AVEVA™
Platform Manager User Guide

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Contents

CHAPTER 1

Getting Started

Use the Platform Manager to perform run-time administrative tasks and diagnostics on ArchestrA Application Server platforms and engines.

About Platform Manager

The Platform Manager provides ArchestrA Galaxy application diagnostics. You can view run-time status of some system objects and perform actions upon those objects. These actions include:

- Setting platforms and engines in an executable or idle mode.
- Starting and stopping platforms and engines.
- Removing platforms from the local computer.

The Platform Manager is an extension snap-in to the ArchestrA System Management Console (SMC). The SMC is a Microsoft Management Console (MMC) container snap-in for all of the diagnostic and management utilities for your Galaxy application.

Other extension snap-ins include the Galaxy Database Manager, the Log Viewer, and the DAServer Manager.

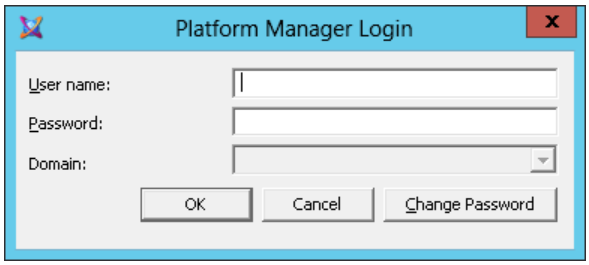
Starting Platform Manager

Platform Manager is a common component of a Galaxy application and it is available from any computer that has a deployed platform; therefore, you do not need to install it onto each node. This ensures that all nodes used within a Galaxy have access to Platform Manager.

With Platform Manager, you can access the platforms and engines deployed to the local computer and to any other computer in the Galaxy. Platform Manager does not require the Galaxy Repository to be installed on the local computer.

To start Platform Manager

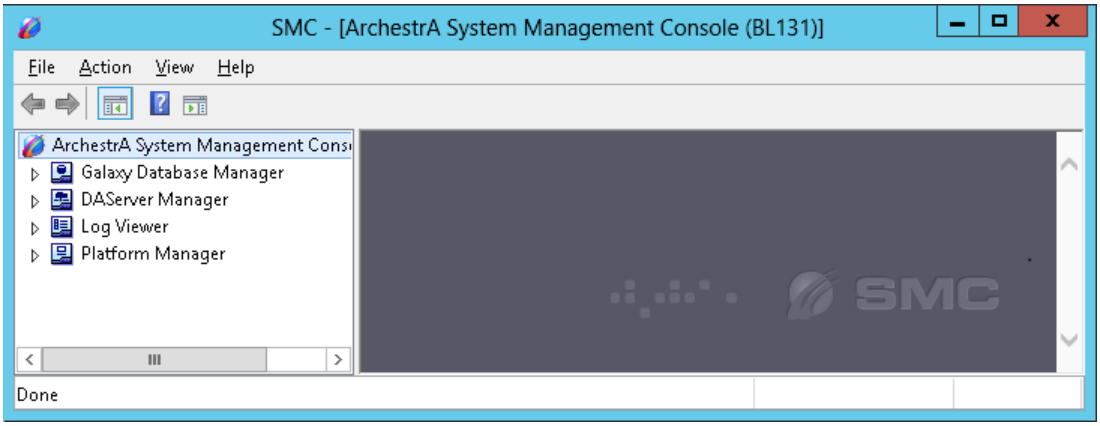
1. Ensure your Galaxy application is running.
2. On the Windows **Start** menu, point to **Programs**, navigate to **AVEVA**, and then click **System Platform Management Console**. If Platform Manager has security enabled, the Platform Manager **Login** dialog box appears.



3. Type your User Name and Password.
4. If the configured security is OS User Based, select the domain from the **Domain** list.
5. Click **OK**.

Navigating in the Platform Manager

After successfully logging on, or if no security is enabled for Platform Manager, the Platform Manager snap-in appears under the ArchestrA System Management Console (SMC) root node.



