NetIQ® AppManager® for Oracle Database on Windows

Management Guide

February 2015

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 website.

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.

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1 Introduction to AppManager for Oracle Database

Oracle Database is a powerful database that also offers administration and performance monitoring features to increase its manageability and reliability. Designed for high availability, Oracle Database stores and provides access to electronic data in the form of *Online Transaction Processing* (OLTP) databases and data warehouses.

This chapter explains the advantages of using AppManager to monitor Oracle and describes how AppManager lets you view Oracle resources.

1.1 Monitoring Oracle

Any enterprise whose viability depends on unimpeded access to information must carefully scrutinize the performance of its database management system. A faltering system can interfere with internal operations, such as CRM and ERP systems, as well as a company's direct contact with its customers, such as ATM or stock transactions, or orders placed via a Web site.

When you implement a database management system like Oracle Database, you might want to monitor how the components of the system perform in order to tune the system to your specific needs and provide benchmark values for subsequent performance evaluation. Understanding how your system functions under an optimal configuration lets you quickly identify degraded performance and take steps to preempt or rectify problems, as well as plan for upgrades or reconfiguration in anticipation of greater demands on the system.

1.2 Features and Benefits

AppManager provides several Knowledge Scripts designed to give you a comprehensive view of how Oracle Database performs on your servers. The capabilities of the Knowledge Scripts in the Oracle category include:

- Monitoring the Oracle alert log for specific entries related to database operations and error conditions.
- Monitoring the total number of physical read/write operations per second and the total memory usage for Oracle background processes.
- Monitoring input/output (I/O) activity at the block level.
- Monitoring the hit ratios for the buffer cache, library cache, and the data dictionary.
- Monitoring the number of database calls from all applications and processes accessing a database instance.
- Monitoring the ratio of continued rows fetched to all rows fetched.
- Monitoring the up/down status of databases.
- Monitoring the amount of disk space available for the archive log file, the background process log file, and user log files for a database.
- Monitoring rollback segment contention for a database.
- Monitoring the percentage of rows retrieved using full table scans.

- Monitoring the sort overflow ratio.
- Monitoring the percentage of attempted application transactions that are rolled back.

For aspects of Oracle Database that you choose to monitor, you can set thresholds that you understand as the boundaries of optimal performance, and instruct AppManager to raise events when those thresholds are breached.

In addition to monitoring, you can use Oracle Knowledge Scripts to collect performance data for use in reports. AppManager lets you generate reports that range in scope from minute-by-minute values to monthly values over a period of years, and range in purpose from evaluating a narrow window of performance data to illustrating trends to aid in capacity planning.

2 Installing AppManager for Oracle Database

This chapter provides installation instructions and describes system requirements for AppManager for Oracle Database.

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 Oracle Database has the following system requirements:

Software/Hardware	Version
NetIQ AppManager installed on the AppManager repository (QDB) computers, on the Oracle computers you want to monitor (AppManager 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 2012 R2 ◆ Windows Server 2012 ◆ Windows Server 2008 R2 ◆ Windows Server 2008 (32-bit and 64-bit) ◆ Windows Server 2003 R2 (32-bit and 64-bit)

Software/Hardware	Version
Oracle Database on the agent computers	A version of Oracle Database through 12c (12.1.0.x) for Microsoft Windows, appropriate for your operating system. **Notes** ◆ On 32-bit computers, the Microsoft ODBC Driver for Oracle must be installed and is usually installed with your operating system. A newer version of the driver might be available in the latest Microsoft Data Access Components package from the Microsoft Download Center. ◆ On 64-bit computers, the 64-bit Oracle Provider for OLE DB should be installed for your version of Oracle Database. You can install this from the Oracle Client or Oracle Data Access Components (ODAC) software packages. ◆ This module supports only 64-bit Oracle Database software on 64-bit Windows operating systems. This module does not support 32-bit Oracle Database software on 64-bit Windows operate systems.

2.2 Installing the Module

Run the module installer on the Oracle Database 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-Oracle-7.x.x.0.msi` module installer from the `AM70_Oracle_7.x.x.0` self-extracting installation package on the AppManager Module Upgrades & Trials page.

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 `.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 to a remote computer where an agent is installed. For more information, see Section 2.3, "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:

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 Oracle Database computers you want to monitor (agents) to install the agent components.

9 Perform required configuration tasks appropriate for your environment. For more information, see Section 2.5, "Post-installation Considerations," on page 15.

10 If you have not discovered Oracle Database resources, run the Discovery_Oracle Knowledge Script on all agent computers where you installed the module. For more information, see Section 2.6, "Discovering Oracle Database Resources," on page 20.

11 To get the updates provided in this release, upgrade any running Knowledge Script jobs. For more information, see Section 2.7, "Upgrading Knowledge Script Jobs," on page 21.

After the installation has completed, you can find a record of problems encountered in the `Oracle_Install.log` file, located in the `\NetIQ\Temp\NetIQ_Debug\`*ServerName* folder.

NOTE: If you are monitoring Oracle Database on a 64-bit Microsoft Windows agent computer, and you switch from 32-bit to 64-bit Oracle client software (or from 64-bit to 32-bit), you must uninstall and reinstall NetIQ AppManager for Oracle Database. This ensures that the correct NetIQ library is installed for the Oracle client running on the agent computer.

2.3 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*, 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 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.

2.3.2 Checking In the Installation Package

You must check in the installation package, `AM70-Oracle-7.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-Oracle-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 2.7, "Upgrading Knowledge Script Jobs," on page 21.

2.4 Silently Installing the Module

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

```
msiexec.exe /i "AM70-Oracle-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-Oracle-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, 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-Oracle-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-Oracle-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 Post-installation Considerations

After installing AppManager for Oracle Database, depending on your database setup, you might need to complete the following post-installation processes. You should complete all processes relevant to your setup before you begin discovering Oracle Database servers with AppManager.

2.5.1 Setting Up Oracle Database Accounts

Before running the Discovery_Oracle Knowledge Script, use the Oracle Database administration tools to set up Oracle Database accounts that AppManager Knowledge Scripts use. Give the accounts the privilege `Select any table`, and connect to an Oracle Database to monitor.

If you need more restrictive privileges for a specific database, configure the account with `SELECT` privileges to the following Oracle Database tables:

dba_data_files	dba_extents
dba_extents	dba_free_space
dba_rollback_segs	dba_segments
dba_tables	dba_tablespaces
dba_temp_files	dba_users
sys.fet$	sys.seg$
sys.ts$	v_$archive_dest
v_$bgprocess	v_$database
v_$datafile	v_$instance

v_$librarycache	v_$lock
v_$lock	v_$parameter
v_$process	v_$rowcache
v_$session	v_$sesstat
v_$statname	v_$sysstat
v_$thread	v_$version

NOTE: One exception is the RunSql Knowledge Script. Depending on the type of SQL statement you run, you might need to grant privileges on additional tables in the Oracle database.

2.5.2 Configuring the Oracle Database Server

Before running the Discovery_Oracle Knowledge Script for the first time, configure the Oracle Database server using the `ckoracle.exe` command-line utility. You need to pass specific parameters to the `ckoracle.exe` utility to complete the server configuration.

The `ckoracle.exe` utility generates the system Data Source Name (DSN), which is required to configure the Oracle Database server. The following is an example of a generated system DSN:

```
C:\Documents and Settings\Administrator>ckoracle -setup -user system -password
netiq123 -netiqms central03 -netiqmc accthome

OracDb10g_1$ORCL
```

The `ckoracle.exe` utility automatically configures the Oracle Database server. The following example describes the typical information you need to configure the Oracle Database server:

- Oracle Database user name: `admin02`
- Oracle Database password: `xt4a9z`
- AppManager management server on the computer named `central03`
- Agent computer name (managed client): `accthome`

To configure your Oracle Database server with this account information, enter the following at the command prompt:

```
ckoracle.exe -setup -user admin02 -password xt4a9z -netiqms central03
-netiqmc accthome
```

NOTE

◆ The program displays an error if you omit even a single configuration parameter. The following is a typical error message:

```
ERROR - The -user, -password, -netiqms, and -netiqmc flags must be specified
with the -setup option. Type "ckoracle -help" for more information.
```

◆ If the `ckoracle.exe` utility cannot contact the AppManager management server, the Oracle credentials will not be properly stored in the QDB, which causes the Discovery_Oracle Knowledge Script to fail. In this situation, manually enter the Oracle credentials into AppManager Security Manager. For more information, see Section 2.5.3, "Configuring Permissions for Running Oracle Knowledge Scripts," on page 18.

◆ Use the `-help` parameter with the `ckoracle.exe` command-line utility to list all `ckoracle` parameters.

To configure AppManager for Oracle Database on each agent computer:

1 On your Oracle Database server, open a command-prompt window.

2 Switch to the AppManager program directory on this server. The default AppManager installation directory is `C:\Program Files\NetIQ\AppManager\bin`.

3 At the command prompt, type the following:

