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**HYPERION® SYSTEM™ 9**  
**ARTIFACT LIFE CYCLE MANAGEMENT UTILITY**  
*RELEASE 9.3*

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USER'S GUIDE



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# 1

## About Artifact Life Cycle Management Utility

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## Features and Required Conditions

Artifact Life Cycle Management utility is a command line utility that supports the promotion of artifacts or data across product environments and operating systems. Promotion is the process of copying all or part of an application instance from one operating environment to another; for example, promoting an application from development to testing or from testing to production.

Artifacts are individual application or repository items; for example, scripts, Web and data forms, rules files, Hyperion® System™ 9 BI+™ documents, financial reports, and so forth.

Artifact Life Cycle Management utility provides a consistent way to promote entire applications, or individual artifacts, from source to target.

### Features

- Promotions based on XML definitions.  
Artifacts to be promoted are defined in XML files (referred to as package files)
- Promotes one or more Hyperion applications or application artifacts from one environment to another depending on the definitions in the package file
- Ensures data security  
Only users with the LCM Manager or Shared Services Administrator role can perform promotions.
- Supports promotion of internationalized data
- Logs errors to facilitate troubleshooting

### Required Conditions

- Source and target applications must be registered with an instance of Shared Services.

- Shared Services and source applications must be running during the promotion process.
- For application-to-application promotions, the source and target applications must be registered with the same Shared Services instance.
- If promoting directly from a source to target, both source and target environments should be accessible to the utility.
- If promoting using an intermediary file system, both source and target file systems should be accessible to the utility.
- Both source and target must use the same user directory.

## Promotion Options

- [“Promotion Directly from Sources to Targets” on page 6](#)
- [“Promotion to Targets Through Intermediary File Systems” on page 6](#)
- [“Promotion to an Isolated Target” on page 7](#)

### Promotion Directly from Sources to Targets

This option can be used when the source and target are on the same network and registered to the same Shared Services. The process flow involved in this scenario is as follows:

1. The user executes Artifact Life Cycle Management utility. The utility loads the XML package file that defines the artifacts or applications to promote.
2. Shared Services authenticates the user and verifies that the user has the required access permissions (LCM Manager or Shared Services Administrator role).
3. The utility exports applications or artifacts from the source application or server.
4. The utility imports applications or artifacts into the target application or server.

### Promotion to Targets Through Intermediary File Systems

This option is a two-stage process in which the applications or artifacts are exported to an intermediary file system and then imported into the target system. Both the source and target environments must be accessible to Artifact Life Cycle Management utility. This option can be used when the source and target are on the same network, but on different operating systems.

1. The user executes Artifact Life Cycle Management utility on the source file system. The utility loads the XML package file that defines the artifacts or applications to export.
2. Shared Services authenticates the user and verifies that the user has the required access permissions (LCM Manager or Shared Services Administrator role).
3. Artifact Life Cycle Management utility exports applications or artifacts (as zipped files) from the source application or server to the target file system.
4. The user executes Artifact Life Cycle Management utility on the target file system. The utility loads the XML package file that defines the artifacts or applications to import.

5. Shared Services authenticates the user and verifies that the user has the required access permissions (LCM Manager or Shared Services Administrator role).
6. The utility imports applications or artifacts from the file system into the target application or server.

## Promotion to an Isolated Target

For this option, the source and target are isolated, with no direct network connection between them. This option can be used when both the source and target are on separate physical networks.

Users may create custom scripts to automate this process.

1. The user executes Artifact Life Cycle Management utility from the file system that hosts the source applications or artifacts. The utility loads the XML package file that defines the artifacts or applications to export.
2. Shared Services authenticates the user and verifies that the user has the required access permissions (LCM Manager or Shared Services Administrator role).
3. The utility saves applications or artifacts on the source file system.
4. The user uses File Transfer Protocol (FTP) to copy the applications or artifacts on to the target file system.
5. The user executes Artifact Life Cycle Management utility on the target file system. The utility loads the XML package file that defines the artifacts or applications to import.
6. Shared Services authenticates the user and verifies that the user has the required access permissions (LCM Manager or Shared Services Administrator role).
7. The utility uses the files that were copied through FTP as the source and imports applications or artifacts into the target application or server.





# 2

## Installing and Using Artifact Life Cycle Management Utility

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## Installing Artifact Life Cycle Management Utility

Artifact Life Cycle Management utility comprises two components—server and client. Both these components are installed when you install BI+ services using BI+ Services Installer. Refer to *Hyperion System 9 BI+ Installation Guide* for detailed information.