The left pane, or console tree has a Windows Explorer-type layout, with the ArchestrA System Management Console appearing as the root node and the Platform Manager appearing below this node. You can expand and collapse the console tree by clicking on the "+" or the "-" symbols that appear next to the snap-in.

The console tree shows the items that are available in the console. Other snap-ins that may appear below the ArchestrA SMC node include the Galaxy Database Manager, the Log Viewer, and the DAServer Manager.

Security

For all ArchestrA administrative utilities, including Platform Manager, security is configured through the IDE. By default, there is no security enabled for Platform Manager or any of the other utilities.

There are four authentication modes for security that can be enabled for Platform Manager:

- No authentication
- Galaxy authentication mode
- OS User Based authentication mode
- OS Group authentication mode

When no security is enabled from the IDE, the user is automatically logged into Platform Manager as **DefaultUser**. Without security, the logon dialog box does not appear when Platform Manager is launched and the user is granted all permissions.

If you enable one of the security modes (either Galaxy- or OS-based) that requires authentication, make sure that users are given the level of permissions that will allow them to perform all necessary operations associated with their roles.

Galaxy Authentication

Galaxy authentication requires the user to log on to Platform Manager every time the utility is started.

OS User Based Authentication

OS User Based authentication allows users who have matching OS accounts to log on, while all others are rejected.

OS Group Authentication

In OS Group authentication, the user defines roles that match OS Groups. At log on, the OS Groups are matched with the roles.

For more information about security and authentication, see the Application Server User's Guide.

Changing Users

If security is enabled from the IDE, the user is logged in (either manually or automatically) when you open the Platform Manager.

If security is disabled in the IDE, clicking **Change User** results in no action. The command is ignored.

To log on as a new user

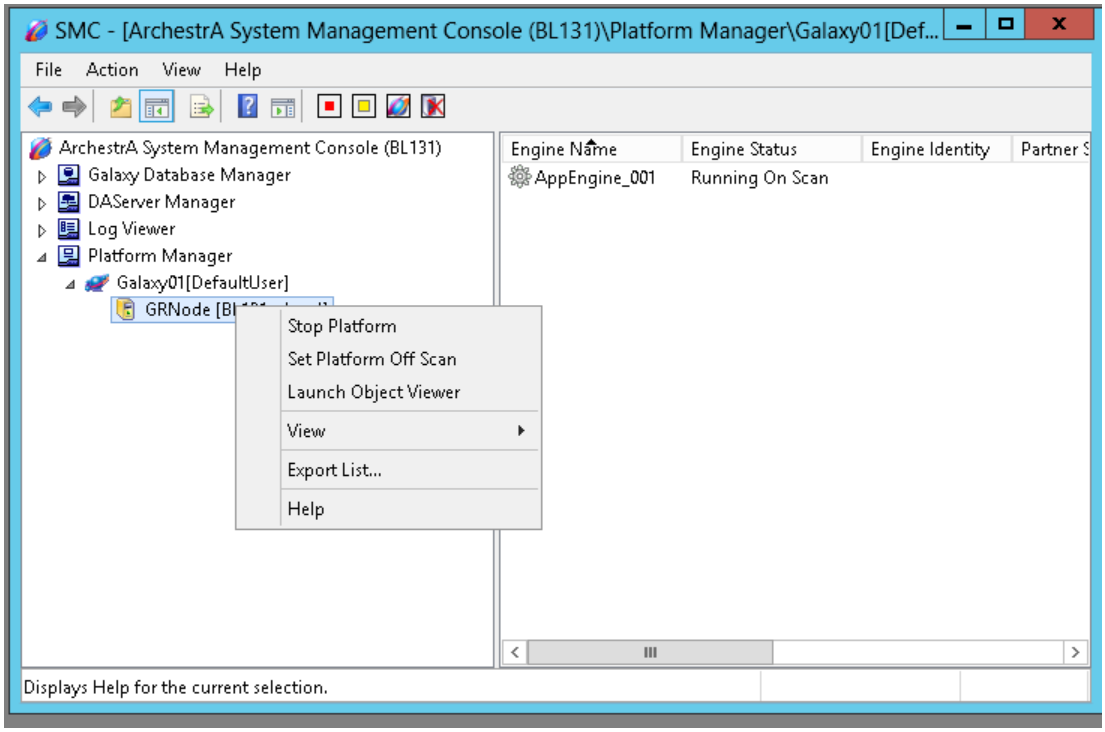
1. Select the Galaxy node.
2. On the **Action** menu, click **Change User**. A log-on dialog box appears.
3. Provide the requested log-on data and click **OK**. The new user is now logged on with only those permissions specific to that user.