```
ckoracle.exe -setup -user oracle_user_account -password password -netiqms
ms_computer_name -netiqmc oracle_computer_name
```

For	Substitute
oracle_user_account	The name of the Oracle Database user account, which you specify when you run the Discovery Knowledge Script. The same user account needs to be set up for each database you want to discover.
password	The password for the Oracle Database user account
ms_computer_name	The name of the computer on which your AppManager management server is running
oracle_computer_name	The name of the computer on which Oracle Database is running

4 After running `ckoracle.exe`, launch AppManager Security Manager and, on the Oracle tab, confirm that Security Manager correctly populated the Oracle account information for the Oracle Database server.

5 (Conditional) To configure AppManager for Oracle Database on 64-bit Oracle server computers, perform the following additional steps:

5a Install the 32-bit or 64-bit Oracle Provider for OLE DB software by installing the Oracle Client or ODAC software for the version of Oracle Database being monitored on the agent computer.

5b From the Start menu, click **Programs** and select the name of your Oracle home directory for your Oracle database or client software.

5c Click **Configuration and Migration Tools**, and then click **Net Configuration Assistant**.

5d Select **Local Net Service Name configuration** and follow the instructions in the wizard to create a service name entry for each Oracle database that will be monitored on the local agent computer.

5e Check that the service names added match with the databases to be monitored using the **Test** option in the **Local Net Service Name configuration** or open the `tnsnames.ora` file manually.

2.5.3 Configuring Permissions for Running Oracle Knowledge Scripts

AppManager for Oracle Database uses the AppManager Security Manager extension to securely supply Oracle Database user account information to the Oracle Knowledge Scripts. As part of the process described in Section 2.5.2, "Configuring the Oracle Database Server," on page 16, Oracle Database account information is automatically made available to Security Manager. However, you might want to change or update this information later. For instructions on using Security Manager, see the *Administrator Guide for AppManager*.

NOTE: You should have all of your Oracle Database account information (database name, user account name, home name, and password) ready before using Security Manager.

The information you enter into Security Manager is stored in the AppManager repository, but Security Manager cannot verify the accuracy of the information you provide. As a result, Knowledge Scripts that you try to run using the corresponding Oracle Database user account fail.

On the **Oracle** tab in Security Manager for each agent computer, complete the following mandatory fields for the computer on which Oracle Database is running:

Field	Description
User	Name of the Oracle Database user account that needs to be used to run Oracle Knowledge Scripts.
Password	Password associated with the user account.
Confirm password	Provide the password again to verify that you typed it consistently.
Database	Home name and corresponding database to which the user name and password apply. You can also select the names of previously entered databases from the list. The format is `HomeName$DatabaseName`. For example, `ORACLEHOME$ACC`. **NOTE:** The **Database** list contains the databases that the `ckoracle.exe` utility found when you configured the Oracle Database server. For more information, see Section 2.5.2, "Configuring the Oracle Database Server," on page 16.

2.5.4 Running Discovery After an Upgrade

After you upgrade the AppManager agent on an Oracle Database server, you need to update the Oracle Database user information in the AppManager repository. After you update the user information, you must run the Discovery_Oracle Knowledge Script to discover Oracle Database servers. After discovery:

- ◆ Existing servers appear in the TreeView pane with the naming convention "`Oracle server:<`*server name*`>`"
- ◆ Server resources appear in the TreeView pane with the naming convention "`Oracle server:ORAHOME`"

After an upgrade, your old jobs continue to run. However, if you run the Discovery_Oracle Knowledge Script again, a new tree in the TreeView pane displays all installed Oracle Database servers in addition to the old tree that displays running old jobs. You should run new jobs on the new tree. Eventually, you need to delete the old tree.

NOTE: If you are not running any jobs before upgrading, you should delete the old tree and then run the update.

2.5.5 Configuring the Agent to Monitor a Virtual Oracle Database Server

Before you install the AppManager for Oracle Database module, ensure the virtual Oracle Database server is active on the cluster node on which you are installing the module. Discovery of the virtual Oracle Database can take place only when the virtual server is active. It is recommended that you move the active virtual server to each node before installing the module.

2.5.6 Monitoring Clustered Resources

Microsoft Cluster Server (MSCS) is a built-in feature of Windows that allows servers to work together as one machine, to provide failover and increased availability of applications. MSCS can automatically detect and recover from server or application failures. MSCS facilitates moving server workload to balance utilization and to provide for planned maintenance without downtime.

MSCS offers a Cluster Server Manager that allows you to install Oracle Database on multiple servers, and to place data files on a shared drive (such as a RAID) that is not on either computer. Oracle Database is then automatically registered with MSCS. Thus, when one computer fails, the cluster server switches to the application on the other computer.

After installing the AppManager for Oracle Database module, you can run most Oracle Knowledge Scripts to monitor a virtual Oracle Database Server. However, to monitor clustered resources, you must run the appropriate MSCS Knowledge Script, not the Oracle Database equivalent.

For example, to check the availability of Oracle Database services on a virtual Oracle Database server, run the MSCS_ResourceDown Knowledge Script, not the Oracle_DatabaseDown Knowledge Script.

To monitor a virtual Oracle Database server:

1   Ensure you have a Windows domain, account name, and password for the AppManager agent to use. The agent on each node of a cluster must run as a Windows login account, not the `LocalSystem` account, for monitoring Oracle Database.

2 Run the AMAdmin_SetResDependency Knowledge Script to identify the shared logical drive where the virtual application resides, and define the services that must be available in the cluster in order to run Oracle Knowledge Script jobs.

3 Run the AMAdmin_SetResDependency Knowledge Script on all nodes in the cluster. In the **Values** tab of the Knowledge Script Properties dialog box, set the following parameters.

Parameter	How to Set It
Knowledge Script or job category	Type `Oracle` as the Knowledge Script category for which you want to specify resource dependencies.
Required available resources	Type the name of the shared logical disk where the Oracle Database resides. For example, `G:`
Required active services	Type the Oracle services required to run Oracle Database Server. For example, `OracleServiceSales`

2.6 Discovering Oracle Database Resources

Use the Discovery_Oracle Knowledge Script to discover configuration and resource information for Oracle Database servers.

Before running discovery for the first time, you must complete a series of post-installation procedures. For more information, see Section 2.5, "Post-installation Considerations," on page 15.

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_Oracle 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
Username	Specify the username for logging on to the Oracle server. The username must have permission to access Oracle on the target computer. Use Security Manager to specify which user accounts have access to specific computers. The default username is `system`.
Raise event if discovery succeeds?	This Knowledge Script always raises an event if the discovery job fails for any reason. In addition, you can set this parameter to y to raise an event if the job succeeds. The default is n.
Event severity when discovery succeeds	Set the severity level, from 1 to 40, to indicate the importance of an event in which discovery succeeds. The default is 25.
Event severity when discovery fails	Set the severity level, from 1 to 40, to indicate the importance of an event in which discovery fails. The default is 5.
Event severity when discovery partially succeeds	Set the severity level, from 1 to 40, to indicate the importance of an event in which discovery returns some data but also generates warning messages. The default is 15.

2.7 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.

2.7.1 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.

2.7.2 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. New parameters might need to be set appropriately 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 *Control Center User Guide for AppManager*.

2.7.3 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 (script) 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 Oracle Knowledge Scripts

AppManager for Oracle Database on Windows provides the following Knowledge Scripts for monitoring Oracle Database resources. From the Knowledge Script view of Control Center, you can access more information about any NetIQ-supported Knowledge Script by selecting it and clicking **Help**. In the Operator Console, click any Knowledge Script in the Knowledge Script pane and press **F1**.

Knowledge Script	What It Does
AlertLog	Scans the Oracle Database Alert log for a search string that you specify.
BGProc	Monitors the total memory usage and the total number of physical read/write (I/O) operations per second for Oracle background processes.
Block	Monitors block-level database activity.
BlockingSessions	Monitors the number of user sessions that are blocking other processes from accessing the Oracle database.
Cache	Monitors the frequency with which requested data and resources are retrieved from the buffer cache, data dictionary, and library cache.
CallRate	Monitors the demand placed on a database instance from all sources.
CallsPerTransaction	Monitors the demand placed on a database instance by each transaction.
ConfigDB	Updates AppManager with information about the Oracle databases you want to monitor.
ConsistentChangeRatio	Monitors the extent to which applications exercise the read consistency mechanism to ensure database consistency.
ContinuedRowRatio	Monitors rows that span more than one database block.
DatabaseDown	Monitors a database and its services to verify whether they are running.
DatafileSpace	Monitors the size of an Oracle datafile.
DiskSpaceAvail	Monitors the amount of disk space available for the archive log file, the background process log file, and user log files.
OpenCursors	Monitors the percentage of cursors opened per session, as well as the total number of cursors open in the system.
RecursiveToUserCallRatio	Monitors the ratio of recursive calls to overall database user calls.
RedoLogContention	Monitors the number of times that a process attempts to write an entry in the redo log buffer.
RedoLogSpaceWaitRatio	Monitors the redo log space wait ratio, which measures memory allocation.

Knowledge Script	What It Does
Report_BackgroundProcess	Generates a report about total memory use, and the total number of physical read/write operations per second for Oracle background processes.
Report_CacheHitRatio	Generates a report about buffer cache hit ratio, data dictionary hit ratio, and library cache hit ratio for Oracle servers.
Report_DatabaseAvailability	Generates a report about the up/down status of Oracle databases, and the OracleServer, OracleListener, and OracleStart services.
Report_DatafileSpace	Generates a report about the size (in MB) of Oracle Database data files.
Report_DiskSpaceAvailable	Generates a report about the amount of disk space (in MB) available for the archive, background process, and user log files.
Report_TablespaceAvailable	Generates a report about the free disk space available for tablespaces, disk space used by tablespaces, and the size of tablespaces.
Report_TransactionRate	Generates a report about the number of transactions per second for Oracle databases.
Report_UserLocks	Generates a report about the number of user-held locks on an Oracle database.
RollBackSegmentContention	Monitors the ratio of wait counts to total requests in the rollback segment.
RowSourceRatio	Monitors the row source ratio, which measures the percentage of rows that were retrieved using full table scans.
RunSql	Runs SQL statements.
SegmentExtentAvail	Monitors the percentage of extents (extensions of free space) available to each segment in a tablespace.
SortOverflowRatio	Monitors the sort overflow ratio, which measures the number of sorts that are using temporary segments.
SysStat	Retrieves statistics from the V$SYSSTAT table, which stores all the key statistics for a database instance.
TablespaceAvail	Monitors the percentage of disk space available to all the tablespaces in a database.
TopCpuUsers	Monitors the CPU time for current user sessions.
TopIOUsers	Monitors physical reads and writes (I/O) for current user sessions.
TopLockUsers	Monitors the current number of user-held locks on an Oracle database.
TopMemoryUsers	Monitors memory usage (User Global Area and PGA) for current user sessions.
TransactionRate	Monitors the transaction rate for an Oracle database.
UserCallsPerParse	Monitors the number of user calls per parse.
UserRollbackRatio	Monitors the user rollback ratio for an Oracle database, which indicates the percentage of attempted application transactions that fail.

Knowledge Script	What It Does
UserSessions	Monitors the total number of user sessions accessing an Oracle database.

3.1 How Knowledge Scripts Access Oracle Databases

To gather the statistics and resource information needed to monitor an Oracle Database, an Oracle Knowledge Script must log on to that database. The Oracle user account controls access to the Oracle Database. The Oracle user's Windows and SQL Server privileges have no effect on access to an Oracle database.

When you run a Knowledge Script on an Oracle Database, you specify an Oracle Database user account that has been set up on that database for the *Username* parameter. The corresponding password is retrieved from the Oracle repository and sent, in encrypted format, to the AppManager agent on the Oracle Database server. The password is decrypted by the AppManager agent, which uses it to log on to the Oracle Database and run the Knowledge Script.

When you install the AppManager for Oracle Database module on an Oracle Database server, the setup program gathers a single Oracle Database user account name. In addition, it gathers the corresponding password for each database. The Oracle Database user account name must be the same on all databases, but each database can have a unique password associated with that user account.

