# Database and Middleware Automation

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Linux, Solaris, AIX, and HP-UX

# Workflows for Promote

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# Promote Solution

This section includes the following topics:

| Workflow type | Workflow name |
|---|---|
| Promoting | "Promote Workflow – Export" on the next page |
| | "Promote Workflow – Import" on page 16 |
| | "Promote Workflow – Export and Import" on page 35 |

# Promote Workflow – Export

To use this workflow in your environment, see the following information:

| Topic | Information Included |
|---|---|
| "Prerequisites for this Workflow" | List of prerequisites that must be satisfied before you can run this workflow |
| "How This Workflow Works" | Information about what the workflow does, including validation checks performed, and steps executed |
| "How to Run This Workflow" | Instructions for running this workflow in your environment |
| "Sample Scenario" | Examples of typical parameter values for this workflow |
| Parameters | List of input parameters for this workflow |

The information presented here assumes the following:

- DMA is installed and operational.
- At least one suitable target server is available.
- You are logged in to DMA as a user with Workflow Creator (or Administrator) capability.
- You have Read and Execute permission for the organization that contains your target server.

# Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the "Promote Workflow – Export" workflow:

- You are using Database and Middleware Automation version 10.40 (or later).
- You have installed the latest version of the Promote Solution Pack.
- Any roles required to modify or execute the workflow (or workflows) that will be promoted must exist on the destination DMA server.
- The DMA user who runs the workflow should have READ permission on the promoted items.

# How This Workflow Works

"Promote Workflow – Export" exports the specified workflow and related components from the DMA server where you run the workflow (the source). It stores this information in a collection of XML files.

After you export a workflow, you can use "Promote Workflow – Import" to transfer this workflow (and specified related automation items) to a different DMA server (the destination).

By using these two workflows together, you can promote a customized workflow and all its components from one DMA server (the source) to another DMA server (the destination) in a reliable and replicable manner. This is useful, for example, when you want to move a workflow from a test environment to a production environment.

**Process Flow**

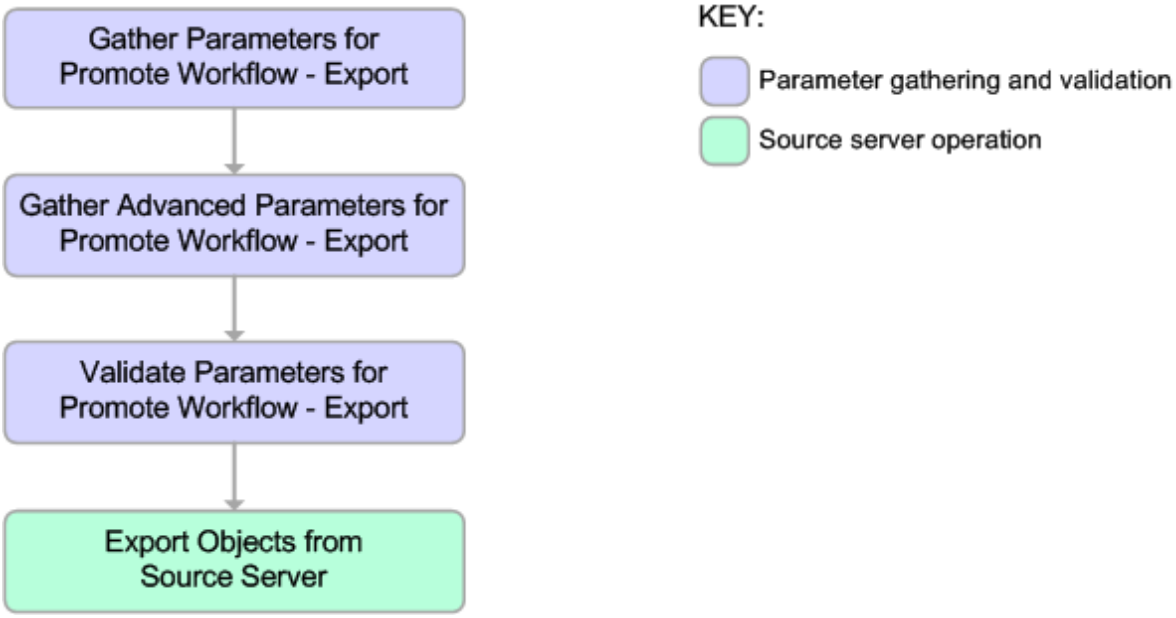
The workflow exports the workflow and the related automation items from the DMA source server, and stores this information in a collection of XML files in the Export Location.

The export process creates the `promote_info.txt` file.

1. The workflow, itself
2. Steps used in the workflow
3. Functions referenced by steps used in the workflow
4. Deployments associated with the workflow
5. Policies associated with any promoted deployment
6. Smart Groups associated with any promoted deployment
7. Custom Fields that are referenced by the workflow, any promoted deployment, any promoted step, or any promoted Smart Group

**Steps Executed**

Promote Workflow – Export includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.



**Steps Used in Promote Workflow – Export**

| Workflow Step | Description |
|---|---|
| Gather Parameters for Promote Workflow – Export | Gets the name of the workflow to be promoted and Export Location. Sets the working directory/ZIP file. |
| Gather Advanced Parameters for Promote Workflow – Export | Gets the advanced optional parameter for this workflow: Export Zip Archive setting that specifies whether to export the workflow and related automation items as a ZIP archive or a sub-directory. |
| Validate Parameters for Promote Workflow – Export | Verifies the following things:<br>• All required parameters have been specified.<br>• The specified workflow exists on the source server, and the user has Read permission for that workflow. |
| Export Objects from Source Server | Exports the workflow and the related automation items from the DMA source server, and stores this information in a collection of XML files in the working directory/ZIP file. Exports in the following order:<br>1. The workflow, itself<br>2. Steps used in the workflow<br>3. Functions referenced by steps used in the workflow<br>4. Deployments associated with the workflow<br>5. Policies associated with any promoted deployment<br>6. Smart Groups associated with any promoted deployment<br>7. Custom Fields that are referenced by the workflow, any promoted deployment, any promoted step, or any promoted Smart Group<br>Creates the `promote_info.txt` file. |

**Note:** For input parameter descriptions and defaults, see "Parameters for Promote Workflow – Export" on page 15.

# How to Run This Workflow

The following instructions show you how to customize and run "Promote Workflow – Export" in your environment.

> **Note:** Before following this procedure, review the "Prerequisites for this Workflow" on page 7, and ensure that all requirements are satisfied.

> **Tip:** As a best practice, set the target for the deployment to the DMA server where you run "Promote Workflow – Export".

**To use the Promote Workflow – Export workflow:**

1. On the DMA server where you run the workflow, create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters:

   **Input Parameters for Gather Parameters for Promote Workflow - Export**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| Export Location | no default | required | The location where the exported DMA artifacts are stored. This can be either a fully qualified ZIP filename (default) or a fully qualified directory path—based on the advanced parameter Export Zip Archive. If it is a directory, a time-stamped sub-directory or ZIP file will be created to store the files. The location is on the target server. |
| Workflow Name | no default | required | Name of the workflow to be promoted. |

3. Create a new deployment.
4. On the Parameters tab, specify values for the required parameters listed in step 2. You do not need to specify values for those parameters whose default values are appropriate for your environment.
5. On the Targets tab, specify a target for this deployment—where the exported workflow (and all related items) and the log files will be stored.

   > **Tip:** As a best practice, set the target to the DMA source server where the workflow is exported from.

6. Save the deployment (click **Save** in the lower right corner).
7. Run the workflow using this deployment.

**To verify the results:**

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during workflow execution, the error is logged, and the workflow terminates in the FAILURE state.

Results of each step are logged on the Output tab for each step. You can access this information from the Console page while the workflow is running or the History page after it finishes running.

You can examine the `promote_info.txt` file to determine specific information about the export.

**To use the exported workflow:**

The collection of exported XML files enables you to create a gold master of your workflow, its deployments, custom fields, policies, and permissions. This can be used in conjunction with a revision control system to help manage your production workflows.

You can use the exported workflow in the following ways:

- You can copy the exported working directory/ZIP file to an Archive.
- You can copy the exported working directory/ZIP file to the target server and working directory/ZIP file that you will use when you run "Promote Workflow – Import" on the destination server.

# Sample Scenario

This topic shows you how to use various parameters to achieve the following workflow export scenarios in your environment when using "Promote Workflow – Export".

**Scenario 1: Export All Automation Items to a ZIP File**

In this scenario, all deployments, Smart Groups, and Custom Fields that are referenced by the workflow (or any of its deployments) are exported. The XML files will be stored in the specified Export Location on the target server.