About Object Viewer

Object Viewer is an administrative utility that lets you view and modify an object's attribute values.

Object Viewer can be accessed by one of the following methods.

- Through the IDE or Platform Manager, while a platform or an engine is selected in either the console tree or the details pane.
- From a shortcut menu available by right-clicking a platform or engine.



- When you start Object Viewer from Platform Manager with a platform or engine selected, the utility starts and shows the attributes of the selected platform or engine. After Object Viewer is launched, it becomes independent from Platform Manager.

If Object Viewer is running, subsequent launches of Object Viewer from Platform Manager brings Object Viewer to the foreground with the selected platform or engine in focus.

For more information on Object Viewer, see the Object Viewer Online Help.

CHAPTER 2

Using Platform Manager

Using Platform Manager, you can monitor and change the state of any platform or engine in your Galaxy application.

About Platform and Engine Status

For diagnostic purposes, it is helpful to know if the platforms and engines are deployed, running, or are executing within a Galaxy application.

Object Status Description

All the states of platforms and engines are visible from Platform Manager, except for the **Not Deployed** state. However, some transitional states may occur so quickly that you may not be able to observe them. For example, the **Shutting down** state changes so quickly that you may not see this temporary transition.

Platforms and engines can have the following status.

Object Status	Description
Not Available	Platform is powered off.
Not Deployed	Object is not deployed.
Deploying	Object is in the process of being deployed.
Undeploying	Object is in the process of being undeployed.
Shutdown	Object has been shut down normally.
Shutdown - Failed	Object has been shut down due to failure.
Shutting Down	Object is in the process of being shut down.
Starting On Scan	Object is in the process of starting in an execute mode.
Starting Off Scan	Object is in the process of starting in an idle mode.
Running On Scan	Object is running and executing.
Running Off Scan	Object is idle.

Note: The Platform Manager and Object Viewer utilities use different time-out functions for determining the status of an AppEngine on a remote node when a network connection is broken. This problem results in a Not Available status for the object. When viewing this changing status in the Platform Manager, the response time may be different from the Object Viewer. This is normal functionality.

On Scan/Off Scan State

An object whose status is **On Scan** is performing its normal processing, while an object whose status is **Off Scan** is considered idle and not available for execution.

Some conventions apply for objects starting and running on scan and off scan. For example, engines can only run on scan when the status of the platform that hosts the engine is also running on scan. Or, platforms can only be shut down after the engines that are hosted by the platform are placed off scan.

Checkpointed State

When managing platforms and engines, the platform saves the last scanned state of an object to a local hard drive. This act is called checkpointing and the last scanned state is known as the checkpointed state. Checkpointing allows for the quick recovery of an object's state in the event of a failure without the dependence on the application's database or GalaxyRepository.

Platforms and engines that are started by Platform Manager are started in their checkpointed scan state. When stopping platforms and engines, their last scan state is checkpointed.

Viewing Platform Status

If you monitor the platform during its transition from a running state to a failed state, its status changes from **Running On Scan** or **Running Off Scan** to **Shutdown - Failed**. This indicates that the platform is in a shutdown mode and in a failed state.

