

RadiantOne v7.3 to v7.4.0(+) Upgrade Guide

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Getting Started

This guide applies to upgrading from RadiantOne v7.3.22(+) to RadiantOne v7.4.0(+).

Unless otherwise noted, this guide assumes you currently have at least RadiantOne v7.3.22 installed. If you don't, run the v7.3 update installer to patch to this release prior to upgrading to v7.4.

It is best practice, and reduces risks, to have a new environment for installing v7.4, and then migrating the configuration from v7.3. Keep the v7.3 environment working as a backup until the new v7.4 environment is installed, tested and ready for production. Once the new environment is ready, switch the client load to it.

Before performing the steps in this guide, refer to the RadiantOne System Requirements to verify that your server satisfies the v7.4 requirements.

It is recommended to upgrade during off-hours to avoid interruption to service.

IMPORTANT NOTES - If you have RadiantOne ICS deployed, the upgrade to v7.4 is not compatible. The steps outlined in this upgrade guide do not migrate any ICS configurations. Please reach out to your Radiant Logic Account Representative to discuss how we can assist you with your RadiantOne ICS v7.3 upgrade to v7.4.

If you have multi-instances deployed, the upgrade to v7.4 is not compatible for those instances. You need to install multi-instance as Instance sub-clusters in v7.4 and manually reconfigure them. Use some of the v7.3 backup files like exports of HDAP stores, to simplify this process. For assistance, contact your Radiant Logic Account Representative.

Specifying RLI_HOME

If you do not have an RLI_HOME system environment variable set, you must pass the location where you have RadiantOne installed when you run the Migration Utility.

An example of exporting configuration on Linux where RadiantOne is installed in /home/r1user/radiantone/vds, can be seen below.

```
./migrate.sh /home/r1user/radiantone/vds export test2.zip
```

Steps to Perform on the v7.3 Machine

The section describes the processes of backing up and exporting your RadiantOne configuration and backing up existing stores and ACIs.


Backup Configuration

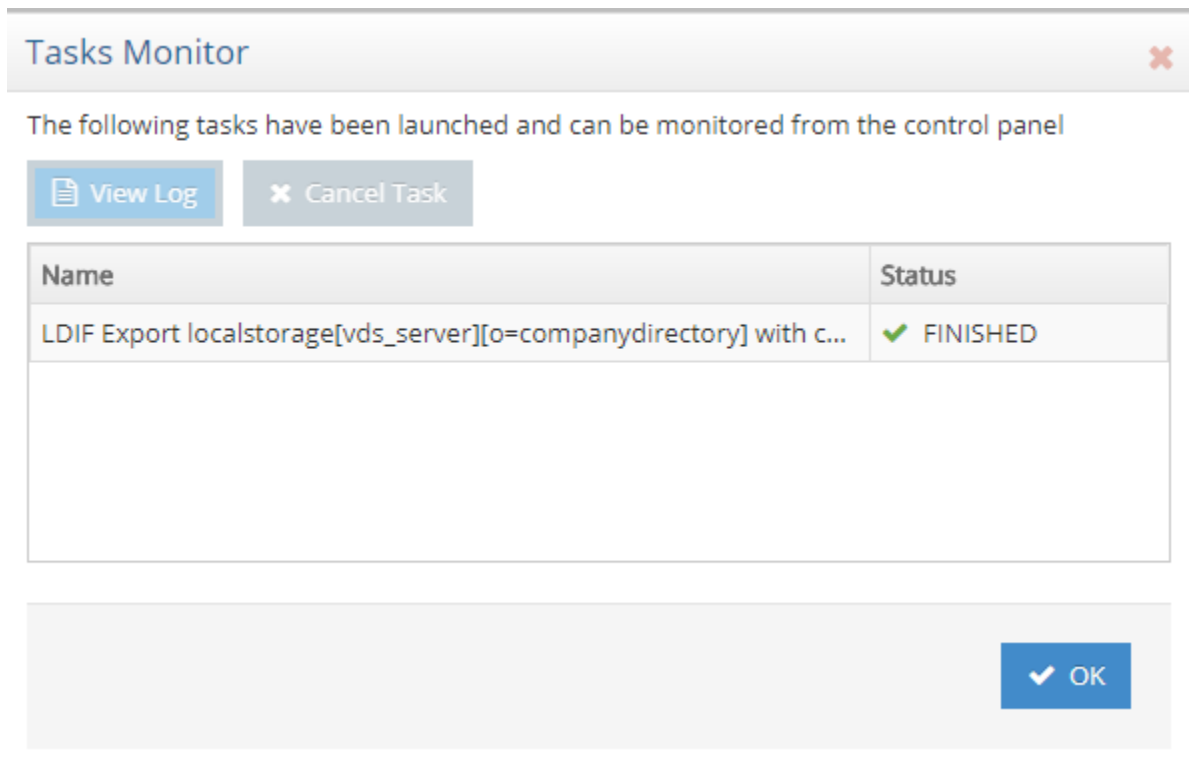
Stop RadiantOne FID (to ensure no files are locked/in use) and from the file system, make a copy of the whole <RLI_HOME> directory and store in a safe place.