The server components of Artifact Life Cycle Management utility are installed to `<Hyperion_home>/common/utilities/LCM/9.3.0` directory, which is referred to as `<LCM_home>`. For example, `C:\Hyperion\common\utilities\LCM\9.3.0` (Windows) or `/app/Hyperion/common/utilities/LCM/9.3.0` (UNIX). The client components are installed to a product-specific directory.

Artifact Life Cycle Management utility is executed from the client installation. See “[Running the Artifact Life Cycle Management Utility from BI+](#)” on page 22.

## Before Starting Promotions

- Verify that all users are disconnected from the source application.
- Start Shared Services in source and target environments. For detailed information, see *Hyperion System 9 Shared Services Installation Guide*
- Determine the promotion option that best fits your requirements. See “[Promotion Options](#)” on page 6 for details.
- Create the package file to use for the promotion. See “[Creating Package Files](#)” on page 10 for details.
- **Optional:** Modify the property file to use for the promotion. See “[Modifying the Promotion Property File](#)” on page 14 for details.

## Creating Package Files

Artifacts and data to be promoted must be defined in XML package files. Hyperion provides a sample package file to model the package file to be used during promotions.

## XML Schema for Package Files

A sample file to model the package file to be used during promotions is available in `<LCM_home>/doc` directory; for example, `C:\Hyperion\common\utilities\LCM\9.3.0\doc` (Windows) or `/apps/Hyperion/common/utilities/LCM/9.3.0/doc` (UNIX).

**Table 1** Promotion Package File XML Schema

Element	Attribute	Description
Credentials		Native Directory credentials to use for the operation.
	user	A Native Directory user account. The user must have Native Directory administrator privileges. <b>Example:</b> admin
	password	Plain-text password of the user. This password is encrypted after the first run. <b>Example:</b> adminpassword
Connections		Connection to use for the operation. Three types of connections—HSS, FileSystem, and Application—can be defined: HSS connection attributes: <ul style="list-style-type: none"><li>● name</li><li>● type</li><li>● description</li><li>● url</li></ul> FileSystem connection attributes: <ul style="list-style-type: none"><li>● name</li><li>● type</li><li>● description</li><li>● filePath</li></ul> Application connection attributes: <ul style="list-style-type: none"><li>● name</li><li>● type</li><li>● product</li><li>● description</li><li>● HSS-Connection</li><li>● project</li></ul>

Element	Attribute	Description
		<ul style="list-style-type: none"> <li>● application</li> </ul> Import operations must have a source and a target (Shared Services, an application, or a file system).
	Name	Connection name. <b>Example:</b> MyHSS-Connection.
	type	One of three connection types: <ul style="list-style-type: none"> <li>● HSS if importing directly from a Shared Services instance</li> <li>● FileSystem if importing from files stored on an operating system</li> <li>● Application if importing from another application. An application is an active source or target Hyperion product, for example, BI+.</li> </ul>
	description	A description of the connection. <b>Example:</b> My Shared Services Connection.
	url	URL of the Shared Services instance that is the source or target for import. Used only for HSS. <b>Example:</b> http://<server_name>:<HSS_port>/interop.
	filePath	Absolute path of the file location on the file system. Used only for FileSystem. File path is described in file://<host_name>:<file_path> format. <b>Example:</b> <ul style="list-style-type: none"> <li>● file:/C:/hyperionstorage/lcmStore/ (Windows).</li> <li>● file:/hyperionstorage/lcmStorage (UNIX).</li> </ul>
	product	Product code with which the application was registered with Shared Services. Used only for Application. <b>Example:</b> HAVA (for BI+)
	HSSConnection	Shared Services connection definition. Used only for Application. Must be of type HSS defined in the package file. <b>Example:</b> MyHSS-Connection
	project	Name of the Shared Services project to which the application belongs. Used only for Application. Project name is visible in the User Management Console. <b>Example:</b> DevBIPlus_Proj
	application	Name with which the application is registered. Used only for Application. Application name is visible in the User Management Console. <b>Example:</b> HAVAAPP1
Task		The tasks to be completed during the operation.