If an event occurs that causes a platform to fail, then the status of that platform is **Shutdown - Failed**.

Note: A network failure between platforms is not a platform failure, but instead, the platform is not available.

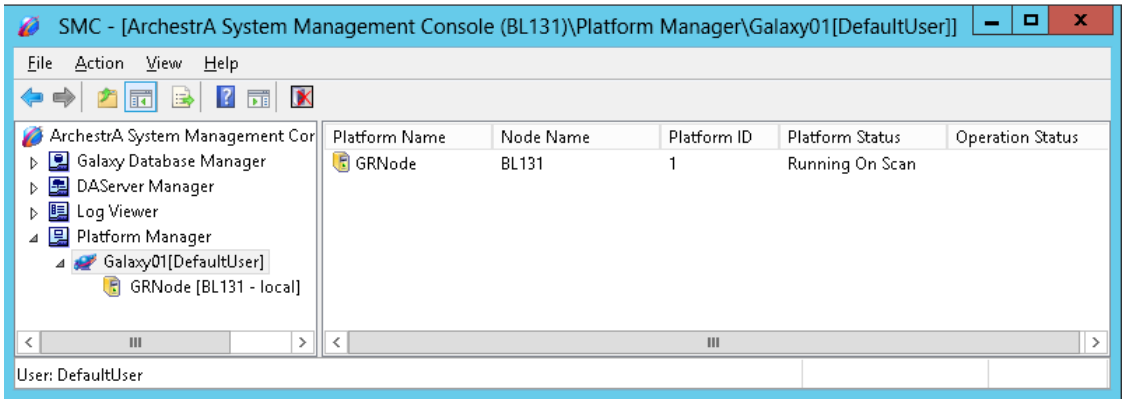
To view platform status

1. Expand the console tree and click the Galaxy name. In the console tree, a list of all platforms deployed within the application appears under the Galaxy name.

   The platform node name is listed in brackets after the platform name. A platform that is on the same node that Platform Manager is running on will have "local" appended to the node name. The platform name and node name also appear in the details pane.

2. In the details pane, locate the platform and view its status in the **Platform Status** column.

3. To set the order in which the platforms are displayed, click on the **Platform Name** or **Node Name** column header.



The following table describes each column:

Column	Description
Platform Name	The platform tag name.
Node Name	The computer name.
Platform ID	The platform's identifier when it was instantiated from a template.
Platform Status	The current status of the platform.
Operation Status	The progress of the transition after a command is placed on the platform. This changes throughout the transition until the stable state is achieved. An empty column indicates a successful transition.

Viewing Engine Status

If you monitor the engine during its transition from a running status to a failed status, its status changes from **Running On Scan** or **Running Off Scan** to **Shutdown - Failed**. This indicates that the engine has failed and is not running.

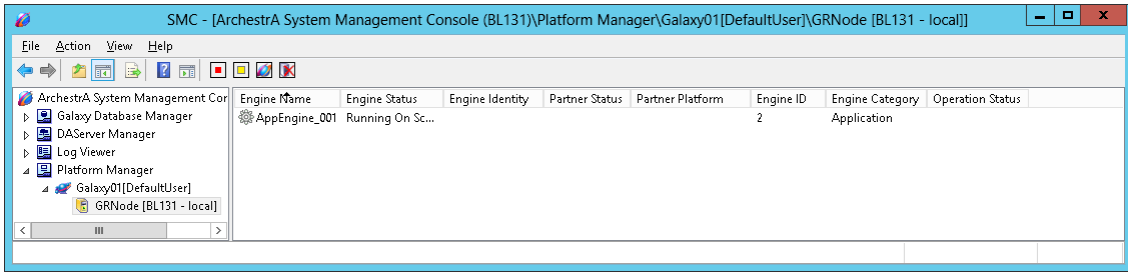
If an event occurs that causes an engine to fail, then the status of the engine is **Shutdown - Failed**.