**Example Parameter Values for Gather Parameters for Promote Workflow – Export**

| Parameter Name | Example | Description |
|---|---|---|
| Export Location | `/Oracle Workflows/ workflow123.zip` | The location where the exported DMA artifacts are stored. This can be either a fully qualified ZIP filename (default) or a fully qualified directory path—based on the advanced parameter Export Zip Archive. If it is a directory, a time-stamped sub-directory or ZIP file will be created to store the files. The location is on the target server. |
| Workflow Name | Run Oracle Compliance Check - CIS | Name of the workflow to be promoted. |

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "Parameters for Promote Workflow – Export" on page 15).

**Scenario 2: Export All Automation Items to a Sub-Directory** show

In this scenario, all deployments, Smart Groups, and Custom Fields that are referenced by the workflow (or any of its deployments) are exported. The XML files will be stored in the specified Export Location on the target server.

**Example Parameter Values for Gather Parameters for Promote Workflow – Export**

| Parameter Name | Example | Description |
|---|---|---|
| Export Location | `/Oracle Workflows` | The location where the exported DMA artifacts are stored. This can be either a fully qualified ZIP filename (default) or a fully qualified directory path—based on the advanced parameter Export Zip Archive. If it is a directory, a time-stamped sub-directory or ZIP file will be created to store the files. The location is on the target server. |
| Workflow Name | Run Oracle Compliance Check - CIS | Name of the workflow to be promoted. |

The following parameter is not visible by default in a deployment. You need to expose it before you can use it.

**Example Parameter Values for Gather Advanced Parameters for Promote Workflow – Export**

| Parameter Name | Example | Description |
|---|---|---|
| Export Zip Archive | NO | Flag to indicate whether the workflow (and related automation items) and log files are exported as a ZIP file.<br>If set to YES or TRUE (the default), the files are exported to a ZIP file.<br>If set to NO or FALSE, the files are exported to a time-stamped sub-directory of the Export Location. |

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "Parameters for Promote Workflow – Export" on the next page).

# Parameters for Promote Workflow – Export

The following tables describe the required and optional input parameters for this workflow. For some parameters, if you do not specify a value for a parameter, a default value is assigned.

**Input Parameters Defined in this Step: Gather Parameters for Promote Workflow – Export**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| Export Location | no default | required | The location where the exported DMA artifacts are stored. This can be either a fully qualified ZIP filename (default) or a fully qualified directory path—based on the advanced parameter Export Zip Archive. If it is a directory, a time-stamped sub-directory or ZIP file will be created to store the files. The location is on the target server. |
| Workflow Name | no default | required | Name of the workflow to be promoted. |

The following parameter is not visible by default in a deployment. You need to expose it before you can use it.

**Additional Input Parameters Defined in this Step: Gather Advanced Parameters for Promote Workflow - Export**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| Filter Deployments | INCLUDE: Run Oracle Compliance Check - CIS - Linux Srvrs | Comma-separated list of deployments that will be exported from the source server.<br>If this parameter is blank, all deployments associated with the specified workflow will be exported.<br>**Note:** Maximum number of characters is 1000. | Filter Deployments |

# Promote Workflow – Import

To use this workflow in your environment, see the following information:

| Topic | Information Included |
|---|---|
| "Prerequisites for this Workflow" | List of prerequisites that must be satisfied before you can run this workflow |
| "How This Workflow Works" | Information about what the workflow does, including validation checks performed, and steps executed |
| "How to Run This Workflow" | Instructions for running this workflow in your environment |
| "Sample Scenarios" | Examples of typical parameter values for this workflow |
| Parameters | List of input parameters for this workflow |

The information presented here assumes the following:

- DMA is installed and operational.
- At least one suitable target server is available.
- You are logged in to DMA as a user with Workflow Creator (or Administrator) capability.
- You have Read and Execute permission for the organization that contains your target server.

# Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the "Promote Workflow – Import" workflow:

- You are using Database and Middleware Automation version 10.40 (or later).
- You have installed the latest version of the Promote Solution Pack.
- Any roles required to modify or execute the workflow (or workflows) that will be promoted must exist on the destination DMA server.
- The DMA user who runs the workflow should have READ and WRITE permissions on the promoted objects.
- The DMA user who runs the workflow must have Administrator capability.

Before you run "Promote Workflow – Import", you must have access to your exported workflow that was created when you ran either of the following:

- "Promote Workflow – Export"
- "Promote Workflow – Export and Import"

# How This Workflow Works

"Promote Workflow – Import" copies a workflow and related automation items to the DMA server where you run the workflow (the destination). This workflow consumes the collection of previously created XML files that contain the workflow and its related automation items.

Normally, you run "Promote Workflow – Export" before you run "Promote Workflow – Import" to produce the XML files.

By using these two workflows together, you can promote a customized workflow and all its components from one DMA server (the source) to another DMA server (the destination) in a reliable and replicable manner. This is useful, for example, when you want to move a workflow from a test environment to a production environment.

For a list of the specific items exported, see What is Promoted.

> **Tip:** You can use the preview mode to see what will be promoted to the destination server. In preview mode, no changes are made to the destination server.

**Process Flow** show

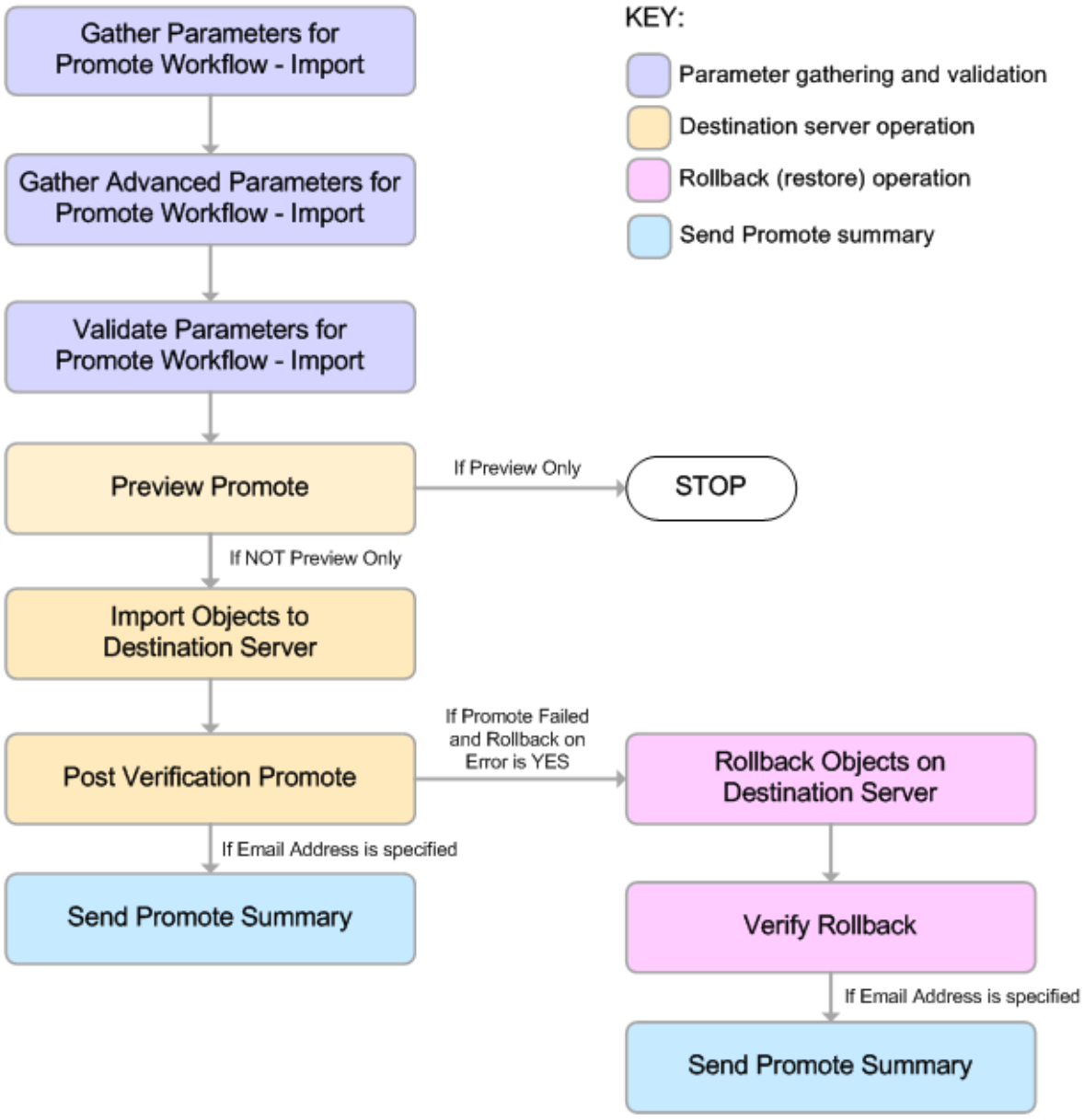
There are five phases included in the Promote Workflow - Import process flow.

| Phase | Purpose | Artifacts Created |
|---|---|---|
| 1 | Compare the XML files to the workflow on the destination server (if the workflow already exists there). | `objects_to_promote.txt`<br>`promote_summary.txt` |
| 2 | Back up the workflow on the destination server (if the workflow already exists there). | Destination backup files |
| 3 | Import the workflow to the destination server. | none |
| 4 | Validate the promoted workflow on the destination server. | none |
| 5 | If the promotion failed or cannot be validated, roll back the original version of the workflow on the destination server. | none |

**Note:** If the Preview Only parameter is set to YES, only Phase 1 in this process is performed.

**Steps Executed** show

Promote Workflow – Import includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.



