

QPR Environment Monitor

Version 2.1.0

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1 Overview

QPR Environment Monitor is a software tool able to monitor multiple QPR systems and send alert emails when environments are not responding normally. The tool makes versatile testing, including availability and response of QPR Clients, QPR Portal, and QPR Web Service. QPR Environment Monitor can also log environment status information to an SQL database, enabling very reliable system uptime reporting.

Supported QPR Suite versions are QPR 2015.1, QPR 2014.1, QPR 2012.2 and QPR 2012.1.

QPR Environment Monitor makes following tests:

	Test description	Error message if test fails
1	Foundation server port TCP connection opening test	Could not connect to Foundation server port [number]
2	Metrics server port TCP connection opening test	Could not connect to Metrics server port [number]
3	BizArchitecture server port TCP connection opening test	Could not connect to BizArchitecture server port [number]
4	QPR Portal http access test (redirect page as a response)	QPR Portal access test failed.
5	QPR Web Service http access test	QPR Web Service access test failed.
6	QPR Web Service login test	QPR Web Service login test failed.
7	Execute web service query "[SC].models"	QPR Web Service Metrics data access test failed.
8	Execute web service query "[PG].models"	QPR Web Service BizArchitecture data access test failed.
9	Execute web service query "[PO]"	QPR Web Service portal data access test failed.
10	Execute web service query "[UM]"	QPR Web Service user management data access test failed.
11	QPR Web Service logout test	QPR Web Service logout test failed.

QPR Environment Monitor sends email only when any system status changes (from **online** to **offline**, or from online to offline). Information of active errors is maintained in Windows Registry for that user running the tool.

If authentication to QPR Web Service is done using windows user (qprauthentication="windows"), QPR Web Service login test is not performed, because no separate login is needed.

2 Installation

Follow these steps to install the tool:

1. Install **QPREnvironmentMonitor.msi** by double clicking the file.

2. Restore file **QPREnvironmentMonitorDatabase.bak** as a new database in an SQL Server. (optional)
3. Save and configure **QPREnvironmentMonitorConfig.xml** (see chapter 3. Configuration).
4. Schedule the tool in **Windows Task Scheduler** using a command **[installation folder]\QPRPortalMonitor.exe run [configuration file path]**

Example command: **C:\Program Files\QPR Software Plc\QPR Portal Monitor\QPRPortalMonitor.exe run "C:\QPR Environment Monitor\config.xml"**

3 Configuration

Configuration is done using an xml file. The configuration file format is described in the table below. The xml tag hierarchy is illustrated with indentations.

Attribute	Description
qprportalmonitorconfiguration	xml file root tag
smtpserver	SMTP server name (or ip address) for sending emails
fromemailaddress	email address where alert/status emails seem to be coming
connectionstring	SQL Server connection string. This may be left empty to disable logging to SQL database.
sqlprocedure	Prepared SQL statement for saving status information to database.
customer	customer name (used in storing values in SQL database) (this should always be overridden inside monitorablesites tag)
retrycount	Retry count in case a test request fails. Test is recorded as failed after trying the retry count times.
qprportalrequesttimeout	timeout in milliseconds for QPR Portal access test
qprwebservicerequesttimeout	timeout in milliseconds for QPR Web Service access test
qprportaladdress	QPR Portal address. E.g. http://HOSTNAME/QPR2015-1/Portal/QPR.Isapi.dll
qprwebserviceaddress	QPR Web Service's mainservice address. E.g. http://HOSTNAME:9002/QPR2015-1/Portal/QPR.Isapi.dll/wsforward/MainService.svc Note that Web Services port number (by default 9002) may be needed for at least Windows authentication configuration to work. Note also that in that case, url prefix is http (not https).
qprproductversion	Alternatives QPR2012, QPR2014, or QPR2015. Currently the tool doesn't exploit this information, because the QPR versions are identical from tests point of view.
username	QPR username
password	QPR password
webserviceauthentication	How QPR Environment Monitor authenticates to QPR Web Service (in

	<p>WCF level). Alternatives:</p> <ul style="list-style-type: none"> - windows: Windows user account running the tool is used to login. - none: no authentication is needed <p>This setting depends on, which web.config file is in use in QPR Web Service server (if there is IWA version in use, the windows "setting" is the right one).</p>
qprauthentication	<p>How QPR Environment Monitor authenticates to QPR:</p> <ul style="list-style-type: none"> - windows: Windows user account running the tool is used to login. If this setting is selected, also must be webserviceauthentication="windows". - fixedcredentials: provided username and password is used.
foundationserverport	Foundation server port for making TCP test
bizarchitectureport	BizArchitecture server port for making TCP test
metricsport	Metrics server port for making TCP test
metricsdisabled	Metrics test are omitted if Metrics is marked disabled (either "true" or "false")
bizarchitecturedisabled	PD/EA tests are omitted if BizArchitecture is marked disabled (either "true" or "false")
webservicedisabled	All web service tests are omitted (tests 5-11), if QPR Web Service disabled (either "true" or "false")
alertemailaddresses	receiver email addresses for status emails
email (1..n)	email addresses, one per tag (may be multiple email tags)
monitorablesites	contains testable sites
site (1..n)	<p>Tag for a testable site. May contain following tags as subtags, which override same tags in qprportalmonitorconfiguration:</p> <ul style="list-style-type: none"> - customer - retrycount - qprportalrequesttimeout - qprwebservicerequesttimeout - username - password - foundationserverport - bizarchitectureport - metricsport - metricsdisabled - bizarchitecturedisabled - webservicedisabled - webserviceauthentication - qprauthentication

4 Running

Here are available commands to run the tool:

Command	Description
QPRPortalMonitor.exe run [configuration file path]	Normal monitoring run executing the tests and sending emails. Note that the path needs to be enclosed in parenthesis, if it contains spaces.
QPRPortalMonitor.exe status	Prints all currently active errors, i.e. environments that are offline.
QPRPortalMonitor.exe clearerrors	Clears all active errors (stored in Windows registry), i.e set all offline environments to online.