If you have implemented redundancy, see *"Redundancy State Descriptions" on page 24* for information about redundant engine status.

Details about each engine are listed in columns, and engines can be sorted by the information contained in each column. The identifying information for each engine includes Engine Name, Engine Category, Engine Status, Engine Identity, Partner Platform, and Partner Status. The latter three columns apply only to redundant engine pairs. The columns are described below.

To view engine status

1. Expand the console tree and locate the platform that hosts the engine you want to view.
2. From the console tree, select the platform. In the details pane, a list of all engines hosted by the platform appears.



3. In the details pane, locate the engine and view its status in the **Engine Status** column.

Each column is described in the following table. You can change the order in which the columns are displayed, and you can add or delete columns.

To change the columns, click on the platform name in the console tree, select the **View** menu, and then click on **Add/Remove Columns.** You can also bring up this option by right-clicking on the platform name.

Column	Description
Engine Name	The engine tagname.
Engine Status	The current status of the engine.
Engine Identity	Applies only to redundant pairs. A redundant engine can be either Active or Standby.
Partner Status	Applies only to redundant pairs. The current status of the partner engine.
Partner Platform	Applies only to redundant pairs. The name of the platform on which the partner engine is deployed. If the partner engine is undeployed or unassiged, there will be no value in the column (column will contain an empty string).
Engine Category	The type of engine (i.e., application, view, or DIEngine).
Engine ID	The engine's identifier when it was instantiated from a template.
Operation Status	The transitional state of an engine after a command is issued to it. The status will change until the stable state is achieved. An empty column indicates a successful transition.

Exporting Lists

It may be helpful for you to export the resulting object status to a list. You can do this by using the MMC export function located from the console menu bar or on the console toolbar.

To export a list

- On the **Action** menu bar, select **Export List**. A dialog box appears, allowing you to save the items in the resulting pane as either plain text or Unicode text.

Managing Platforms

After commanding a platform to a new state, you can view the transition status in the **Operation Status** column in the details pane.

In the console tree, the name of the platform will be preceded by an asterisk (*) if the status of the platform is anything other than Running On Scan. For example, if a platform is running off scan or if it is shut down, its name will be preceded by an asterisk.

The action of placing a platform on scan occurs when you place a platform in a run-time state in which it is performing its normal processing as part of its execute method. However, you can place a platform off scan, which is the state that indicates that it is idle and not ready for execution. You can also control the startup and shutdown of platforms.

Sorting Platforms

You can change the order in which the platforms are listed in the detail pane. To sort the platforms, either click on the column that you want to use for sorting, or right click on the galaxy name in the console tree to bring up a context menu. Then, select the column name you want to use for sorting the platforms from the menu. Platforms can be sorted by:

- Platform Name
- Node Name
- Platform ID

See *Viewing Platform Status* on page 10 for additional information about these columns.

Setting a Platform On Scan

To set a platform on scan, its status must be **Running Off Scan**. Since the platform is running off scan, the platform name will be preceded by an asterisk (*) in the console tree.

To set a platform on scan

- In the details pane, right-click the platform, and then click **Set Platform On Scan.**

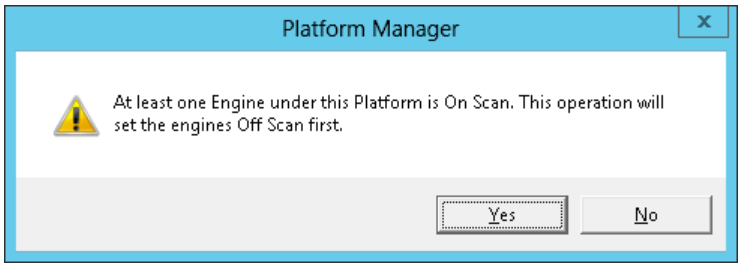
  The status for the platform changes from **Running Off Scan** to **Running On Scan**, which indicates the platform is performing normally. The asterisk will no longer appear next to the platform name in the console tree.