**Steps Used in Promote Workflow - Import**

| Workflow Step | Description |
|---|---|
| Gather Parameters for Promote Workflow – Import | Gets the preview mode setting (whether the promote operation only previews the changes without updating the destination server), the roles, the Import Location, and the filters for Deployments, Policies, and Smart Groups to promote. |
| Gather Advanced Parameters for Promote Workflow – Import | Gets the advanced optional parameters: Email Address that specifies optional email addresses where a summary report will be sent, Ignore Platform Version setting that specifies whether to ignore a difference in the source server version and the destination server version, and Rollback on Error setting that tells DMA what to do if the promote fails—if YES, rolls back the existing workflow (if any) on the destination server; if NO, does not roll back. |
| Validate Parameters for Promote Workflow – Import | Verifies the following:<br>• All required parameters have been specified.<br>• The specified role exists on the destination server.<br>• The specified Import Location exists and contains the DMA exported XML files.<br>• The source server version matches the destination server version—unless Ignore Platform Version is YES. |
| Preview Promote | The Preview Promote step looks for any conflicts that may arise as a result of the promote operation. The step reads each XML file in the working directory/ZIP file that contains an exported item (file name begins with `source_`) and performs the following checks:<br>• It determines which deployments, policies, and Smart Groups to promote based on the filter parameters: Filter Deployments, Filter Smart Groups, and Filter Policies.<br>• It identifies any exported policy attributes or parameters that represent passwords and prints a warning to the step log indicating that these items must be manually configured on the destination server after the promote operation is completed. If the password exists on the destination, the value will be preserved.<br>• It determines whether an item with the same name and target level (if applicable) as the exported item already exists on the destination server.<br>If an exported item exists on the destination server, the step compares the exported item to the destination item. The following summarizes the action taken based on the result of this comparison:<br>Identical — Item does not need to be imported to the destination server.<br>Not identical — The Preview Promote step logs a list of items that will be promoted in the file `objects_to_promote.txt` in the Import Location.<br>**Note:** Locked items are not overwritten. If a step or function is locked and is different on the destination server, then the version of the solution pack used during the Promote export does not match the solution pack version on your destination server. The promote will fail.<br>• It lists any items on the destination server that have dependencies on the existing item in the step log.<br>• It creates the file `objects_to_promote.txt` that contains the automation items |

**Steps Used in Promote Workflow - Import, continued**

| Workflow Step | Description |
|---|---|
| | that will be promoted.<br>• It creates a Preview report (`promote_summary.txt`). The Preview report lists what will be promoted and describes what you need to do after running the Promote workflows such as setting up passwords and Custom Fields.<br>**Note:** If you are running the workflow in preview mode (parameter Preview Only is set to YES), the workflow stops after this step. |
| Import Objects to Destination Server | This step (and the following steps) are only executed if Preview Only is set to NO.<br>Reads the XML files containing the exported workflow, backs up the workflow and the specified (filtered) related automation items, and then creates the items on the destination server.<br>**Caution:** The workflow and automation items that previously existed on the destination server will be over-written. |
| Post Verification Promote | The Post Verification Promote step is executed after the workflow and all related items are imported to the destination server to ensure that the promote operation was successful. In this case, all source items and destination items should be identical. Items that are unique to the destination environment, such as passwords, are ignored.<br>If this comparison determines that the promoted workflow and all related items match the source workflow, the workflow ends in with a Success state.<br>If this comparison determines that the promoted workflow and all related items do not match the source workflow:<br>1. If Rollback on Error is set to YES: The workflow runs the Rollback Objects on Destination Server and Verify Rollback steps.<br>2. The workflow ends in a Failure state. |
| Send Promote Summary | If Email Address is specified, this step emails a Promote summary for the successful promotion. |
| Rollback Objects on Destination Server | This step is only executed if the promote operation fails and Rollback on Error is set to YES:<br>• If a previous version of the promoted workflow (or any related automation item) existed on the destination server prior to the promote operation: Deletes the promoted workflow (or related item) on the destination server, and restores the original workflow or related automation item to the item that was previously backed up (file names begin with `backup_`).<br>• If no previous version of the promoted workflow (or any related automation item) existed on the destination server prior to the promote operation:The workflow (or related automation item) will be deleted from the destination server. |
| Verify Rollback | The Verify Rollback step is only executed if a rollback is performed. For the workflow and all related automation items, the step checks the following:<br>• If the item was rolled back, the restored item on the destination server should be identical to the version of that item that was previously backed up (file names begin with `backup_`). |

**Steps Used in Promote Workflow - Import, continued**

| Workflow Step | Description |
|---|---|
| | • If the item did not exist before the promotion, the item does not exist after the roll back. |
| Send Promote Summary | If Email Address is specified, this step emails a Promote summary after a rollback occurs. |

> **Note:** For input parameter descriptions and defaults, see "Parameters for Promote Workflow – Import" on page 33.

# How to Run This Workflow

The following instructions show you how to customize and run "Promote Workflow – Import" in your environment. These instructions assume that all deployments, Smart Groups, and Custom Fields will be promoted.

> **Note:** Before following this procedure, review the "Prerequisites for this Workflow" on page 17, and ensure that all requirements are satisfied.

> **Tip:** As a best practice, set the target for the deployment to the DMA server where you run "Promote Workflow – Import".

**To use the Promote Workflow – Import workflow:**

1. On the DMA server where you run the workflow, create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters: show

**Input Parameters for Gather Parameters for Promote Workflow - Import**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| Filter Deployments | ALL | required | A filter for deployments to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of deployments to include, or EXCLUDE: followed by a comma separated list of deployments to exclude. The value ALL will promote all deployments associated with the workflow; the value NONE will not promote any of the deployments associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Filter Policies | ALL | required | A filter for policies to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of policies to include, or EXCLUDE: followed by a comma separated list of policies to exclude. The value ALL will promote all policies associated with the workflow; the value NONE will not promote any of the policies associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Filter Smart Groups | ALL | required | A filter for Smart Groups to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of Smart Groups to include, or EXCLUDE: followed by a comma separated list of Smart Groups to exclude. The value ALL will promote all Smart Groups associated with the workflow; the value NONE will not promote any of the Smart Groups associated with the workflow. |

**Input Parameters for Gather Parameters for Promote Workflow - Import, continued**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| | | | **Note:** Maximum number of characters is 1000. |
| Import Location | no default | required | The location on the target server where all export files generated by Promote workflow are stored. If you use the same location where Promote Workflow - Export generated the files, include the `/promote_<workflow_name>_<date>_<time> sub-directory/zip-archive` in the path. |
| Preview Only | YES | required | If Preview Only is set to YES, the workflow will show you which items will be promoted, but it will not make any changes on the destination server. Valid values are YES/TRUE and NO/FALSE (case-insensitive). |
| Roles on Destination Server | no default | required | Comma-separated list of roles that will be assigned to promoted items. At least one role must be specified.<br>All roles are assigned to the following promoted items (workflows, steps, deployments, and policies) that do not exist on the destination DMA server prior to the promote operation. The roles specified for these promoted items are given full permissions:<br>Workflow READ, WRITE<br>Step READ, WRITE<br>Deployment READ, WRITE, EXECUTE<br>Policy READ, WRITE<br>The first role specified in Roles on Destination Server is set in the Roles attribute for promoted Smart Groups that do not exist on the destination server prior to the promote operation.<br>Role-based permissions for existing items are preserved.<br>**Note:** If the roles do not yet exist on the destination server, you need to create them before attempting to promote. |

**Note:** This is the minimum set of parameters required to run this workflow. You may want to specify additional parameters depending on your objectives.

See "Parameters for Promote Workflow – Import" on page 33 for detailed descriptions of all input parameters for this workflow, including default values.

3. Create a new deployment.
4. On the Parameters tab, specify values for the required parameters listed in step 2. You do not need to specify values for those parameters whose default values are appropriate for your environment.

5. On the Targets tab, specify a target for this deployment—where the exported workflow (and all related items) and the log files are stored.

   > **Tip:** As a best practice, copy the exported working directory/ZIP file to the DMA server where you run the workflow (the destination) and set the target to the DMA to the same server.

6. Save the deployment (click **Save** in the lower right corner).
7. Run the workflow using this deployment.

**To verify the results:**

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during workflow execution, the error is logged, and the workflow terminates in the FAILURE state.