Backup Existing RadiantOne Universal Directory (HDAP) Stores

To back up naming contexts defined as HDAP stores, perform the following steps for each of your HDAP stores:

IMPORTANT NOTE – if you run multiple instances of RadiantOne, be sure to export the HDAP stores from all of them. The migration process will not migrate multiple instances in v7.3 to v7.4 automatically. You must install instances as sub-clusters in v7.4 and then manually reconfigure them. Having backups of your HDAP stores will simplify the manual reconfiguration.

1. On the Main Control Panel, log in as directory manager.
2. On the Directory Namespace tab, select your HDAP store. HDAP stores are identified with .
3. In the right pane, in the Properties tab, click Export. The Export box is displayed.
4. Enter an export file name.
5. Check the Export for Replication box (to ensure the UUID attribute remains with the entries).
6. Click OK. The Tasks Launched window opens.



7. Once the export finishes, click OK to close the Tasks Launched window. You are returned to the


store's Properties tab.

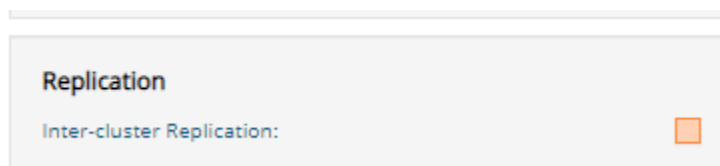
8. Repeat steps 2-7 for each HDAP store.
9. Copy the LDIF files from <RLI_HOME>/vds_server/ldif/export to a safe place outside of the <RLI_HOME> location.

Disable Inter-cluster Replication

Disable inter-cluster replication for RadiantOne Universal Directory (HDAP) and Persistent Cache stores.

To disable inter-cluster replication:

1. On the Main Control Panel -> Directory Namespace tab, expand below  Cache .
2. Select the cached naming context.
3. On the Properties tab, uncheck the Inter-cluster Replication.




4. Click Save.
5. On the Main Control Panel -> Directory Namespace tab, select the RadiantOne Universal Directory (HDAP) store naming context.
6. On the Properties tab, uncheck Inter-cluster Replication.
7. Click Save.



Backup Persistent Cache Stores

Persistent caches must be re-initialized manually after the upgrade to v7.4. The persistent cache initialization occurs in two steps. During the first step, the backend data sources are queried and an LDIF file is generated with the results. During the second step, the LDIF file is imported into the local storage. If your current persistent cache is up-to-date, you can export the existing cache image to an LDIF and use this file during the initialization of the cache in v7.4. Otherwise, in v7.4, you can have the cache init process rebuild the LDIF to use for initialization. Even if you choose to re-initialize the persistent caches from scratch in v7.4, it is always good to have a backup of the cache image from v7.3.

