NetIQ® AppManager® for Symantec NetBackup

Management Guide

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Legal Notice

Contents

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-by-step 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 of the NetIQ Web site.

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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NetIQ Communities, the NetIQ online community, is a collaborative network connecting you to your peers and NetIQ experts. By providing more immediate information, useful links to helpful resources, and access to NetIQ experts, NetIQ Communities helps ensure you are mastering the knowledge you need to realize the full potential of IT investments upon which you rely. For more information, visit community.netiq.com.

1 Introducing AppManager for Symantec NetBackup

AppManager for Symantec NetBackup is a robust and dependable tool that lets you monitor and promote the efficiency of Symantec AppManager.

AppManager helps you monitor the status of backup jobs and maintain an accurate picture of your archiving process. In addition to monitoring AppManager, AppManager can intervene to restart a AppManager service or reset a device when it is down. AppManager also scans error and event logs for AppManager entries, giving you better visibility of potential problems in backup activities.

NetBackup Knowledge Scripts can manage and monitor the following:

- The memory and CPU resources consumed by NetBackup services
- The number of clients managed by the NetBackup server
- The status of AppManager devices and services
- The size of AppManager directories
- Changes made to storage units configured on the AppManager server
- The number of successful, incomplete, and failed backup jobs
- The number and types of errors and events

You can set thresholds that specify the boundaries of optimal performance. You can also configure AppManager to raise events when the thresholds are crossed. You can collect information for data analysis and reporting, for example, on the number of failed jobs or a service that is not running.

2 Installing AppManager for Symantec NetBackup

This chapter provides installation instructions and describes system requirements for AppManager for Symantec NetBackup.

This chapter assumes you have AppManager installed. For more information about installing AppManager or about AppManager system requirements, see the *Installation Guide for AppManager*, which is 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.

AppManager for Symantec NetBackup has the following requirements:

Software/Hardware	Version
NetIQ AppManager installed on the AppManager repository (QDB) computers, on the NetBackup computers you want to monitor (agents), 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 agent computers	One of the following: ◆ Windows Server 2008 R2 ◆ Windows Server 2008 (32-bit and 64-bit) ◆ Windows Server 2003 R2 (32-bit and 64-bit)
AppManager for Microsoft Windows module installed on repository, agent, and console computers	7.6.170.0 or later. For more information, see the AppManager Module Upgrades & Trials page.
Symantec NetBackup installed on the agent computers	One of the following: ◆ Symantec NetBackup Server 7.5, 7.1, 7.0, or 6.5 ◆ Symantec NetBackup Server or Enterprise Server 6.0

2.2 Installing the Module

Run the module installer on the NetBackup computers you want to monitor (agents) to install the agent components, and run the module installer on all console computers to install the Help and console extensions.

Access the `AM70-NetBackup-7.x.x.0.msi` module installer from the `AM70_NetBackup_7.x.x.0` self-extracting installation package on the AppManager Module Upgrades & Trials page.

On servers where User Account Control (UAC) is enabled, install this 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 `.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 `.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 and the Analysis Center reports 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 on a remote computer where an agent is installed. For more information, see Section 2.3, "Deploying the Module with Control Center," on page 13. However, if you do 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 NetBackup computers you want to monitor (agents) to install the agent components.

9 (Conditional) If you have not discovered NetBackup resources, run the Discovery_NetBackup Knowledge Script on all agent computers where you installed the module. For more information, see Section 2.5, "Discovering Symantec NetBackup Resources," on page 14.

10 To get the updates provided in this release, upgrade any running Knowledge Script jobs. For more information, see Section 2.6, "Upgrading Knowledge Script Jobs," on page 15.

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

2.3 Deploying the Module with Control Center

You can use Control Center to deploy the module on 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*, which is available on the AppManager Documentation page.

2.3.1 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 2.3.2, "Checking In the Installation Package," on page 13.

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.

2.3.2 Checking In the Installation Package

You must check in the installation package, `AM70-NetBackup-7.x.x.0.xml`, before you can deploy the module on an agent computer.

