

NetIQ[®] Advanced Analytics for AppManager

Management Guide

October 2014

www.netiq.com/documentation

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About this Book and the Library

The NetIQ AppManager product (AppManager) is a comprehensive solution for managing, diagnosing, and analyzing performance, availability, and health for a broad spectrum of operating environments, applications, services, and server hardware.

AppManager provides system administrators with a central, easy-to-use console to view critical server and application resources across the enterprise. With AppManager, administrative staff can monitor computer and application resources, check for potential problems, initiate responsive actions, automate routine tasks, and gather performance data for real-time and historical reporting and analysis.

Intended Audience

This guide provides information for individuals responsible for installing an AppManager module and monitoring specific applications with AppManager.

Other Information in the Library

The library provides the following information resources:

Installation Guide for AppManager

Provides complete information about AppManager pre-installation requirements and step-bystep installation procedures for all AppManager components.

User Guide for AppManager Control Center

Provides complete information about managing groups of computers, including running jobs, responding to events, creating reports, and working with Control Center. A separate guide is available for the AppManager Operator Console.

Administrator Guide for AppManager

Provides information about maintaining an AppManager management site, managing security, using scripts to handle AppManager tasks, and leveraging advanced configuration options.

Upgrade and Migration Guide for AppManager

Provides complete information about how to upgrade from a previous version of AppManager.

Management guides

Provide information about installing and monitoring specific applications with AppManager.

Help

Provides context-sensitive information and step-by-step guidance for common tasks, as well as definitions for each field on each window.

The AppManager library is available in Adobe Acrobat (PDF) format from the AppManager Documentation page.

About NetIQ Corporation

We are a global, enterprise software company, with a focus on the three persistent challenges in your environment: Change, complexity and risk—and how we can help you control them.

Our Viewpoint

Adapting to change and managing complexity and risk are nothing new

In fact, of all the challenges you face, these are perhaps the most prominent variables that deny you the control you need to securely measure, monitor, and manage your physical, virtual, and cloud computing environments.

Enabling critical business services, better and faster

We believe that providing as much control as possible to IT organizations is the only way to enable timelier and cost effective delivery of services. Persistent pressures like change and complexity will only continue to increase as organizations continue to change and the technologies needed to manage them become inherently more complex.

Our Philosophy

Selling intelligent solutions, not just software

In order to provide reliable control, we first make sure we understand the real-world scenarios in which IT organizations like yours operate — day in and day out. That's the only way we can develop practical, intelligent IT solutions that successfully yield proven, measurable results. And that's so much more rewarding than simply selling software.

Driving your success is our passion

We place your success at the heart of how we do business. From product inception to deployment, we understand that you need IT solutions that work well and integrate seamlessly with your existing investments; you need ongoing support and training post-deployment; and you need someone that is truly easy to work with — for a change. Ultimately, when you succeed, we all succeed.

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- Identity & Access Governance
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1 Introducing NetIQ Advanced Analytics for AppManager

This chapter introduces the NetIQ Advanced Analytics for AppManager module.

With Advanced Analytics for AppManager and the Knowledge Scripts in the AdvancedAnalytics category, you can view events that the NetIQ Advanced Analytics product generates in the Control Center console. For more information about Advanced Analytics, see the *Advanced Analytics User Guide*, available on the AppManager Documentation page.

Use Advanced Analytics for AppManager to view the following information from Advanced Analytics in the Control Center console:

• Connection status between the NetIQ Advanced Analytics Service and the NetIQ AppManager Integration Adapters you add to the Advanced Analytics Console

If the adapters and the service are not connected, you cannot receive events from Advanced Analytics when a monitored data stream includes data points that fall outside the normal behavior.

• Connection status between the NetIQ Advanced Analytics Service and the AppManager repositories (QDBs) you are monitoring with Advanced Analytics

If the QDBs and the service are not connected, you cannot receive events from Advanced Analytics when a monitored data stream includes data points that fall outside the normal behavior.

• Events that Advanced Analytics generates when a monitored data stream includes data points that fall outside the normal behavior

You can also use the module to send email notifications to the recipients you specify when Advanced Analytics generates events.

