

AP/RAB 610.001.1

AutoPilot® M6 Plug-In for RabbitMQ Installation and User's Guide

Version 6.1.0



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Chapter 1: Introduction

Welcome to the Nastel AutoPilot M6 Plug-In for RabbitMQ Installation and User's Guide. Installation and use of the AutoPilot RabbitMQ Expert will be described. The expert is compatible with RabbitMQ and is designed to work with AutoPilot, its components, and other plug-ins, and run simultaneously without interference or performance degradation.

1.1 How this Guide is Organized

- <u>Chapter 1:</u> Document information and system requirements
- <u>Chapter 2:</u> Contains a brief description of the AutoPilot RabbitMQ Expert
- <u>Chapter 3:</u> Information for installing the AutoPilot RabbitMQ Expert software
- <u>Chapter 4:</u> Autopilot integration
- <u>Chapter 5:</u> Metrics collected by the AutoPilot RabbitMQ Expert
- <u>Chapter 6:</u> Out-of-the-box policies provided by the Rabbit MQ plugin

1.2 History of this Document

Table 1-1. Document History				
Release Date	Document Number	Summary		
June 2019	AP/RAB 610.001	Initial release		
May 2022	AP/RAB 610.001.1	Changed title to <i>AutoPilot M6 Plug-in for</i> RabbitMQ Installation and User's Guide		

1.2.1 User Feedback

Nastel encourages all Users and Administrators of AutoPilot to submit comments, suggestions, corrections and recommendations for improvement for all AutoPilot documentation. Please send your comments via email to: support@nastel.com. You will receive a written response, along with the status of any proposed change, update, or correction.

1.3 Related Documents

The complete listing of related and referenced documents is listed in <u>Appendix A</u> of this guide.

1.4 Intended Audience

The Nastel AutoPilot RabbitMQ Expert Guide is intended for use by administrators of Nastel's AutoPilot RabbitMQ Expert with RabbitMQ and its related software components.

1.5 System Requirements

This section defines system and platform prerequisite support requirements for AutoPilot RabbitMQ Expert.

1.5.1 Platforms

AutoPilot RabbitMQ Expert is compatible with the following platforms:

- Windows NT/2000 or later/XP
- Unix (Solaris, AIX, HP-UX, Linux)

1.5.2 Other Requirements

RabbitMQ Expert requires the following conditions:

- AutoPilot 6.0 or higher
- Java Run Time Environment 1.7.x (JRE 1.6.x) or higher
- RabbitMQ
- Erlang
- Target operating system environment
- Installer may need administrative privileges for the target platform

1.6 Technical Support

If you need additional technical support, you can contact Nastel Technologies by telephone or by e-mail. To contact Nastel technical support by telephone, call 800-963-9822 ext. 1, if you are calling from outside the United States dial 001-516-801-2100. To contact Nastel technical support by email, send a message to <u>support@nastel.com</u>.

To access the Nastel automated support system, go to http://support.nastel.com/

A user name and password are required. Contact your local AutoPilot Administrator for further information.

1.7 Conventions

Refer to <u>Appendix B</u> for conventions used in this guide.

Chapter 2: About AutoPilot RabbitMQ Expert

AutoPilot RabbitMQ Expert is designed to monitor the RabbitMQ messaging platform. Monitoring information is processed by the AutoPilot RabbitMQ Expert and integrated into the AutoPilot infrastructure. Communication with the RabbitMQ Broker takes place either locally or remotely across a network.

Information includes:

- Channel status, channels per connection
- Channel send /receive rate
- Connections
- Exchanges
- Consumers
- Publish In / Out rates
- Memory usage
- Available sockets
- Disk usage
- Queues with / without consumers
- Pending messages, messages delivered, messages ready for delivery
- Queue idle time
- Queue memory

This information can be combined with information provided by AutoPilot for other components, such as the operating system or log files to get further insight into the performance and operation of the RabbitMQ environment.

Chapter 3: Installation & Configuration

This section contains general information for installing the AutoPilot RabbitMQ Expert software.

3.1 Installation Preparation

This section contains general information for installing the AutoPilot RabbitMQ Expert software.