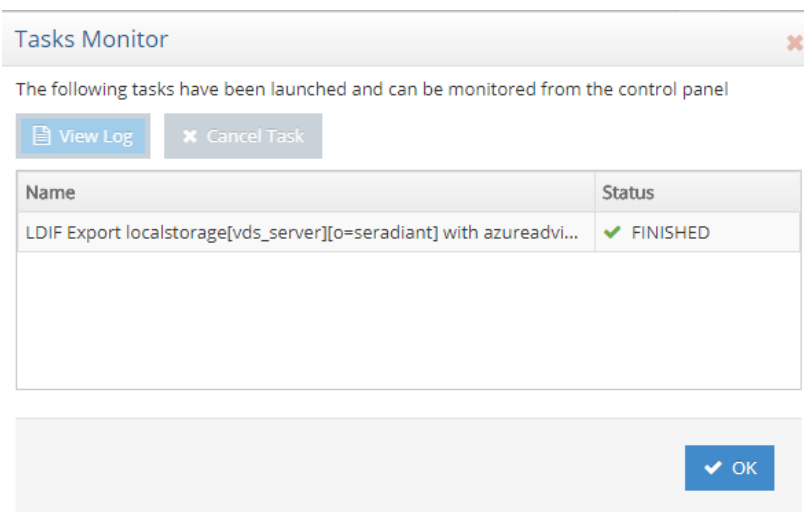
To back up a persistent cache store:

1. On the Main Control Panel -> Directory Namespace tab, expand below  Cache .
2. Under the Cache node in the left pane, select a cache to back up. The two types of persistent

cache are listed below.

Icon	Cache Type
	Persistent cache with periodic refresh
	Persistent cache with automated refresh

- In the right pane, in the Properties tab, click Export.
- Enter an export file name.
- Check the Export for Replication box (to ensure the UUID attribute remains with the entries).
- Click OK. The Tasks Launched window opens.



- Once the export finishes, click OK to close the Tasks Launched window. You are returned to the cache's Properties tab.
- Repeat steps 2-7 for each persistent cache branch.
- Copy the LDIF files from <RLI_HOME>/vds_server/ldif/export to a safe place outside of the <RLI_HOME> location.

Backup ICS Connector Types and Properties

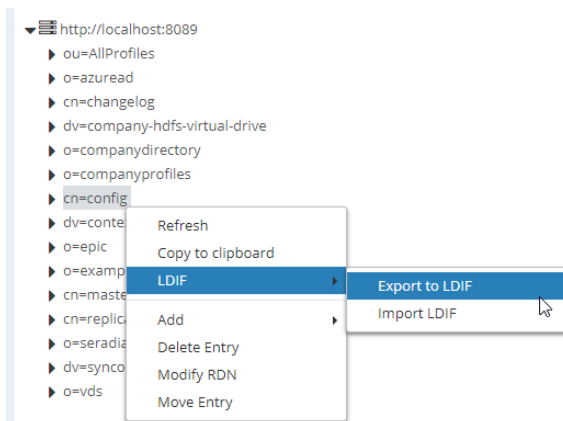
Note – you are making a backup to have a copy of your configs to refer back to when you reconfigure sync topologies in v7.4. V7.3 ICS topologies are incompatible with v7.4 and are not automatically migrated.

1. In the Main Control Panel -> Sync Monitoring tab, select a topology.
2. In the topology, click an object (representing a source or target connector) and choose Properties.
3. Record the connector type (e.g. Snapshot, triggers, changelog...etc.) and values of all Editable properties.
4. Click OK.
5. Repeat this process for all objects in the topology.
6. Repeat steps 1-5 for all topologies.