2 Installing Advanced Analytics for AppManager

This chapter provides installation instructions and describes system requirements for Advanced Analytics for AppManager.

This chapter assumes you have AppManager installed. For more information about installing AppManager or about AppManager system requirements, see the *Installation Guide for AppManager*, available on the AppManager Documentation page.

2.1 System Requirements

For the latest information about supported software versions and the availability of module updates, visit the AppManager Supported Products page. Unless noted otherwise, this module supports all updates, hotfixes, and service packs for the releases listed below.

Software/Hardware	Version	
One AppManager agent per monitored	7.0 or later	
DB, or one agent that all of the onitored QDBs share	Enable the agent to generate reports. Do not install Advanced Analytics for AppManager on more than one agent computer per monitored QDB. For more information, see Section 2.2, "Pre- installation Considerations," on page 12.	
	The agent must run under the same Windows account as the NetIQ Advanced Analytics Configuration Service. For more information about the service account, see the <i>Advanced Analytics User Guide</i> , available on the AppManager Documentation page.	
NetIQ AppManager installed on the AppManager repository (QDB) computers, on the agent computers, and on all console computers	7.0 or later	
	Support for Windows Server 2008 on AppManager 7.x requires AppManager Windows Agent hotfix 71704 or later. For more information, see the AppManager Suite Hotfixes page.	
Microsoft Windows operating system on	One of the following:	
gent computers	Windows Server 2012 R2	
	Windows Server 2012	
	 Windows 8 (32-bit or 64-bit) 	
	Windows Server 2008 R2	
	 Windows Server 2008 (32-bit or 64-bit) 	

Advanced Analytics for AppManager has the following system requirements:

Software/Hardware	Version
AppManager for Microsoft Windows module installed on repository, agent, and console computers	Support for Windows Server 2008 R2 on AppManager 7.x requires the AppManager for Windows module, version 7.6.170.0 or later. For more information, see the AppManager Module Upgrades & Trials page.
	NetIQ Corporation recommends version 7.6.170.0 or later. For more information, see the AppManager Module Upgrades & Trials page.
Microsoft Message Queue (MSMQ) Server on the agent computers	The MSMQ Server is an operating system feature. If necessary, use the tools that Microsoft Windows provides to install the feature.
	To prevent the queue from filling to capacity, NetIQ Corporation recommends allowing 1 GB (which is the default) of storage across all of the applications that are using MSMQ on the computer.

2.2 Pre-installation Considerations

When you install the agent components for the module, do not install them on more than one agent per QDB. Ensure that the agent is enabled to generate reports. Before you install the module, decide whether you want one agent per monitored QDB, or one agent that all monitored QDBs will share. Regardless of which option you choose, the agent must be the same version as the QDB.

For example, if you have 10 QDBs in your environment and each QDB includes servers that you want to monitor with Advanced Analytics, you have the following options:

- Identify one agent per QDB and install the agent components on each agent computer.
- Identify one agent for the 10 QDBs to share, add that agent computer to each QDB, and install the agent components only on the one agent computer.
- If the 10 QDBs are mixed versions (for example, five version 8.x QDBs and five version 7.x QDBs), they cannot share one agent. In this case, you would need a version 7.x agent for the version 7.x QDBs and a version 8.x agent for the version 8.x QDBs.

For more information about installing the agent components, see Section 2.3, "Installing the Module," on page 12.

2.3 Installing the Module

Run the module installer on the agent computers to install the agent components, and run the module installer on all console computers to install the Help and console extensions. Do not install the agent components on more than one agent per monitored QDB. For more information about the agent considerations, see Section 2.2, "Pre-installation Considerations," on page 12.

Access the AM70-AdvancedAnalytics-7.x.x.0.msi module installer from the AM70_AdvancedAnalytics_7.x.x.0 installation package.

For Windows environments where User Account Control (UAC) is enabled, install the module using an account with administrative privileges. Use one of the following methods:

- Log in to the server using the account named Administrator. Then, run the module installer AdvancedAnalytics.msi file from a command prompt or by double-clicking it.
- Log in to the server as a user with administrative privileges and run the module installer AdvancedAnalytics.msi file as an administrator from a command prompt. To open a command-prompt window at the administrative level, right-click a command-prompt icon or a Windows menu item and select **Run as administrator**.