3.1.1 Installation Materials

Installation can be performed from installation media or by download through the Nastel Resource Center.

Prior to installation, review all text files and installation procedures provided on the Nastel Resource Center. It is recommended that all installation related materials are printed to allow the installer to review them prior to installation, and better to follow the detailed instructions within.

3.1.2 Licensing Information

A copy of the standard Licensing Agreement is imbedded in the installation software and is provided on the Resource Center. The formal licensing agreement has been furnished in the purchase agreement package.

3.2 Installation

This section provides instructions for installing AutoPilot RabbitMQ Expert on the compatible platforms. Review all installation-related materials prior to commencing installation procedures. Reviewing materials will allow installers to pre-determine installation options and familiarize themselves with associated requirements.

3.2.1 Before Installing AutoPilot RabbitMQ Expert

The AutoPilot RabbitMQ Expert uses a java archive file (rabbitmq_metrics_multiserver.jar) and a configuration file.

The AutoPilot RabbitMQ ResourcePack contains a series of AutoPilot Business Views (monitoring dashboards).

You can install AutoPilot RabbitMQ Expert and the AutoPilot RabbitMQ ResourcePack using the AutoPilot package manager. Then transfer the java archive file to a folder on the server(s) where RabbitMQ is to be managed from, if different than the AutoPilot server. Additional steps on configuring these services is outlined below.

3.2.2 AutoPilot RabbitMQ Expert Installation

Following installation of AutoPilot RabbitMQ Expert (i.e. the package AP_RABBITMQ), the following files are placed in the AutoPilot Home directory (e.g. /opt/nastel/AutoPilotM6):

- AP_RABBITMQ_readme.txt
- rabbitmq_metrics_multiserver.jar
- File.properties

Create a folder on your system (e.g. /opt/nastel/rabbitmq_plugin) to host these files, and move the files to the target folder.

Review the AP_RABBITMQ_readme.txt file for general configuration instructions.

3.2.3 Installing the AutoPilot RabbitMQ Expert from the Nastel Delivery Center

1. Download the AutoPilot RabbitMQ Expert Plug-in from the Nastel Delivery Center

(http://data.nastel.com/ap/).

A user name and password are required.

- 2. Stop the Nodes and/or Domain Servers that will be updated as specified in the AutoPilot User's Guide.
- 3. Copy the installation package AP_RabbitMQ_version.pkg into the

[AUTOPILOT_HOME]\updates directory.

4. At the command prompt run:

[AUTOPILOT_HOME]\bin\pkgman ..\updates\AP_RabbitMQ-version.pkg

5. Verify the plug-in installation by running:

[AUTOPILOT_HOME]\bin\pkgman -info

- 6. Verify AP_RabbitMQ-Plugin (AP_RabbitMQ-<version_number>.pkg) is listed.
- 7. Restart the AutoPilot services and login to the Enterprise Manager. The RabbitMQ Expert and Policy Manager can now be configured.



3.3 Configuration

3.3.1 Configure RabbitMQ Monitoring

The AutoPilot RabbitMQ data collector is the executable:

• rabbitmq_metrics_multiserver.jar

3.3.2 Configuration File

The AutoPilot RabbitMQ data collector uses the configuration file:

• File.properties

An example of the configuration file is shown below:

```
#PLEASE PROVIDE READTIME IN MILLSECONDS 60000
    READTIME = 10000
 3
    #RabbitMQ Server PROPERTIES
 4
 5
    #SERVERIP = apmdw
    #SERVERPORT = 15672
    #USERNAME = guest
 7
 8
    #PASSWORD = guest ;localhost,15673,guest,guest;localhost,15673,guest,guest
 9
    #MqServerinfo = 192.168.1.56,15672,Admin,admin;192.168.1.46,15672,Admin,admin;192.168.1.43,15672,Admin,admin
10 MqServerinfo = apmdw, 15672, Admin, admin;
12
    #M6PUBLISH PROPERTIES
13 M6SERVERIP = localhost
14 M6SERVERPORT = 6071
15 M6PROTOCOL = tcp
```