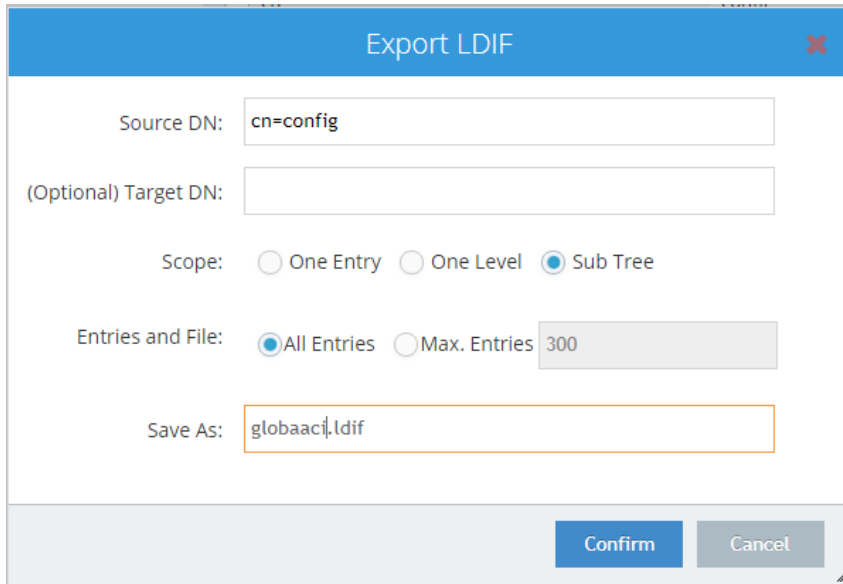
Backup ACLs

To back up ACLs:

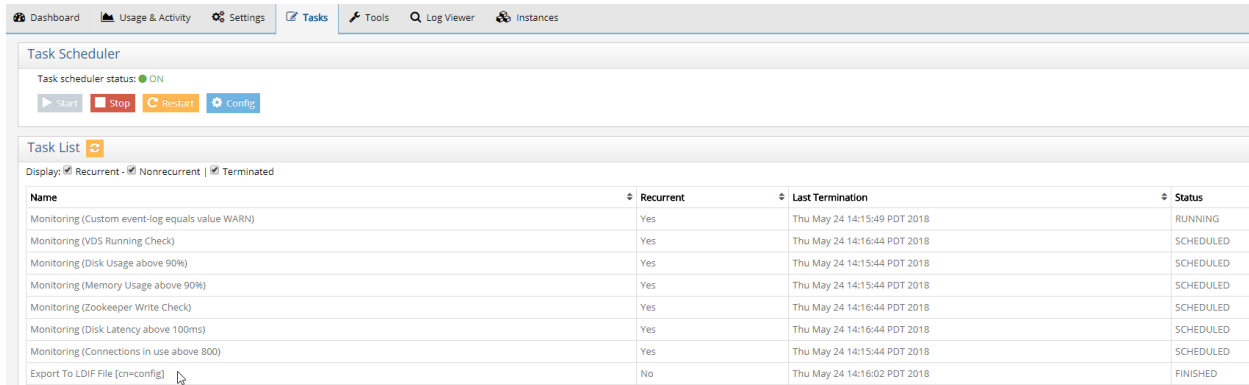
1. On the Main Control Panel -> Directory Browser tab, right-click on the cn=config node.
2. Select LDIF -> Export to LDIF.



3. Enter a file name for the Idif file (overwrite the default *untitled*) and click Confirm.



- An export task is launched in the background. To view the task, go to the Server Control Panel associated with the RadiantOne node you are exporting from -> Tasks tab. Check the “Terminated” option to view all tasks. Confirm the task “Export To LDIF [config] has FINISHED successfully.



Name	Recurrent	Last Termination	Status
Monitoring (Custom event-log equals value WARN)	Yes	Thu May 24 14:15:49 PDT 2018	RUNNING
Monitoring (VDS Running Check)	Yes	Thu May 24 14:16:44 PDT 2018	SCHEDULED
Monitoring (Disk Usage above 90%)	Yes	Thu May 24 14:15:44 PDT 2018	SCHEDULED
Monitoring (Memory Usage above 90%)	Yes	Thu May 24 14:15:44 PDT 2018	SCHEDULED
Monitoring (Zookeeper Write Check)	Yes	Thu May 24 14:16:44 PDT 2018	SCHEDULED
Monitoring (Disk Latency above 100ms)	Yes	Thu May 24 14:16:44 PDT 2018	SCHEDULED
Monitoring (Connections in use above 800)	Yes	Thu May 24 14:15:44 PDT 2018	SCHEDULED
Export To LDIF File [cn=config]	No	Thu May 24 14:16:02 PDT 2018	FINISHED

- Copy the LDIF files from <RLI_HOME>/vds_server/ldif/export to a safe place outside of the <RLI_HOME> location.

Export Existing Configuration

Download the migration utility **v2.0.X** from the Radiant Logic support site and unzip it on the source v7.3 machine (the node from where you are exporting). Download the migration utility **v2.1.X** from the Radiant Logic support site and unzip it on the destination machine where v7.4 is going to be installed. Contact Support (support@radiantlogic.com) for credentials and location of the Migration Utility.