To check in a module installation package:

1 Log on 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-NetBackup-7.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.

7 To get the updates provided in this release, upgrade any running Knowledge Script jobs. For more information, see Section 2.6, "Upgrading Knowledge Script Jobs," on page 15.

2.4 Silently Installing the Module

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

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

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

To get the updates provided in this release, upgrade any running Knowledge Script jobs. For more information, see Section 2.6, "Upgrading Knowledge Script Jobs," on page 15.

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

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

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

NOTE: To perform a silent install on an AppManager agent running Windows Server 2008 R2 or Windows Server 2012, open a command prompt at the administrative level and select **Run as administrator** before you run the silent install command listed above.

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

Windows authentication:

```
AM70-NetBackup-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-NetBackup-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
```

2.5 Discovering Symantec NetBackup Resources

Use the Discovery_NetBackup Knowledge Script to discover Symantec NetBackup resources and configuration information. This Knowledge Script always raises an event when the job fails for any reason. In addition, you can set this parameter to also raise an event when the job succeeds.

Run Discovery_NetBackup on NetBackup server objects. By default, this script runs once for each computer.

Set the Values tab parameters as needed:

Description	How to set it
Success and Failure Events	
Raise event when discovery succeeds?	Select **Yes** to raise an event when the job succeeds. The default is No.
Event severity when discovery succeeds	Set the event severity level, from 1 to 40, to reflect the importance for a successful discovery. The default is 25.
Event severity when discovery fails	Set the event severity level, from 1 to 40, to reflect the importance if discovery fails. The default is 5.

2.6 Upgrading Knowledge Script Jobs

If you are using AppManager 8.x or later, the module upgrade process now *retains* any changes you might have made to the parameter settings for the Knowledge Scripts in the previous version of this module. Before AppManager 8.x, the module upgrade process *overwrote* any settings you might have made, changing the settings back to the module defaults.

As a result, if this module includes any changes to the default values for any Knowledge Script parameter, the module upgrade process ignores those changes and retains all parameter values that you updated. Unless you review the management guide or the online Help for that Knowledge Script, you will not know about any changes to default parameter values that came with this release.

You can push the changes for updated scripts to running Knowledge Script jobs in one of the following ways:

- Use the AMAdmin_UpgradeJobs Knowledge Script.
- Use the Properties Propagation feature.

2.6.1 Running AMAdmin_UpgradeJobs

The AMAdmin_UpgradeJobs Knowledge Script can push changes to running Knowledge Script jobs. Your AppManager repository (QDB) must be at version 7.0 or later. Upgrading jobs to use the most recent script version allows the jobs to take advantage of the latest script logic while maintaining existing parameter values for the job.

For more information, see the **Help** for the AMAdmin_UpgradeJobs Knowledge Script.

2.6.2 Propagating Knowledge Script Changes

You can propagate script changes to jobs that are running and to Knowledge Script Groups, including recommended Knowledge Script Groups and renamed Knowledge Scripts.

Before propagating script changes, verify that the script parameters are set to your specifications. You might need to appropriately set new parameters for your environment or application.

If you are not using AppManager 8.x or later, customized script parameters might have reverted to default parameters during the installation of the module.

You can choose to propagate only properties (specified in the Schedule and Values tabs), only the script (which is the logic of the Knowledge Script), or both. Unless you know specifically that changes affect only the script logic, you should propagate both properties and the script.

For more information about propagating Knowledge Script changes, see the "Running Monitoring Jobs" chapter of the *Operator Console User Guide for AppManager*.

2.6.3 Propagating Changes to Ad Hoc Jobs or Knowledge Script Groups

You can propagate the properties and the logic (script) of a Knowledge Script to ad hoc jobs started by that Knowledge Script. Corresponding jobs are stopped and restarted with the Knowledge Script changes.