Table 3-1. RabbitMQ Data Collector – Properties				
Property Description				
READTIME	Read time in milliseconds.			
SERVERIP	IP Address of RabbitMQ broker.			
SERVERPORT	RappitMQ Admin interface port number.			
USERNAME	Admin user name.			
PASSWORD	Admin user password.			
MqServerinfo	RabbitMQ server name, admin port #, admin user name and admin user password.			
M6SERVERIP	IP Address or hostname of AutoPilot CEP server that hosts the AutoPilot RabbitMQ Expert.			
M6SERVERPORT	Listener port number of the AutoPilot RabbitMQ Expert.			
M6PROTOCOL	Protocol of the AutoPilot RabbitMQ Expert. Valid values are tcp or udp.			

3.3.3 Connecting RabbitMQ Data Collector to Rabbit MQ

The following sample shell script shows an example of how to connect the AutoPilot RabbitMQ Data Collector to a RabbitMQ broker.

Unix/Linux Example (bash)

```
#! /bin/bash
```

```
RABBITMQ_PLUGIN_DIR=/opt/nastel/rabbitmq_plugin/
RABBITMQ_PLUGIN_LOG=/opt/nastel/rabbitmq_plugin/log
```

cd \$RABBITMQ_PLUGIN_DIR
With log file ...
#nohup java -jar RabbitMq_Metrics_Multiserver_v1.4.jar >
\$RABBITMQ_PLUGIN_LOG/rabbitmq_plugin.log 2>&1 &
Without log file ...
nohup java -jar RabbitMq_Metrics_Multiserver_v1.4.jar > /dev/null 2>&1 &

exit

Chapter 4: AutoPilot Integration

During installation, a RabbitMQ monitoring service and a policy manager with a set of policies were configured automatically. As such, only minor configuration changes should be required.

If needed, you can edit the monitor properties as follows:

- 1. Open the AutoPilot Console.
- 2. Click the Deployment Tool to display Directory Viewer (if not already displayed).
- 3. Right-click RabbitMQ_Monitor and select Properties.

👽 AutoPilot M6 Domain - Deployment Tool				
AutoPilot M6 Domain - MYCEP RabbitMQ_Monito Actions A	(DOMAIN)			
	Remove Copy Move Properties			

🖗 RabbitMQ_N	Monitor Prope	rties					-	
Recording	Restart-Re	ecovery	Security	Streaming Options	TCP Options	UDP Options	WebSphere M	IQ Options
General	About	Depe	endencies	Fact Options	JDBC Options	Logging	Options	Parser
	Brief	description:						
Clear Empty I	Facts (resource	e intensive):						
		Context:	RabbitMQ_N	Ionitoring				
	Custom stop	procedure:	none					
		Name:	RabbitMQ_N	Ionitor				
	Publish facts:		\checkmark					
	Publish Sessi	on Metrics:						
	Replay mode:							
Run application:								
Startup arguments:								
						Apply	Help	Close

On the General tab, the following fields could be changed as required. Other parameters are not applicable to RabbitMQ monitoring.

Table 4-1. RabbitMQ Monitor – General Properties				
Property	Description			
Brief description	Short description of the service.			
Context	User-defined category that will be registered in the Domain Server. Context is displayed as a folder icon under each Managed Node.			
Name	Name that uniquely identifies the service in the Domain Server. Enter or modify the Service Name as required, or in accordance with local guidelines. Variations of names are used when deploying services on multiple Nodes. No spaces or blanks are recommended in Service Name formats. For example, RabbitMQ_Monitor.			

The following properties are available for the RabbitMQ expert. Review (if updating existing expert) or configure data elements as follows.