You can install the Knowledge Scripts into local or remote AppManager repositories (QDBs). The module installer installs Knowledge Scripts for each module directly into the QDB instead of installing the scripts in the \AppManager\qdb\kp folder as in previous releases of AppManager.

You can install the module manually, or you can use Control Center to deploy the module to a remote computer where an agent is installed. For more information, see Section 2.4, "Deploying the Module with Control Center," on page 14. However, if you use Control Center to deploy the module, Control Center only installs the *agent* components of the module. The module installer installs the QDB and console components as well as the agent components on the agent computer.

To install the module manually:

- 1 Double-click the module installer.msi file.
- **2** Accept the license agreement.
- **3** Review the results of the pre-installation check. You can expect one of the following three scenarios:
 - No AppManager agent is present: In this scenario, the pre-installation check fails, and the
 installer does not install agent components.
 - An AppManager agent is present, but some other prerequisite fails: In this scenario, the default is to not install agent components because of one or more missing prerequisites. However, you can override the default by selecting Install agent component locally. A missing application server for this particular module often causes this scenario. For example, installing the AppManager for Microsoft SharePoint module requires the presence of a Microsoft SharePoint server on the selected computer.
 - All prerequisites are met: In this scenario, the installer installs the agent components.
- 4 To install the Knowledge Scripts into the QDB:
 - **4a** Select **Install Knowledge Scripts** to install the repository components, including the Knowledge Scripts, object types, and SQL stored procedures.
 - **4b** Specify the SQL Server name of the server hosting the QDB, as well as the case-sensitive QDB name.
- **5** (Conditional) If you use Control Center 7.x, run the module installer for each QDB attached to Control Center.
- **6** (Conditional) If you use Control Center 8.*x*, run the module installer only for the primary QDB. Control Center automatically replicates this module to secondary QDBs.
- 7 Run the module installer on all console computers to install the Help and console extensions.

- 8 Run the module installer on the agent computer to install the agent components.
- **9** (Conditional) If you have not discovered Advanced Analytics resources, run the Discovery_AdvancedAnalytics Knowledge Script on all agent computers where you installed the module. For more information, see Section 2.6, "Discovering Advanced Analytics Resources," on page 15.

After the installation has completed, the AdvancedAnalytics_Install.log file, located in the \NetIQ\Temp\NetIQ_Debug\ServerName folder, lists any problems that occurred.

2.4 Deploying the Module with Control Center

You can use Control Center to deploy the module to a remote computer where an agent is installed. This topic briefly describes the steps involved in deploying a module and provides instructions for checking in the module installation package. For more information, see the *Control Center User Guide for AppManager*, available on the AppManager Documentation page.

2.4.1 Deployment Overview

This section describes the tasks required to deploy the module on an agent computer.

To deploy the module on an agent computer:

- 1 Verify the default deployment credentials.
- **2** Check in an installation package. For more information, see Section 2.4.2, "Checking In the Installation Package," on page 14.
- 3 Configure an email address to receive notification of a deployment.
- **4** Create a deployment rule or modify an out-of-the-box deployment rule.
- **5** Approve the deployment task.
- **6** View the results.

2.4.2 Checking In the Installation Package

You must check in the installation package, AM70-AdvancedAnalytics-x.x.x.0.xml, before you can deploy the module on an agent computer.

To check in a module installation package:

- **1** Log in to Control Center using an account that is a member of a user group with deployment permissions.
- **2** Navigate to the **Deployment** tab (for AppManager 8.x) or **Administration** tab (for AppManager 7.x).
- 3 In the Deployment folder, select Packages.
- **4** On the Tasks pane, click **Check in Deployment Packages** (for AppManager 8.x) or **Check in Packages** (for AppManager 7.x).
- **5** Navigate to the folder where you saved AM70-AdvancedAnalytics-*x.x.x*.0.xml and select the file.
- 6 Click **Open**. The Deployment Package Check in Status dialog box displays the status of the package check in.

2.5 Silently Installing the Module

You can silently install the module on the console and QDB computers. Silently installing the module on the agent computer is not supported.