You can also propagate the properties and logic of a Knowledge Script to corresponding Knowledge Script Group members. After you propagate script changes to Knowledge Script Group members, you can propagate the updated Knowledge Script Group members to associated running jobs. Any monitoring jobs started by a Knowledge Script Group member are restarted with the job properties of the Knowledge Script Group member.

To propagate changes to ad hoc Knowledge Script jobs or Knowledge Script Groups:

1. In the Knowledge Script view, select the Knowledge Script or Knowledge Script Group for which you want to propagate changes.
2. Right-click the script or group and select **Properties propagation** > **Ad Hoc Jobs**.
3. Select the components of the Knowledge Script that you want to propagate to associated ad hoc jobs or groups and click **OK**:

Select	To propagate
Script	The logic of the Knowledge Script.
Properties	Values from the Knowledge Script Schedule and Values tabs, such as schedule, monitoring values, actions, and advanced options. If you are using AppManager 8.x or later, the module upgrade process now *retains* any changes you might have made to the parameter settings for the Knowledge Scripts in the previous version of this module.

3 NetBackup Knowledge Scripts

AppManager provides the following Knowledge Scripts for monitoring the operations of Symantec NetBackup on Windows computers.

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

Knowledge Script	What it Does
Clients	Monitors the number of clients managed by the NetBackup server.
DBDirSize	Monitors the size in MB of the NetBackup database (DB) directory.
DeviceStatus	Detects when a NetBackup device is down, and optionally resets it.
ErrorLog	Scans the NetBackup error log file for Error, Warning, and Critical entries during the monitoring interval.
EventLog	Monitors the Windows Application log for entries created by NetBackup.
FailedJobs	Monitors the number of backup jobs that failed during the monitoring interval.
IncompleteJobs	Monitors the number of backup jobs that partially completed during the monitoring interval.
LogDirSize	Monitors the size in MB of the NetBackup log directory.
PendingRequest	Monitors the number of pending device requests on the NetBackup server.
ResourceHigh	Monitors the CPU and memory usage of NetBackup services.
ServiceDown	Monitors discovered NetBackup services to determine if any service is down, and optionally restarts the service.
StorageUnitsChanged	Monitors whether storage units configured on the NetBackup server have been added or deleted during the monitoring interval.
SuccessfulJobs	Monitors the number of backup jobs that completed successfully during the monitoring interval.

3.1 Clients

Use this Knowledge Script to monitor the number of backup clients managed by the NetBackup server. This script raises an event if the number of clients being managed exceeds the threshold you set.

3.1.1 Resource Object

NetBackup server

3.1.2 Default Schedule

The default interval for this script is every 24 hours.

3.1.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	
Raise event if threshold exceeded?	Select **Yes** to raise an event if number of clients exceeds the threshold you set. The default is Yes.
Collect data?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of clients managed by the NetBackup server. The default is unselected.
Threshold -- Maximum number of clients	Specify the maximum number of clients that can be managed by the server before an event is raised. The default is 10 clients.
Event severity when threshold is exceeded	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of clients exceeds the threshold you set. The default is 15.
Success and Failure Events	
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.

3.2 DBDirSize

Use this Knowledge Script to monitor the size (in MB) of the NetBackup database (DB) directory. This script raises an event if the size of this directory exceeds the threshold you set.

3.2.1 Resource Object

NetBackup server

3.2.2 Default Schedule

The default interval for this script is every 24 hours.

3.2.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	
Raise event if threshold exceeded?	Select **Yes** to raise an event if the size of the DB directory exceeds the threshold you set. The default is Yes.
Collect data?	Select **Yes** to collect data for charts and reports. When enabled, data collection returns the size (in MB) of the NetBackup DB directory. The default is unselected.
Threshold -- Maximum size of DB directory	Specify the maximum size that the NetBackup DB directory can attain before an event is raised. The default is 20 MB.
Event severity when threshold is exceeded	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the size of the NetBackup DB directory exceeds the threshold you set. The default is 15.
Success and Failure Events	
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.