Results of each step are logged on the Output tab for each step. You can access this information from the Console page while the workflow is running or the History page after it finishes running.

> **Tip:** Examine the Output tab for any dependencies (for example, other workflows that use the promoted steps or functions) and decide if any other promotions are desired.

You should examine the Preview report in file `promote_summary.txt` to determine what objects were promoted and exactly what needs to be customized on the destination server.

**To track the history of promoted items on the destination server:**

You can track the history of promoted workflows, steps, and functions using the history tab:

| Promoted Item | How to Access | Description |
|---|---|---|
| Workflow | Automation > Workflows > <*promoted_workflow*> > History | Date: <*date_time_of_promotion*><br>Person: <*user_that_promoted_workflow*><br>Source: REST API<br>Comment: Promoted using "<*promote_workflow_that_imported_item*>" from DMA server <*server_name*> |
| Step | Automation > Steps > <*promoted_step*> > History | Date: <*date_time_of_promotion*><br>Person: <*user_that_promoted_step*><br>Source: REST API<br>Comment: Promoted with "<*promoted_workflow*>" |
| Function | Automation > Functions > <*promoted_function*> > History | Date: <*date_time_of_promotion*><br>Person: <*user_that_promoted_function*><br>Source: REST API<br>Comment: Promoted with "<*promoted_workflow*>" |

**To use the promoted workflow on the destination server:**

Before you run the newly promoted workflow, use the Preview report (file `promote_summary.txt`) to customize the following on the destination server:

- Password values
- Custom Field values

Set up the environment on the destination server:

- Environments: organizations, servers, instances, and databases
- Targets for deployments

# Sample Scenarios

This topic shows you how to use various parameters to achieve the following workflow promotion scenarios in your environment when using "Promote Workflow – Import".

**Scenario 1: Preview All Automation Items but Do Not Import** show

In this scenario, all automation items for the specified workflow that are stored in Import Location are previewed. They are not created or updated on the destination server.

In this scenario, Preview Only is enabled by default.

In this scenario, Rollback on Error is enabled by default. The workflow and any related items that existed on the destination server prior to the promote operation will be restored in the event that the promote fails.

**Example Parameter Values for Gather Parameters for Promote Workflow – Import**

| Parameter Name | Example | Description |
|---|---|---|
| Import Location | `/Oracle Workflows/ workflow123.zip` | The location on the target server where all export files generated by Promote workflow are stored. If you use the same location where Promote Workflow - Export generated the files, include the `/promote_<workflow_name>_<date>_<time> sub-directory/zip-archive` in the path. |
| Roles on Destination Server | DMA Admins | Comma-separated list of roles that will be assigned to promoted items. At least one role must be specified.<br>All roles are assigned to the following promoted items (workflows, steps, deployments, and policies) that do not exist on the destination DMA server prior to the promote operation. The roles specified for these promoted items are given full permissions:<br>Workflow READ, WRITE<br>Step READ, WRITE<br>Deployment READ, WRITE, EXECUTE<br>Policy READ, WRITE<br>The first role specified in Roles on Destination Server is set in the Roles attribute for promoted Smart Groups that do not exist on the destination server prior to the promote operation.<br>Role-based permissions for existing items are preserved.<br>**Note:** If the roles do not yet exist on the destination server, you need to create them before attempting to promote. |

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "Parameters for Promote Workflow – Import" on page 33).

**Scenario 2: Import All Automation Items** show

In this scenario, all automation items for the specified workflow that are stored in Import Location are created or updated on the destination server. The Database Compliance summary report will be emailed to a recipient.

In this scenario, Rollback on Error is enabled by default. The workflow and any related items that existed on the destination server prior to the promote operation will be restored in the event that the promote fails.

**Example Parameter Values for Gather Parameters for Promote Workflow – Import**

| Parameter Name | Example | Description |
|---|---|---|
| Import Location | `/Oracle Workflows/ workflow123.zip` | The location on the target server where all export files generated by Promote workflow are stored. If you use the same location where Promote Workflow - Export generated the files, include the `/promote_<workflow_name>_<date>_<time> sub-directory/zip-archive` in the path. |
| Preview Only | NO | If Preview Only is set to YES, the workflow will show you which items will be promoted, but it will not make any changes on the destination server. Valid values are YES/TRUE and NO/FALSE (case-insensitive). |
| Roles on Destination Server | DMA Admins | Comma-separated list of roles that will be assigned to promoted items. At least one role must be specified.<br>All roles are assigned to the following promoted items (workflows, steps, deployments, and policies) that do not exist on the destination DMA server prior to the promote operation. The roles specified for these promoted items are given full permissions:<br>Workflow READ, WRITE<br>Step READ, WRITE<br>Deployment READ, WRITE, EXECUTE<br>Policy READ, WRITE<br>The first role specified in Roles on Destination Server is set in the Roles attribute for promoted Smart Groups that do not exist on the destination server prior to the promote operation.<br>Role-based permissions for existing items are preserved.<br>**Note:** If the roles do not yet exist on the destination server, you need to create them before attempting to promote. |

The following parameter is not visible by default in a deployment. You need to expose it before you can use it.

**Example Parameter Values for Gather Advanced Parameters for Promote Workflow - Import**

| Parameter Name | Example | Description |
|---|---|---|
| Email Address | JohnDoe@mycompany.com | Comma separated list of email addresses where the Database Compliance summary report will be sent. |

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "Parameters for Promote Workflow – Import" on page 33).

**Scenario 3: Import Only a Subset of Deployments, Policies, and Smart Groups** show

In this scenario, the deployments, policies, and Smart Groups to be promoted are specifically included or excluded.

- Included objects: Provided that these objects are referenced by the specified workflow or one (or more) of its deployments, the objects will be created or updated on the destination server. Any objects that are not explicitly specified will be not be promoted.
- Excluded objects: All objects that are not in the exclude list and are referenced by the specified workflow or one (or more) of its deployments, the objects will be created or updated on the destination server.

In this scenario, Preview Only is set to NO.

In this scenario, Rollback on Error is enabled by default. The workflow and any related items that existed on the destination server prior to the promote operation will be restored in the event that the promote fails.

**Example Parameter Values for Gather Parameters for Promote Workflow – Import**

| Parameter Name | Example | Description |
|---|---|---|
| Filter Deployments | INCLUDE: Run Oracle Compliance Check - CIS - Linux Srvrs | A filter for deployments to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of deployments to include, or EXCLUDE: followed by a comma separated list of deployments to exclude. The value ALL will promote all deployments associated with the workflow; the value NONE will not promote any of the deployments associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Filter Policies | EXCLUDE: Oracle Test Compliance | A filter for policies to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of policies to include, or EXCLUDE: followed by a comma separated list of policies to exclude. The value ALL will promote all policies associated with the workflow; the value NONE will not promote any of the policies associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Filter Smart Groups | INCLUDE: Linux Srvrs, Europe Srvrs | A filter for Smart Groups to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of Smart Groups to include, or EXCLUDE: followed by a comma separated list of Smart Groups to exclude. The value ALL will promote all Smart Groups associated with the workflow; the value NONE will not promote any of the Smart Groups associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Import | `/Oracle` | The location on the target server where all export files generated |

**Example Parameter Values for Gather Parameters for Promote Workflow – Import, continued**

| Parameter Name | Example | Description |
|---|---|---|
| Location | `Workflows/workflow123.zip` | by Promote workflow are stored. If you use the same location where Promote Workflow - Export generated the files, include the `/promote_<workflow_name>_<date>_<time> sub-directory/zip-archive` in the path. |
| Preview Only | NO | If Preview Only is set to YES, the workflow will show you which items will be promoted, but it will not make any changes on the destination server. Valid values are YES/TRUE and NO/FALSE (case-insensitive). |
| Roles on Destination Server | DMA Admins | Comma-separated list of roles that will be assigned to promoted items. At least one role must be specified.<br><br>All roles are assigned to the following promoted items (workflows, steps, deployments, and policies) that do not exist on the destination DMA server prior to the promote operation. The roles specified for these promoted items are given full permissions:<br><br>Workflow READ, WRITE<br>Step READ, WRITE<br>Deployment READ, WRITE, EXECUTE<br>Policy READ, WRITE<br><br>The first role specified in Roles on Destination Server is set in the Roles attribute for promoted Smart Groups that do not exist on the destination server prior to the promote operation.<br><br>Role-based permissions for existing items are preserved.<br><br>**Note:** If the roles do not yet exist on the destination server, you need to create them before attempting to promote. |

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "Parameters for Promote Workflow – Import" on the next page).

# Parameters for Promote Workflow – Import

The following tables describe the required and optional input parameters for this workflow. For some parameters, if you do not specify a value for a parameter, a default value is assigned.