To silently (without user intervention) install the module on console computers using the default settings, run the following command from the folder in which you saved the module installer:

msiexec.exe /i "AM70-AdvancedAnalytics-7.x.x.0.msi" /qn

where *x*.*x* is the actual version number of the module installer.

To create a log file that describes the operations of the module installer, add the following flag to the command noted above:

/L* "AM70-AdvancedAnalytics-7.x.x.0.msi.log"

The log file is created in the folder in which you saved the module installer.

To silently install the module to a remote QDB, you can use Windows authentication or SQL authentication.

Windows authentication:

AM70-AdvancedAnalytics-7.x.x.0.msi /qn MO_B_QDBINSTALL=1 MO_B_MOINSTALL=0 MO_B_SQLSVR_WINAUTH=1 MO_SQLSVR_NAME=SQLServerName MO_QDBNAME=AM-RepositoryName

SQL authentication:

AM70-AdvancedAnalytics-7.x.x.0.msi /qn MO_B_QDBINSTALL=1 MO_B_MOINSTALL=0 MO_B_SQLSVR_WINAUTH=0 MO_SQLSVR_USER=SQLLogin MO_SQLSVR_PWD=SQLLoginPassword MO_SQLSVR_NAME=SQLServerName MO_QDBNAME=AM-RepositoryName

2.6 Discovering Advanced Analytics Resources

Use the Discovery_AdvancedAnalytics Knowledge Script to discover configuration and resource information for Advanced Analytics servers. The Discovery_AdvancedAnalytics script also tracks, displays, and provides various alerts about Advanced Analytics services.

By default, this script runs once for each computer.

If you delete or add a resource object, or if you make any other kind of change that might affect the monitoring of your resources, run the Discovery_AdvancedAnalytics Knowledge Script again to update your list of resource objects. In addition, if you are running this module on AppManager 8 or later, you can use the delta discovery feature in Control Center to run discovery on a schedule to more quickly detect changes to your environment.

Set the Values tab parameters as needed.

Description	How to Set It
Raise event if discovery succeeds?	Specify \mathbf{y} to raise an event when this script successfully discovers Advanced Analytics resources. The default is n.
Event severity when discovery succeeds	Set the event severity level, from 1 to 40, to reflect the importance when this script successfully discovers Advanced Analytics resources. The default is 25.

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How to Set It

Event severity when discovery
failsSet the event severity level, from 1 to 40, to reflect the importance when this
script fails to discover Advanced Analytics resources. The default is 5.

2.7 Upgrading Knowledge Script Jobs

When you upgrade the module, the Knowledge Script jobs continue running with the existing functionality and parameter settings. To apply new functionality or parameter settings, you must stop the existing StatusEvents and EventListener jobs and start new jobs. You cannot use the properties propagation feature to upgrade the jobs.

3

AdvancedAnalytics Knowledge Scripts

Advanced Analytics for AppManager provides the following Knowledge Scripts for monitoring Advanced Analytics resources.

From the Knowledge Script view of Control Center, you can access more information about any Knowledge Script by selecting it and clicking **Help**. In the Operator Console, select any Knowledge Script in the Knowledge Script pane and press **F1**.

Knowledge Script	What It Does
StatusEvents	Monitors the connection between the NetIQ Advanced Analytics Service and AppManager repositories (QDBs) you are monitoring with Advanced Analytics, and also monitors the connection between the service and the AppManager Integration Adapters
EventListener	Inserts events that Advanced Analytics generates into the QDBs that you are monitoring with Advanced Analytics and allows you to view the events in the Control Center console

3.1 StatusEvents

Use this Knowledge Script to monitor the connection between the NetIQ Advanced Analytics Service and QDBs you are monitoring with Advanced Analytics, and also to monitor the connection status between the service and the AppManager Integration Adapters you add to Advanced Analytics. The script automatically raises events to inform you about the connection status. If a QDB or an adapter is not connected to the service, you cannot receive events when a monitored data stream includes data points that fall outside the normal behavior.

Do not run this script as part of a monitoring policy.