Element	Attribute	Description
		<p>The number of tasks defined in package files depends on the source and target and the artifact being promoted. If only one source and target are involved, you need to define only one task.</p> <p>For multiple sources and targets, you must define at least one task per each source-target combination.</p>
	seqID	<p>Sequence in which tasks are executed.</p> <p><b>Example:</b> 1</p>
Source		<p>Source for this operation.</p> <p>You must define one source and one target per task.</p>
	connection	<p>Connection to use for this task.</p> <p>The connection name must be defined within the package file.</p> <p><b>Note:</b> You cannot use a connection of type <code>HSS</code> in source definitions. Only connections of type <code>Application</code> or <code>FileSystem</code> may be used in source definitions.</p> <p><b>Example:</b> <code>AppConnection1</code></p>
	options	<p>Processing instructions for this operation.</p> <p>Options are product-specific and are defined in the product registration file (<code>&lt;product_id&gt;.product</code>, for example, <code>HAVA.Product</code>). The source and target interpret the options to understand the artifacts being promoted.</p> <p>If options are not set, the default option set in the product registration file is used.</p> <p>options attributes:</p> <ul style="list-style-type: none"> <li>● name</li> <li>● value</li> </ul>
	name	<p>Option name to be used to override the option name defined in the Shared Services registration file.</p> <p><b>Example:</b> <code>ExportJobOutput</code></p>
	value	<p>Value to be used to override the option value defined in the Shared Services registration file.</p> <p><b>Example:</b> <code>true</code></p>
	artifact	<p>Filter to be used for this operation.</p> <p>This element takes <code>recursive</code>, <code>parentPath</code>, <code>type</code>, and <code>pattern</code> as its attributes.</p> <p>artifact attributes:</p> <ul style="list-style-type: none"> <li>● recursive</li> <li>● parentPath</li> <li>● type</li> <li>● pattern</li> </ul>

Element	Attribute	Description
	<code>recursive</code>	Whether the operation should be performed on artifacts stored in sub-directories. <b>Example:</b> <code>true</code>
	<code>parentPath</code>	Top-level directory where artifact or data for the operation is stored. Refer to the product documentation for information on the directory structure used by each product.  If <code>recursive="true"</code> , all artifacts contained in the sub-directories within this directory are imported. <b>Example:</b> <code>/Dimension</code>
	<code>type</code>	Type of artifact to import. Artifact types are product-specific. Refer to the product documentation for information on the artifact types used by each product. <b>Example:</b> <code>Dimension</code>
	<code>pattern</code>	Artifact-selection criterion.  You can specify the name of an artifact to import or use * (asterisk) to indicate that you want to import all artifacts that matches filter conditions. <b>Example:</b> <code>*</code>
Target		Target for this operation.  You must define one target per task.
	<code>options</code>	Processing instructions for this operation.  Options are defined in the product registration file (typically, <code>HubRegistration_&lt;prodname&gt;.xml</code> ) available to Shared Services. The source or target interprets the options to understand the artifacts being promoted.  If options are not set, the default option set in the product registration file is used.  options attributes: <ul style="list-style-type: none"> <li>● name</li> <li>● value</li> </ul>
	<code>name</code>	Option name to be used to override the option name defined in the Shared Services registration file. <b>Example:</b> <code>ExportJobOutput</code>
	<code>value</code>	Value to be used to override the option value set in the Shared Services registration file. <b>Example:</b> <code>true</code>

# Modifying the Promotion Property File

Artifact Life Cycle Management utility uses the `migration.properties` file to set the global parameters for promotions. The properties that can be set include grouping size, log file name and location, and promotion report folder path.

➤ To update the property file:

- 1 **At the command line, navigate to `<LCM_home>/conf` directory, for example, `C:\Hyperion\common\utilities\LCM\9.3.0\conf` (Windows) or `/app/Hyperion/common/utilities/LCM/9.3.0/conf` (UNIX).**
- 2 **Update `migration.properties` as needed.**
- 3 **Save and close `migration.properties`.**

**Table 2** Values in `migration.properties`

Property	Description
<code>migration.grouping.size</code>	Maximum size (in bytes) of artifacts belonging to a group that will be promoted <b>Default value:</b> 52428800
<code>migration.grouping.grp_asize_unknown.artifact.count</code>	Number of artifacts of unknown size (artifacts that cannot be grouped by dependency in the listing) that are to be included in a group <b>Default value:</b> 10
<code>migration.grouping.group_by_type</code>	Indicates whether artifacts are to be grouped by artifact type <b>Default value:</b> Y
<code>migration.threadpool.size</code>	Size of the thread pool available to promotion processes <b>Default value:</b> 30
<code>migration.log.directory</code>	Location of the directory for promotion log files <b>Default value:</b> ../logs
<code>migration.log.config</code>	Configuration file to use for generating promotion log files Parameters to be used for logging errors are identified using the <code>log.properties</code> file in the <code>migration.log</code> directory. Edit this file to specify properties such as error logging level and date pattern. <b>Default value:</b> ../conf/log.xml
<code>migration.report.enabled</code>	Indicates whether to generate a promotion report <b>Default value:</b> Y
<code>migration.report.folder_path</code>	Location of the directory where the promotion reports (which the utility creates for each package file) are to be stored <b>Default value:</b> C:\\MigrationResults