Having a single Oracle user account is a requirement only to ensure that discovery succeeds. After discovery, you can use the Oracle user account gathered during installation to begin running Oracle Knowledge Scripts immediately, or you can use the AppManager Security Manager to store additional Oracle user account names and passwords in the AppManager repository.

NOTE: Oracle Knowledge Scripts provide one parameter for specifying an Oracle user account name to be used to log on to the databases you want to monitor. To run a single Knowledge Script job on multiple databases, each database must be configured with the same Oracle username.

3.2 AlertLog

Use this Knowledge Script to scan the Oracle Alert log for entries that match a search string that you specify. You can set a threshold for the maximum number of occurrences of the search string found during any single scan of the log file. You can also specify a list of Oracle databases that you do not want to monitor with this script.

Each database maintains an Alert log file where it records database operations (such as creating or dropping a database) and error conditions (such as deadlocks). This Knowledge Script provides a general-purpose tool for scanning a database's alert log for specific entries.

When this Knowledge Script starts, it does not scan existing entries in the Alert log, and therefore it does not return any results or collect data on its first scan. As it continues to run at the intervals specified on the **Schedule** tab, this Knowledge Script scans the Alert log for any new entries created since the last scan. If, during any single scan, the number of matching entries exceeds the threshold you specify, the job raises an event. The detail message returns the number of occurrences of the search string found.

3.2.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.2.2 Default Schedule

The default interval for this script is **Every 1 hour**.

3.2.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, this script returns the number of entries that matched the search string each time it scanned the Alert log. The default is n.
User name	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Databases to exclude	Specify a list of Oracle databases you want to ignore when monitoring. Use commas without spaces to separate multiple databases.
Find (separate multiple strings with spaces)	Enter all or part of the string you want to search for. For this Knowledge Script, a "string" is any series of characters, not including spaces. You can specify multiple strings by separating each string with a space. For example, if you specify ORA-600 ORA-1578, the Knowledge Script searches for either of two "strings": ORA-600 or ORA-1578. The default values represent the most common Oracle error codes you might want to search for: - ORA-600. Internal error. - ORA-1578. Block corruption. - ORA-60. Deadlock error.
Case sensitive?	Enter y if you want the search to distinguish between uppercase and lowercase letters. When you enter y, the Knowledge Script finds only the occurrences whose capitalization matches the capitalization of the Find string. The default is n.

Description	How to Set It
Exact match?	Enter y if you want the Knowledge Script to find only the entries that match the Find string exactly. For example, if you set this parameter to y and enter "ORA-60" as the Find string, only "ORA-60" is considered a match. If you set this parameter to n and search for "ORA-60", entries that contain "ORA-60", such as "ORA-600", are considered a match. The default is n.
Maximum threshold for occurrences found	Specify the maximum number of occurrences allowed during any single scan of the Alert log. If the number of occurrences of the Find string exceeds this threshold, an event is raised. The default is 1.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.3 BGProc

Use this Knowledge Script to monitor the total memory usage and the total number of physical read/write (I/O) operations per second for Oracle background processes. You can configure this Knowledge Script to monitor memory usage, read/write operations, or both. If the background processes being monitored exceed the threshold you set for total memory usage or the total number of read/write operations per second, this Knowledge Script raises an event.

Oracle background processes include CKPT, DBW0, LGWR, PMON, RECO, SMON, SNP0, and others. You can monitor all background processes or selected background processes.

3.3.1 Resource Objects

- ◆ Oracle Server folder
- ◆ Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.3.2 Default Schedule

The default interval for this script is **Every 30 minutes**.

3.3.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script collects the statistics you are monitoring: the total number of read/write operations per second, the total memory usage, or both, for all monitored background processes. The default is n.

Description	How to Set It
User name	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Monitor read/write operations?	Set to y to monitor the number of physical read/write operations per second by background processes. When set to n, the Knowledge Script does not monitor this statistic (regardless of whether a threshold is specified) and does not collect data. The default is y.
Maximum threshold for read/write operations	Enter a threshold for the maximum number of physical read/write operations per second. The default is 50 read/write operations.
Monitor memory usage?	Set to y to monitor the memory usage by background processes. When set to n, the Knowledge Script does not monitor this statistic (regardless of whether a threshold is specified) and does not collect data. The default is y.
Maximum threshold for memory usage	Enter a threshold, in megabytes, for the maximum amount of memory used by all background processes you are monitoring. The default is 50 MB.
Oracle background processes to monitor	Specify the names of the background processes you want to monitor. Separate the names with commas; do not use spaces. To monitor all Oracle background processes, enter an asterisk (*). Possible valid background process names include: ◆ CKPT ◆ DBW0 ◆ LGWR ◆ PMON ◆ RECO ◆ SMON ◆ SNP0 ◆ SNP1 The default is all (*) background processes.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.4 Block

Use this Knowledge Script to monitor block-level database activity. Oracle data blocks are the smallest unit of storage for a database; monitoring I/O activity at the block level can be a key performance indicator.

Use this Knowledge Script to monitor any combination of these statistics:

- **The number of block changes per transaction.** This block change rate measures the number of SQL Data Manipulation Language (DML) commands that each transaction performs (for example, to create and drop indexes). As the number of block changes increases, the efficiency of the database transaction and database performance decreases.

- **The number of times the Oracle Buffer Manager locates a database block per second.** This *block get* rate indicates the rate at which an application references the database. An increase in the block get rate suggests an increase in overall server load. A decrease in the block get rate without a decrease in load might indicate that you need to do some database tuning because there has been a slowdown in the number of database blocks requested and located per second.

- **The number of times database blocks are requested per committed transaction.** This *block visit* rate measures the database work load per completed transaction (including both successful and aborted database transactions).

You can set a threshold for each statistic you choose to monitor. If any threshold is exceeded, the Knowledge Script raises an event.

3.4.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.4.2 Default Schedule

The default interval for this script is **Every 10 minutes**.

3.4.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.

Description	How to Set It
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script collects the statistics you choose to monitor: the number of block changes per transaction, the number of block get operations per second, and/or the number of block visits per transaction.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Monitor block change rate?	Set to y to monitor the number of block changes per transaction. When set to n, the Knowledge Script does not monitor this statistic (regardless of whether a threshold is specified) and does not collect data.
	The default is y.
Maximum threshold for block changes	Enter a threshold for the maximum number of block changes per transaction.
	The default is 100 changes per transaction.
Monitor block get rate?	Set to y to monitor the number of times the Oracle Buffer Manager locates a database block per second. When set to n, the Knowledge Script does not monitor this statistic (regardless of whether a threshold is specified) and does not collect data.
	The default is y.
Maximum threshold for block gets	Enter a threshold for the maximum number of block get operations per second.
	The default is 100 get operations per second.
Monitor block visit rate?	Set to y to monitor the number of times database blocks are requested per committed transaction. When set to n, the Knowledge Script does not monitor this statistic (regardless of whether a threshold is specified) and does not collect data.
	The default is y.
Maximum threshold for block visits	Enter a threshold for the maximum number of block get operations per committed transaction.
	The default is 100 operations per committed transaction.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.5 BlockingSessions

Use this Knowledge Script to monitor the user sessions that are blocking other sessions and processes from accessing the Oracle Database. You can set a threshold for the number of sessions that are allowed to block other sessions and processes. If the number of blocking sessions exceeds this threshold, an event is raised.

3.5.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.5.2 Default Schedule

The default interval for this script is **Every 10 minutes**.

3.5.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script collects the number of blocking sessions found. The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for number of blocking sessions	Enter a threshold for the maximum number of user sessions allowed to block other processes. The default is 10 sessions.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.6 Cache

Use this Knowledge Script to monitor the frequency with which requested data and resources are retrieved from the cache. As this *hit ratio* (that is, the percentage of time that data or resources are retrieved from the cache) decreases, performance also decreases because Oracle must retrieve data from disk or reinitialize library objects in order to service the requests.

Use this Knowledge Script to monitor any combination of these statistics:

- The buffer cache hit ratio indicates the percentage of time that requested data is found in the Oracle buffer cache. This statistic reflects the effectiveness of the buffer cache and database performance.

- The data dictionary hit ratio indicates the percentage of time that requested data is found in the data dictionary. This statistic reflects the effectiveness of the data dictionary and database performance.
- The library cache hit ratio reflects the percentage of time that system pin requests to access objects in the library cache can be serviced without reinitializing or reloading library objects. Changes to the library cache hit ratio might occur when an application comes active, causing more SQL statements and stored procedures to be used.

You can set a threshold for each cache hit ratio you choose to monitor. If a cache hit ratio is less than any threshold you set, this Knowledge Script raises an error.

3.6.1   Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.6.2   Default Schedule

The default interval for this script is **Every 30 minutes**.

3.6.3   Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script collects the statistics you choose to monitor: the buffer cache hit ratio, the data dictionary hit ratio, and/or the library cache hit ratio. The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Monitor buffer cache hit ratio?	Set to y to monitor the percentage of time that requested data is found in the Oracle buffer cache. When set to n, the Knowledge Script does not monitor this statistic (regardless of whether a threshold is specified) and does not collect data. The default is y.

Description	How to Set It
Minimum threshold for buffer cache hit ratio	Enter a minimum percentage for the buffer cache hit ratio. If the actual hit ratio is lower than this threshold, an event is raised.
	Ideally, this percentage should be set relatively high, because the more frequently Oracle uses the buffer, the better your database performance. When the actual hit ratio falls below the threshold you set, the event alerts you that database performance has degraded.
	The default is 70%.
Monitor data dictionary hit ratio?	Set to y to monitor the percentage of time that requested data is found in the data dictionary. When set to n, the Knowledge Script does not monitor this statistic (regardless of whether a threshold is specified) and does not collect data.
	The default is y.
Minimum threshold for data dictionary hit ratio	Enter a minimum percentage for the data dictionary hit ratio. If the actual hit ratio is lower than this threshold, an event is raised.
	Ideally this percentage should be set high, because the more frequently Oracle uses the data dictionary to service requests, the better your database performance. When the actual hit ratio falls below the threshold you set, the event alerts you that database performance has degraded.
	The default is 90%.
Monitor library cache hit ratio?	Set to y to monitor the percentage of time that system pin requests to access objects in the library cache can be serviced without reinitializing or reloading library objects. When set to n, the Knowledge Script does not monitor this statistic (regardless of whether a threshold is specified) and does not collect data.
	The default is y.
Minimum threshold for library cache hit ratio	Enter a minimum percentage for the library cache hit ratio. If the actual hit ratio is lower than this threshold, an event is raised.
	Ideally, this percentage should be set extremely high because reinitializing or reloading library objects imposes a large performance hit. When the actual hit ratio falls below the threshold you set, the event alerts you that database performance has degraded.
	The default is 99%.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.7 CallRate

Use this Knowledge Script to monitor the demand placed on a database instance from all sources. This demand is determined by tracking the number of database calls per second from all applications and processes accessing the database instance. The database calls tracked include Parse, Execute, and Fetch statements. These calls are sometimes described as **user calls**. When the call rate (and thus the workload demand on the server) exceeds the threshold you set, an event is raised.

3.7.1 Resource Objects