RabbitMQ_N	Monitor Prope	rties					-	
Recording	Restart-R	Restart-Recovery Security		Streaming Options	TCP Options UDP Opt		WebSphere M	AQ Options
General	About	Dep	endencies	Fact Options	JDBC Options	s Logging	Options	Parser
Exclude Expir	re Filter (rege	(p):						
Exe	clude Fact Filt	ers:						
	Expire facts(r	ns): 60000						
I	Fact History S	ize: 0						
Fact H	istory Time (r	ns): 0						
I	Fact service al	ias:						
Include Expir	re Filter (rege	(p):						
Inc	clude Fact Filt	ers:						
L	ock Fact Hist	ory:						
						Apply	Help	Close

Table 4-2. RabbitMQ Monitor – Fact Options Properties				
Property	Description			
Exclude Expire Filter (regexp)	Facts that match the specified regular expression are not expired.			
Exclude Fact Filters	Comma separated list of fact paths to exclude during publishing. For example: *SYSTEM*, *FactName*			
Expire facts(ms)	User-defined time in which facts that have not been updated within a specific time automatically expire (in milliseconds). The default is 0, which means never expire.			

Property	Description			
	However, in most applications, 0 should not be used. In cases where certain data is no longer published, if 0 is used, these facts will never expire. It is recommended that this value be 50% larger than the sample rate.			
Fact History Size	Automatically maintains the specified number of samples for each published fact in memory.			
Fact History Time	Automatically maintain fact history not exceeding specified time in milliseconds.			
Include Fact Filters	Comma separated list of fact paths to include during publishing. For example: *SYSTEM*, *FactName*			
Fact service alias	If supported by the expert, specifies the alternative service name that the expert will publish its facts under.			
Include Expire Filter (regexp)	Facts that match the specified regular expression are expired.			
Lock Fact History	Enables/disables history collection after accumulating the first history batch up to Fact History Time or Fact History Size, which ever limit is reached first. If disabled, newer history samples replace older on a rolling basis.			

Table 4-2. RabbitMQ Monitor – Fact Options Properties

🔻 RabbitMQ_N	Monitor Propert	ties					_	
Recording	Restart-Re	covery	Security	Streaming Options	TCP Options	UDP Options	WebSphere M	IQ Options
General	About	Depe	endencies	Fact Options	JDBC Option	s Logging	Options	Parser
	Audit:							
Log	name: service	ic .						
LUG		3						
Log service a	ctivity:							
Log size (bytes): 200000)						
						Apply	Help	Close

Table 4-3. RabbitMQ Monitor – Logging Properties					
Property	Description				
Audit	Enable/Disable service audit trace. Default is disabled.				
Log name	Log name associated with the service. The default name is Services, but may be changed as required.				
Log service activity	Enable/Disable service activity trace. Default is disabled.				
Log size (bytes)	Log size in bytes. Real log size is the maximum value of the server.log.size and logsize.				

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🔻 RabbitMQ_Monitor Prope	erties					-	
General About	Dep	endencies	Fact Options	JDBC Options	Logging	Options	Parser
Recording Restart-F	Recovery	Security	Streaming Options	TCP Options	UDP Options	WebSphere M	Q Options
Anomaly Deviation Limit:	2.2						
Exclude Filter (regexp):							
Fact Anomaly Frequency:	10						
Fact State Frequency:	10						
Fact Summary Frequency:	50						
Include Filter (regexp):							
Record Fact Anomalies:							
Record Fact History:							
Record Fact State:							
Record Fact Summary:							
Storage for Anomalies:	{server.fac	ts.anomaly.jdbc	.table}				
Storage for History:	{server.fac	ts.history.jdbc.ta	ble}				
Storage for State:	{server.fac	ts.state.jdbc.tab	le}				
Storage for Summary:	{server.fac	ts.summary.jdbo	.table}				
Summary Interval (ms):	900000						
					Apply	Help	Close

Table 4-4. RabbitMQ Monitor – Recording Properties								
Property	Description							
Anomaly Deviation Limit	The number of standard deviations from the mean at which the value is considered an anomaly. For example, a value of 2.2 is 2.2 standard deviations. Requires fact recording to be configured (although not actually recording).							
Exclude Filter (regexp)	A regular expression filter to exclude certain facts from being written to the database. Facts have the format, expert\class\instance\leaf=value, such as in the example, Servers\Linux\Serv7\processes=40.							
Fact Anomaly Frequency	The frequency of fact updates at which anomaly calculation is done. A value of 10 indicates every 10th sample. A value of 1 would analyze every fact update to determine if it was an anomaly.							
Fact State Frequency	If Record Fact State is enabled, the value entered here specifies how often the Fact State is updated.							
Fact Summary Frequency	If Record Fact Summary is enabled, it is used to write an intermediate summary record is written every Xth update to the fact during the Summary Interval. In this example, every 50th update to the fact, an intermediate summary record is recorded. This is done to avoid waiting 15 minutes for a summary record to appear in the summary table.							
Include Filter (regexp)	A regular expression filter to include certain facts being written to the database. Same format as described for the exclude filter.							