Setting a Platform Off Scan

To set a platform off scan, its status must be **Running On Scan** and the status of any engines hosted by the platform must be either **Running Off Scan** or **Shutdown**.

To set a platform off scan

1. In the details pane, right-click the platform, then click **Set Platform Off Scan**.
2. If an engine hosted by the platform has an on scan status, a dialog box appears informing you that continuing with the operation that places the platform off scan also puts the engines off scan.



3. Click **No** to cancel the operation or click **Yes** to put the engines off scan before setting the platform off scan.
4. The status for the platform changes from **Running On Scan** to **Running Off Scan** and the platform becomes idle. The platform name is now preceded by an asterisk.

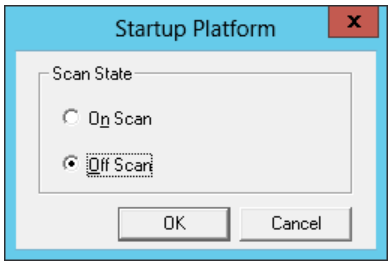
Starting a Platform

After a platform is stopped, it can be restarted by Platform Manager in either the on scan or off scan state if its Start Up mode is configured to **Manual Start**. You can verify the platform's configuration from the IDE.

If a platform's Start Up mode is configured to **Auto Start**, then it starts automatically in its last checkpointed scan state when the power is reapplied to the computer.

To start a platform

1. From the details pane, right-click the platform, and then click **Start Platform**. The **Startup Platform** dialog box appears.



2. Select **Off Scan** or **On Scan,** and then click **OK** to set the platform's startup scan state.

   The platform begins to start and its status changes from **Shutdown** to **Starting Off Scan** or **Starting On Scan**. After the platform starts successfully, its status changes from **Starting Off Scan** or **Starting On Scan** to **Running Off Scan** or **Running On Scan**. If the platform is running off scan, an asterisk will precede the platform name in the console tree. No asterisk will be displayed if the platform is running on scan.

   The status of all hosted engines changes from **Shutdown** to **Running Off Scan**.

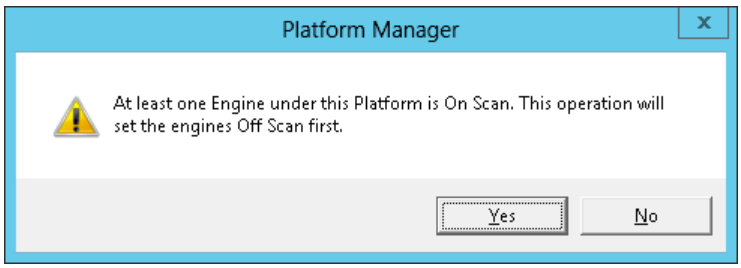
Shutting Down a Platform

To shut down a platform, the status of the platform must be **Running Off Scan**. If the status of any of its hosted engines are **Running On Scan**, then the hosted engines are first placed off scan.

To shut down a platform

1. From the details pane, right-click the platform, and then click **Stop Platform**.

   If the status of the platform is **Running On Scan**, you are prompted to take the platform off scan before shutdown.



2. Click **No** to cancel the operation or click **Yes** to continue shutting down the platform.

   If you select **Yes** and the status of an engine on the platform is on scan, then the engine is placed off scan and then shut down.

   As the platform shuts down, its status changes from **Running Off Scan** to **Shutting Down**. If the platform shuts down successfully, its status changes from **Shutting Down** to **Shutdown**. The target platform is shut down and the platform's last scan state is checkpointed to **Off Scan**.

Removing a Local Platform

Use this procedure to remove an inactive local platform prior to upgrading ArchestrA, to remove an orphaned local platform, etc.

Note: You cannot undo this operation, and you cannot add a platform through the Platform Manager. You must use the IDE to add a platform.