- ◆ Oracle Server folder
- ◆ Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.7.2 Default Schedule

The default interval for this script is **Every 10 minutes**.

3.7.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the total user calls per second for all work sources. The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for call rate	Enter a threshold for the maximum number of calls per second. The default is 100 calls per second.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.8 CallsPerTransaction

Use this Knowledge Script to monitor the demand placed on a database instance by each transaction. This demand is determined by tracking the number of database calls (for example, to parse, execute, and fetch data) per committed transaction. When the number of database requests per transaction exceeds the threshold you set, an event is raised.

3.8.1 Resource Objects

- ◆ Oracle Server folder
- ◆ Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.8.2 Default Schedule

The default interval for this script is **Every 10 minutes**.

3.8.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the number of database calls per transaction.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for calls per transaction	Enter a threshold for the maximum number of calls per transaction.
	The default is 100 calls per transaction.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.9 ConfigDB

Use this Knowledge Script to update AppManager for Oracle Database with the username, password, and additional system settings for the database that you want to monitor. If there is an error updating the AppManager for Oracle Database repository, an event is raised.

Note that when you install AppManager for Oracle Database, this information is automatically gathered for all existing Oracle databases. You only need to run this Knowledge Script on Oracle databases that you added after installing AppManager.

3.9.1 Resource Objects

- ◆ Oracle Server folder
- ◆ Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.9.2 Default Schedule

The default interval for this script is **Run once**.

3.9.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is n.
Management server computer name	Specify the name of the computer on which the AppManager management server is installed.
Database names	Specify the name of the Oracle database that you want to be managed by AppManager. If you want to use a specific database or databases, list them in the following format, separated by commas as needed: *OracleHome$OracleDatabaseName* For example: OraDB11g$OR200 If you want to include all Oracle databases, enter an asterisk (*). The default database name is *.
Oracle Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Password for Oracle Username	Specify the Oracle password for the user specified in the *Oracle Username* parameter.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.10 ConsistentChangeRatio

Use this Knowledge Script to monitor the extent to which applications exercise the read consistency mechanism to ensure database consistency.

The consistent change ratio is based on the number of requested database blocks that have changed since a read consistency point was taken as part of a query. When the ratio of changed database blocks to all requested database blocks exceeds the threshold you set, an event is raised.

3.10.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.10.2 Default Schedule

The default interval for this script is **Every 1 hour**.

3.10.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the percentage of requested database blocks that changed since the read operation.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for consistent change ratio	Enter a threshold for the maximum number of consistent read changes that should be allowed before generating an event.
	The default is 100.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.11 ContinuedRowRatio

Use this Knowledge Script to monitor rows that span more than one database block. This Knowledge Script monitors the ratio of **continued rows** that span more than one database block to all rows fetched. In most cases, this ratio should be close to zero. If the continued row ratio increases over time (indicating that more and more rows span multiple database blocks), it might mean that the PCTFREE storage parameter is set too low for one or more tables.

3.11.1 Resource Objects

- ◆ Oracle Server folder
- ◆ Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.11.2 Default Schedule

The default interval for this script is **Every 30 minutes**.

3.11.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the continued row ratio.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for continued row ratio	Enter a threshold for the ratio of continued rows to all rows fetched.
	The default ratio is 01.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.12 DatabaseDown

Use this Knowledge Script to monitor the status of a database and its associated OracleServer service.

It is possible for the OracleServer service to be running while its associated database is down. This Knowledge Script monitors the database and its OracleServer service at the same time and raises an event if it discovers that either one is not running.

In addition, you have the option of monitoring the Oracle Listener service (there is a single instance of this service per Oracle Server) and the OracleStart service associated with the database and raising an event if either one is down.

NOTE: Not all versions of Oracle include the OracleStart service. If you are using a version of Oracle that does not include the OracleStart service, the Oracle managed object automatically ignores any requests from the Knowledge Script to monitor this service. If the *Monitor the OracleStart service?* parameter is set to y, but the OracleStart service does not exist in the version of Oracle you are using, the Knowledge Script does not raise an event.

The detail message indicates which database or associated services are down.

3.12.1 Resource Objects

- ◆ Oracle Server folder
- ◆ Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.12.2 Default Schedule

The default interval for this script is **Every 10 minutes**.

3.12.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the value 100 every time it finds a resource is up and the value 0 every time it finds a resource is down. This provides a way to report on the percentage of system up time in any given period.
	The default is n.

Description	How to Set It
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default user name is `system`.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Monitor the OracleStart service?	Enter y to monitor the status of the `OracleStart` service associated with the database. If the service exists in your version of Oracle but is not running, an event is raised.
	Note that if you are using a version of Oracle that does not include the `OracleStart` service, the Oracle managed object automatically ignores any requests from the Knowledge Script to monitor this service, and no event is raised.
	The default is n.
Monitor the Oracle Listener service?	Set to y to monitor the status of the Oracle Listener service. If the service is not running, an event is raised.
	The default is no.
Name of Listener Service	Specify the name of an Oracle listener service when there is only one such listener used among multiple databases. This listener service's status is checked for each of the databases upon which the job is run.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.13 DatafileSpace

Use this Knowledge Script to monitor the size of an Oracle database's datafile. When the size of the datafile (in MB) exceeds the threshold you set, the script raises an event.

3.13.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on an Oracle Database icon, a single Knowledge Script job monitors every datafile for that database. When run on a single datafile icon, a single Knowledge Script monitors just that datafile.

3.13.2 Default Schedule

The default interval for this script is **Every 1 hour**.

3.13.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise an event when the datafile size exceeds the threshold you set. The default is y.
Ignore datafiles whose autoextend property is set to true	Set to y to ignore datafiles that are set to autoextend, which will prevent this script from raising a false event if the datafile size exceeds the threshold you set. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the current size of the datafile (in MB). The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for a datafile	Enter a threshold, in megabytes, for the maximum size of a datafile. The default is 20 MB.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event in which the datafile size exceeds the threshold you set. The default is 5.

3.14 DiskSpaceAvail

Use this Knowledge Script to monitor the amount of disk space available for the archive log file, the background process log file, and user log files of a database. You can monitor the space available for all three or any combination. For example, you could turn off monitoring for the archive log and background process log files and monitor just the disk space available for the user logs.

For each type of log file, you can set a minimum threshold. If the amount of available disk space is less than any of the thresholds you set for a specific type of log file, the Knowledge Script raises an event.

3.14.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.14.2 Default Schedule

The default interval for this script is **Every 1 hour.**

3.14.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, this script returns the amount of free disk space for each type of log file that you are monitoring. The script returns only the data being monitored.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is `system`.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Monitor space available for the archive log?	Enter y to monitor the amount of disk space available for the database's archive log file. When set to n, the Knowledge Script does not monitor this statistic (regardless of whether a threshold is specified) and does not collect data.
	The default is y.
Minimum threshold for archive log space	Specify the minimum amount of available disk space for the archive log file. If the amount of available space is less than this number, an event is raised.
	The default is 100.
Monitor space available for background process log?	Enter y to monitor the amount of space available for the database's background process log file. When set to n, the Knowledge Script does not monitor this statistic (regardless of whether a threshold is specified) and does not collect data.
	The default is y.
Minimum threshold for background process log space	Specify the minimum amount of available disk space for the background process log file. If the amount of available space is less than this number, an event is raised.
	The default is 100.

Description	How to Set It
Monitor space available for user logs?	Enter y to monitor the amount of space available for the database's user log files. When set to n, the Knowledge Script does not monitor this statistic (regardless of whether a threshold is specified) and does not collect data.
	The default is y.
Minimum threshold for user log space	Specify the minimum amount of available disk space for user log files. If the amount of available space is less than this number, an event is raised.
	The default is 100.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.15 OpenCursors

Use this Knowledge Script to monitor the percentage of cursors opened per session, as well as the total number of cursors open in the system. In the Oracle environment, a **cursor** is a type of handle, or pointer, used to identify a query in the system. Cursors can be opened by users or by the system itself. A high number of open cursors can be caused by a programming error, and might result in performance problems. In the `init.ora` file, you can specify the maximum number of cursors that might be opened by a session.

In this Knowledge Script, you can specify a threshold for the maximum percentage of open cursors allowed per session. Note that this is a percentage of the number specified in the `open_cursor` parameter in the `init.ora` file. For example, the `init.ora` file specifies that 60 cursors might be open in a session. In the Knowledge Script, you specify a threshold percentage of 75%. In this case, the Knowledge Script raises an event when 75% of the 60 allowed cursors (or 45 cursors) are open in any session. You can also specify a threshold for the total number of open cursors allowed in the system. An event is raised if either threshold is exceeded.

3.15.1 Resource Objects

- ◆ Oracle Server folder
- ◆ Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.15.2 Default Schedule

The default interval for this script is **Every 10 minutes**.

3.15.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script collects the statistics you choose to monitor: the percentage of open cursors per session, and the total number of open cursors in the system.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Number of open cursors in the system	Specify the total number of cursors that might be open in the system.
	The default is 1000.
Percentage of cursors opened per session	Specify the percentage of open cursors allowed per session. Note that this percentage is based on the number of open cursors allowed per session specified in the init.ora file.
	The default is 80%.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.16 RecursiveToUserCallRatio

Use this Knowledge Script to monitor the ratio of recursive calls to overall database user calls. A change in this ratio can reflect an application change or indicate a need to adjust the size of the shared pool. You can specify a ratio threshold. If the recursive-to-user call ratio exceeds the threshold you set, an event is raised.

3.16.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.16.2 Default Schedule

The default interval for this script is **Every 30 minutes**.

3.16.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the recursive-to-user call ratio.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for recursive-to-user-call ratio	Enter a threshold for the maximum change in the recursive-to-user call ratio. The previous ratio is compared with the current ratio, and the difference is compared to the threshold.
	The default ratio is 10.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.17 RedoLogContention

Use this Knowledge Script to monitor the number of times that a process tries to write an entry in the redo log buffer. The number of retries should be low. A high number of retries can adversely affect system performance, as processes must wait for buffers. If a process has to make numerous attempts to write an entry in the redo log buffer, you might need to allocate more space to the redo log buffer.

You can set a threshold value for the maximum number of times a process can try to write an entry in the redo log buffer. If the number of retries exceeds the threshold you set, an event is raised.

3.17.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a single Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a single Knowledge Script monitors just that database.