# 3

## BI+ Artifacts

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## About BI+ Artifacts

You use the Artifact Life Cycle Management utility to promote repository content for Hyperion® System™ 9 Workspace™ artifacts such as generic jobs, third-party content (.doc, .xml, .xls, and so on), and these BI+ modules:

- Hyperion® System™ 9 BI+™ Financial Reporting™
- Hyperion® System™ 9 BI+™ Interactive Reporting™
- Hyperion® System™ 9 BI+™ Production Reporting™
- Hyperion® System™ 9 BI+™ Web Analysis™

### Topics that Discuss BI+ Artifacts

- [“BI+ Categories” on page 15](#)
- [“BI+ Artifact Types” on page 16](#)

## BI+ Categories

BI+ artifacts are grouped into these categories, which themselves are promotable:

- **Physical Resources**—Printers and output directories that are defined using the Administer module
- **Security Options**—User preferences that are defined using File > Preferences in Workspace
- **Repository Objects**—Folders (and their contents), documents, and jobs
- **Schedule Objects**—Recurring and externally triggered events, calendars (defined using Calendar Manager), job schedules, job parameters, and batch schedules
- **Product Preferences**—Favorites, Personal Pages, and subscriptions

## BI+ Artifact Types

The following table lists the valid artifact types for BI+ artifacts. For artifacts in the Repository Objects category (see “[BI+ Categories](#)” on page 15), only the artifact type should be used in package files.

Artifact	Artifact Type
Repository folders (and their contents)	folder RepositoryContent
Web Analysis documents (reports); includes dependent database connections	application/hyperion-analyzer-report
Web Analysis presentations; includes dependent documents and folders	application/hyperion-analyzer-presentation
Web Analysis third-party content (documents, links, URLs, and so on)	application/hyperion-analyzer-shortcut application/hyperion-analyzer-link
Financial Reporting reports	application/hyperion-reports-report application/hyperion-reports-snapshot_report
Financial Reporting books (dynamic and snapshot)	application/hyperion-reports-book application/hyperion-reports-snapshot_book
Financial Reporting batches	application/hyperion-reports-batch
Financial Reporting text objects	application/hyperion-reports-text
Financial Reporting grid objects	application/hyperion-reports-grid
Financial Reporting image objects	application/hyperion-reports-image
Financial Reporting row and column templates	application/hyperion-reports-row_column
Financial Reporting database connections	application/hyperion-reports-data_source
Interactive Reporting documents	application/x-brioquery
Production Reporting jobs	application/x-SQR

## Promotion Prerequisites

Before using the utility to promote BI+ artifacts, you must perform these actions:

- Start Core services on the BI+ server, and the corresponding Shared Services
- To promote Financial Reporting artifacts, start Financial Reporting services in addition to Core services



- If the source Shared Services differs from the target Shared Services, verify that the same users and groups are defined on both Shared Services
- Provision users and groups  
If the owner of an artifact is not provisioned or does not exist in the target, ownership is assigned to the user running the utility.
- Create Financial Reporting data sources (see [“Financial Reporting Promotion Requirements” on page 17](#))
- Create Hyperion Intelligence Data Access Service data sources for Interactive Reporting jobs (see [“Interactive Reporting Promotion Requirements” on page 17](#))
- Configure the target host's Job Service properties for Production Reporting (see [“Production Reporting Promotion Requirements” on page 18](#))

See also [“Before Starting Promotions” on page 9](#).

## Financial Reporting Promotion Requirements

To promote Financial Reporting artifacts, you must set the value of `migration.threadpool.size` in `migration.properties` to 1. See [“Modifying the Promotion Property File” on page 14](#).

For Financial Reporting, the order in which artifacts are exported is not important; however, artifacts must be imported in this order:

1. All report objects (grid, chart, image, text)
2. Reports
3. Books and batches

Promotion of Financial Reporting batch schedules and user points of view is not supported.

Promotion of Financial Reporting data sources is not supported. You must manually assign data sources to Financial Reporting reports, as described in the *Hyperion System 9 Workspace User's Guide*.

## Interactive Reporting Promotion Requirements

When promoting Interactive Reporting database connections, if the database connection file exists in the target (that is, the source and target IDs match), the utility does not promote it. If the source and target IDs do not match, the database connection file is promoted to the same folder path as in the source. If the folder path does not exist in the target, the utility creates it.