Table 4-4. RabbitMQ Monitor – Recording Properties								
Property	Description							
Record Fact Anomalies	If enabled, records every fact anomaly into the Anomaly database. The exclude/include filters are respected. Requires fact recording to be configured (although not actually recording).							
Record Fact History	If enabled, records every fact change into the History database. The exclude/include filters are respected. To define database tables and set AutoPilot options, refer to AutoPilot M6 User's Guide section 4.5.4.1.							
Record Fact State	If enabled, records the last value published (current state) into the state database and restores that value when the CEP Server is stopped and restarted. The exclude/include filters are respected. To define database tables and set AutoPilot options, refer to AutoPilot M6 User's Guide, section 4.5.4.1.							
Record Fact Summary	If enabled, records summary records at the interval designated in the Summary Interval (ms) field into the Summary database. The exclude/include filters are respected. To define database tables and set AutoPilot options, refer to AutoPilot M6 User's Guide, section 4.5.4.1.							
Storage for Anomalies	Database table where the Fact Anomalies data is stored.							
Storage for History	Database table where the Fact History data is stored.							
Storage for State	Database table where the Fact State data is stored.							
Storage for Summary	Database table where the Fact Summary data is stored.							
Summary Interval (ms)	If Record Fact Summary is enabled, designates the interval of time in ms for which baseline numbers for each numeric fact are computed. Summary Interval is only in affect when CEP instance is running in record mode (ATPNODE –record). Default 900000 is 15 minutes, which means maintain a baseline of statistics for each numeric fact for a period of 15 minutes and write a record to the database. At the end of interval fact statistics is reset and the baseline collection starts again.							

📑 RabbitMQ_N	Nonitor Propert	ies					_		\times
General	About	Dene	andencies	Fact Options	IDBC Option	s Logging	Ontions	Dar	rcor
General	About	Dept	Indencies	ract options	JDbc Option	s Logging	options	rai	301
Recording	Restart-Ree	covery	Security	Streaming Options	TCP Options	UDP Options	WebSphere N	IQ Optior	ns
Automa	tic starts [/								
Automa	tic start: 💌								
Save in	registry:								
Juve in	registry.								
Synchronous	Control: 🔽								
[*]									
						vlqqA	Help	Clos	se
						FF-7	F		

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Table 4-5. RabbitMQ Monitor – Restart-Recovery Properties

Property	Description
Automatic start	Enable/disable automatic start.
Save in registry	Persistent services are saved in the Registry.xml file. Default is enabled.
Synchronous Control	Enable/Disable synchronous service initiation.

RabbitMQ_N	Ionitor Properties					_	
General	About	Dependencies	Fact Options	JDBC Options	Logging	Options	Parser
Inherit permis	sions from owner:		Sucarning Options	TCF Options	ODP Options	websphere w	ic options
	Owner:	ଌ Admin					Change
F	Permissions (Base):	Group: ☑ Read Other: ☑ Read [Change □ Delete ☑ Change □ Delete □	Control 🗹 Execute			
Permissions	(Supplementary):	Add					
					Apply	Help	Close
					Apply	Help	Close

Table 4-6. RabbitMQ Monitor – Security Properties									
Property	Description								
Inherit permissions from owner	Enable/disable inherit permission from owner's permission masks. Default is enabled.								
Owner	User that owns the object.								
Permissions	Permissions for users in the same group and users in other groups. Enable/disable as required.								
	Group:	Others:							
Read	Group members may read/view attributes of an object.	Other users may read/view attributes of an object.							
Change	Group members may change the attributes of an object.	Other users may change the attributes of an object.							
Delete	Group members may delete the object.	Other users may delete the object.							
Control	Group members may execute control actions such as start, stop, and disable.	Other users may execute control actions such as start, stop, and disable.							
Execute	Group members may execute operational commands on the object.	Other users may execute operational commands on the object.							