3.17.2 Default Schedule

The default interval for this script is **Every 10 minutes**.

3.17.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script collects the number of times that processes attempted to write entries to the redo log buffer. The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for redo log buffer allocation retries	Enter a threshold for the maximum number of times that a process tries to write an entry to the redo log buffer. The default is 50.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.18 RedoLogSpaceWaitRatio

Use this Knowledge Script to monitor the redo log space wait ratio. The redo log space wait ratio measures memory allocation. The ratio reflects how often a server process had to wait before writing an entry in the redo log buffer. If this ratio increases, you might want to increase the size of the redo log buffer. When the redo log space wait ratio exceeds the threshold you set, an event is raised.

3.18.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.18.2 Default Schedule

The default interval for this script is **Every 10 minutes**.

3.18.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the redo log space wait ratio.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for redo log space wait ratio	Enter a threshold for the redo log wait ratio.
	The default ratio is 0.0002.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.19 Report_BackgroundProcess

Use this Report script to generate a report about total memory use, and the total number of physical read/write operations per second for Oracle background processes. This report allows you to make a statistical analysis of the data point values (for example, the average or maximum value over a time period).

This report uses data collected by the BGProc Knowledge Script.

3.19.1 Resource Objects

Report agent

3.19.2 Default Schedule

The default schedule is **Run once**.

3.19.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Data source	
Select computer(s)	Select the computers for your report.
Select time range	Set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Select the days of the week to include in your report.
Select the style	Select the style for the report: ◆ **By computer** shows one value for each computer you selected. ◆ **By legend** shows one value for each different legend (the legend is a truncated form of the data stream legend visible in the Operator Console). ◆ **By computer and legend** shows one value for each unique legend from each computer.
Data settings	

Description	How to Set It
Statistics to show	Select a statistical method by which to display data in the report: ◆ **Average**: The average value of data points for the time period covered by the report ◆ **Minimum**: The minimum value of data points for the time period covered by the report ◆ **Maximum**: The maximum value of data points for the time period covered by the report ◆ **Min/Avg/Max**: The minimum, average, and maximum values of data points for the time period covered by the report ◆ **Range**: The range of values in the data stream (maximum - minimum = range) ◆ **Standard Deviation**: The measure of how widely values are dispersed from the mean ◆ **Sum**: The total value of data points for the time period covered by the report ◆ **Close**: The last value for the time period covered by the report ◆ **Change**: The difference between the first and last values for the time period covered by the report (close - open = change) ◆ **Count**: The number of data points for the time period covered by the report
Select sorting/display option	Select whether data is sorted, or the method of display: ◆ **No sort**: Data is not sorted ◆ **Sort**: Data is sorted by value (lowest to highest from front to back; highest to lowest from left to right) ◆ **Top %**: Chart only the top *N* % of selected data (sorted by default) ◆ **Top N**: Chart only the top *N* of selected data (sorted by default) ◆ **Bottom %**: Chart only the bottom *N* % of data (sorted by default) ◆ **Bottom N**: Chart only the bottom *N* of selected data (sorted by default)
Percentage/count for top/bottom	Enter a number for either the percent or count defined in the previous parameter (for example, Top 10%, or Top 10). The default is 25.
Truncate top/bottom?	If set to yes, the data table shows only the top or bottom *N* or % (for example, only the top 10%). Otherwise, the table shows all data. The default is no.
Show totals on the table?	If set to yes, additional calculations are made for each column of numbers in a table, and the following values are listed at the end of the table: ◆ **Report Average**: An average of all values in a column ◆ **Report Minimum**: The minimum value in a column ◆ **Report Maximum**: The maximum value in a column ◆ **Report Total**: The total of all values in a column The default is no.

Description	How to Set It
Report settings	
Include parameter help card?	Set to yes to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Set to yes to include a table of data stream values in the report. The default is yes.
Include chart?	Set to yes to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set parameters for the output folder.
Add job ID to output folder name?	Set to yes to append the job ID to the name of the output folder. A job ID helps you correlate a specific instance of a Report Script with the corresponding report. The default is no.
Select properties	Set miscellaneous report properties as desired.
Add time stamp to title?	Set to yes to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated. A time stamp lets you run consecutive iterations of the same report without overwriting previous output. The default is no.
Event notification	
Event for report success?	Set to yes to raise an event when the report is successfully generated. The default is yes.
Severity level for report success	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 35.
Severity level for report with no data	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Severity level for report failure	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.20 Report_CacheHitRatio

Use this Oracle_Report script to generate a report about buffer cache hit ratio, data dictionary hit ratio, and library cache hit ratio for Oracle servers. This report allows you to make a statistical analysis of the data point values (for example, the average or maximum value over a time period).

This report uses data collected by the Cache Knowledge Script.

3.20.1 Resource Objects

Report agent

3.20.2   Default Schedule

The default schedule is **Run once**.

3.20.3   Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Data source	
Select computer(s)	Select the computers for your report.
Select time range	Set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Select the days of the week to include in your report.
Select the style	Select the style for the report: ◆ **By computer** shows one value for each computer you selected. ◆ **By legend** shows one value for each different legend (the legend is a truncated form of the data stream legend visible in the Operator Console). ◆ **By computer and legend** shows one value for each unique legend from each computer.
Data settings	
Statistics to show	Select a statistical method by which to display data in the report: ◆ **Average**: The average value of data points for the time period covered by the report ◆ **Minimum**: The minimum value of data points for the time period covered by the report ◆ **Maximum**: The maximum value of data points for the time period covered by the report ◆ **Min/Avg/Max**: The minimum, average, and maximum values of data points for the time period covered by the report ◆ **Range**: The range of values in the data stream (maximum - minimum = range) ◆ **Standard Deviation**: The measure of how widely values are dispersed from the mean ◆ **Sum**: The total value of data points for the time period covered by the report ◆ **Close**: The last value for the time period covered by the report ◆ **Change**: The difference between the first and last values for the time period covered by the report (close - open = change) ◆ **Count**: The number of data points for the time period covered by the report

Description	How to Set It
Select sorting/display option	Select whether data is sorted, or the method of display: ♦ **No sort**: Data is not sorted ♦ **Sort**: Data is sorted by value (lowest to highest from front to back; highest to lowest from left to right) ♦ **Top %**: Chart only the top *N* % of selected data (sorted by default) ♦ **Top N**: Chart only the top *N* of selected data (sorted by default) ♦ **Bottom %**: Chart only the bottom *N* % of data (sorted by default) ♦ **Bottom N**: Chart only the bottom *N* of selected data (sorted by default)
Percentage/count for top/bottom	Enter a number for either the percent or count defined in the previous parameter (for example, Top 10%, or Top 10). The default is 25.
Truncate top/bottom?	If set to yes, the data table shows only the top or bottom *N* or % (for example, only the top 10%). Otherwise, the table shows all data. The default is no.
Show totals on the table?	If set to yes, additional calculations are made for each column of numbers in a table, and the following values are listed at the end of the table: ♦ **Report Average**: An average of all values in a column ♦ **Report Minimum**: The minimum value in a column ♦ **Report Maximum**: The maximum value in a column ♦ **Report Total**: The total of all values in a column The default is no.
Report settings	
Include parameter help card?	Set to yes to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Set to yes to include a table of data stream values in the report. The default is yes.
Include chart?	Set to yes to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set parameters for the output folder.
Add job ID to output folder name?	Set to y to append the job ID to the name of the output folder. A job ID helps you correlate a specific instance of a Report Script with the corresponding report. The default is n.
Select properties	Set miscellaneous report properties as desired.

Description	How to Set It
Add time stamp to title?	Set to yes to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated.
	A timestamp lets you run consecutive iterations of the same report without overwriting previous output.
	The default is no.
Event notification	
Event for report success?	Set to yes to raise an event when the report is successfully generated. The default is yes.
Severity level for report success	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 35.
Severity level for report with no data	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Severity level for report failure	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.21   Report_DatabaseAvailability

Use this Oracle_Report script to generate a report about the up/down status of Oracle databases, and the OracleServer, OracleListener, and OracleStart services.

This report uses data collected by the DatabaseDown Knowledge Script.

3.21.1   Resource Objects

Report agent

3.21.2   Default Schedule

The default schedule is **Run once**.

3.21.3   Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Data source	
Select computer(s)	Select the computers for your report.
Select time range	Set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Select the days of the week to include in your report.
Data settings	
Hours or percentage on chart	Select whether to illustrate availability by hours or by percentage.

Description	How to Set It
Select sorting/display option	Select whether data is sorted, or the method of display: ◆ **No sort**: Data is not sorted ◆ **Sort**: Data is sorted by value (lowest to highest from front to back; highest to lowest from left to right) ◆ **Top %**: Chart only the top *N* % of selected data (sorted by default) ◆ **Top N**: Chart only the top *N* of selected data (sorted by default) ◆ **Bottom %**: Chart only the bottom *N* % of data (sorted by default) ◆ **Bottom N**: Chart only the bottom *N* of selected data (sorted by default)
Percentage/count for top/bottom	Enter a number for either the percent or count defined in the previous parameter (for example, Top 10%, or Top 10). The default is 25.
Truncate top/bottom?	If set to yes, the data table shows only the top or bottom *N* or % (for example, only the top 10%). Otherwise, the table shows all data. The default is no.
Report settings	
Include parameter help card?	Set to yes to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Set to yes to include a table of data stream values in the report. The default is yes.
Include chart?	Set to yes to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set parameters for the output folder.
Add job ID to output folder name?	Set to y to append the job ID to the name of the output folder. A job ID helps you correlate a specific instance of a Report Script with the corresponding report. The default is n.
Select properties	Set miscellaneous report properties as desired.
Add time stamp to title?	Set to y to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated. A timestamp lets you run consecutive iterations of the same report without overwriting previous output. The default is n.
Event notification	
Event for report success?	Set to yes to raise an event when the report is successfully generated. The default is yes.
Severity level for report success	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 35.

Description	How to Set It
Severity level for report with no data	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Severity level for report failure	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.22 Report_DatafileSpace

Use this Oracle_Report script to generate a report about the size (in MB) of Oracle Database data files. This report allows you to make a statistical analysis of the data point values (for example, the average or maximum value over a time period).

This report uses data collected by the DatafileSpace Knowledge Script.

3.22.1 Resource Objects

Report agent

3.22.2 Default Schedule

The default schedule is **Run once**.

3.22.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Data source	
Select computer(s)	Select the computers for your report.
Select time range	Set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Select the days of the week to include in your report.
Select the style	Select the style for the report: **By computer** shows one value for each computer you selected. **By legend** shows one value for each different legend (the legend is a truncated form of the data stream legend visible in the Operator Console). **By computer and legend** shows one value for each unique legend from each computer.
Data settings	

Description	How to Set It
Statistics to show	Select a statistical method by which to display data in the report:
	◆ **Average**: The average value of data points for the time period covered by the report
	◆ **Minimum**: The minimum value of data points for the time period covered by the report
	◆ **Maximum**: The maximum value of data points for the time period covered by the report
	◆ **Min/Avg/Max**: The minimum, average, and maximum values of data points for the time period covered by the report