3.1.1 Resource Objects

Advanced Analytics server

3.1.2 Default Schedule

By default, this script runs on an asynchronous schedule. All other schedule types are unavailable. Once you start the Knowledge Script job, its runs continuously on the monitored system and reports events as they occur.

3.1.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
Event severity when job fails to register with Advanced Analytics Service to receive connection status events	Set the event severity level, from 1-40, to indicate the importance of an event in which the QDB fails to register with the NetIQ Advanced Analytics Service. The default is 5.
Event settings when errors prevent job from running normally	
Event severity when errors prevent job from running normally	Set the event severity level, from 1 to 40, to indicate the importance of an event in which an error prevents the StatusEvents job from running normally. The default is 5.
	For example, if the Microsoft Message Queue (MSMQ) service stops, the StatusEvents job continues running even though it is not able to retrieve messages from the MSMQ Server.
Time to wait between events when errors prevent job from running normally	Specify the number of minutes, from 1 to 1440 (1 day) to wait between raising events when an error prevents the StatusEvents job from running normally. The default is 10 minutes.
	For example, if you use the default value of 10, AppManager generates one event every 10 minutes until you resolve the error.
Event severity when QDB and Advanced Analytics Service are connected	Set the event severity level, from 1-40, to indicate the importance of an event in which the NetIQ Advanced Analytics Service is connected to the QDB. The default is 25.
Event severity when QDB and Advanced Analytics Service fail to connect	Set the event severity level, from 1-40, to indicate the importance of an event in which the NetIQ Advanced Analytics Service is not connected to the QDB. The default is 5.
Event severity when adapter and Advanced Analytics Service are connected	Set the event severity level, from 1-40, to indicate the importance of an event in which the NetIQ Advanced Analytics Service is connected to the adapter. The default is 25.
Event severity when adapter and Advanced Analytics Service fail to connect	Set the event severity level, from 1-40, to indicate the importance of an event in which the NetIQ Advanced Analytics Service is not connected to the adapter. The default is 5.
Raise event if EventListener job is not running?	Select Yes to raise an event if the EventListener job is not running on the QDB. The default is to raise an event.
Time to wait between status checks for the EventListener job	Specify the number of minutes to wait between checks for whether the EventListener job is running on the QDB. The default is 60 minutes.
	If you select Yes for the <i>Raise event if EventListener job is not running</i> ? parameter and the job is not running on the QDB, AppManager generates one event every <i>n</i> minutes. For example, if you use the default value of 60, AppManager generates one event every 60 minutes provided that the job status does not change.
Event severity when EventListener job is not running	Set the event severity level, from 1-40, to indicate the importance of an event in which the EventListener job is not running on the QDB. The default is 5.

3.2 EventListener

Use this Knowledge Script to insert events that Advanced Analytics generates into the QDB and view them in AppManager. If you specify an SMTP server and one or more email recipients, the script sends an SMTP mail message with event information.

Do not run this script as part of a monitoring policy.

3.2.1 Resource Objects

Advanced Analytics server

3.2.2 Default Schedule

By default, this script runs on an asynchronous schedule. All other schedule types are unavailable. Once you start the Knowledge Script job, its runs continuously on the monitored system and reports events as they occur.

3.2.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
Event severity when job fails to register with Advanced Analytics Service to receive connection status events	Set the event severity level, from 1-40, to indicate the importance of an event in which the QDB fails to register with the NetIQ Advanced Analytics Service. The default is 5.
Event settings when errors prevent job from running normally	
Event severity when errors prevent job from running normally	Set the event severity level, from 1 to 40, to indicate the importance of an event in which an error prevents the EventListener job from running normally. The default is 5.
	For example, if the Microsoft Message Queue (MSMQ) service stops, the EventListener job continues running even though it is not able to retrieve messages from the MSMQ Server.
Time to wait between events when errors prevent job from running normally	Specify the number of minutes, from 1 to 1440 (1 day) to wait between raising events when an error prevents the EventListener job from running normally. The default is 10 minutes.
	For example, if you use the default value of 10, AppManager generates one event every 10 minutes until you resolve the error.
Remove existing Advanced Analytics events when the job starts?	Select Yes to remove old Advanced Analytics events from the queue when the job starts. The default is to leave the events in the queue.
Event Notification Options	
Event Notification	