IMPORTANT NOTE - Be sure you use the migration utility v2.0.X for exporting v7.3.22(+) and migration utility v.2.1.X for importing into v7.4.

1. On the machine where you are exporting the configuration from, run `<RLI_HOME>/bin/advanced/stop_servers.bat (.sh)` to stop the RadiantOne services.
2. Run `<RLI_HOME>\bin\runZooKeeper.bat (.sh)` to start ZooKeeper.
3. From a command prompt navigate to the location where you unzipped the migration utility v2.0.X.

IMPORTANT NOTE - If performing the export on Windows, run the command line as Administrator (right-click on the .exe and choose Run as Administrator option).

4. Run the following command (modifying the version of the migration tool and the location of the export file to match your needs).
`C:\r1\migration\radiantone-migration-tool-2.0.23\migrate.bat export C:/tmp/export.zip`

IMPORTANT NOTE - If you do not have an RLI_HOME environment variable defined, you must [pass the location where RadiantOne is installed in the export command](#).

Uninstall RadiantOne v7.3

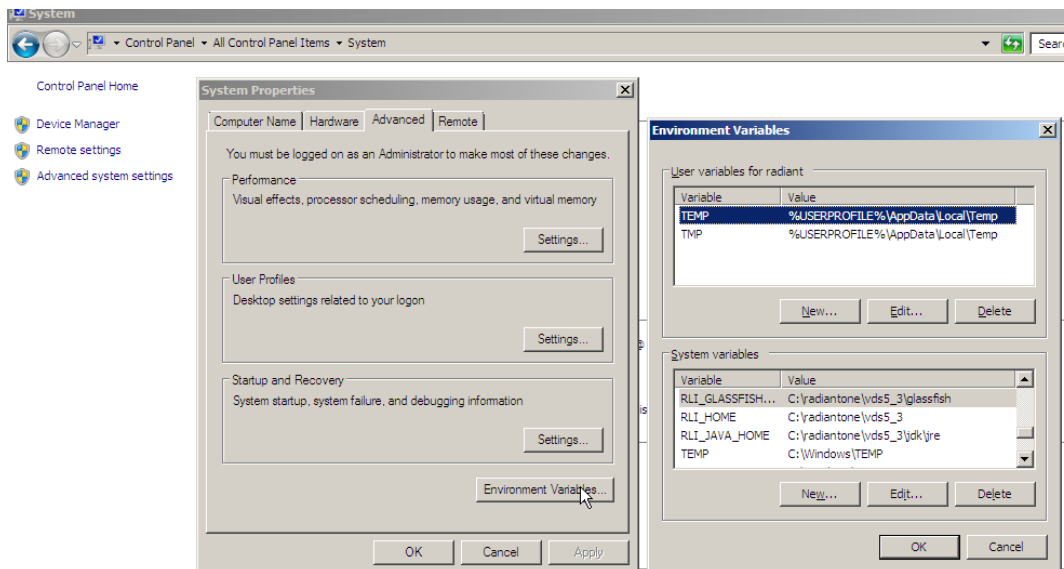
It is best practice, and reduces risks, to have a new environment for installing v7.4, and then migrating the configuration from v7.3. Keep the v7.3 environment working as a backup until the new v7.4 environment is installed, tested and ready for production. Once the new environment is ready, switch the client load to it.

If you don't have additional resources to build out a v7.4 environment, you can perform an in-place upgrade of your v7.3 environment. This section assumes you will install v7.4 on the same machine where v7.3 is currently running. If you can setup a new environment for v7.4, skip this section.

Note - If you plan on installing RadiantOne v7.4 on a new machine, go to the section on [installing v7.4.0\(+\)](#).