**Input Parameters Defined in this Step: Gather Parameters for Promote Workflow - Import**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| Filter Deployments | ALL | required | A filter for deployments to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of deployments to include, or EXCLUDE: followed by a comma separated list of deployments to exclude. The value ALL will promote all deployments associated with the workflow; the value NONE will not promote any of the deployments associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Filter Policies | ALL | required | A filter for policies to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of policies to include, or EXCLUDE: followed by a comma separated list of policies to exclude. The value ALL will promote all policies associated with the workflow; the value NONE will not promote any of the policies associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Filter Smart Groups | ALL | required | A filter for Smart Groups to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of Smart Groups to include, or EXCLUDE: followed by a comma separated list of Smart Groups to exclude. The value ALL will promote all Smart Groups associated with the workflow; the value NONE will not promote any of the Smart Groups associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Import Location | no default | required | The location on the target server where all export files generated by Promote workflow are stored. If you use the same location where Promote Workflow - Export generated the files, include the `/promote_<workflow_name>_<date>_<time> sub-directory/zip-archive` in the path. |
| Preview Only | YES | required | If Preview Only is set to YES, the workflow will show you which items will be promoted, but it will not make any changes on the destination server. Valid values are YES/TRUE and NO/FALSE (case-insensitive). |
| Roles on Destination Server | no default | required | Comma-separated list of roles that will be assigned to promoted items. At least one role must be specified.<br>All roles are assigned to the following promoted items (workflows, steps, deployments, and policies) that do not exist on the destination DMA server prior to the promote |

**Input Parameters Defined in this Step: Gather Parameters for Promote Workflow - Import, continued**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| | | | operation. The roles specified for these promoted items are given full permissions:<br><br>Workflow READ, WRITE<br>Step READ, WRITE<br>Deployment READ, WRITE, EXECUTE<br>Policy READ, WRITE<br><br>The first role specified in Roles on Destination Server is set in the Roles attribute for promoted Smart Groups that do not exist on the destination server prior to the promote operation.<br><br>Role-based permissions for existing items are preserved.<br><br>**Note:** If the roles do not yet exist on the destination server, you need to create them before attempting to promote. |

The following parameters are not visible by default in a deployment. You need to expose them before you can use them.

**Additional Input Parameters Defined in this Step: Gather Advanced Parameters for Promote Workflow - Import**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| Email Address | no default | optional | Comma separated list of email addresses where the Database Compliance summary report will be sent. |
| Ignore Platform Version | NO | optional | If set to NO (default), the Database Compliance workflows check that the source and destination DMA platform versions are the same. If set to YES, the Database Compliance workflows ignore different DMA platform versions and will attempt to promote the workflow anyway. Valid values are YES/TRUE and NO/FALSE (case-insensitive).<br><br>**Caution:** Promote does not officially support promoting between different versions. Use at your own risk. |
| Rollback on Error | YES | optional | Set to NO if you do NOT want DMA to rollback the workflow and all related items on the destination server to their original state in the event that the promote operation fails. Valid values are YES/TRUE and NO/FALSE (case-insensitive). |

# Promote Workflow – Export and Import

The Promote Workflow workflow enables you to promote (copy) a customized workflow and all related items from one DMA server (the source) to another DMA server (the destination) in a reliable and replicable manner. This is useful, for example, when you want to move a workflow from a test environment to a production environment.

The functionality is the same as running the "Promote Workflow – Export" workflow followed by running the "Promote Workflow – Import" workflow.

> **Note:** This workflow requires that the SSL certificates are configured the same on the two servers. The `com.hp.dma.conn.trustAllCertificates` parameter in both servers' `dma.xml` files must have the same values. If the DMA source server does not trust all SSL certificates but the DMA destination server does, then you need to first run "Promote Workflow – Export", and then run "Promote Workflow – Import".

To run the Database Compliance workflow, use the information found in the following workflows:

- "Promote Workflow – Export"
- "Promote Workflow – Import"

> **Tip:** You can use the preview mode to see what will be copied to the destination server. In preview mode, no changes are made to the destination server.

**Process Flow** show

1. Export Process

   First, the workflow exports the specified workflow and the related automation items from the DMA source server, and stores this information in a collection of XML files in the Export Location.

   The export process creates the `promote_info.txt` file.

2. Import Process

   After the workflow exports the specified workflow and the related automation items to a collection of XML files, the workflow imports them to the destination server. There are five phases included in the import process flow.

| Phase | Purpose | Artifacts Created |
|---|---|---|
| 1 | Compare the XML files to the workflow on the destination server (if the workflow already exists there). | `objects_to_promote.txt`<br><br>`promote_summary.txt` |
| 2 | Back up the workflow on the destination server (if the workflow already exists there). | Destination backup files |
| 3 | Import the workflow to the destination server. | |
| 4 | Validate the promoted workflow on the destination server. | none |
| 5 | If the promotion failed or cannot be validated, roll back the original version of the workflow on the destination server. | none |

> **Note:** If the Preview Only parameter is set to YES, only Phase 1 in this process is performed.

To use this workflow in your environment, see the following information:

| Topic | Information Included |
|---|---|
| "Prerequisites for this Workflow" | List of prerequisites that must be satisfied before you can run this workflow |
| "How This Workflow Works" | Information about what the workflow does, including validation checks performed, and steps executed |
| "How to Run This Workflow" | Instructions for running this workflow in your environment |
| "Sample Scenarios" | Examples of typical parameter values for this workflow |
| Parameters | List of input parameters for this workflow |

The information presented here assumes the following:

- DMA is installed and operational.
- At least one suitable target server is available.
- You are logged in to DMA as a user with Workflow Creator (or Administrator) capability.
- You have Read and Execute permission for the organization that contains your target server.

# Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run "Promote Workflow – Export and Import":

- You are using Database and Middleware Automation version 10.40 (or later).
- You have installed the latest version of the Database Compliance Solution Pack.
- Any roles required to modify or execute the workflow (or workflows) that will be promoted must exist on the destination DMA server.
- The DMA user who runs the workflow should have READ and WRITE permissions on the promoted objects.
- The DMA user specified in the Destination DMA Username parameter must have Administrator capability.

# How This Workflow Works

"Promote Workflow – Export and Import" enables you to copy a customized workflow and all related items from the DMA server where you run the workflow (the source) to another DMA server (the destination) in a reliable and replicable manner. This is useful, for example, when you want to move a workflow from a development environment to a developer's test environment where no proxy exists between the two environments.

> **Tip:** You can use the preview mode to see what will be copied to the destination server. In preview mode, no changes are made to the destination server.

**Process Flow** show

1. Export Process

   First, the workflow exports the specified workflow and the related automation items from the DMA source server, and stores this information in a collection of XML files in the Export Location.

   The export process creates the `promote_info.txt` file.

2. Import Process

   After the workflow exports the specified workflow and the related automation items to a collection of XML files, the workflow imports them to the destination server. There are five phases included in the import process flow.

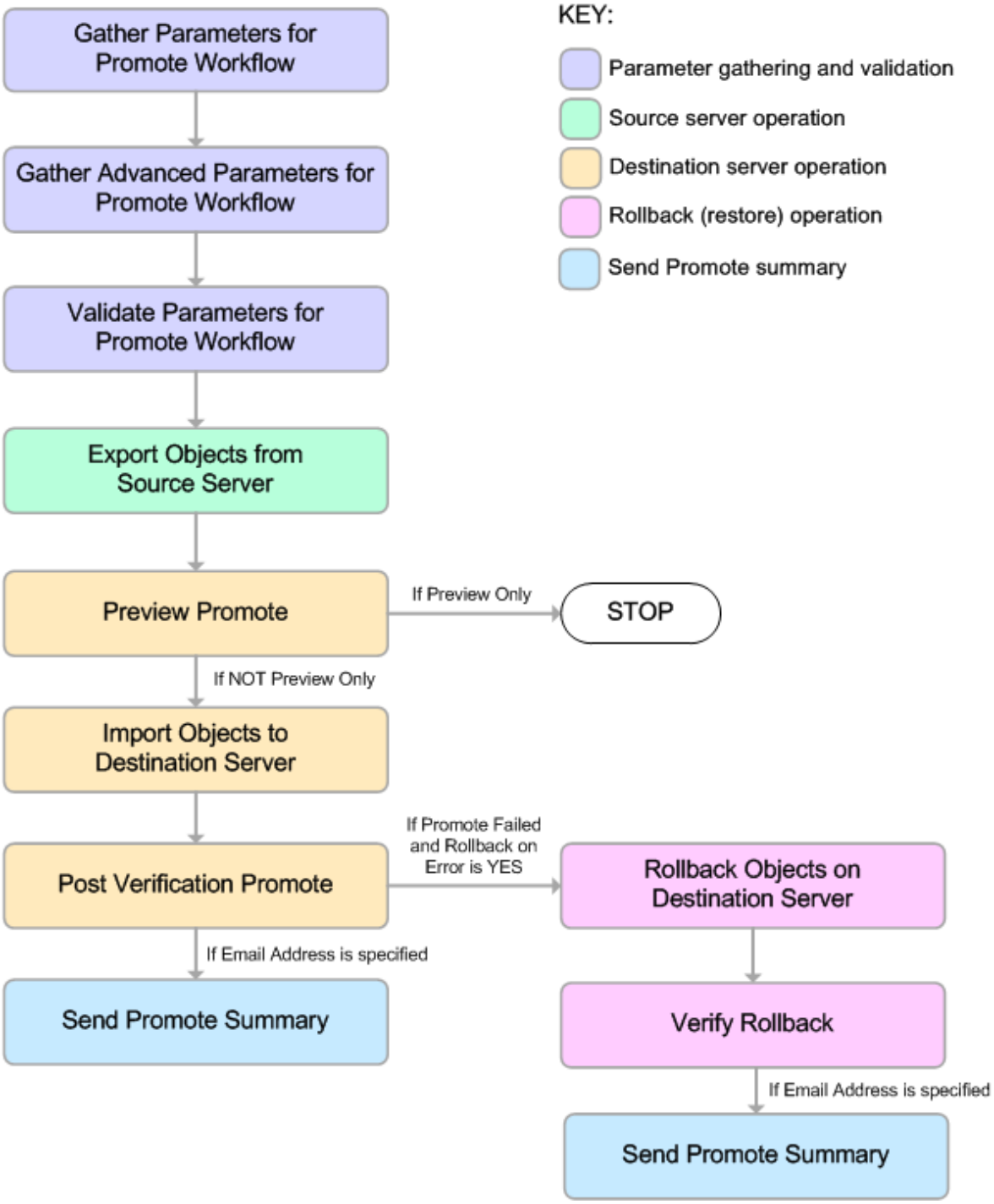
| Phase | Purpose | Artifacts Created |
|---|---|---|
| 1 | Compare the XML files to the workflow on the destination server (if the workflow already exists there). | `objects_to_promote.txt`<br><br>`promote_summary.txt` |