Parameter	How to Set It
Raise event if SMTP server is not accessible?	Select Yes to raise an event if the job cannot access the SMTP server in order to send email notifications. The default is to raise an event.
Event severity - SMTP server not accessible	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the job cannot access the SMTP server. The default is 35.
Action	
List of recipient email addresses (semicolon separated)	Provide the full email address for each recipient of the message. Use semicolons (;) to separate multiple recipient addresses. For example: chris@abc.com;pat@def.com;jw@abc.com.
	The following characters are invalid: / $\ \$ [] : = , * ? < >
Sender's email address	Provide the email address of the person sending the message.
	The following characters are invalid: / $\ \$ [] : = , * ? < >
SMTP server name	Provide the host name or IP address of your SMTP server.
SMTP port	Set the port number for your SMTP server. The default is 25.
Message format	Select the format you want to use for the message sent by this script:
	 Standard format generates a message based upon the selections you make from the Standard Message Options parameters.
	 Custom format generates a message based upon the subject and message body you supply in the Custom Message Options parameters.
	The default is Standard.
Standard Message Options	
Include date/timestamp?	Select Yes to include the date/timestamp in the standard message. The default is to exclude the date/timestamp.
Include JobID?	Select Yes to include the job ID in the standard message. The default is to exclude the job ID.
Include agent computer name?	Select Yes to include the name of the agent computer that initiated the action in the standard message. The default is to include the computer name.
Include event severity?	Select Yes to include the severity of the event in the standard message. The default is to include the severity.
Include Knowledge Script name?	Select Yes to include the name of the Knowledge Script that initiated the action in the standard message. The default is to exclude the Knowledge Script name.
Include AppManager object name?	Select Yes to include the name of the resource object where the event was raised in the standard message. The default is to exclude the object name.
Include AppManager event ID (only on MS action)?	Select Yes to include the AppManager event ID in the standard message, possible only in cases when the management server carries out the action. The default is to exclude the event ID.
Include event detail message?	Select Yes to include the event detail message. The default is to exclude the detail message.

Parameter	How to Set It
Custom message subject	Provide the text you want to use for the custom message subject line.
Custom message body	Provide the text you want to include in your custom message. You can use the keywords listed below to indicate the information you want to include in the body of your custom message. Add a space before and after keywords to ensure that the keywords display properly.
	 \$ShortMsg\$ (short event message).
	 \$DetailMsg\$ (detailed event message).
	 \$Time\$ (date and time of the event).
	 \$JobID\$ (ID of the job that raised the event).
	 \$MachineName\$ (name of the computer where the event was raised).
	 \$Severity\$ (severity of the event).
	 \$KSName\$ (name of the Knowledge Script that raised the event).
	 \$ObjectName\$ (name of the AppManager resource object where the event was raised).
	 \$EventID\$ (event ID).
	 \$tab\$ inserts four whitespace characters in the message body.
	 \$1f\$ inserts a line feed in the message body.
	 \$crlf\$ inserts a carriage-return line feed in the message body.
	 \$cr\$ inserts a carriage-return in the message body.
	For \$ShortMsg\$ and \$DetailMsg\$ you can use number and wildcard options to indicate specific portions of the text string to include. For example
	 \$DetailMsg\$[5] includes the fifth word of the detailed event message.
	 \$ShortMsg\$[1-5] includes the first through fifth words of the short event message.
	 \$DetailMsg\$[*5] includes the first through fifth words of the detailed event message.
	 \$ShortMsg\$[5*] includes the fifth through last words of the short event message.
	This script treats the following character values as separators between words: carriage return, line feed, carriage return/line feed combination, form feed, horizontal tab, and space. Everything between those character values in a custom message is considered a word.
	If you do not enter a keyword, AppManager returns the entire string.
	The following are examples of the types of messages you can construct using keywords:
	 Event from \$MachineName\$: The \$ShortMsg\$[1-3] has failed. The last command was \$DetailMsg\$[4*].
	 A severity \$Severity\$ event has occurred. Call the owner of \$MachineName\$ immediately.