	◆ **Range**: The range of values in the data stream (maximum - minimum = range)
	◆ **Standard Deviation**: The measure of how widely values are dispersed from the mean
	◆ **Sum**: The total value of data points for the time period covered by the report
	◆ **Close**: The last value for the time period covered by the report
	◆ **Change**: The difference between the first and last values for the time period covered by the report (close - open = change)
	◆ **Count**: The number of data points for the time period covered by the report
Select sorting/display option	Select whether data is sorted, or the method of display:
	◆ **No sort**: Data is not sorted
	◆ **Sort**: Data is sorted by value (lowest to highest from front to back; highest to lowest from left to right)
	◆ **Top %**: Chart only the top *N* % of selected data (sorted by default)
	◆ **Top N**: Chart only the top *N* of selected data (sorted by default)
	◆ **Bottom %**: Chart only the bottom *N* % of data (sorted by default)
	◆ **Bottom N**: Chart only the bottom *N* of selected data (sorted by default)
Percentage/count for top/bottom	Enter a number for either the percent or count defined in the previous parameter (for example, Top 10%, or Top 10). The default is 25.
Truncate top/bottom?	If set to yes, the data table shows only the top or bottom *N* or % (for example, only the top 10%).
	Otherwise, the table shows all data.
	The default is no.
Show totals on the table?	If set to yes, additional calculations are made for each column of numbers in a table, and the following values are listed at the end of the table:
	◆ **Report Average**: An average of all values in a column
	◆ **Report Minimum**: The minimum value in a column
	◆ **Report Maximum**: The maximum value in a column
	◆ **Report Total**: The total of all values in a column
	The default is no.

Description	How to Set It
Report settings	
Include parameter help card?	Set to yes to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Set to yes to include a table of data stream values in the report. The default is yes.
Include chart?	Set to yes to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set parameters for the output folder.
Add job ID to output folder name?	Set to yes to append the job ID to the name of the output folder. A job ID helps you correlate a specific instance of a Report Script with the corresponding report. The default is no.
Select properties	
Add time stamp to title?	Set to yes to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated. A timestamp lets you run consecutive iterations of the same report without overwriting previous output. The default is no.
Event notification	
Event for report success?	Set to yes to raise an event when the report is successfully generated. The default is yes.
Severity level for report success	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 35.
Severity level for report with no data	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Severity level for report failure	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.23 Report_DiskSpaceAvailable

Use this Oracle_Report script to generate a report about the amount of disk space (in MB) available for the archive, background process, and user log files. This report allows you to make a statistical analysis of the data point values (for example, the average or maximum value over a time period).

This report uses data collected by the DiskSpaceAvail Knowledge Script.

3.23.1 Resource Objects

Report agent

3.23.2   Default Schedule

The default schedule is **Run once**.

3.23.3   Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Data source	
Select computer(s)	Select the computers for your report.
Select time range	Set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Select the days of the week to include in your report.
Select the style	Select the style for the report: ◆ **By computer** shows one value for each computer you selected. ◆ **By legend** shows one value for each different legend (the legend is a truncated form of the data stream legend visible in the Operator Console). ◆ **By computer and legend** shows one value for each unique legend from each computer.
Data settings	
Statistics to show	Select a statistical method by which to display data in the report: ◆ **Average**: The average value of data points for the time period covered by the report ◆ **Minimum**: The minimum value of data points for the time period covered by the report ◆ **Maximum**: The maximum value of data points for the time period covered by the report ◆ **Min/Avg/Max**: The minimum, average, and maximum values of data points for the time period covered by the report ◆ **Range**: The range of values in the data stream (maximum - minimum = range) ◆ **Standard Deviation**: The measure of how widely values are dispersed from the mean ◆ **Sum**: The total value of data points for the time period covered by the report ◆ **Close**: The last value for the time period covered by the report ◆ **Change**: The difference between the first and last values for the time period covered by the report (close - open = change) ◆ **Count**: The number of data points for the time period covered by the report

Description	How to Set It
Select sorting/display option	Select whether data is sorted, or the method of display: ♦ **No sort**: Data is not sorted ♦ **Sort**: Data is sorted by value (lowest to highest from front to back; highest to lowest from left to right) ♦ **Top %**: Chart only the top N % of selected data (sorted by default) ♦ **Top N**: Chart only the top N of selected data (sorted by default) ♦ **Bottom %**: Chart only the bottom N % of data (sorted by default) ♦ **Bottom N**: Chart only the bottom N of selected data (sorted by default)
Percentage/count for top/bottom	Enter a number for either the percent or count defined in the previous parameter (for example, Top 10%, or Top 10). The default is 25.
Truncate top/bottom?	If set to yes, the data table shows only the top or bottom N or % (for example, only the top 10%). Otherwise, the table shows all data. The default is no.
Show totals on the table?	If set to yes, additional calculations are made for each column of numbers in a table, and the following values are listed at the end of the table: ♦ **Report Average**: An average of all values in a column ♦ **Report Minimum**: The minimum value in a column ♦ **Report Maximum**: The maximum value in a column ♦ **Report Total**: The total of all values in a column The default is no.
Report settings	
Include parameter help card?	Set to yes to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Set to yes to include a table of data stream values in the report. The default is yes.
Include chart?	Set to yes to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set parameters for the output folder.
Add job ID to output folder name?	Set to yes to append the job ID to the name of the output folder. A job ID helps you correlate a specific instance of a Report Script with the corresponding report. The default is no.
Select properties	Set miscellaneous report properties as desired.

Description	How to Set It
Add time stamp to title?	Set to yes to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated.
	A timestamp lets you run consecutive iterations of the same report without overwriting previous output.
	The default is no.
Event notification	
Event for report success?	Set to yes to raise an event when the report is successfully generated. The default is yes.
Severity level for report success	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 35.
Severity level for report with no data	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Severity level for report failure	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.24 Report_TablespaceAvailable

Use this Oracle_Report script to generate a report about the free disk space available for tablespaces, disk space used by tablespaces, and the size of tablespaces. This report allows you to make a statistical analysis of the data point values (for example, the average or maximum value over a time period).

This report uses data collected by the TablespaceAvail Knowledge Script.

3.24.1 Resource Objects

Report agent

3.24.2 Default Schedule

The default schedule is **Run once**.

3.24.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Data source	
Select computer(s)	Select the computers for your report.
Select time range	Set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Select the days of the week to include in your report.

Description	How to Set It
Select the style	Select the style for the report: ♦ **By computer** shows one value for each computer you selected. ♦ **By legend** shows one value for each different legend (the legend is a truncated form of the data stream legend visible in the Operator Console). ♦ **By computer and legend** shows one value for each unique legend from each computer.
Data settings	
Statistics to show	Select a statistical method by which to display data in the report: ♦ **Average**: The average value of data points for the time period covered by the report ♦ **Minimum**: The minimum value of data points for the time period covered by the report ♦ **Maximum**: The maximum value of data points for the time period covered by the report ♦ **Min/Avg/Max**: The minimum, average, and maximum values of data points for the time period covered by the report ♦ **Range**: The range of values in the data stream (maximum - minimum = range) ♦ **Standard Deviation**: The measure of how widely values are dispersed from the mean ♦ **Sum**: The total value of data points for the time period covered by the report ♦ **Close**: The last value for the time period covered by the report ♦ **Change**: The difference between the first and last values for the time period covered by the report (close - open = change) ♦ **Count**: The number of data points for the time period covered by the report
Select sorting/display option	Select whether data is sorted, or the method of display: ♦ **No sort**: Data is not sorted ♦ **Sort**: Data is sorted by value (lowest to highest from front to back; highest to lowest from left to right) ♦ **Top %**: Chart only the top *N* % of selected data (sorted by default) ♦ **Top N**: Chart only the top *N* of selected data (sorted by default) ♦ **Bottom %**: Chart only the bottom *N* % of data (sorted by default) ♦ **Bottom N**: Chart only the bottom *N* of selected data (sorted by default)
Percentage/count for top/bottom	Enter a number for either the percent or count defined in the previous parameter (for example, Top 10%, or Top 10). The default is 25.

Description	How to Set It
Truncate top/bottom?	If set to yes, the data table shows only the top or bottom *N* or % (for example, only the top 10%).
	Otherwise, the table shows all data.
	The default is no.
Show totals on the table?	If set to yes, additional calculations are made for each column of numbers in a table, and the following values are listed at the end of the table:
	◆ **Report Average**: An average of all values in a column
	◆ **Report Minimum**: The minimum value in a column
	◆ **Report Maximum**: The maximum value in a column
	◆ **Report Total**: The total of all values in a column
	The default is no.
Report settings	
Include parameter help card?	Set to yes to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Set to yes to include a table of data stream values in the report. The default is yes.
Include chart?	Set to yes to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set parameters for the output folder.
Add job ID to output folder name?	Set to yes to append the job ID to the name of the output folder.
	A job ID helps you correlate a specific instance of a Report Script with the corresponding report.
	The default is no.
Select properties	Set miscellaneous report properties as desired.
Add time stamp to title?	Set to yes to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated.
	A timestamp lets you run consecutive iterations of the same report without overwriting previous output.
	The default is no.
Event notification	
Event for report success?	Set to yes to raise an event when the report is successfully generated. The default is yes.
Severity level for report success	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 35.
Severity level for report with no data	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.

Description	How to Set It
Severity level for report failure	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.25 Report_TransactionRate

Use this Oracle_Report script to generate a report about the number of transactions per second for Oracle databases. This report allows you to make a statistical analysis of the data point values (for example, the average or maximum value over a time period).

This report uses data collected by the TransactionRate Knowledge Script.

3.25.1 Resource Objects

Report agent

3.25.2 Default Schedule

The default schedule is **Run once**.

3.25.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Data source	
Select computer(s)	Select the computers for your report.
Select time range	Set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Select the days of the week to include in your report.
Select the style	Select the style for the report: ◆ **By computer** shows one value for each computer you selected. ◆ **By legend** shows one value for each different legend (the legend is a truncated form of the data stream legend visible in the Operator Console). ◆ **By computer and legend** shows one value for each unique legend from each computer.
Data settings	

Description	How to Set It
Statistics to show	Select a statistical method by which to display data in the report:
	◆ **Average**: The average value of data points for the time period covered by the report
	◆ **Minimum**: The minimum value of data points for the time period covered by the report
	◆ **Maximum**: The maximum value of data points for the time period covered by the report
	◆ **Min/Avg/Max**: The minimum, average, and maximum values of data points for the time period covered by the report
	◆ **Range**: The range of values in the data stream (maximum - minimum = range)
	◆ **Standard Deviation**: The measure of how widely values are dispersed from the mean
	◆ **Sum**: The total value of data points for the time period covered by the report
	◆ **Close**: The last value for the time period covered by the report
	◆ **Change**: The difference between the first and last values for the time period covered by the report (close - open = change)
	◆ **Count**: The number of data points for the time period covered by the report
Select sorting/display option	Select whether data is sorted, or the method of display:
	◆ **No sort**: Data is not sorted
	◆ **Sort**: Data is sorted by value (lowest to highest from front to back; highest to lowest from left to right)
	◆ **Top %**: Chart only the top *N* % of selected data (sorted by default)
	◆ **Top N**: Chart only the top *N* of selected data (sorted by default)
	◆ **Bottom %**: Chart only the bottom *N* % of data (sorted by default)
	◆ **Bottom N**: Chart only the bottom *N* of selected data (sorted by default)
Percentage/count for top/bottom	Enter a number for either the percent or count defined in the previous parameter (for example, Top 10%, or Top 10). The default is 25.