3.3 DeviceStatus

Use this Knowledge Script to detect when a NetBackup tape device is DOWN, and optionally set it to an UP state. This script raises an event when the reset feature succeeds in resetting a device from the DOWN state to the UP state, and when the reset feature fails.

3.3.1 Resource Object

NetBackup device

3.3.2 Default Schedule

The default interval for this script is every 24 hours.

3.3.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	

Description	How to Set It
Raise event if device is down?	Select **Yes** to raise an event if the device is down. The default is Yes.
Collect data?	Select **Yes** to collect data for charts and reports. When enabled, data collection returns 0 if the device is down, or 100 if the device is up. The default is unselected.
Reset device?	Select **Yes** to automatically reset a device that is detected as down. The default is unselected.
Event severity when reset fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which AppManager fails to reset a device. The default is 10.
Event severity when reset succeeds	Set the event severity level, from 1 to 40, to indicate the importance of an event in which AppManager succeeds in resetting a device. The default is 25.
Event severity when device is down and reset is not enabled	Set the event severity level, from 1 to 40, to indicate the importance of the event when the device is down and the *Reset device?* parameter is disabled. The default severity level is 20.
Success and Failure Events	
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.

3.4 ErrorLog

Use this Knowledge Script to generate a log of problems on the NetBackup server, and then scan that log for Error, Warning, and Critical entries. The first iteration of the script collects entries from all available data, regardless of the interval specified. Subsequent iterations of the script collect entries made since the previous iteration. For example, if this script is set to run **Every 8 Hours**, then for the first iteration it checks for all entries, and for subsequent iterations it checks for entries made during the previous eight hours. This script raises an event if the number of entries exceeds the threshold you set.

NOTE: When running this script on a media server, AppManager filters log entries and only collects entries originating from that media server. No filtering is applied when running this script on a master server, so AppManager returns log entries originating from both the master server and any associated media servers.

3.4.1 Resource Object

NetBackup server

3.4.2 Default Schedule

The default interval for this script is every hour.

3.4.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	
Raise event if threshold exceeded?	Select **Yes** to raise an event if the number of error entries exceeds the threshold you set. The default is Yes.
Collect data?	Select **Yes** to collect data for charts and reports. When enabled, data collection returns the total number of entries in the error log during the monitoring interval. The default is unselected.
Threshold--Maximum number of error entries	Specify the maximum number of entries that can be found during the monitoring interval before an event is raised. The default is 0.
Event severity when threshold is exceeded	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of error entries exceeds the threshold you set. The default is 15.
Success and Failure Events	
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.

3.5 EventLog

Use this Knowledge Script to monitor event log entries created by NetBackup. These entries are under the Windows Application Log. You can define other categories for filtering Application Log entries, such as Event ID and Event Description.

The first iteration of the script collects entries from all available data, regardless of the interval specified. Subsequent iterations of the script collect entries made since the previous iteration. For example, if this script is set to run **Every 8 Hours**, then for the first iteration it checks for all entries, and for subsequent iterations it checks for entries made during the previous eight hours. This script raises an event if the number of entries exceeds the threshold you set.

3.5.1 Resource Object

NetBackup server

3.5.2 Default Schedule

The default interval for this script is every 24 hours.