1. Stop all RadiantOne services using `<RLI_HOME>/bin/advanced/stop_servers.bat` (or Linux equivalent) on all cluster nodes.
2. As an administrator, run the uninstaller: `<RLI_HOME>/uninstaller/uninstaller.exe` (or Linux equivalent). Uninstall v7.3 on all cluster nodes.
3. When the uninstall process is done, restart the server and verify that the environment variables RLI_HOME, RLI_JAVA_HOME, and RLI_GLASSFISH_HOME are gone. If they are not, remove them (follow the steps below) and restart your server again.
4. On Windows platforms, to remove the environment variables, go to "Start → Control Panel → System → Advanced system settings → Environment Variables → System Variables" and delete

them.



- On Linux, open a terminal and type “env | grep RLI” and if the command returns the variables, you will need to edit the file ~/.bash_profile and remove the following lines:


```
RLI_HOME=<your_path>
export RLI_HOME
RLI_JAVA_HOME=<your_path>
export RLI_JAVA_HOME
RLI_GLASSFISH_HOME=<your_path>
export RLI_GLASSFISH_HOME
```

Steps to Perform on the v7.4 Machine

Install RadiantOne v7.4.0(+)

Delete any remaining files/folders found at the location of the v7.3 install.

Run the RadiantOne v7.4 installer and follow the step-by-step instructions and then restart the computer (or log out/re-login) and then copy your license.lic file into <RLI_HOME>/vds_server. For detailed steps on the install, please see the RadiantOne Installation guide. Install the first node in the cluster and then import the configuration before adding more cluster nodes.

IMPORTANT NOTE - If installing on Windows, please run the installer as Administrator (right-click on the setup.bat and choose Run as Administrator option).

Import the Configuration

Make sure you have downloaded the migration utility **v2.1.X** from the Radiant Logic support site and unzipped it on the target machine (where you plan on importing). Contact Support (support@radiantlogic.com) for credentials and location of the Migration Utility.

IMPORTANT NOTE - The RadiantOne services must be stopped

(`<RLI_HOME>\bin\advanced\stop_servers.bat (.sh)`) and ZooKeeper should be running (`<RLI_HOME>\bin\runZooKeeper.bat (.sh)`) for the import step.

Run the command to import the configuration. An example is shown below where the migration utility is located in `C:/r1/migration/radiantone-migration-tool-2.1.1` and RadiantOne v7.4 is installed in `C:/radiantone/vds`. The cross-environment flag is needed because you are moving from v7.3 to v7.4.

```
C:\r1\migration\radiantone-migration-tool-2.1.1\migrate.bat C:\radiantone\vds import
c:/tmp/export.zip cross-environment
```

IMPORTANT NOTE - If you do not have an `RLI_HOME` environment variable defined, you must [pass the location where RadiantOne is installed in the import command](#).

Migrating Custom Objects and Interception Scripts

For custom data sources, from your v7.3 backup location, copy the `<RLI_HOME>\vds_server\custom\src\com\rli\scripts\customobjects` folder to the v7.4 `<RLI_HOME>\vds_server\custom\src\com\rli\scripts\customobjects` folder and overwrite the v7.4 target.

For interception scripts, from your v7.3 backup location, copy the `<RLI_HOME>\vds_server\custom\src\com\rli\scripts\intercept` folder to the v7.4 `<RLI_HOME>\vds_server\custom\src\com\rli\scripts\intercept` folder and overwrite the v7.4 target. If custom libraries are used, copy the `<RLI_HOME>\vds_server\custom\lib` folder from your v7.3 backup to the v7.4 `<RLI_HOME>\vds_server\custom\lib` folder and overwrite the v7.4 target.

Rebuild the customobjects and intercept jar files using ANT. An example is shown below:

```
C:\radiantone\vds\vds_server\custom>c:\radiantone\vds\ant\bin\ant.bat buildjars
Buildfile: build.xml
```

compile:

```
[javac] Compiling 11 source files to C:\radiantone\vds\vds_server\custom\classes
[propertyfile] Updating property file: C:\radiantone\vds\vds_server\custom\build.txt
```

buildjars:

```
[jar] Building jar: C:\radiantone\vds\vds_server\custom\lib\customobjects.jar
[jar] Building jar: C:\radiantone\vds\vds_server\custom\lib\intercept.jar
[jar] Building jar: C:\radiantone\vds\vds_server\custom\lib\fidsync.jar
[jar] Warning: skipping jar archive C:\radiantone\vds\vds_server\custom\lib\sync.jar because
no files were included.
```

BUILD SUCCESSFUL

Configure Services to Auto-Start

Configure RadiantOne, Management Console (Jetty) to run as services/daemons.

