "setx /M" from the command line.

This brings up the old System Properties dialog from which you can get the Environment Variables popup.

System Properties				×
Computer Name Hardwa	re Advanced	System Protection	Remote	
You must be logged on a	s an Administrat	or to make most of th	nese changes.	
Performance				
Visual effects, process	or scheduling, m	emory usage and vir	tual memory	
			Settings	
User Profiles				
Desktop settings relate	d to your sign-in			
			Settings	
Start-up and Recovery				
System start-up, system	failure and deb	ugging information		
			Settings	
		Environme	ent Variables	
	OK	Cancel	Apply	,

2.6.2 RabbitMQ Setup

- □ Open a command prompt in administrator mode.
- □ Enter: pushd "%ProgramFiles%\RabbitMQ\rabbitmq_server-3.9.5\sbin".
- □ Enter: rabbitmq-service.bat install

When that completes, open Services.msc, refresh, find RabbitMQ and check the properties. The path to executable should be

"C:\Program Files\erl-24.0\erts-12.0\bin\erlsrv.exe" (or the equivalent if your program files is not on c:\).

□ Move to the Recovery tab and set all three restart actions to "Restart the Service". Set the restart time to 0.



Back in the administrator command prompt,

- Run: rabbitmq-plugins.bat enable rabbitmq_management
- $\hfill\square$ Run: rabbitmq-plugins.bat list

2.6.3 Start the RabbitMQ Service

- $\hfill\square$ $Run: {\tt rabbitmq-service start}$
- □ Refresh the Services.msc UI
- □ Check that RabbitMQ is now running

2.6.4 Log in as Guest

Do not use Internet Explorer for the following steps. You may use Edge, Firefox, Chrome or another favorite browser.

- □ Navigate to http://127.0.0.1:15672/#/
- □ Log in as guest with password: guest

B RabbitMO				
Username:	guest	*		
Password:	•••••			
	Login			

2.6.5 Check the .erlang.cookie Files

- □ In file explorer, navigate to %windir%, then to the subfolder System32\config\systemprofile
- □ Find the .erlang.cookie file. Note the time stamp and the size. It should be today's date.
- □ Open another file explorer and navigate to %UserProfile%
- □ If everything went OK, there will be a matching .erlang.cookie file. If there is a discrepancy, copy the file from SystemProfie to the user profile area.

2.6.6 Import the JSON Configuration File

Note that RabbitMQ may have found and preserved your prior configuration, making this step harmless but unnecessary.

□ Back in the browser logged into the RabbitMQ console, scroll down the Overview tab.

- □ Expand "Import definitions"
- □ Choose the JSON file you prepared as a prerequisite



□ Upload the definitions

2.6.6.1 Check the Exchanges

You should find the exchanges now include:

- \Box dead_letter_exchange
- □ mobile_data_exchange
- \Box scheduled_job_later_exchange
- \Box scheduled_job_now_exchange

dead_letter_exchange	topic	D
mobile_data_exchange	topic	D
scheduled_job_later_exchange	topic	D
<pre>scheduled_job_now_exchange</pre>	topic	D

2.6.6.2 Check the Queues

You should find the queues now include:

- □ dead_letter_queue
- □ mobile_data_queue
- □ scheduled_job_later_queue
- □ scheduled_job_now_queue

Overview						
Name	Туре	Features	State			
dead_letter_queue	classic	D TTL Lim B DLX Pri	idle			
mobile_data_queue	classic	D TTL Lim B DLX Pri	idle			
scheduled_job_later_queue	classic	D TTL Lim B DLX Pri	idle			
scheduled_job_now_queue	classic	D TTL Lim B DLX Pri	idle			

2.6.6.3 Check the Admin

Users should now include:

- □ mobile_processor
- □ mobile_runner
- □ scheduled_job_requester
- □ scheduled_job_runner
- □ scheduled_job_scheduler

mobile_processor	administrator	/	•
mobile_runner	administrator	/	•
scheduled_job_requester	administrator	/	•
scheduled_job_runner	administrator	/	•
scheduled_job_scheduler	administrator	/	•

2.7 Start the Wasp Services

In the Service controller Services.msc:

- □ Start the Wasp Now service.
- □ Start the Wasp Later service.
- □ Reset the now and later service recovery options to "Restart the Service" with a 0 (zero) minute delay. This should be done for 1^{st} , 2^{nd} and 3^{rd} failures.

2.8 Start the Web Services

In IIS:

- □ Start the Wasp STS, API and Wasp_AC or IC websites.
- \Box Browse to the sites and verify that they are up.

2.9 Check the JQuery Version

The exact procedure for checking the JQuery version will depend on the browser you are using.

- □ Navigate to http://127.0.0.1:15672 and log in as guest (password is also guest).
- □ Activate the developer tools. In the Microsoft Edge browser this is F12. For Chrome or Mozilla Firefox, this is Control+Shift+I
- \Box Go to the "Console" tab.
- □ Enter: \$().jquery
- □ If \$().jquery does not work, try: console.log(jQuery().jquery);
- \Box The version should be 3.5.x.



This concludes the manual update of RabbitMQ.