

# Increasing the Max Memory Allocation

# **Technical Documentation**

# For public distribution

Submission From Support

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## **1** General Information

It is recommended that your computer has 8GB of RAM as an absolute practical minimum in order to benefit from an enhanced RokDoc experience. The default maximum memory assigned to RokDoc is 4GB; this should be increased at the earliest opportunity after installing RokDoc. RokDoc memory management is performed as follows:

- Up to 6GB of RAM assigned, RokDoc will open with the least amount of RAM the JVM requires to launch and will continue to obtain further RAM up to the specified amount, however, will **not** be able to obtain access to any extra memory, even for more memory intensive operations.
- If assigned in excess of 6GB of RAM, then RokDoc will open with 6GB, however:
  - RokDoc *will* be able to obtain access to additional RAM (up to the specified limit) for more memory intensive operations
  - ✓ Once any memory intensive operations have been completed, any surplus RAM no longer required will be returned to the OS
  - ✓ After returning surplus RAM to the OS, RokDoc will revert to using not less than 6GB of RAM to ensure enhanced performance for continued day-to-day usage

Set Max Memory

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The 'set max memory' dialog in RokDoc shows system level memory information as well as JVM memory information. Please note that the default (display) unit for memory is GB, although this can be altered to MB from the drop-down list.

		_ Unit		
		Unit	GB	
人 Set Max Memory	×	Current Marriero		
Unit		System Memory		
Unit	GB 🗾	Total	19.274	
- System Nemony		Used	7.871	
	40.074	Available	11.402	
Iotal	19.274	- Java VM Memory		
Used	7.992	Assigned Max	5 859	
Available	11.281	llood	1	
r.lava VM Memory		USEU	l	
Assigned Max	4	Environment Variable		
Hand	4	Variable "IKON_ROKDOC_MX" is specified		
Used		Variable Max Memory	5.859	
Environment Variable				
Variable "IKON_ROKDOC_MX" is	NOT specified	Set Max Memory		
		NOTE: The environment variable shown above will be used instead of any value specified here. For RokDoc to use		
Set Max Memory		the value specified here, de	elete the environment variable.	
This should typically be about 50% to 70% of the total memory available. Re-start <b>RokDoc</b> for the new value to be used.		This should typically be about 5 Re-start RokDoc for the new v	0% to 70% of the total memory available. alue to be used.	
Max Memory(GB)	4	Max Memory(GB)	4	
Ок	Cancel	0 •	K Cancel	

The 'set max memory' dialog also indicates whether or not the IKON\_ROKDOC\_MX environment variable is being used. **Use of the environment variable is strongly recommended** as it is the most elegant manner with which to control the memory assignment and will apply to all/any version of RokDoc installed, including *future* versions. Details on setting the variable are described below.

This is the preferred option, as the advantage of using an environment variable, is that all RokDoc versions (including future versions) are automatically assigned the specified memory allocation.

#### 2.1 Environment Variable for RokDoc on Windows

The simplest way to raise the Windows '*environment variables*' dialog is using the Windows [start] button (Windows symbol in bottom left corner) > type envi in the '*search programs and files*' field, followed by the 'enter' keystroke.

#### Windows 7



#### Windows 7 [classic view]



#### Windows 10



.... from the list presented, select 'edit the system environment variables'....



Next, click on the 'environment variables' button....

System Properties		
Computer Name Hardware Advanced System Protection Remote		
You must be logged on as an Administrator to make most of these changes.		
Performance		
Visual effects, processor scheduling, memory usage, and virtual memory		
Settings		
User Profiles		
Desktop settings related to your logon		
Current 1		
Startup and Recovery		
System startup, system failure, and debugging information		
Settings		
Environment Variables		
OK Cancel Apply		

.... followed by the 'new' button....

Environment Variabl	es	×
User variables for jp	otter	_
Variable	Value	- 11
OneDrive	C:\Users\jpotter\OneDrive	
SLBSLS_LICENS	@ikon-l0124	
TEMP	%USERPROFILE%\AppData\Local\Temp	
TMP	%USERPROFILE%\AppData\Local\Temp	
	New Edit Delete	
System variables		
Variable	Value	7
IKON_LICENSE_CR	E {"user":"ZE+Ne8gsdLQ\u003d","passwo	
IKON_LICENSE_FI	LE https://ikonscience.compliance.flexneto	
IKON_ROKDOC_M	x 6000	
•	··· - !! !- !- !-  -  -	-
	New Edit Delete	
	<b>_</b>	
	OK Cancel	

Create the IKON\_ROKDOC\_MX environment variable – if insufficient permission to create a *system* variable are encountered, try creating as a *user* variable.... if necessary, contact the IT administrator for assistance with permissions.

Edit System Variable			
Variable <u>n</u> ame:			
Variable <u>v</u> alue:	14000		
	OK Cancel		

Note that the variable value is specified in MB (the example above is 14000MB, ie. ~14GB) and should not be more than about  $\frac{2}{3}$  of the total system RAM. The change will be applied when RokDoc is next launched. To confirm the change, view the '*about RokDoc*' dialog (*help* > *about RokDoc*).

#### 2.2 Environment Variable for RokDoc on Linux

Setting an environment variable in Linux will depend on the type of shell your flavour of Linux is using, its corresponding shell command syntax to set a variable and the system level at which you wish to implement it; please escalate to your IT administrator for assistance.

Below is an example using Bash, as it is widely distributed as the default shell on Linux distributions. For the purpose of this example, the IKON\_ROKDOC\_MX variable will be set to 14000MB.

#### 2.2.1 Configure for Individual Users

Edit the ~/.bashrc to include the following line: export IKON\_ROKDOC\_MX=14000. To enable the change to the ~/.bashrc log out and then log back in again.

#### 2.2.2 Configure Setting at System Level

Edit the /etc/bashrc to include the line: export IKON\_ROKDOC\_MX=14000. To edit the /etc/bashrc will require root privilege; to enable the change to the /etc/bashrc to be effected, log out and then log back in again.

### 3 Setting Memory within RokDoc (less elegant)

The 'set max memory' dialog can be launched from the Project Viewer 'file' menu item. Firstly, tick the 'debug mode' checkbox, also found under the 'file' menu item; this will extend the list of options available from the 'file' menu item, including the 'set max memory' option – selecting said menu option will launch the 'set max memory' dialog.

## 4 Confirming Memory Assignment is Applied

The memory assignment can be confirmed from the '*about RokDoc*' dialog, launched from either the Project Viewer or the Well Viewer *help* > *about RokDoc*.

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RokDoc Version 2021.1			RokDoc Version 2021.1		
			Core Datastore 2021.1.4 RokDoc Datastore 2021.1.0 Scenario Datastore 2021.1.4 Java Runtime Environment 1.8.0_202 (64bit) Build Identifier 2021.1.0-115 Maximum Memory 4096MB		
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www.ikonscience.com/support		www.ikonscience.com/support			
l			support@ikonscience.com		
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Remember this value is the *maximum* memory assigned, so if comparing to the *javaw.exe* process in the Windows '*task manager*' dialog, or using the top command on Linux, expect to see a lower value than this reported, unless performing a very memory intensive operation.