Truncate top/bottom?	If set to yes, the data table shows only the top or bottom *N* or % (for example, only the top 10%).
	Otherwise, the table shows all data.
	The default is no.
Show totals on the table?	If set to yes, additional calculations are made for each column of numbers in a table, and the following values are listed at the end of the table:
	◆ **Report Average**: An average of all values in a column
	◆ **Report Minimum**: The minimum value in a column
	◆ **Report Maximum**: The maximum value in a column
	◆ **Report Total**: The total of all values in a column
	The default is no.

Description	How to Set It
Report settings	
Include parameter help card?	Set to yes to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Set to yes to include a table of data stream values in the report. The default is yes.
Include chart?	Set to yes to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set parameters for the output folder.
Add job ID to output folder name?	Set to yes to append the job ID to the name of the output folder. A job ID helps you correlate a specific instance of a Report Script with the corresponding report. The default is no.
Select properties	Set miscellaneous report properties as desired.
Add time stamp to title?	Set to yes to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated. A timestamp lets you run consecutive iterations of the same report without overwriting previous output. The default is no.
Event notification	
Event for report success?	Set to yes to raise an event when the report is successfully generated. The default is yes.
Severity level for report success	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 35.
Severity level for report with no data	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Severity level for report failure	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.26 Report_UserLocks

Use this Oracle_Report script to generate a report about the number of user-held locks on an Oracle database. This report allows you to make a statistical analysis of the data point values (for example, the average or maximum value over a time period).

This report uses data collected by the TopLockUsers Knowledge Script.

3.26.1 Resource Objects

Report agent

3.26.2   Default Schedule

The default schedule is **Run once**.

3.26.3   Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Data source	
Select computer(s)	Select the computers for your report.
Select time range	Set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Select the days of the week to include in your report.
Select the style	Select the style for the report: ♦ **By computer** shows one value for each computer you selected. ♦ **By legend** shows one value for each different legend (the legend is a truncated form of the data stream legend visible in the Operator Console). ♦ **By computer and legend** shows one value for each unique legend from each computer.
Data settings	
Statistics to show	Select a statistical method by which to display data in the report: ♦ **Average**: The average value of data points for the time period covered by the report ♦ **Minimum**: The minimum value of data points for the time period covered by the report ♦ **Maximum**: The maximum value of data points for the time period covered by the report ♦ **Min/Avg/Max**: The minimum, average, and maximum values of data points for the time period covered by the report ♦ **Range**: The range of values in the data stream (maximum - minimum = range) ♦ **Standard Deviation**: The measure of how widely values are dispersed from the mean ♦ **Sum**: The total value of data points for the time period covered by the report ♦ **Close**: The last value for the time period covered by the report ♦ **Change**: The difference between the first and last values for the time period covered by the report (close - open = change) ♦ **Count**: The number of data points for the time period covered by the report

Description	How to Set It
Select sorting/display option	Select whether data is sorted, or the method of display: ◆ **No sort**: Data is not sorted ◆ **Sort**: Data is sorted by value (lowest to highest from front to back; highest to lowest from left to right) ◆ **Top %**: Chart only the top *N* % of selected data (sorted by default) ◆ **Top N**: Chart only the top *N* of selected data (sorted by default) ◆ **Bottom %**: Chart only the bottom *N* % of data (sorted by default) ◆ **Bottom N**: Chart only the bottom *N* of selected data (sorted by default)
Percentage/count for top/bottom	Enter a number for either the percent or count defined in the previous parameter (for example, Top 10%, or Top 10). The default is 25.
Truncate top/bottom?	If set to yes, the data table shows only the top or bottom *N* or % (for example, only the top 10%). Otherwise, the table shows all data. The default is no.
Show totals on the table?	If set to yes, additional calculations are made for each column of numbers in a table, and the following values are listed at the end of the table: ◆ **Report Average**: An average of all values in a column ◆ **Report Minimum**: The minimum value in a column ◆ **Report Maximum**: The maximum value in a column ◆ **Report Total**: The total of all values in a column The default is no.
Report settings	
Include parameter help card?	Set to yes to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Set to yes to include a table of data stream values in the report. The default is yes.
Include chart?	Set to yes to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set parameters for the output folder.
Add job ID to output folder name?	Set to yes to append the job ID to the name of the output folder. A job ID helps you correlate a specific instance of a Report Script with the corresponding report. The default is no.
Select properties	Set miscellaneous report properties as desired.

Description	How to Set It
Add time stamp to title?	Set to yes to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated. A timestamp lets you run consecutive iterations of the same report without overwriting previous output. The default is no.
Event notification	
Event for report success?	Set to y to raise an event when the report is successfully generated. The default is y.
Severity level for report success	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 35.
Severity level for report with no data	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 25.
Severity level for report failure	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.27 RollBackSegmentContention

Use this Knowledge Script to monitor rollback segment contention for a database. In the Oracle environment, the **rollback segment** is a temporary location where changes are stored until the user makes the changes permanent. This Knowledge Script compares the number of requests waiting to access data from the rollback segment to the total number of requests for data during the monitoring interval. In the Knowledge Script, you can specify the maximum percentage of requests allowed to wait for data from the rollback segment. If the percentage of waiting requests exceeds the threshold you specify, an event is raised. If you find that too many processes are waiting to access the rollback segment, you might need to create an additional rollback segment.

3.27.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.27.2 Default Schedule

The default interval for this script is **Every 10 minutes**.

3.27.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. The data is stored in the AppManager repository. When set to y, the script collects the number of requests waiting to access the rollback segment. The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Percentage of unsuccessful requests	Specify the percentage of total requests that might be waiting to access data from the rollback segment. The default is 1%.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default severity level is 5.

3.28 RowSourceRatio

Use this Knowledge Script to monitor the row source ratio. This ratio measures the percentage of rows that were retrieved using full table scans. Because a full table scan is less efficient than retrieving rows by row ID, this ratio gives you an indication of potential performance problems. If you observe an increase in this ratio, you might want to review other statistics to find the source of the problem. When this ratio exceeds the threshold you set, an event is raised.

3.28.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.28.2 Default Schedule

The default interval for this script is **Every 1 hour**.

3.28.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the ratio of rows retrieved using a full table scan. The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for row source ratio	Enter a threshold for the row source ratio. The default ratio is .25.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.29 RunSql

Use this Knowledge Script to run a SQL statement. You can enter the SQL statement to be executed when you run this Knowledge Script, or you can load the statement from a script file. You specify the column to monitor and whether to monitor the value found in the column or the value's rate of change (changes per second).

NOTE: There is no syntax-checking mechanism from the Operator Console. Syntax checking is done by the Oracle server on the managed client when the job runs. If an error is detected, the Oracle server returns the error result to the Knowledge Script, and the job stops.

3.29.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a single Knowledge Script job runs the SQL statements on every database on that server. When run on a single Oracle Database icon, a single Knowledge Script runs the SQL statements just on that database.

3.29.2   Default Schedule

The default interval for this script is **Every 10 minutes**.

3.29.3   Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is n.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, this script returns the number of rows returned from the SQL statement. If you choose to monitor the column's rate of change and set this parameter to y, the script returns the change in the number of rows since the last time the SQL statement was run. The default is y.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25. **NOTE:** In general, permission to run specific SQL commands and statements is derived from the permissions granted to the user account name you are using to run this Knowledge Script.
Load SQL script from file?	Set to y to load the SQL statement from a file. Set to n to enter the SQL statement in the **SQL statement** field. The default is n.
SQL script file (full path)	If you set the **Load SQL script** parameter to y, enter the complete path to the file that contains the SQL statement. For example: F:\netiq\Sample.sql **NOTE:** If the AppManager agent service (NetIQmc) is running as a system account, you cannot enter a path in UNC format (such as \\machine\dir\Sample.sql).
SQL statement	If you set the **Load SQL script** parameter to n, enter the SQL statement to be executed. The default statement selects all processes from the V$PROCESS table. **Tip:** Unless you are entering very simple queries, you might find typing a SQL statement into this field is error-prone. To avoid this, use the **SQL script file** parameter. Alternatively, if you have an AppManager Developer's license, you can check this Knowledge Script out of the repository, use the Knowledge Script Editor to paste the desired SQL statement into the **SQL statements** field, and then check the modified Knowledge Script back in.

Description	How to Set It
Select column by column number?	Set to y to select a column by column number. Set to n to select a column by column name. The default is y (column number).
Column number	If you set the **Select column by column number?** parameter to y, enter the column number to use as the primary output value (the column you specify must contain numeric data). Entering 0 returns the number of rows returned from the SQL statement. Any other positive value returns the value for the specified column's first row of data. If the specified column is not a numeric field, an error is raised and the Knowledge Script returns an error.
Column name	If you set the **Select column by column number?** parameter to n, enter the column name to use as the primary output value (the column you specify must contain numeric data). The value for the specified column's first row of data is returned. If the specified column is not a numeric field, an error is raised and the Knowledge Script returns an error.
Legend	Enter a legend for the output of your SQL statement. The default is blank. If you leave this parameter blank, AppManager constructs a legend based on the column number. For example, if the column number is 0, the constructed legend is "# Result Rows". If the column number is greater than 0, the constructed legend is the specified column heading. If no heading exists, the constructed legend is: "Column <num> Value"
Monitor the column's rate of change?	Set to y to monitor the number of times the column's value changes per second. Set to n to monitor the actual value found in the column. The default is n.
Condition: <, =, or >	Indicate the condition (less than, equal to, or greater than) you want to check for. This parameter is used in conjunction with the threshold parameter to control when events are raised. The default is greater than (>).
Value or rate threshold	Enter a threshold for the value you are monitoring. Depending on how you set the **Calculate column change rate?** parameter, this might indicate a threshold for the statistic's value or for the number of times the value changes per second. The value you set here is used in conjunction with the **Condition: <, =, or >** parameter to control when events are raised. The default is 1000.
Number of rows to be displayed	Specify the number of rows you want displayed in the detail message (event or data). The default is 5 rows. **NOTE:** You can enter 0 to indicate no limit (keep all output rows). However, currently the detail message is limited to 32K characters.

Description	How to Set It
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.29.4 Loading a SQL statement from a Script File

In many cases, you might find it useful to run a complex SQL statement using a SQL script file rather than entering the statement directly in the **SQL statement** parameter.

The example below illustrates how to use a SQL script loaded from a file to perform a custom monitoring task. This example monitors tablespaces, and collects the following information:

- Largest free extent in the tablespace
- Number of free extents in the tablespace
- Total free space in the tablespace
- Percentage of the tablespace's available space that is free

If the percentage of available tablespace is less than 5%, an event is raised. Here's how the key Knowledge Script parameters are set:

This Parameter:	Is Set to:
Event?	y
Collect data?	y
Load SQL script from file?	y
SQL script file (full path)	`D:\netiq\tblspace.sql`
Select column by column number?	y
Column number	5
Column name	pct_free
Legend	Percentage Free
Calculate column change rate?	n
Condition: <, =, or >	<
Value or rate threshold	5

The `tblspace.sql` script file contains the following SQL statement:

```
SELECT Tablespace_Name, Max_Blocks, Count_Blocks,
       Sum_Free_Blocks,
       100*Sum_Free_Blocks/Sum_Alloc_Blocks AS pct_free
FROM
       (SELECT Tablespace_Name, SUM(Blocks) Sum_Alloc_Blocks
       FROM dba_data_files GROUP BY Tablespace_Name),
       (SELECT Tablespace_Name FS_TS_NAME, MAX(Blocks)
       AS Max_Blocks, COUNT(Blocks) AS Count_Blocks,
       SUM(Blocks) AS Sum_Free_Blocks
       FROM dba_free_space GROUP BY Tablespace_Name)
WHERE Tablespace_Name = FS_TS_NAME
ORDER BY pct_free
```

3.30 SegmentExtentAvail

Use this Knowledge Script to monitor the percentage of extents (extensions of free space) available to each segment in a tablespace. You can set a threshold value for the minimum percentage of extents that should be available for each segment. For example, you might want each segment to have at least 70% of extents available. In addition, you can set a threshold for the maximum number of segments allowed to fall below this percentage before an event is raised. For example, you specify that 70% of extents should be available for each segment, and that four segments should be the maximum number of segments allowed to have less than 70% of their extents available. If four segments are found to have less than 70% of their extents available, an event is raised.

It is important to note that an event is raised only when *both* conditions are met. In the example described above, AppManager would not raise an event until four segments were found that had less than 70% of their extents available.

3.30.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a single Knowledge Script job runs the SQL statements on every database on that server. When run on a single Oracle Database icon, a single Knowledge Script runs the SQL statements just on that database.

3.30.2 Default Schedule

The default interval for this script is **Every 1 hour**.

3.30.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.

Description	How to Set It
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, this script returns the number of segments that have less than the specified percentage of extents available. The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
	NOTE: In general, permission to run specific SQL commands and statements is derived from the permissions granted to the user account name you are using to run this Knowledge Script.
Min. % of available extents for each segment	Specify the minimum percentage of extents available for each segment in a tablespace.
	The default is 80%.
Max. segments with more than above % of extents allocated	Specify the maximum number of segments allowed to have less than the specified percentage of extents available.
	The default is 5 segments.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5 (red event indicator).

3.31 SortOverflowRatio

Use this Knowledge Script to monitor the sort overflow ratio. This ratio measures the number of sorts that are using temporary segments. An increase in this ratio indicates that more sort operations need to allocate work space on disk. If most sorts are of a moderate size, you might want to increase the sort area size to accommodate them. If the ratio exceeds the threshold you set, an event is raised.

3.31.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.31.2 Default Schedule

The default interval for this script is **Every 10 minutes**.

3.31.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for charts and reports. When set to y, the script returns the ratio of the number of sorts using temporary segments versus the number that do not. For example, a ratio of .75 indicates that 3 out of 4 sorts are using temporary segments. The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for sort overflow ratio	Enter a threshold for the sort overflow ratio. The default ratio is 0.75.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.32 SysStat

Use this Knowledge Script to retrieve statistics from a database's V$SYSSTAT table. This table stores all the key statistics for a database. You specify the statistic to monitor and the value and condition to check for. You can monitor either the statistic's **value** or **change rate** (changes per second) to raise an event.

3.32.1 Resource Objects

- ◆ Oracle Server folder
- ◆ Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.32.2 Default Schedule

The default interval for this script is **Every 10 minutes**.

3.32.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the current value of each specified statistic at each interval. The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
V$SYSSTAT name	Specify the name of the statistic you want to monitor. For example, USER CALLS. For information about the fields in the V$SYSSTAT table, see your Oracle documentation (for example, Oracle8 Reference, Appendix C Statistics Descriptions). The default statistic is EXECUTE COUNT.
Monitor statistic's change rate?	When this parameter is set to y, the Knowledge Script monitors the number of times the statistic's value changes per second. When this parameter is set to n, the Knowledge Script monitors the value of the statistic. The default is y.
Condition: <, =, or >	Indicate the condition (less than, equal to, or greater than) you want to check for. This parameter is used in conjunction with the **Value or rate threshold** parameter to control what raises an event. The default is greater than (>).
Value or rate threshold	Enter a threshold value for the specified statistic. Depending on how you set the **Monitor statistic's change rate?** parameter, this might indicate a threshold for the statistic's value or for the number of changes per second. The value you set here is used in conjunction with the **Condition (<, =, or >)** parameter to control what raises an event. The default is 100.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.32.4 Example of How This Script is Used

You can use this Knowledge Script to monitor either a statistic's **value** or its **change rate** (changes per second). To do this, you need to specify:

- The statistic to monitor
- Whether you want to monitor a value or a change rate
- The type of threshold condition for which you are monitoring (less than, greater than, or equal to)
- The value or change rate threshold

For example, to generate an event when there are more than 100 `Execute` calls in a monitoring interval:

This Parameter	Is Set to
Event?	y
`V$SYSSTAT` name	execute count
Monitor statistic's change rate?	n
Condition (<, =, or >)	>
Value or rate threshold	100

In some cases, monitoring a statistic's change rate is even more useful in measuring database performance and application efficiency than monitoring for a current value. For example, if the change rate for a statistic such as **execute count** begins to drop (with fewer execute statements processed per second), it suggests a performance bottleneck.

Consult your Oracle documentation for recommendations on setting thresholds for specific statistics.

3.33 TablespaceAvail

Use this Knowledge Script to monitor the disk space used by tablespaces.

This Knowledge Script can monitor:

- The amount of free disk space available for a tablespace as a percentage, as an absolute amount, or both.
- The amount of disk space used by a tablespace as a percentage, as an absolute amount, or both.
- The size of a tablespace.

This Knowledge Script monitors the disk space allocated to Oracle, not the disk space on the computer where Oracle is running.

By default, this Knowledge Script is configured to monitor the percentage of free disk space available to a tablespace and the percentage of disk space used by a tablespace. You can choose any combination of monitoring options and set thresholds for each one.

3.33.1 Resource Objects

- Oracle Server icon

- Oracle tablespace icon
- Individual tablespace icons

NOTE: When run on the Oracle server icon, a single Knowledge Script job monitors every tablespace in every database on that server. When run on a tablespaces icon, a single Knowledge Script job monitors every tablespace in the database. Or you can run a Knowledge Script job on a single tablespace icon.

3.33.2 Default Schedule

The default interval for this script is **Every 1 hour**.

3.33.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, this script returns statistics (percentage of free disk space or amount of disk space used) for each tablespace on which the script is running. The script returns only the data being monitored.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Monitor percentage of free disk space for tablespace?	Enter y to monitor the percentage of disk space available to the tablespace.
	The default is y.
Minimum threshold for percentage of free disk space	Specify the minimum percentage of available disk space needed for the tablespace. If the amount of available space is less than this number, an event is raised.
	The default is 5 percent.
Monitor percentage of disk space used by tablespace?	Enter y to monitor the percentage of disk space used by the tablespace.
	The default is y.

Description	How to Set It
Maximum threshold for percentage of disk space used	Specify the maximum percentage of disk space that the tablespace is allowed to use. If the percentage of disk space used by the tablespace exceeds this number, an event is raised.
	The default is 95%.
Monitor amount of free disk space for tablespace?	Enter y to monitor the amount of disk space available to the tablespace.
	The default is n.
Minimum threshold for amount of free disk space	Specify the minimum amount of available disk space (in MB) needed for the tablespace. If the amount of available space is less than this number, an event is raised.
	The default is 5 MB.
Monitor amount of disk space used?	Enter y to monitor the amount of disk space used by the tablespace.
	The default is n.
Maximum threshold for amount of disk space used	Specify the maximum amount of disk space (in MB) that the tablespace is allowed to use. If the amount of disk space used exceeds this number, an event is raised.
	The default is 1000 MB.
Monitor total size of tablespace?	Enter y if you want to monitor the total size of the tablespace.
	The default is n.
Maximum threshold for total size	Specify the maximum size (in MB) allowed for the tablespace. If the size of the tablespace is greater than this number, an event is raised.
	The default is 1024.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.34   TopCpuUsers

Use this Knowledge Script to monitor the CPU time for current user sessions. If the CPU usage exceeds the threshold you set, an event is raised. You can specify the number of top user sessions to display in the event and data detail messages. The detail message includes the CPU usage for each of the top *n* sessions, username, session ID, and program name.

3.34.1   Resource Objects

- ◆ Oracle Server folder
- ◆ Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.34.2 Default Schedule

The default interval for this script is **Every 30 minutes**.

3.34.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the total CPU time for the top *N* users.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for CPU cycles (1/100 sec)	Enter a threshold for the maximum number of CPU cycles per 1/100th of a second.
	The default is 50 CPU cycles.
Number of user sessions to display	Specify the number of top user sessions you want displayed in the detail message (event or data). Enter 0 if you want information for all user sessions displayed.
	The default is 10 user sessions.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.35 TopIOUsers

Use this Knowledge Script to monitor physical reads and writes (I/O) for current user sessions. If the number of physical reads/writes per second exceeds the threshold you set, an event is raised. You can specify the number of top user sessions to display in the event and data detail messages. The detail message includes the physical reads/writes per second for each of the top *N* sessions, username, session ID, and program name.

3.35.1   Resource Objects

- ◆ Oracle Server folder
- ◆ Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.35.2   Default Schedule

The default interval for this script is **Every 30 minutes**.

3.35.3   Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the total number of physical reads/writes per second for the top *N* users.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for physical reads/writes	Enter a threshold for the maximum number of physical reads/writes per second.
	The default is 300 I/O operations.
Number of user sessions to display	Specify the number of top user sessions you want displayed in the detail message (event or data). Enter 0 if you want information for all user sessions displayed.
	The default is 10 user sessions.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.36 TopLockUsers

Use this Knowledge Script to monitor the current number of user-held locks on an Oracle database. If the number of locks exceeds the threshold you set, an event is raised. You can specify the number of top user sessions to display in the detail event and data messages. The detail message includes the number of locks held by each session, username, session ID, and program name.

3.36.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.36.2 Default Schedule

The default interval for this script is **Every 30 minutes**.

3.36.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the current number of user-held locks.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for total user locks	Enter a threshold for the maximum number of user-held locks on an Oracle server.
	The default is 1000 locks.
Number of user sessions to display	Specify the number of top user sessions you want displayed in the detail message (event or data). Enter 0 if you want all user sessions displayed.
	The default is 10 user sessions.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.37 TopMemoryUsers

Use this Knowledge Script to monitor memory usage (User Global Area and Program Global Area) for current user sessions. If the user memory usage exceeds the threshold you set, an event is raised. You can specify the number of top user sessions to display in the event and data detail messages. The detail message includes the memory in bytes for each session, username, session ID, and program name.

3.37.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.37.2 Default Schedule

The default interval for this script is **Every 30 minutes**.

3.37.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the total memory usage for the top *n* number of user sessions in MB.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for total user memory usage	Enter a threshold for the maximum memory for all user sessions in megabytes.
	The default is 10 MB.
Number of top memory user sessions to display	Specify the number of top user sessions you want displayed in the detail message (event or data). Enter 0 if you want information for all user sessions displayed.
	The default is 10 user sessions.

Description	How to Set It
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.38 TransactionRate

Use this Knowledge Script to monitor the transaction rate for an Oracle database. This Knowledge Script tracks the number of transactions per second and provides a basic measure of application workload.

Changes to your applications or to usage patterns can affect the transaction rate, but in general, an increase in the transaction rate suggests an increase in overall server load. If you observe a decrease in the transaction rate with the same number of connected users, it might indicate that you need to do some database tuning or investigate the reasons for the changes.

If the number of transactions per second exceeds the threshold you set, an event is raised.

3.38.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.38.2 Default Schedule

The default interval for this script is **Every 30 minutes**.

3.38.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the current transaction rate.
	The default is n.

Description	How to Set It
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is `system`. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for transaction rate	Enter a threshold for the maximum number of transactions per second. The default is 1 transaction per second.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.

3.39 UserCallsPerParse

Use this Knowledge Script to monitor the number of user calls per parse. The number of user calls per parse indicates how well an application is managing its context area. Changes in this ratio might indicate changes to the application itself or to changing usage patterns, for example, because users are moving from one module to another more or less frequently.

Generally, if the ratio is greater than or equal to 1, it indicates the SQL statements are executing efficiently without frequent reparsing. If the ratio is less than 1, it indicates the private SQL area might be too small.

When the ratio of user calls (parse, execute, fetch) to total parse calls falls below the threshold you set, an event is raised.

3.39.1 Resource Objects

 * Oracle Server folder
 * Oracle Database icon

NOTE: When run on the Oracle Server folder, a Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a Knowledge Script monitors only that database.

3.39.2 Default Schedule

The default interval for this script is **Every 10 minutes**.

3.39.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the current user calls per parse ratio.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Minimum threshold for user calls per parse	Enter a threshold for the minimum number of user calls per parse.
	The default is 1 call per parse.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.40 UserRollbackRatio

Use this Knowledge Script to monitor the user rollback ratio for an Oracle Database server. The user rollback ratio indicates the percentage of attempted application transactions that fail. The ratio compares the number of transactions rolled back to the total number of transactions attempted.

Because rolling back a transaction uses significant system resources, an increase in this ratio suggests resources have been wasted in attempting to execute failed transactions. If you observe a continued increase in this ratio, it might indicate serious application or database performance problems. When the rollback ratio exceeds the threshold you set, an event is raised.

3.40.1 Resource Objects

- ◆ Oracle Server folder
- ◆ Oracle Database icon

NOTE: When run on the Oracle Server folder, a single Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a single Knowledge Script monitors just that database.

3.40.2 Default Schedule

The default interval for this script is **Every hour**.

3.40.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events.
	The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the current user rollback ratio.
	The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username.
	The default username is system.
	For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for user rollback ratio	Enter a threshold for the maximum percentage of transaction rollbacks that should be allowed before generating an event.
	The default is 75 percent.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event.
	The default is 5.

3.41 UserSessions

Use this Knowledge Script to monitor the total number of user sessions accessing an Oracle database. If the total number of user sessions is higher than the threshold you set, an event is raised. You can specify the number of user sessions to display in the detail event and data message. The detail message includes the number of sessions for each user and the username.

3.41.1 Resource Objects

- Oracle Server folder
- Oracle Database icon

NOTE: When run on the Oracle Server folder, a single Knowledge Script job monitors every database on that server. When run on a single Oracle Database icon, a single Knowledge Script monitors just that database.

3.41.2 Default Schedule

The default interval for this script is **Every 30 minutes**.

3.41.3 Setting Parameter Values

Set the following parameters as needed:

Description	How to Set It
Event?	Set to y to raise events. The default is y.
Collect data?	Set to y to collect data for use in graphs and reports. When set to y, the script returns the total number of user sessions. The default is n.
Username	Specify the Oracle username that this Knowledge Script uses to access the target databases. If you run this Knowledge Script on more than one database, each database must be configured with the same username. The default username is system. For more information, see Section 3.1, "How Knowledge Scripts Access Oracle Databases," on page 25.
Maximum threshold for total user sessions	Specify the maximum number of user sessions. The default is 100.
Number of user sessions to display	Specify the number of user sessions you want displayed in the detail message (event or data). Type *0* if you want all user sessions displayed. The default is 10.
Event severity level	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.