3.5.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	
Collect data?	Select **Yes** to collect data for charts and reports. When enabled, data collection returns the number of log entries that match the search criteria. The default is unselected.
Start collecting events from past N hours	Use this parameter to determine which events are searched the first time you run the Knowledge Script job. Subsequent searches begin where the previous one finished. The following entries are valid: ◆ **-1** to search all existing log entries during the first interval ◆ *N* to search entries for the past *N* hours (8 for the past 8 hours, 50 for the past 50 hours, and so on) ◆ **0** to search no previous entries (search from the current time forward) The default is 0.
Maximum number of entries per event report	Specify the maximum number of new log entries that can be found during the monitoring interval before an event is raised. The default is 30.
Event Notification	
Raise event if log entries matching criteria are found?	Select **Yes** to raise an event if log entries are found that match the criteria set in this Knowledge Script. The default is Yes.
Event severity when log entries match criteria	Set the event severity level, from 1 to 40, to indicate the importance of an event when log entries match the event log criteria. The default is 15.
Log Entry Selection	
Count ERROR entries	Select **Yes** to monitor error event entries. The default is Yes.
Count WARNING entries	Select **Yes** to monitor warning event entries. The default is Yes.
Count INFO entries	Select **Yes** to monitor information event entries. The default is No.
Count SUCCESSAUDIT entries	Select **Yes** to monitor success audit event entries. Success audits are successful security access attempts that are audited. The default is No.
Count FAILUREAUDIT entries	Select **Yes** to monitor failure audit event entries. Failure audits are failed security access attempts that are audited. The default is No.
Count UNCLASSIFIED entries	Some events written to Windows event logs do not have event levels or severities set to event types recognized by Windows Server 2008 and later. This Knowledge Script identifies these entries as unclassified. These entries will not be found by the error, warning, information, success audit, or failure audit filter criteria. Select Yes to monitor log entries that are unclassified. The default is No.
Text filter for the Event ID field	Provide an appropriate search string to find matching entries in the Event field of the Event Log. Separate multiple IDs with commas. The search string can contain criteria used to include entries, exclude entries, or both. Separate the include and exclude criteria with a colon (:). If you are specifying only include criteria, the colon is not necessary.

Description	How to Set It
Text filter for the Event Description field	Provide an appropriate search string to find matching entries in the Description field of the Event Log. Separate multiple strings with commas. The search string can contain criteria used to include entries, exclude entries, or both. Separate the include and exclude criteria with a colon (:). If you are specifying only include criteria, the colon is not necessary.
Success and Failure Events	
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.

3.6 FailedJobs

Use this Knowledge Script to monitor the number of failed backup jobs. This script raises an event if the number of failed jobs during the interval exceeds the threshold you set. A failed job is one that returns an `Exit` status code of `>1` in the NetBackup log.

During the first iteration, this Knowledge Script checks for failed backup jobs from all available data, regardless of the interval specified. During subsequent iterations, this script checks for failed backup jobs during the scheduled interval. For example, if this script is set to run **Every 8 Hours**, then for the first iteration it checks for all failed jobs, and for subsequent iterations it checks for failed jobs during the previous eight hours.

NOTE: When running this script on a media server, AppManager filters log entries and only collects entries originating from that media server. No filtering is applied when running this script on a master server, so AppManager returns log entries originating from both the master server and any associated media servers.

3.6.1 Resource Object

NetBackup server

3.6.2 Default Schedule

The default interval for this script is every 24 hours.

3.6.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	

Description	How to Set It
Raise event if threshold exceeded?	Select **Yes** to raise an event if the number of failed jobs exceeds the threshold you set. The default is Yes.
Collect data?	Select **Yes** to collect data for charts and reports. When enabled, data collection returns the number of failed jobs during the interval you specify. The default is unselected.
Threshold -- Maximum number of failed jobs	Specify the maximum number of failed jobs allowed during the monitoring interval before an event is raised. The default is 0.
Event severity when threshold is exceeded	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of failed jobs exceeds the threshold you set. The default is 15.
Success and Failure Events	
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.

3.7 IncompleteJobs

Use this Knowledge Script to monitor the number of incomplete backup jobs. If the number of incomplete jobs during the interval exceeds the threshold you set, an event is raised. An incomplete job is one that returns an `Exit` status code of `=1` in the NetBackup log.

During the first iteration, this Knowledge Script checks for incomplete backup jobs from all available data, regardless of the interval specified. During subsequent iterations, this script checks for incomplete backup jobs during the scheduled interval. For example, if this script is set to run **Every 8 Hours**, then for the first iteration it checks for all incomplete jobs, and for subsequent iterations it checks for incomplete jobs during the previous eight hours.