To remove a local platform

1. In the console tree, select the local platform that you want to remove.
2. Click the **Remove Platform** icon on the toolbar. You will be prompted to confirm that you want to remove the platform.
3. Click **No** to cancel the operation or click **Yes** to remove the platform.
4. If you click **Yes**, the local platform is removed and the database is cleaned up.
5. If the IDE is running on the node where you removed the platform, restart the IDE.

Managing Engines

You can view the transition status of an engine from the **Operation Status** column in the details pane after changing an engine to a new state.

The action of placing an engine on scan occurs when you place an engine in a run-time state in which it is performing its normal processing as part of its execute method. However, you can place an engine off scan, which is the state that indicates that it is idle and not ready for execution. You can also control the startup and shutdown of engines.

If you are using redundancy, you can control the run-time state of the redundant pairs the same way you would for a standalone engine. You can also initiate a forced failover, where the active engine is placed in standby status and the standby engine becomes active.

Engine Status Icons

Platform Manager provides icons to represent the status and identity of engines at a glance. The engine status icon indicates whether it running on scan, off scan, on standby, or shutdown. The status icon overlays the engine identity icon; the identity icon indicates if the engine is primary or backup. Icons are not displayed for partner engines if the engine is part of a redundant pair.

Icon	Description
	Application engine (not redundant)
	Primary engine (redundant pair)
	Backup engine (redundant pair)
	Engine running on scan
	Engine running off scan
	Engine on standby
	Engine is shutdown

Redundancy State Descriptions

If you have configured redundant engines, the status both partner engines (active and standby) will be shown. Additionally, the redundancy status of the partner engine is listed with the partner engine name. The name of the platform on which the partner engine is deployed is listed as well.

You will also be able to see if an engine is running on-scan or off-scan, its standby status, and upgrade status.

Note: When the local engine is shutdown, no partner status will be shown (field will be empty).

Engine Status	Redundancy Status	Description
Standby - Ready	Active	Engine is running and can communicate with its partner engine.
Running On Scan	Active - Standby Not Available	Engine is running but cannot communicate with its partner engine.
Running On Scan	Active - Upgrade	Partner engine software must be upgraded.
Determining Failover Status	Determining Failover Status	Engine is starting but is not yet able to resolve the state of its partner engine.
Standby - Ready	Standby - Ready	Standby engine is available and can switch to active if active engine fails or if commanded.
Standby - Missed Heartbeats	Standby - Missed Heartbeats	Standby engine is not receiving heartbeats from its active partner engine, but the number of missed heartbeats is not currently sufficient to establish that failure has occurred.
Standby - Not Ready	Standby - Not Ready	Standby engine cannot communicate with the active engine, or engines are out of sync.
Standby - Syncing Code	Standby - Syncing Code	Standby engine is synchronizing code modules with active engine.

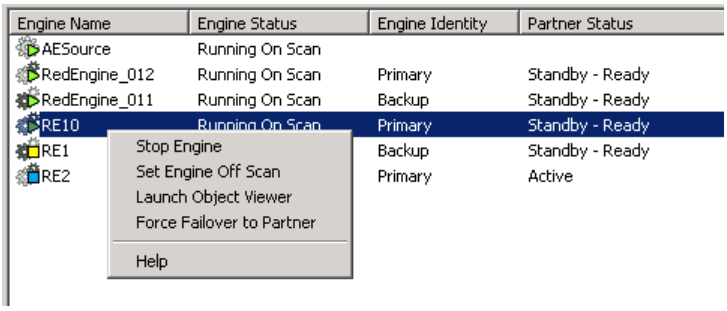
Engine Status	Redundancy Status	Description
Standby - Syncing Data	Standby - Syncing Data	Standby engine is synchronizing all object-related data with active engine, and will now transition to Standby - Ready state.
Standby - [Ready] [Not Ready] [Not Available]	Switching to Active	Backup engine has been commanded to take over as active engine.
Switching to Standby	Switching to Standby	Active engine has been commanded to switch to standby engine.
Standby Not Available	Standby Not Available	Partner engine has crashed or has been shutdown.
Standby Not Available	Standby Not Available	Communication with the partner engine has been lost.