Scripts to install services on Windows are located: <RLI_HOME>\bin\windows.service

The Windows service names installed are as follows:

- RadiantOne = RadiantOne FID Server (rli_fid_server)
- RadiantOne Control Panel = RadiantOne FID Management Console (rli_mgmt_console)

For more details on configuring services, see the RadiantOne Deployment and Tuning Guide.

Validate your Data Sources

Check the data sources to make sure they point to the desired servers (and failover servers if applicable). For example, if you are using inter cluster replication, verify that the *replicationjournal* LDAP data source points to the correct journal. You can check your data sources from the Main Control Panel -> Settings -> Server Back End.

If you were connecting to backend data sources via SSL, make sure your certificates were migrated over successfully and that they are still valid (Main Control Panel -> Settings -> Security -> Client Certificate Truststore).

Migrate Kerberos Profiles

All Kerberos profiles are stored in <RLI_HOME>/<instance_name>/conf/krb5. Kerberos profiles are not automatically migrated. If you have Kerberos profiles, you will need to create them manually after the upgrade to v7.4.

To migrate Kerberos profiles:

1. Open a file editor, such as Notepad and navigate to your v7.3 backup location, and edit <RLI_HOME>\<instance_name>\conf\krb5
2. Copy the contents of the file.
3. On the Main Control Panel, click Settings → Server Backend → Kerberos Profiles.
4. Click the Add button.
5. Name the profile.
6. Paste the copied Kerberos profile data into the Main Configuration field.
7. Click OK.
8. Repeat this process for all Kerberos profiles.
9. Click the Save button.

Migrate the Server Certificate

The migration utility doesn't migrate server certificates. Manually copy your RadiantOne server certificate and keystore (for SSL/TLS client traffic) from the backup location (<BACKUP>/vds_server/conf) and save them to <RLI_HOME>/vds_server/conf, overriding the default certificate and keystore that are created during the v7.4 install.

Migrate Client Certificates

It is generally not recommended to import client certificates into the default Java truststore (<RLI_HOME>/jdk/jre/lib/security/cacerts) since this is overwritten each time there is a RadiantOne patch that requires a Java update and requires a restart of the RadiantOne service every time you add new certificates. For these reasons, it is recommended to use the RadiantOne Client Certificate Trust Store instead (Main Control Panel -> Settings -> Security -> Client Certificate Truststore).

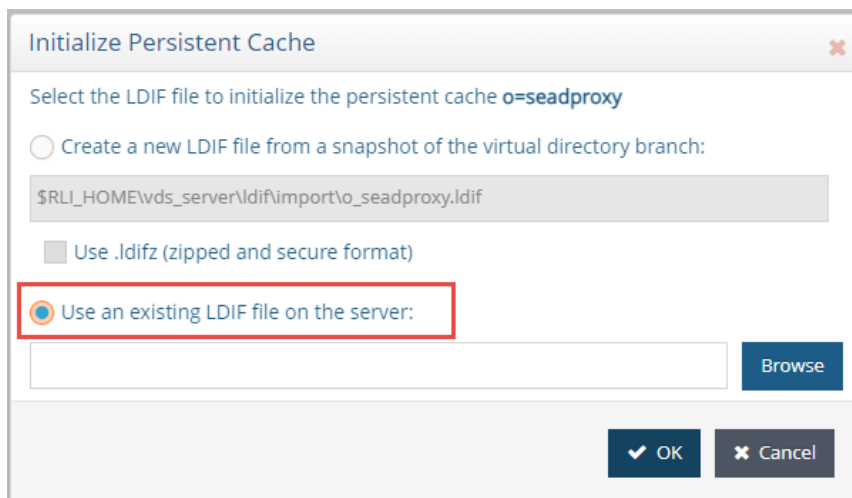
However, if you did have client certificates in the default Java cacerts storage in v7.3, these are not migrated by the migration utility. Therefore, you can copy the <RLI_HOME>/jdk/jre/security/cacerts file from the [v7.3 backup location](#) and overwrite the v7.4 target <RLI_HOME>/jdk/jre/security/cacerts file that is installed with v7.4.