NOTE: When running this script on a media server, AppManager filters log entries and only collects entries originating from that media server. No filtering is applied when running this script on a master server, so AppManager returns log entries originating from both the master server and/or any associated media servers.

3.7.1 Resource Object

NetBackup server

3.7.2 Default Schedule

The default interval for this script is every 24 hours.

3.7.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	
Raise event if threshold exceeded?	Select **Yes** to raise an event if the number of incomplete jobs exceeds the threshold you set. The default is Yes.
Collect data?	Select **Yes** to collect data for charts and reports. When enabled, data collection returns the number of jobs submitted and the number of incomplete jobs during the interval you specify. The default is unselected.
Threshold -- Maximum number of incomplete jobs	Specify the maximum number of incomplete jobs allowed during the monitoring interval before an event is raised. The default is 10.
Event severity when threshold is exceeded	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of incomplete jobs exceeds the threshold you set. The default is 15.
Success and Failure Events	
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.

3.8 LogDirSize

Use this Knowledge Script to monitor the size (in MB) of the NetBackup log directory. This script raises an event if the size of this directory exceeds the threshold you set.

3.8.1 Resource Object

NetBackup server

3.8.2 Default Schedule

The default interval for this script is every 24 hours.

3.8.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	

Description	How to Set It
Raise event if threshold exceeded?	Select **Yes** to raise an event if the size of the log directory exceeds the threshold you set. The default is Yes.
Collect data?	Select **Yes** to collect data for charts and reports. When enabled, data collection returns the size (in MB) of the NetBackup log directory. The default is unselected.
Threshold -- Maximum size of log directory	Specify the maximum size the NetBackup log directory can attain before an event is raised. The default is 20 MB.
Event severity when threshold is exceeded	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the size of the log directory exceeds the threshold you set. The default is 15.
Success and Failure Events	
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.

3.9 PendingRequest

Use this Knowledge Script to monitor the number of pending device requests on the NetBackup server. This script raises an event if the number of pending requests exceeds the threshold you set.

3.9.1 Resource Object

NetBackup server

3.9.2 Default Schedule

The default interval for this script is every hour.

3.9.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	
Raise event if threshold exceeded?	Select **Yes** to raise an event if the number of pending requests exceeds the threshold you set. The default is Yes.
Collect data?	Select **Yes** to collect data for charts and reports. When enabled, data collection returns the number of pending device requests. The default is unselected.

Description	How to Set It
Threshold -- Maximum number of pending device requests	Specify the maximum number of device requests that can be pending before an event is raised. The default is 10 requests.
Event severity when threshold is exceeded	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of pending requests exceeds the threshold you set. The default is 15.
Success and Failure Events	
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.

3.10 ResourceHigh

Use this Knowledge Script to monitor the CPU and memory usage of NetBackup services. This script raises an event if CPU or memory usage exceeds the thresholds you set.

3.10.1 Resource Object

NetBackup service

3.10.2 Default Schedule

The default interval for this script is every 10 minutes.

3.10.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	
Raise event if threshold exceeded?	Select **Yes** to raise an event if CPU usage or memory utilization exceeds the threshold you set. The default is Yes.
Collect data?	Select **Yes** to collect data for charts and reports. When enabled, data collection returns the percentage of CPU usage and the number of MB of memory usage for a service. The default is unselected.
Threshold -- Maximum percent CPU usage	Specify the maximum amount of CPU usage allowed before an event is raised. The default is 60%.
Threshold -- Maximum memory usage	Specify the maximum memory usage allowed before an event is raised. The default is 6 MB.

Description	How to Set It
Event severity when CPU or memory threshold is exceeded	Set the event severity level, from 1 to 40, to indicate the importance of an event in which CPU usage or memory utilization exceeds the threshold you set. The default is 15.
Success and Failure Events	
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.

3.11 ServiceDown

Use this Knowledge Script to monitor discovered NetBackup services to see if any service is down. This script raises an event if a service is not running. This script can automatically restart any service that is down.

3.11.1 Resource Object

NetBackup service

3.11.2 Default Schedule

The default interval for this script is every 24 hours.