Database connection files exist in a target only through explicit promotion, or through implicit promotion along with Interactive Reporting documents or jobs.

For Hyperion Interactive Reporting Data Access Service data sources, you must use LSC to manually create entries (see the *Hyperion System 9 Workspace Administrator's Guide*).

**Note:**

ODBC or database-specific data source definitions referenced by Hyperion Interactive Reporting Data Access Service entries must be created based on operating system and database requirements.

## Production Reporting Promotion Requirements

Before importing Production Reporting jobs, you must configure the target host's Job Service properties for Production Reporting using RSC (see the *Hyperion System 9 Workspace Administrator's Guide*).

When importing Production Reporting jobs, data sources used on the source system are moved to the target system. Data source information is linked to two hosts:

- Computer that hosts the data source database; this information is never altered on import
  - Computer that hosts Job Service; this computer is remapped to the target Job Service host
- If multiple Job Services are available and configured to work with different database types, the appropriate Job Service host is selected based on the Production Reporting product configuration that you perform before importing.

When promoting Production Reporting database connections, if the data source exists in the target (that is, the source and target IDs match), then it is re-used; otherwise, the utility creates it.

Data sources exist in a target only through implicit promotion along with Production Reporting jobs.

**Note:**

ODBC or database-specific data source definitions referenced by Production Reporting subservices must be created based on operating system and database requirements.

## Web Analysis Promotion Requirements

When promoting Web Analysis database connections, if the database connection file exists in the target (that is, the source and target IDs match), the utility does not promote it. If the source and target IDs do not match, the database connection file is promoted to the same folder path as in the source.

Database connection files exist in a target only through explicit promotion, or through implicit promotion along with Web Analysis documents, shortcuts, or links.

## BI+ Artifact Promotion

- [“Best Practices” on page 19](#)
- [“Export and Import Options” on page 19](#)

- “Sample BI+ Package Files” on page 20
- “Running the Artifact Life Cycle Management Utility from BI+” on page 22

## Best Practices

- While the Artifact Life Cycle Management utility handles most promotion dependencies , for improved performance, Hyperion recommends that you promote BI+ artifacts in this order:
  - For Interactive Reporting and Production Reporting, promote artifacts in order by category:
    1. Physical resources (printer definition, output directory definition)
    2. Repository objects
    3. Product Preferences (Favorites, Personal Pages, and subscriptions)
    4. Security (user preferences)
    5. Schedule objects (events, calendars, job schedules, and job parameters)
  - For Web Analysis, promote artifacts in order by type:
    1. Documents
    2. Presentations
    3. Links and shortcuts

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### Caution!

You *must* promote Financial Reporting artifacts in the order specified in “[Financial Reporting Promotion Requirements](#)” on page 17.

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- For improved performance, promote repository data in small chunks, rather than promoting the entire repository at one time.

## Export and Import Options

You define export options in the <Source> section of `ExportPackage.xml`. If `exportJobOutput` is set to true, the job is exported with all job output; otherwise, only the job is exported. The default setting is true. For example:

```
<Source connection="AppConnection1">
  <Options>
    <optionInfo name="exportJobOutput" value="true" />
  </Options>
```

You define import options for Repository Objects artifacts in the <Target> section of `ImportPackage.xml`. If `excludeJobOutputOnImport` is set to true, job output is not imported. The default setting is false. For example:

```
<Target connection="AppConnection1">
  <Options>
```

```

        <optionInfo name="excludeJobOutputOnImport" value="false" />
    </Options>
</Target>

```

See [“Creating Package Files” on page 10](#).

## Sample BI+ Package Files

### Note:

The product code used in the package files for BI+ is HAVA.

### SampleExportPackage.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XMLSPY v5 rel. 4 U (http://www.xmlspy.com) by Dongling Ding (Hyperion)
--><Package name="" description="" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
    <!-- need more information to interface with logging handler -->

    <Logging option="IgnoreError" logfile="" />
    <Credentials user="admin" password="{CSS}MRcYv323uzxGr8rFdvQLcA==" />
    <Connections>
        <ConnectionInfo name="MyHSS-Connection" type="HSS" description="Hyperion Shared
Service connection" url="http://bi-win2k-6:58080/interop"/>
        <ConnectionInfo name="FileSystem-Connection" type="FileSystem" description="File
System Location" filePath="file:/c:/hss19_beck186/common/utilities/LCM/9.3.0
/eivd/out"/>
        <ConnectionInfo name="AppConnection1" type="Application" product="HAVA"
description="" HSSConnection="MyHSS-Connection" project="Hyperion System 9 BI+"
application="Hyperion
System 9 BI+:bi-win2k-6.hyperion.com:6800:1"/>
    </Connections>
    <Tasks>
        <!-- if multiple tasks, tasks need to be ordered as well-->
        <!-- seqID is optional attribute (default 0); when specified specifies the order
in which artifacts will be exported -->
        <Task seqID="1">
            <Source connection="AppConnection1">
                <!-- the options listed would match some option specified in product
registration -->
                <Options>
                    <optionInfo name="exportJobOutput" value="true"/>
                </Options>