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Chapter 4:	AutoPilot	Integration
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RabbitMQ_N	Monitor Proper	ties									-		×
General	About	Depe	ndencies	Fact	t Options	JDB	C Options		Logging		Options		Parser
Recording	Restart-Re	ecovery	Security	Streamin	g Options	TCP Op	otions	UDP C	Options	We	bSphere M	Q Op	tions
Appl Data	ication name: center name:												
Derived	metrics filter:										Select.	. (Clear
Exclude f	ilter (regexp):												
Include f	ilter (regexp):												
Interval of de	rived metrics:	60000											
	Location:												
Stream de	rived metrics:												
	Stream Facts:	\checkmark											
Streaming	configuration:	com.naste	l.autopilot										
									Apply	Н	elp	(Close

Table 4-7. RabbitMQ Monitor – Streaming Options Properties								
Application name Sets application name if different from the default set in the tnt4j.p								
Data center name	Sets data center name if different from the default set in the tnt4j.properties file.							
Exclude filter (regexp)	Ignore facts that match specified regular expression; that is, do not stream facts that match the regexp.							
Include filter (regexp)	Only stream the facts that match specified regular expression.							
Location	Sets server location if different from the default set in the tnt4j.properties file.							
Stream Facts	Enable/disable fact streaming (requires TNT4J streaming framework).							
Streaming configuration	Indicates where the data streams. This value must match a stanza in the tnt4j.properties file. The default is com.nastel.autopilot.							

RabbitMQ_N	Aonitor Prope	rties					—		×
General	About	Depe	endencies	Fact Options	JDBC Options	Logging	Options	Pa	arser
Recording	Restart-R	ecovery	Security	Streaming Options	TCP Options	UDP Options	WebSphere M	IQ Optio	ons
Acce Option SO_TI	ept TCP facts: MEOUT (ms): TCP port:	✓1200006071							
						Apply	Help	Clo	ose

TCP is a reliable data connection to ensure facts will be published, but there is a slight performance hit due to the extra networking overhead required.

• Click TCP Options tab, to enable an M6 Process Wrapper to receive TCP data.

• Check Accept TCP Facts checkbox, and then enter a port. The port will also have to be specified in the application sending the fact data.

RabbitMQ_N	Ionitor Prope	rties					_	
General	About	Dep	oendencies	Fact Options	JDBC Options	Logging	Options	Parser
Recording	Restart-R	ecovery	Security	Streaming Options	TCP Options	UDP Options	WebSphere M	Q Options
Accept UDP f	acts: D							
						Apply	Help	Close

UDP is a less reliable data connection used mainly for speed and application-to-application decoupling. While this is the fastest protocol with the least amount of network overhead, there is potential that data could be lost since there is no acknowledgment/hand shaking between the sender and receiver.

- Click UDP Options tab to enable an M6 process wrapper to receive UDP data.
- Check Accept UDP Facts checkbox and then enter a port. The port will also have to be specified in the application sending the fact data.

Chapter 5: AutoPilot RabbitMQ Expert Metrics

This section describes some of the metrics collected by the AutoPilot RabbitMQ Expert.

The level or detail of the data presented can be modified as discussed in the configuration section above. The facts shown in these screen captures are samples only.



5.1 Rabbit MQ Channels

Provides highly granular information about channel activity: message publish and confirm rates, rates at which messages are delivered and acknowledged by consumers, etc.