3.11.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	
Raise event if service is down?	Select **Yes** to raise an event if a service is down. The default is Yes.
Collect data?	Select **Yes** to collect data for charts and reports. When enabled, data collection returns: ◆ 100--monitored service is running ◆ 0--monitored service is not running. The default is unselected.
Restart service?	Select **Yes** to automatically restart any service that is down. The default is unselected.
Event severity when restart fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which an attempt is made to restart a service that is down, and restart fails. The default is 10.

Description	How to Set It
Event severity when restart succeeds	Set the event severity level, from 1 to 40, to indicate the importance of an event in which an attempt is made to restart a service that is down, and restart succeeds. The default is 25.
Event severity when service is down and restart is not enabled	Set the event severity level, from 1 to 40, to indicate the importance of an event in which an attempt is made to restart a service that is down and the *Restart service?* parameter is disabled. The default is 20.
Success and Failure Events	
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.

3.12 StorageUnitsChanged

Use this Knowledge Script to monitor storage units configured on the NetBackup server during the monitoring interval. This script raises an event if a storage unit is deleted or a new one is added.

3.12.1 Resource Object

NetBackup storage unit folder

3.12.2 Default Schedule

The default interval for this script is every 24 hours.

3.12.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	
Raise event if storage units are changed?	Select **Yes** to raise an event if a storage unit has been added or deleted. The default is Yes.
Collect data?	Select **Yes** to collect data for charts and reports. When enabled, data collection returns the number of added and deleted storage units. The default is unselected.
Event severity when a storage unit is changed	Set the event severity level, from 1 to 40, to indicate the importance of an event in which a storage unit has been modified. The default is 15.
Success and Failure Events	

Description	How to Set It
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.

3.13 SuccessfulJobs

Use this Knowledge Script to monitor the number of successfully completed backup jobs. This script raises an event if the number of successfully completed jobs during the interval falls below the threshold you set. A successful job is one that returns an `Exit` status code of `=0` in the NetBackup log.

During the first iteration, this Knowledge Script checks for successful backup jobs from all available data, regardless of the interval specified. During subsequent iterations, this script checks for successful backup jobs during the scheduled interval. For example, if this script is set to run **Every 8 Hours**, then for the first iteration it checks for all successful jobs, and for subsequent iterations it checks for successful jobs during the previous eight hours.

The following is an example of how you can use this Knowledge Script. Assume you run three backup jobs every morning at 2:00 AM, and you expect all of the jobs to be complete by 7:00 AM. You can run this script once a day at 8:00 AM with the *Threshold -- Minimum number of successfully completed jobs* parameter set to 3. If any of the scheduled backup jobs fails to complete by 8:00 AM, an event is raised, alerting you to possible problems.

NOTE: When running this script on a media server, AppManager filters log entries and only collects entries originating from that media server. No filtering is applied when running this script on a master server, so AppManager returns log entries originating from both the master server and/or any associated media servers.

3.13.1 Resource Object

NetBackup server

3.13.2 Default Schedule

The default interval for this script is every 24 hours.

3.13.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Monitoring Parameters	
Raise event if threshold not met?	Select **Yes** to raise an event if the number of successfully completed jobs falls below the threshold you set. The default is Yes.

Description	How to Set It
Collect data?	Select **Yes** to collect data for charts and reports. When enabled, data collection returns the number of successfully completed backup jobs during the interval you specify. The default is unselected.
Threshold -- Minimum number of successfully completed jobs	Specify the minimum number of backup jobs that must be successfully completed to prevent an event from being raised. The default is 10 jobs.
Event severity when threshold is not met	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of successfully completed jobs falls below the threshold you set. The default is 15.
Success and Failure Events	
Raise event on script success?	Select **Yes** to raise an event if the Knowledge Script job succeeds. The default is unselected.
Severity of success event	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job succeeds. The default is 35.
Severity of event raised when script fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Knowledge Script job fails. The default is 10.