                <Artifact parentPath="/Repository Objects" type="folder" recursive="true"
pattern="*/>

                <Artifact parentPath="/Repository Objects/Sample Content" type=
"application/x-brioquery" recursive="true" pattern="*/>
                <Artifact parentPath="/Repository Objects/Sample Content" type=
"application/x-SQR" recursive="true" pattern="*/>
            </Source>
        </Task>
    </Tasks>

```

```

    <Artifact parentPath="/Security" recursive="true" pattern="*" />
    <Artifact parentPath="/Product Preferences" recursive="true" pattern="*" />
    <Artifact parentPath="/Schedule Objects" recursive="true" pattern="*" />
    <Artifact parentPath="/Physical Resources" recursive="true" pattern="*" />
  </Source>
  <Target connection="FileSystem-Connection">
    <Options>
  </Options>
    <Transforms>

  </Transforms>
  </Target>
</Task>
</Tasks>
</Package>

```

---

## SampleImportPackage.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XMLSPY v5 rel. 4 U (http://www.xmlspy.com) by Dongling Ding (Hyperion)
--><Package name="" description="" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
  <!-- need more information to interface with logging handler -->

  <Logging option="IgnoreError" logfile="" />
  <Credentials user="admin" password="{CSS}MRCYv323uzxGr8rFdvQLcA==" />
  <Connections>
    <ConnectionInfo name="MyHSS-Connection" type="HSS" description="Hyperion Shared
    Service connection" url="http://bi-win2k-6:58080/interop"/>
    <ConnectionInfo name="FileSystem-Connection" type="FileSystem" description="File
    System Location" filePath="file:/c:/hss19_beck186/common/utilities/LCM/9.3.0
    /eivd/out"/>
    <ConnectionInfo name="AppConnection1" type="Application" product="HAVA"
    description="" HSSConnection="MyHSS-Connection" project="Hyperion System 9 BI+
    application"Hyperion
    System 9 BI+:bi-win2k-6.hyperion.com:6800:1"/>
  </Connections>
  <Tasks>
    <!-- if multiple tasks, tasks need to be ordered as well-->
    <!-- seqID is optional attribute (default 0); when specified specifies the order in
    which artifacts will be exported -->
    <Task seqID="1">
      <Source connection="FileSystem-Connection">
        <!-- the options listed would match some option specified in product
        registration -->
        <Options>
      </Options>

      <Artifact parentPath="/Repository Objects" type="folder" recursive="true"
      pattern="*" />

      <Artifact parentPath="/Repository Objects/Sample Content" type=
      "application/x-brioquery" recursive="true" pattern="*" />
      <Artifact parentPath="/Repository Objects/Sample Content" type=
      "application/x-SQR" recursive="true" pattern="*" />

      <Artifact parentPath="/Security" recursive="true" pattern="*" />

```

```

    <Artifact parentPath="/Product Preferences" recursive="true" pattern="*" />
    <Artifact parentPath="/Schedule Objects" recursive="true" pattern="*" />
    <Artifact parentPath="/Physical Resources" recursive="true" pattern="*" />
  </Source>
  <Target connection="AppConnection1">
    <Options>
      <optionInfo name="excludeJobOutputOnImport" value="true" />
    </Options>
    <Transforms>

    </Transforms>
  </Target>
</Task>
</Tasks>
</Package>

```

---

## Running the Artifact Life Cycle Management Utility from BI+

To promote BI+ artifacts, you start the Artifact Life Cycle Management utility by running a start script that is installed with BI+.

The utility takes the name of the import or export package file as its only option. If you run the utility on UNIX, verify that you have write privileges on the target environment or file system.

► To run the Artifact Life Cycle Management utility:

**1 At the command line, navigate to directory that contains the BI+ start script:**

- **Windows**—\BIPlus\bin\LCMUtility.bat
- **UNIX**—/BIPLUS/bin/LCMUtility.sh

**2 Enter *start\_script package\_file\_name*, using the start script appropriate to your operating system; for example:**

```
LCMUtility.bat C:\alcm\all_objects\SampleExportFile.xml
```

Make sure you include the absolute path to the package file.