👽 AutoPilot M6 Domain - Deployment Tool	_	×
🕂 🧰 RabbitMQ_Monitoring		~
🖨 🐺 RabbitMQ_Monitor		
E X Actions		
🕀 💷 Facts		
🕀 🎱 _SessionStats		
□ □ RabbitMQ_Metrics		
apsvr		
⊢ 🖳 rabbit@apmdw		
$\square \square $		
🕀 🎱 ack details		
eliver_get_details		
🕒 💷 deliver_no_ack_details		
🕀 🙆 get_details		
🕀 🚇 get_no_ack_details		
🕀 🖭 redeliver_details		
🥹 ack : 0		
eliver : 0		
eliver_get : 950		
eliver_no_ack : 950		
- • get : 0		
et_no_ack:0		
eredeliver: 0		
erter 162 0		
- acks_uncommitted : 0		
- • onsume_count : 0		
giosa_pretera_countro messages_unacknowledged : 0		
messages uncommitted : 0		
end wessages_unconfirmed : 0		
name : 127.0.0.1:35622 -> 127.0.0.1:5672 (1)		
onde : rabbit@apmdw		- 17
• number : 1		
• prefetch_count : 0		
eductions : 117979		
state : running		
• • • • transactional : false		
user : guest		
• user_who_performed_action : guest		
w vhost:/		 ~

5.2 Rabbit MQ Connections

These metrics provide information about Connections: protocol, state, client properties, reductions rates and other details.

👽 AutoPilot M6 Domain - Deployment Tool	_	×
RabbitMQ_Monitoring		^
🖻 🐺 RabbitMQ_Monitor		
E 🛠 Actions		
🕀 💷 Facts		
🕀 🙆 _SessionStats		
BabbitMQ_Metrics		
□ □ □ rabbit@apmdw		
• authentication failure close : true		
basic.nack : true		
connection.blocked : true		
consumer cancel notify : true		
exchange_exchange_bindings : true		
publisher_confirms : true		
copyright : Copyright (c) 2007-2019 Pivotal Software		
— Information : Licensed under the MPL. See http://www.rabbitmq.com/		
- 🔍 platform : Java		
🔍 product : RabbitMQ		
•••• • version : 5.6.0		
🕀 🙆 garbage_collection		
⊕ 🚇 recv_oct_details		
eductions_details		
• • • rate : 181.2		
• • • • • • • • • • • • • • • • • • •		
channel_max : 2047		
Channels: 1		
Connected_at: 1500202069646		
Indific Indix: 131072		
anae : 127.0.0.1		
- name: 121.00.1.5012 -> 121.0.01.5012		
• peer cert issuer : null		
er cert subject : null		
peer_cert_validity : null		
eer_host : 127.0.0.1		
• • • • • • • • • • • • • • • • • • •		
• port : 5672		
protocol : AMQP 0-9-1		~

5.3 Rabbit MQ Exchange

These metrics provide information about RabbitMQ Exchanges, including publish in /out rates.



5.4 Rabbit MQ Node

These metrics provide a wealth of operational statistics on messaging operations performed by the RabbitMQ broker.

👽 AutoPilot M6 Domain - Deployment Tool	—	×
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BabbitMQ_Metrics		
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Description: D		- 11
Generated_details		- 11
🕀 🙆 connection_closed_details		- 11
Connection_created_details		- 11
🕀 🖭 context_switches_details		- 11
🕀 🕑 contexts		- 11
🕀 💷 disk_free_details		- 11
exchange_types		
⊕ 🚇 fd_used_details		
gc_bytes_reclaimed_details		
H 🖳 gc_num_details		
H 🖳 io_file_handle_open_attempt_avg_time_details		
b w lo_file_handle_open_attempt_count_details		
I c_read_avg_time_details		
In read count details		
\blacksquare $\textcircled{2}$ io seek count details		
io_write_avg_time_details		
🕀 🙆 io_write_bytes_details		
🕀 🖭 io_write_count_details		
🖨 🚇 mem_used_details		
• rate : 39321.6		
🖨 🙆 metrics_gc_queue_length		
channel_closed : 0		
channel_consumer_deleted : 0		
connection_closed : 0		
consumer_deleted : 0		
exchange_deleted : 0		~

5.5 Rabbit MQ Overview

These metrics provide an overview of the RabbitMQ environment, including details about connections, channel operations, queue operations, churn statistics, memory consumption, broker definitions and other useful information.