To force failover to partner engine

Note: Force failover applies only to redundant engines. It can only be invoked when the active engine is running (either on- or off-scan) and the status of the partner engine is Standby - Ready.

1. Select the engine to failover.

2. When the engine is highlighted, click the **Force Failover** button. Alternatively, you can right click to display a context menu, and then click **Force Failover to Partner**.



Setting an Engine On Scan

To set an engine on scan, the status of the platform that hosts the engine must be **Running On Scan**.

To set an engine on scan

- From the details pane, right-click the engine, and then click **Set Engine On Scan**.

The status for the engine changes from **Running Off Scan** to **Running On Scan**, which indicates the engine is performing normally. Any hosted ApplicationObject is also set on scan, you can verify this using Object Viewer.

Setting an Engine Off Scan

To set an engine off scan, its status must be **Running On Scan**.

To set an engine off scan

- From the details pane, right-click the engine, and then click **Set Engine Off Scan**.

  The status for the engine changes from **Running On Scan** to **Running Off Scan** and the engine becomes idle. All hosted ApplicationObjects are also set off scan. You can verify this using the Object Viewer.

Starting an Engine

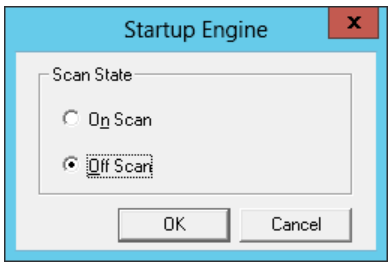
To start an engine, the status of the platform that hosts the engine must be **Running On Scan** and the engine's Start Up mode must also be configured to **Manual Start**. You can verify the engine's configuration from the IDE.

If the engine's Start Up mode is configured to **Auto Start**, then the platform starts the engine in the last checkpointed scan state. Engines configured in the **Semi Auto Start** mode start in the **Off Scan** state.

To start an engine

1. From the details pane, right-click the engine, and then click **Start Engine**.

   The **Startup Engine** dialog box appears.



2. Click **Off Scan** or **On Scan.**
3. Click **OK** to set the engine's startup scan state.

   The engine begins to start and its status changes from **Shutdown** to **Starting Off Scan** or **Starting On Scan**. After the engine starts successfully, its status changes from **Starting Off Scan** or **Starting On Scan** to **Running Off Scan** or **Running On Scan**.

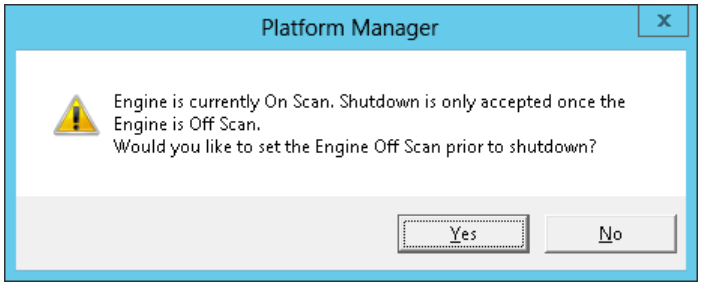
Shutting Down an Engine

If you try to shut down an engine whose status is **Running On Scan**, it is set to **Running Off Scan** before shutting down.

To shut down an engine

1. In the details pane, right-click the engine, and then click **Stop Engine**.

If the status of the engine is **Running On Scan**, you are prompted to take the engine off scan before shutdown.



2. Click **No** to cancel the operation or click **Yes** to continue shutting down the engine.

   If you click **Yes**, the engine shuts down and its view changes from **Running Off Scan or Running On Scan** to **Shutting Down**. If the engine shuts down successfully, its status changes from **Shutting Down** to **Shutdown** and the engine's last scan state is checkpointed to **Off Scan**.