### Note:

Hyperion recommends that you create separate directories for exported output and package files.

## Promotion Verification

When Artifact Life Cycle Management Utility exports content from a source repository to a file system, it creates *<LCM\_home>/info/* and *<LCM\_home>/resource/* directories.

During the artifact export process, the utility creates the *listing.xml* file (in *<LCM\_home>/info/*), which contains logical mappings of exported objects. Physical objects corresponding to the logical mapping are created within *<LCM\_home>/resource/*. You can compare the

mappings in the `listing.xml` file with objects in `<LCM_home>/resource/` to verify that the export operation completed successfully.

**Note:**

Do not manually modify the `listing.xml` file.

Import of artifacts into the target is based on the package file criteria, which identifies the artifacts (all exported artifacts or a subset) to import. After import operation completes, check the artifacts identified in the package file against the objects imported into the target system to verify that the import operation completed successfully.

### Sample `listing.xml` File

---

```
<?xml version="1.0" encoding="UTF-8"?>
<artifactListing>
  <folder id="0000010d5943c574-0000-0b75-ac1b22ab"
    path="/Repository Objects/SQR/SQR" pathAlias="/00/0/00"
    modifiedBy="migration" lastUpdated="1156845140370"/>
  <folder id="0000010d59431cff-0000-0b75-ac1b22ab"
    path="/Repository Objects/SQR" pathAlias="/00/0"
    modifiedBy="migration" lastUpdated="1156843816387"/>
  <folder id="REPORTMART" path="/Repository Objects" pathAlias="/00"
    lastUpdated="1156843773293" description="Hyperion System 9 Root Folder"/>
  <folder id="0000010d5943a634-0000-0b75-ac1b22ab"
    path="/Repository Objects/SQR/Includes" pathAlias="/00/0/0"
    modifiedBy="migration" lastUpdated="1156843864293"/>
  <folder id="SYSTEM" path="/Repository Objects/System"
    pathAlias="/00/System" lastUpdated="1156787906003" description="Hyperion
    System Folder"/>
  <resource id="0000010d5957f702-0000-0495-ac1b22ab"
    path="/Repository Objects/SQR/SQR" pathAlias="/00/0/00"
    modifiedBy="migration" lastUpdated="1156845139807" name="image"
    type="application/x-SQR" size="481">
    <dependency order="ignore">
      <artifact idRef="0000010d5956a06b-0000-041b-ac1b22ab" pathRef="/03"/>
      <artifact idRef="0000010d59447f6d-0000-0b75-ac1b22ab" pathRef="/00/0/0"/>
      <artifact idRef="0000010d59447fea-0000-0b75-ac1b22ab" pathRef="/00/0/0"/>
      <artifact idRef="0000010d59448077-0000-0b75-ac1b22ab" pathRef="/00/0/0"/>
      <artifact idRef="GIF3GIF01" pathRef="/00/System"/>
    </dependency>
  </resource>
  <resource id="0000010d5956a06b-0000-041b-ac1b22ab"
    path="/Admin Options" pathAlias="/03" lastUpdated="0"
    description="PR V9.0.0 for ORACLE"
    name="jasper/Production Reporting Version 9.3.0.0.0"
    type="PRSubService" size="-1"/>
  <resource id="0000010d59447f6d-0000-0b75-ac1b22ab"
    path="/Repository Objects/SQR/Includes" pathAlias="/00/0/0"
    modifiedBy="migration" lastUpdated="1156843863997" name="1.jpg"
    type="image/jpeg" size="20970"/>
  <resource id="0000010d59447fea-0000-0b75-ac1b22ab"
    path="/Repository Objects/SQR/Includes" pathAlias="/00/0/0"
    modifiedBy="migration" lastUpdated="1156843864090" name="2.jpg">
```

```
    type="image/jpeg" size="27389"/>
  <resource id="0000010d59448077-0000-0b75-ac1b22ab"
    path="/Repository Objects/SQR/Includes" pathAlias="/00/0/0"
    modifiedBy="migration" lastUpdated="1156843864213" name="3.gif"
    type="image/gif" size="28425"/>
  <resource id="GIF3GIF01" path="/Repository Objects/System"
    pathAlias="/00/System" lastUpdated="1156787906003"
    description="Applet GIF file" name="3.gif" type="image/gif" size="-1"/>
</artifactListing>
```