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□ ➡ RabbitMQ_Monitor ⊕ ★ Actions	^
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Channels	
Connections	
Exchange	
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🖨 🎱 churn_rates	
🗄 🎴 channel closed details	
dealer and the second sec	
connection closed details	
connection_created_details	
gueue created details	
gueue_declared_details	
la 😐 gueue deleted details	
• channel closed : 3311	
→ Connection closed : 3311	
connection created : 3314	
equeue created : 0	
• gueue declared : 3314	
equeue deleted : 0	
exchange types	
description : AMOP topic exchange	
enabled : true	
ame : topic	
$\mathbb{H} \bigcirc 02$	
B gocket onts	
e e message stats	
Acceleration	
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5.6 Rabbit MQ Queues

These metrics provide detailed information about RabbitMQ message queues, including publish and delivery rates, message sizes, memory used by queue processes, consumer utilizations and many other vital statistics.

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e lask queue		
e la backing queue status		
ti 💷 delta		
avg_ack_egress_rate : 0.0		
• avg_ack_ingress_rate : 0.0		
••• avg_egress_rate : 0.0		
• • • avg_ingress_rate : 0.0		
🔍 len : 0		
• mode : default		
••• • next_seq_id : 0		
• q1:0		
● q2:0		
0 q3:0		
••• q4:0		
target_ram_count : infinity		
garbage_collection		
He message_stats		
ter 🔤 messages_details		
messages_ready_details		
reductions details		
Consumer utilisation : 1.0		
• durable : true		
exclusive : false		
exclusive consumer tag : null		
head_message_timestamp : null		
• memory : 198016		
e message_bytes : 0		
message_bytes_paged_out : 0		
message_bytes_persistent : 0		~

Chapter 6: AutoPilot RabbitMQ Sample Policies

The RabbitMQ plugin provides a set of out-of-the-box policies which analyze the data collected by the RabbitMQ Monitor.

This section outlines the key policies and use cases for these policies. Additional out of the box policies are included.

6.1 RabbitMQ Dashboard

This dashboard provides insight into the overall health of RabbitMQ.



6.2 Rabbit MQ Queue Monitor

This dashboard provides real-time monitoring of RabbitMQ message queues.



6.3 Rabbit MQ Stats Monitor

This dashboard provides real-time monitoring of vital statistics for RabbitMQ Brokers.



Appendix A: Related Documents

This appendix contains a list of reference material and documents relevant to APMW. The documents can be found in the <u>Resource Center</u>.

Table A-1. Nastel Documentation		
Document Number (or higher)	Title	
M6MW-ADM 660.002	Nastel AutoPilot M6 for Middleware V6.6 - Administrator's Guide	
M6MW-INS 664.003	Nastel AutoPilot M6 for Middleware V6.6 - Installation Guide	
M6MW/SM 660.001	Nastel AutoPilot for Middleware Security Manager V6.6 - User's Guide	
M6WMQ-WMM 661.002	Nastel Navigator Classic (apodwmq) V6.6 - User's Guide	
M6/MQ 600.005	AutoPilot® M6 Plug-in for IBM MQ	
APM6/INS 625.002	AutoPilot M6 Installation Guide	
APM6/USR 625.003	AutoPilot M6 User's Guide	

Appendix B: Conventions

Table B-1. Typographical Conventions		
Convention	Description	
Blue/Underlined	Used to identify links to referenced material or websites. Example: <u>support@nastel.com</u>	
Bold Print	Used to identify topical headings, glossary entries, and toggles or buttons used in procedural steps. Example: Click EXIT .	
Italic Print:	Used to place emphasis on titles, menus, screen names, or other categories.	
Monospaced Bold	Used to identify keystrokes/data entries, file names, directory names, etc.	
Monospaced Italic	Used to identify variables in a directory path or a command line. Example: [AUTOPILOT_HOME] \documents. Where the portion of the address in the brackets [] is variable.	
Monospaced Text	Used to identify addresses, commands, script etc.	
Normal Text	Typically used for general text throughout the document.	
Table Text	Table text is generally a smaller size to conserve space. 10, 9, and 8 point type is used in tables throughout AutoPilot M6 product family of documents.	