| Phase | Purpose | Artifacts Created |
|---|---|---|
| 2 | Back up the workflow on the destination server (if the workflow already exists there). | Destination backup files |
| 3 | Import the workflow to the destination server. | none |
| 4 | Validate the promoted workflow on the destination server. | none |
| 5 | If the promotion failed or cannot be validated, roll back the original version of the workflow on the destination server. | none |

**Note:** If the Preview Only parameter is set to YES, only Phase 1 in this process is performed.

**Steps Executed** show

Promote Workflow - Export and Import includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.



**Steps Used in Promote Workflow - Export and Import**

| Workflow Step | Description |
|---|---|
| Gather Parameters for Promote Workflow | Gets the destination server information, whether the workflow is to run in preview mode (without updating the destination server), the roles, the name of the workflow to be promoted, and the filters for Deployments, Policies, and Smart Groups to promote. Sets the working directory/ZIP file. |
| Gather Advanced Parameters for Promote Workflow | Gets the advanced optional parameters: Email Address that specifies optional email addresses where a summary report will be sent, Export Zip Archive setting that specifies whether to export the workflow and related automation items as a ZIP archive or a sub-directory, Ignore Platform Version setting that specifies whether to ignore a difference in the source server version and the destination server version, and Rollback on Error setting that tells DMA what to do if the promote fails—if YES, rolls back the existing workflow (if any) on the destination server; if NO, does not roll back. |
| Validate Parameters for Promote Workflow | Verifies the following:<br>• All required parameters have been specified.<br>• DMA can communicate with the specified destination server.<br>• The specified workflow exists on the source server.<br>• The specified roles exist on the destination server.<br>• The source server version matches the destination server version—unless Ignore Platform Version is YES. |
| Export Objects from Source Server | Exports the workflow and the related automation items from the DMA source server, and stores this information in a collection of XML files in the working directory/ZIP file. Exports in the following order:<br>1. The workflow, itself<br>2. Steps used in the workflow<br>3. Functions referenced by steps used in the workflow<br>4. Deployments associated with the workflow<br>5. Policies associated with any promoted deployment<br>6. Smart Groups associated with any promoted deployment<br>7. Custom Fields that are referenced by the workflow, any promoted deployment, any promoted step, or any promoted Smart Group<br>Creates the `promote_info.txt` file. |
| Preview Promote | The Preview Promote step looks for any conflicts that may arise as a result of the promote operation. The step reads each XML file in the working directory/ZIP file that contains an exported item (file name begins with `source_`) and performs the following checks:<br>• It determines which deployments, policies, and Smart Groups to promote based on the filter parameters: Filter Deployments, Filter Smart Groups, and Filter Policies.<br>• It identifies any exported policy attributes or parameters that represent passwords and prints a warning to the step log indicating that these items must be manually configured on the destination server after the promote operation is completed. If the password exists on the destination, the value will be preserved.<br>• It determines whether an item with the same name and target level (if applicable) |

**Steps Used in Promote Workflow - Export and Import, continued**

| Workflow Step | Description |
|---|---|
| | as the exported item already exists on the destination server.<br><br>If an exported item exists on the destination server, the step compares the exported item to the destination item. The following summarizes the action taken based on the result of this comparison:<br><br>Identical — Item does not need to be imported to the destination server.<br><br>Not identical — The Preview Promote step logs a list of items that will be promoted in the file `objects_to_promote.txt` in the Import Location.<br><br>**Note:** Locked items are not overwritten. If a step or function is locked and is different on the destination server, then the version of the solution pack used during the Promote export does not match the solution pack version on your destination server. The promote will fail.<br><br>• It lists any items on the destination server that have dependencies on the existing item in the step log.<br>• It creates the file `objects_to_promote.txt` that contains the automation items that will be promoted.<br>• It creates a Preview report (`promote_summary.txt`). The Preview report lists what will be promoted and describes what you need to do after running the Database Compliance workflows such as setting up passwords and Custom Fields.<br><br>**Note:** If you are running the workflow in preview mode (parameter Preview Only is set to YES), the workflow stops after this step. |
| Import Objects to Destination Server | This step (and the following steps) are only executed if Preview Only is set to NO.<br><br>Reads the XML files containing the exported workflow, backs up the workflow and the specified (filtered) related automation items, and then creates the items on the destination server.<br><br>**Caution:** The workflow and automation items that previously existed on the destination server will be over-written. |
| Post Verification Promote | The Post Verification Promote step is executed after the workflow and all related items are imported to the destination server to ensure that the promote operation was successful. In this case, all source items and destination items should be identical. Items that are unique to the destination environment, such as passwords, are ignored.<br><br>If this comparison determines that the promoted workflow and all related items match the source workflow, the workflow ends in with a Success state.<br><br>If this comparison determines that the promoted workflow and all related items do not match the source workflow:<br><br>1. If Rollback on Error is set to YES: The workflow runs the Rollback Objects on Destination Server and Verify Rollback steps.<br>2. The workflow ends in a Failure state. |
| Rollback Objects on Destination | This step is only executed if the promote operation fails and Rollback on Error is set to YES: |

**Steps Used in Promote Workflow - Export and Import, continued**

| Workflow Step | Description |
|---|---|
| Server | • If a previous version of the promoted workflow (or any related automation item) existed on the destination server prior to the promote operation: Deletes the promoted workflow (or related item) on the destination server, and restores the original workflow or related automation item to the item that was previously backed up (file names begin with `backup_`).<br>• If no previous version of the promoted workflow (or any related automation item) existed on the destination server prior to the promote operation:The workflow (or related automation item) will be deleted from the destination server. |
| Verify Rollback | The Verify Rollback step is only executed if a rollback is performed. For the workflow and all related automation items, the step checks the following:<br>• If the item was rolled back, the restored item on the destination server should be identical to the version of that item that was previously backed up (file names begin with `backup_`).<br>• If the item did not exist before the promotion, the item does not exist after the roll back. |

**Note:** For input parameter descriptions and defaults, see "Parameters for Promote Workflow - Export and Import" on page 55.

# How to Run This Workflow

The following instructions show you how to run "Promote Workflow – Export and Import" in your environment. These instructions assume that all deployments, Smart Groups, and Custom Fields will be promoted.

> **Note:** Before following this procedure, review the "Prerequisites for this Workflow" on page 38, and ensure that all requirements are satisfied.

> **Tip:** As a best practice, set the target for the deployment to the DMA server where you run "Promote Workflow – Export and Import", the same as the source server from which you are exporting the workflow and related automation.