If you have access to the needed client certificates outside of the cacerts file, you can import them again one at a time from Main Control Panel -> Settings -> Security -> SSL. Click the Manage button next to Client Certificates and add them from here.

Initialize Persistent Cache

When you log into the Main Control Panel, on the Directory Namespace tab below the Cache section, you should see the naming contexts that were migrated from v7.3.

Stop all persistent cache refreshes (if they are running) and deactivate the cache. Once the cache refresh has been stopped and the cache deactivated, initialize all of the persistent cache branches. If your backend(s) data has not changed, you can use the [LDIF backup of the cache from v7.3](#) during the initialization of the cache in v7.4, instead of re-creating the LDIF. This will speed up the cache initialization since the creation of the LDIF image is the most time-consuming part of the process.



Initialize Persistent Cache

Select the LDIF file to initialize the persistent cache o=seadproxy

Create a new LDIF file from a snapshot of the virtual directory branch:

\$RLI_HOME\vds_server\ldif\import\o_seadproxy.ldif

Use .ldifz (zipped and secure format)

Use an existing LDIF file on the server:

Browse

OK Cancel

IMPORTANT NOTE - If your v7.3 virtual views contained external joins (to other virtual views), the secondary views must be configured for persistent cache BEFORE you are able to initialize the cache on the main view. This requires you to mount the secondary views in the RadiantOne namespace and configure them for persistent cache. The join condition in the main view may need to be updated to reflect the location of the cached secondary views.

Perform Upload for Global Identity Builder Projects

If you had Global Identity Builder projects in v7.3, you must re-upload in the Global Identity Builder project the identity sources in v7.4. If the Global Identity Builder project has identity sources that are based on persistent cache, make sure these caches are reinitialized in v7.4 before re-uploading the global profile.

Re-enable Inter-cluster Replication

Once all of your clusters have been upgraded to v7.4, re-enable inter-cluster replication for all needed RadiantOne Universal Directory (HDAP) stores and persistent caches.

Verify SCIM Configuration

Many improvements to the SCIMv2 interface for RadiantOne have been made in v7.4. The migration process attempts to translate v7.3 SCIM configuration into v7.4. However, you must verify that the SCIM schemas, resource types and mappings are configured properly in v7.4. Verify your configuration from Main Control Panel -> Settings -> Server Front End -> SCIM.

Update LDAP Schema File

The ldapschema_01.ldif is not migrated by the migration utility because the one installed in v7.4 might have new schema information. If you customized this file in v7.3, manually make the needed changes to the new ldapschema_01.ldif file installed with v7.4. Use the copy you made in the [backup location](#) for comparison.

Upgrading Cluster Deployments

To minimize cluster downtime, it is recommended that you install and configure (migrate the configuration from v7.3) a new RadiantOne cluster with v7.4 on a new set of machines. Once this new cluster has been configured and tested, switch your load balancer to point to this new set of nodes instead of the v7.3 cluster.

If you cannot support a blue/green environment to support the upgrade, you must plan for the entire RadiantOne cluster to be offline while the upgrade takes place. Use the steps below to perform an in-place upgrade of your current v7.3 machines.

1. Stop all RadiantOne services on all cluster nodes.
2. Uninstall v7.3 on all cluster nodes.
3. Install v7.4 on the first cluster node and import the configuration from v7.3 as outlined in this upgrade guide. Perform other manual steps like reconfigure and initialize persistent caches...etc. (as outlined in this upgrade guide).

IMPORTANT NOTE - When RadiantOne v7.4 is installed on the first node, the

cluster name is established. If you have inter-cluster replication deployed (across clusters/data centers), you must keep the same cluster name that was used in your v7.3 configuration.

4. Install v7.4 on the second cluster node and have it join the cluster established in Step 3.
5. Install v7.4 on the third cluster node and have it join the cluster established in Step 3.

How to Report Problems and Provide Feedback

Feedback and problems can be reported from the Support Center/Knowledge Base accessible from: <https://support.radiantlogic.com>

If you do not have a user ID and password to access the site, please contact support@radiantlogic.com.