---





# Abbreviations and Acronyms

<b>Abbreviation</b>	<b>Meaning</b>
ABC	activity-based costing
ABM	Activity-Based Management
ADO	ActiveX Data Object
AE	accountability element
AJP	Apache JServ Protocol
AJAX	Asynchronous JavaScript and XML
API	application programming interface
ASMP	Authenticated SMTP
ASP	Active Server Pages
BAT	batch file extension
BI	Business Intelligence
BPM	Business Performance Management
CA	certificate authority
CMD	command file extension
CN	common name
COGS	cost of goods sold
CORBA	Common Object Request Broker Architecture
CPM	corporate performance management
CSC	custom calculation scripts file extension
DBCS	double-byte character set
DBMS	database management system
DC	domain component
DCOM	Distributed Component Object Model

<b>Abbreviation</b>	<b>Meaning</b>
DHTML	Dynamic Hypertext Markup Language
DIT	directory information tree
DLL	dynamic link library
DN	distinguished name
DNS	Domain Name System
DOM	Document Object Model
DSN	data source name
DTD	Document Type Definition
EAR	enterprise application archive file
EIS	executive information system
EJB	Enterprise JavaBeans
EPB	Enterprise Planning and Budgeting
EPM	Enterprise Performance Management
ERP	enterprise resource planning
ESM	editable source master
ESMTP	Extended SMTP
FP	fix pack
FTP	File Transfer Protocol
GAAP	generally accepted accounting principles
GIF	Graphics Interchange Format
GSKit7	IBM Global Security Kit 7
GUI	graphical user interface
GSM	Global Service Manager
HTML	HyperText Markup Language
HTTP	HyperText Transfer Protocol
HTTPS	HyperText Transfer Protocol layered over the SSL protocol; secure HTTP
ID	identification
I/O	input/output

<b>Abbreviation</b>	<b>Meaning</b>
IP	Internet Protocol
JAIN	Java APIs for Integrated Networks
JDBC	Java Database Connectivity
JDK	Java Development Kit
J2EE	Java 2 Platform, Enterprise Edition
JFC	Java Foundation Classes
JRE	Java Runtime Environment
JSP	JavaServer Pages
JSSE	Java Secure Socket Extension
JVM	Java Virtual Machine
KPI	key performance indicator
LAN	local area network
LCM	Life Cycle Management
LDAP	Lightweight Directory Access Protocol
LRO	linked reporting object
LSC	Local Service Configurator
LSM	Local Service Manager
MDDDB	multidimensional database
MDX	Multidimensional Expression Language
MIME	Multipurpose Internet Mail Extensions
MSAD	Microsoft Active Directory
ND	Network Deployment
NFS	network file system
NTFS	New Technology file system
NTLM	Windows NT LAN Manager
OCI	Oracle Call Interface
ODBC	open database connectivity
OLAP	online analytical processing

<b>Abbreviation</b>	<b>Meaning</b>
OLE	Object Linking and Embedding
ORA	Oracle file name extension
ORB	Object Request Broker
OTL	outline file extension (Analytic Services)
PDF	Portable Document Format
P&L	profit and loss
POV	point of view
PRX	Adapter icon file name extension
PV	present value
RAM	random access memory
RDBMS	relational database management system
REP	report scripts file extension
RMI	Remote Method Invocation
ROM	read-only memory
RPC	Remote Procedure Call
RSC	Remote Service Configurator
RTP	runtime prompt
RUL	Business Rules file extension
SAP JCo, JCo	SAP Java Connector
SDK	Software Development Kit
SE	strategy element
SEM	Strategic Enterprise Management
SID	(Oracle) System Identification value (database instance)
SMTP	Simple Mail Transfer Protocol
SOAP	Simple Object Access Protocol
SP	service pack
SPM	Strategic Performance Management
SQL	structured query language

<b>Abbreviation</b>	<b>Meaning</b>
SSAS	SQL Server Analysis Services
SSL	Secure Sockets Layer
SSO token	single sign-on token
STP	Summary Time Period
TAR	tape archive (UNIX archive file)
TBH	To be hired
TCP/IP	Transmission Control Protocol based on Internet Protocol
UDA	user-defined attribute; Universal Data Access
UDL	Universal Data Link
UI	user interface
UID	user identification
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
URN	Uniform Resource Name
UTF-8	8-bit Unicode Transformation Format
UUID	universally unique identifier
VBIS	Vignette Business Integration Studio
VNC	Virtual Network Computing
WAN	wide area network
WAR	WebARchive file
W3C	World Wide Web Consortium
WWW	World Wide Web
XML	Extensible Markup Language
Xvfb	X virtual frame buffer
XREF	cross reference; Data reference source to a remote cube
ZIP	data compression and archival file format



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