**To use the Promote Workflow workflow:**

1. On the DMA server where you run the workflow, create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters:

**Input Parameters for Gather Parameters for Promote Workflow**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| Destination DMA Password | no default | required | Password for the user specified in the Destination DMA Username parameter. |
| Destination DMA URL | no default | required | URL for the destination DMA server. For example:<br>`https://dma2.mycompany.com:8443/dma` |
| Destination DMA Username | no default | required | DMA user who will perform the promote operation on the destination server. |
| Export Location | no default | required | The location where the exported DMA artifacts are stored. This can be either a fully qualified ZIP filename (default) or a fully qualified directory path—based on the advanced parameter Export Zip Archive. If it is a directory, a time-stamped sub-directory or ZIP file will be created to store the files. The location is on the target server. |
| Filter Deployments | ALL | required | A filter for deployments to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of deployments to include, or EXCLUDE: followed by a comma separated list of deployments to exclude. The value ALL will promote all deployments associated with the workflow; the value NONE will not promote any of the deployments associated with the workflow. |

**Input Parameters for Gather Parameters for Promote Workflow , continued**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| | | | **Note:** Maximum number of characters is 1000. |
| Filter Policies | ALL | required | A filter for policies to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of policies to include, or EXCLUDE: followed by a comma separated list of policies to exclude. The value ALL will promote all policies associated with the workflow; the value NONE will not promote any of the policies associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Preview Only | YES | required | If Preview Only is set to YES, the workflow will show you which items will be promoted, but it will not make any changes on the destination server. Valid values are YES/TRUE and NO/FALSE (case-insensitive). |
| Filter Smart Groups | ALL | required | A filter for Smart Groups to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of Smart Groups to include, or EXCLUDE: followed by a comma separated list of Smart Groups to exclude. The value ALL will promote all Smart Groups associated with the workflow; the value NONE will not promote any of the Smart Groups associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Roles on Destination Server | no default | required | Comma-separated list of roles that will be assigned to promoted items. At least one role must be specified.<br>All roles are assigned to the following promoted items (workflows, steps, deployments, and policies) that do not exist on the destination DMA server prior to the promote operation. The roles specified for these promoted items are given full permissions:<br>Workflow READ, WRITE<br>Step READ, WRITE<br>Deployment READ, WRITE, EXECUTE<br>Policy READ, WRITE<br>The first role specified in Roles on Destination Server is set in the Roles attribute for promoted Smart Groups that do not exist on the destination server prior to the promote operation.<br>Role-based permissions for existing items are preserved.<br>**Note:** If the roles do not yet exist on the destination server, you need to create them before attempting to promote. |

**Input Parameters for Gather Parameters for Promote Workflow , continued**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| Workflow Name | no default | required | Name of the workflow to be promoted. |

> **Note:** This is the minimum set of parameters required to run this workflow. You may want to specify other parameters depending on your objectives.
>
> See "Parameters for Promote Workflow - Export and Import" on page 55 for detailed descriptions of all input parameters for this workflow, including default values.

3. Create a new deployment.
4. On the Parameters tab, specify values for the required parameters listed in step 2. You do not need to specify values for those parameters whose default values are appropriate for your environment.
5. On the Targets tab, specify a target for this deployment—where the exported workflow (and all related items) and the log files will be stored.

   > **Tip:** As a best practice, set the target to the DMA source server where the workflow is exported from.

6. Save the deployment (click **Save** in the lower right corner).
7. Run the workflow using this deployment.

**To verify the results:**

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during workflow execution, the error is logged, and the workflow terminates in the FAILURE state.

Results of each step are logged on the Output tab for each step. You can access this information from the Console page while the workflow is running or the History page after it finishes running.

> **Tip:** Examine the Output tab for any dependencies (for example, other workflows that use the promoted steps or functions) and decide if any other promotions are desired.

You should examine the Preview report in file `promote_summary.txt` to determine what objects were promoted and exactly what needs to be customized on the destination server.

**To track the history of promoted items on the destination server:**

You can track the history of promoted workflows, steps, and functions using the history tab:

| Promoted Item | How to Access | Description |
|---|---|---|
| Workflow | Automation > Workflows > <*promoted_workflow*> > History | Date: <*date_time_of_promotion*><br>Person: <*user_that_promoted_workflow*><br>Source: REST API<br>Comment: Promoted using "<*promote_workflow_that_imported_item*>" from DMA server <*server_name*> |
| Step | Automation > Steps > <*promoted_step*> > History | Date: <*date_time_of_promotion*><br>Person: <*user_that_promoted_step*><br>Source: REST API<br>Comment: Promoted with "<*promoted_workflow*>" |
| Function | Automation > Functions > <*promoted_function*> > History | Date: <*date_time_of_promotion*><br>Person: <*user_that_promoted_function*><br>Source: REST API<br>Comment: Promoted with "<*promoted_workflow*>" |

**To use the promoted workflow on the destination server:**

Before you run the newly promoted workflow, use the Preview report (file `promote_summary.txt`) to customize the following on the destination server:

- Password values
- Custom Field values

Set up the environment on the destination server:

- Environments: organizations, servers, instances, and databases
- Targets for deployments

# Sample Scenarios

This topic shows you how to use various parameters to achieve the following workflow promotion scenarios in your environment when using "Promote Workflow – Export and Import".

**Scenario 1: Preview All Automation Items but Do Not Promote** show

In this scenario, all deployments, policies, and Smart Groups that are referenced by the workflow (or any of its deployments) are previewed but not promoted.

In this scenario, Preview Only is enabled by default.

In this scenario, Rollback on Error is enabled by default. The workflow and any related items that existed on the destination server prior to the promote operation will be restored in the event that the promote fails.

**Example Parameter Values for Gather Parameters for Promote Workflow**

| Parameter Name | Example | Description |
|---|---|---|
| Destination DMA Password | destpwd | Password for the user specified in the Destination DMA Username parameter. |
| Destination DMA URL | see description | URL for the destination DMA server. For example:<br>`https://dma2.mycompany.com:8443/dma` |
| Destination DMA Username | admindest | DMA user who will perform the promote operation on the destination server. |
| Export Location | `/Oracle Workflows/ workflow123.zip` | The location where the exported DMA artifacts are stored. This can be either a fully qualified ZIP filename (default) or a fully qualified directory path—based on the advanced parameter Export Zip Archive. If it is a directory, a time-stamped sub-directory or ZIP file will be created to store the files. The location is on the target server. |
| Roles on Destination Server | DMA Admins | Comma-separated list of roles that will be assigned to promoted items. At least one role must be specified.<br>All roles are assigned to the following promoted items (workflows, steps, deployments, and policies) that do not exist on the destination DMA server prior to the promote operation. The roles specified for these promoted items are given full permissions:<br>Workflow READ, WRITE<br>Step READ, WRITE<br>Deployment READ, WRITE, EXECUTE<br>Policy READ, WRITE<br>The first role specified in Roles on Destination Server is set in the Roles attribute for promoted Smart Groups that do not exist on the destination server prior to the promote operation. |

**Example Parameter Values for Gather Parameters for Promote Workflow, continued**

| Parameter Name | Example | Description |
|---|---|---|
| | | Role-based permissions for existing items are preserved.<br><br>**Note:** If the roles do not yet exist on the destination server, you need to create them before attempting to promote. |
| Workflow Name | Run Oracle Compliance Check - CIS | Name of the workflow to be promoted. |

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "Parameters for Promote Workflow - Export and Import" on page 55).

**Scenario 2: Promote All Automation Items** show

In this scenario, all deployments, policies, and Smart Groups that are referenced by the workflow (or any of its deployments) are promoted.

In this scenario, Preview Only is set to NO.

The Database Compliance summary report will be emailed to a recipient.

In this scenario, Rollback on Error is enabled by default. The workflow and any related items that existed on the destination server prior to the promote operation will be restored in the event that the promote fails.

**Example Parameter Values for Gather Parameters for Promote Workflow**

| Parameter Name | Example | Description |
|---|---|---|
| Destination DMA Password | destpwd | Password for the user specified in the Destination DMA Username parameter. |
| Destination DMA URL | see description | URL for the destination DMA server. For example:<br>`https://dma2.mycompany.com:8443/dma` |
| Destination DMA Username | admindest | DMA user who will perform the promote operation on the destination server. |
| Export Location | `/Oracle Workflows/ workflow123.zip` | The location where the exported DMA artifacts are stored. This can be either a fully qualified ZIP filename (default) or a fully qualified directory path—based on the advanced parameter Export Zip Archive. If it is a directory, a time-stamped sub-directory or ZIP file will be created to store the files. The location is on the target server. |
| Preview Only | NO | If Preview Only is set to YES, the workflow will show you which items will be promoted, but it will not make any changes on the destination server. Valid values are YES/TRUE and NO/FALSE (case-insensitive). |
| Roles on Destination Server | DMA Admins | Comma-separated list of roles that will be assigned to promoted items. At least one role must be specified.<br>All roles are assigned to the following promoted items (workflows, steps, deployments, and policies) that do not exist on the destination DMA server prior to the promote operation. The roles specified for these promoted items are given full permissions:<br>Workflow READ, WRITE<br>Step READ, WRITE<br>Deployment READ, WRITE, EXECUTE<br>Policy READ, WRITE<br>The first role specified in Roles on Destination Server is set in the Roles attribute for promoted Smart Groups that do not exist on the destination server prior to the promote operation. |

**Example Parameter Values for Gather Parameters for Promote Workflow, continued**

| Parameter Name | Example | Description |
|---|---|---|
| | | Role-based permissions for existing items are preserved.<br>**Note:** If the roles do not yet exist on the destination server, you need to create them before attempting to promote. |
| Workflow Name | Run Oracle Compliance Check - CIS | Name of the workflow to be promoted. |

The following parameter is not visible by default in a deployment. You need to expose it before you can use it.

**Example Parameter Values for Gather Advanced Parameters for Promote Workflow - Import**

| Parameter Name | Example | Description |
|---|---|---|
| Email Address | JohnDoe@mycompany.com | Comma separated list of email addresses where the Database Compliance summary report will be sent. |

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "Parameters for Promote Workflow - Export and Import" on page 55).

**Scenario 3: Promote Only a Subset of Deployments, Policies, and Smart Groups** show

In this scenario, the deployments, policies, and Smart Groups to be promoted are specifically included or excluded.

- Included objects: Provided that these objects are referenced by the specified workflow or one (or more) of its deployments, the objects will be created or updated on the destination server. Any objects that are not explicitly specified will be not be promoted.
- Excluded objects: All objects not in the exclude list that are referenced by the specified workflow or one (or more) of its deployments, the objects will be created or updated on the destination server.

In this scenario, Preview Only is set to NO.

In this scenario, Rollback on Error is enabled by default. The workflow and any related items that existed on the destination server prior to the promote operation will be restored in the event that the promote fails.

**Example Parameter Values for Gather Parameters for Promote Workflow**

| Parameter Name | Example | Description |
|---|---|---|
| Destination DMA Password | destpwd | Password for the user specified in the Destination DMA Username parameter. |
| Destination DMA URL | see description | URL for the destination DMA server. For example:<br>`https://dma2.mycompany.com:8443/dma` |
| Destination DMA Username | admindest | DMA user who will perform the promote operation on the destination server. |
| Export Location | `/Oracle Workflows/ workflow123.zip` | The location where the exported DMA artifacts are stored. This can be either a fully qualified ZIP filename (default) or a fully qualified directory path—based on the advanced parameter Export Zip Archive. If it is a directory, a time-stamped sub-directory or ZIP file will be created to store the files. The location is on the target server. |
| Filter Deployments | INCLUDE: Run Oracle Compliance Check - CIS - Linux Srvrs | A filter for deployments to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of deployments to include, or EXCLUDE: followed by a comma separated list of deployments to exclude. The value ALL will promote all deployments associated with the workflow; the value NONE will not promote any of the deployments associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Filter Policies | EXCLUDE: Oracle Test Compliance | A filter for policies to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of policies to include, or EXCLUDE: followed by a comma separated list of policies to exclude. The value ALL will promote all policies |

**Example Parameter Values for Gather Parameters for Promote Workflow, continued**

| Parameter Name | Example | Description |
|---|---|---|
| | | associated with the workflow; the value NONE will not promote any of the policies associated with the workflow.<br><br>**Note:** Maximum number of characters is 1000. |
| Filter Smart Groups | INCLUDE: Linux Srvrs, Europe Srvrs | A filter for Smart Groups to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of Smart Groups to include, or EXCLUDE: followed by a comma separated list of Smart Groups to exclude. The value ALL will promote all Smart Groups associated with the workflow; the value NONE will not promote any of the Smart Groups associated with the workflow.<br><br>**Note:** Maximum number of characters is 1000. |
| Preview Only | NO | If Preview Only is set to YES, the workflow will show you which items will be promoted, but it will not make any changes on the destination server. Valid values are YES/TRUE and NO/FALSE (case-insensitive). |
| Roles on Destination Server | DMA Admins | Comma-separated list of roles that will be assigned to promoted items. At least one role must be specified.<br><br>All roles are assigned to the following promoted items (workflows, steps, deployments, and policies) that do not exist on the destination DMA server prior to the promote operation. The roles specified for these promoted items are given full permissions:<br><br>Workflow READ, WRITE<br>Step READ, WRITE<br>Deployment READ, WRITE, EXECUTE<br>Policy READ, WRITE<br><br>The first role specified in Roles on Destination Server is set in the Roles attribute for promoted Smart Groups that do not exist on the destination server prior to the promote operation.<br><br>Role-based permissions for existing items are preserved.<br><br>**Note:** If the roles do not yet exist on the destination server, you need to create them before attempting to promote. |
| Workflow Name | Run Oracle Compliance Check - CIS | Name of the workflow to be promoted. |

Be sure that the default values for all remaining input parameters are appropriate for your environment.

# Parameters for Promote Workflow - Export and Import

The following tables describe the required and optional input parameters for this workflow. For some parameters, if you do not specify a value for a parameter, a default value is assigned.

**Input Parameters Defined in this Step: Gather Parameters for Promote Workflow**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| Destination DMA Password | no default | required | Password for the user specified in the Destination DMA Username parameter. |
| Destination DMA URL | no default | required | URL for the destination DMA server. For example:<br>`https://dma2.mycompany.com:8443/dma` |
| Destination DMA Username | no default | required | DMA user who will perform the promote operation on the destination server. |
| Export Location | no default | required | The location where the exported DMA artifacts are stored. This can be either a fully qualified ZIP filename (default) or a fully qualified directory path—based on the advanced parameter Export Zip Archive. If it is a directory, a time-stamped sub-directory or ZIP file will be created to store the files. The location is on the target server. |
| Filter Deployments | ALL | required | A filter for deployments to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of deployments to include, or EXCLUDE: followed by a comma separated list of deployments to exclude. The value ALL will promote all deployments associated with the workflow; the value NONE will not promote any of the deployments associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Filter Policies | ALL | required | A filter for policies to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of policies to include, or EXCLUDE: followed by a comma separated list of policies to exclude. The value ALL will promote all policies associated with the workflow; the value NONE will not promote any of the policies associated with the workflow.<br>**Note:** Maximum number of characters is 1000. |
| Preview Only | YES | required | If Preview Only is set to YES, the workflow will show you which items will be promoted, but it will not make any changes on the destination server. Valid values are YES/TRUE and NO/FALSE (case-insensitive). |

**Input Parameters Defined in this Step: Gather Parameters for Promote Workflow , continued**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| Filter Smart Groups | ALL | required | A filter for Smart Groups to be promoted. Valid values are ALL, NONE, INCLUDE: followed by a comma separated list of Smart Groups to include, or EXCLUDE: followed by a comma separated list of Smart Groups to exclude. The value ALL will promote all Smart Groups associated with the workflow; the value NONE will not promote any of the Smart Groups associated with the workflow.<br><br>**Note:** Maximum number of characters is 1000. |
| Roles on Destination Server | no default | required | Comma-separated list of roles that will be assigned to promoted items. At least one role must be specified.<br><br>All roles are assigned to the following promoted items (workflows, steps, deployments, and policies) that do not exist on the destination DMA server prior to the promote operation. The roles specified for these promoted items are given full permissions:<br><br>Workflow READ, WRITE<br>Step READ, WRITE<br>Deployment READ, WRITE, EXECUTE<br>Policy READ, WRITE<br><br>The first role specified in Roles on Destination Server is set in the Roles attribute for promoted Smart Groups that do not exist on the destination server prior to the promote operation.<br><br>Role-based permissions for existing items are preserved.<br><br>**Note:** If the roles do not yet exist on the destination server, you need to create them before attempting to promote. |
| Workflow Name | no default | required | Name of the workflow to be promoted. |

The following parameters are not visible by default in a deployment. You need to expose them before you can use them.

**Additional Input Parameters Defined in this Step: Gather Advanced Parameters for Promote Workflow**

| Parameter Name | Default Value | Required | Description |
|---|---|---|---|
| Email Address | no default | optional | Comma separated list of email addresses where the Database Compliance summary report will be sent. |
| Export Zip Archive | YES | optional | Flag to indicate whether the workflow (and related automation items) and log files are exported as a ZIP file.<br>If set to YES or TRUE (the default), the files are exported to a ZIP file.<br>If set to NO or FALSE, the files are exported to a time-stamped sub-directory of the Export Location. |
| Ignore Platform Version | NO | optional | If set to NO (default), the Database Compliance workflows check that the source and destination DMA platform versions are the same. If set to YES, the Database Compliance workflows ignore different DMA platform versions and will attempt to promote the workflow anyway. Valid values are YES/TRUE and NO/FALSE (case-insensitive).<br>**Caution:** Promote does not officially support promoting between different versions. Use at your own risk. |
| Rollback on Error | YES | optional | Set to NO if you do NOT want DMA to rollback the workflow and all related items on the destination server to their original state in the event that the promote operation fails. Valid values are YES/TRUE and NO/FALSE (case-insensitive). |

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**Feedback on Workflows for Promote (Database and Middleware Automation 10.60.000.000)**

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