

# Retek® Active Retail Intelligence 10.0



## Installation Guide



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- Detailed step by step instructions to recreate.
- Exact error message received.
- Screen shots of each step you take.



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# Chapter 1 – Hardware and software requirements

Because ARI will be monitoring another application running on an Oracle database, it is assumed that users installing ARI already have a box running Oracle Enterprise Server. This section will focus on additional requirements for running ARI.

The ARI user interface can be installed either as traditional client/server forms, or as WebForms. If you are running other products that utilize Oracle Forms, then ARI should be deployed the same way that they are.

## Database Server

**General Requirements** for a database server capable of running ARI include:

- Oracle RDBMS 9i

ARI will require additional resources on a database server beyond what the application it monitors requires. Although the exact requirements will depend on what ARI is being used to monitor, in almost all cases one would expect to see an marginal increase in CPU utilization when ARI is installed on a server.

Only ONE instance of ARI may be running on a database instance at a time. This means test and dev and production must not just be separate schemas but must be separate instances on separate databases. This is both because ARI uses a database global pipe, but also because of the use of the database global DBA\_JOBS queue and the negative performance impact (on ARI itself) of many ARI instances trying to share that queue.





## Chapter 2 - Installation instructions

### Database server preparation

#### Modify the `init.ora` file in the `$ORACLE_HOME/dbs` directory

Add the following lines to each of the database initialization files (`init.ora`) that will be running the RMS. The database must be restarted after adding these lines to the `init.ora` file. See Appendix C for additional date format information.

```
job_queue_processes = <number of CPUs + 1>
```

#### Verify the existence of Oracle packages

The `DBMS_SESSION`, `DBMS_RANDOM`, `DBMS_ALERT`, `DBMS_PIPE`, and `DBMS_JOB` packages must be created in each database that ARI 10.0 will be run against. These Oracle packages are provided with the ORACLE software and are normally created by the `catproc.sql` script as part of the Oracle installation process.

Log in to the server manager and query the `USER_OBJECTS` view to verify whether or not the packages have been created and that Oracle user `sys` owns these packages. The source for these packages are located in the `$ORACLE_HOME/rdbms/admin` directory. Re-create them by running the `catproc.sql` script while logged into a server manager session as the Oracle user `sys`.

```
SQL> @dbmsocbk
```

In order to use e-mail notification, it is also necessary for the `UTL_SMTP` package to be created on the database. In addition, the Oracle JVM option must be on, and the `TCPConnection` class must be loaded.

#### Create ARI tablespaces

The ARI 10.0 requires that two tablespaces be created initially for the RMS installation. The names of these tablespaces must be `ari_data` and `ari_index`. These tablespace names are referred to in the table and index creation scripts, so their existence is required. We recommend that a separate tablespace be set up for rollback segments and another separate tablespace be set up for a temporary tablespace. The size of all of these tablespaces varies from client to client, depending on how much data the client intends on having in their environment.

**Note:** Analyze the additional tablespaces and sizing parameters before you set up the production environment.

## Database server installation instructions

ARI 10.0 is intended to monitor any Oracle RDBMS-based product. It is deployed in its own set of schemas, and functions through the use of metadata about the product to be monitored. This section will describe the creation of the ARI schemas and their objects.

Each subsection contains a description of a relevant step of the installation process. At the end of each subsection is an *Action Item* with hints on how to accomplish the tasks described in that subsection. *Action Items* make reference to SQL scripts provided. Some of the provided SQL scripts make assumptions about the environment, which may or may not be acceptable in your situation. Before choosing to use the scripts as is, always consider whether they are appropriate for your environment. If not, they at least provide example solutions to the tasks at hand.

If you use the scripts provided, you can use them most efficiently if you run them all from a single SQL\*PLUS session so that bind variables that are defined in the first couple scripts will retain their values, and save the effort of retyping them each time. Also, if all the scripts are run from a single SQL\*PLUS session an *install.lst* file will be created to log all install activity.

## Schema/User Setup

The first step to set up ARI 10.0 is to create the database schemas that will own ARI's objects. Throughout this document these schemas will be referred to by aliases in brackets so that you may substitute your actual schema names. For example, you will create the schemas [MASTER] and [GENERATED], substituting your chosen schema names for the bracketed text. The purpose of each schema is described below so that you may choose appropriate names.

Also, note that some of the sample scripts provided assume the existence of tablespaces named ARI\_DATA, ARI\_INDEX, and TEMP. You may choose to create these so that you may use the scripts without modification.

### Product Schema [PRODUCT]

This is the Oracle RDBMS-based product to be monitored, and should already be installed. If the product is RMS 10.0 or later it will have the appropriate objects to support the ARI-RMS interface. In the case of running ARI against other products, minor changes to the [PRODUCT] schema will be required to support the use of ARI 10.0.

This schema requires no new privileges.

**ARI Master Schema [MASTER]**

Create this new schema to contain all the static ARI objects and data. It will be populated during this installation process. A suggested name for this schema is 'ARI100M'.

This schema requires the following system privileges during installation:

```
INSERT ANY TABLE,
UPDATE ANY TABLE,
DELETE ANY TABLE,
ALTER ANY PROCEDURE,
ALTER ANY TABLE,
ALTER ANY TRIGGER,
CREATE ANY PROCEDURE,
CREATE SEQUENCE,
CREATE ANY TABLE,
CREATE ANY TRIGGER,
CREATE VIEW,
CREATE SESSION,
DROP ANY PROCEDURE,
DROP ANY TABLE,
DROP ANY TRIGGER,
EXECUTE ANY PROCEDURE,
SELECT ANY TABLE,
UNLIMITED TABLESPACE
```

After installation the 'create sequence' and 'create view' system privileges will be revoked from the [MASTER] schema.

As a result of the security changes in Oracle9i, this schema also requires the following object privileges. These cannot be granted through a role because they are needed in order to compile package code:

```
EXECUTE ON SYS.UTL_ENCODE,
EXECUTE ON SYS.UTL_RAW
EXECUTE ON SYS.UTL_SMTP,
EXECUTE ON SYS.DBMS_ALERT
EXECUTE ON SYS.DBMS_JOB,
EXECUTE ON SYS.DBMS_LOCK
EXECUTE ON SYS.DBMS_OUTPUT,
EXECUTE ON SYS.DBMS_PIPE,
EXECUTE ON SYS.DBMS_SESSION,
EXECUTE ON SYS.DBMS_SQL,
```

```

EXECUTE ON SYS.DBMS_UTILITY,
SELECT ON SYS.DBA_JOBS,
SELECT ON SYS.USER_JOBS,
SELECT ON SYS.USER_ROLE_PRIVS,
SELECT ON SYS.ALL_TAB_COLUMNS,
SELECT ON SYS.ALL_TABLES,
SELECT ON SYS.ALL_JOBS,
SELECT ON SYS.ALL_OBJECTS

```

### **ARI Generated-Code Schema [Generated]**

Create this new schema to be used by ARI for ARI-generated triggers, packages, procedures and tables. It will be populated by ARI during use. This schema is sometimes referred to as ARI's "internal schema." A suggested name for this schema is 'ARI100G'.

This schema requires the following system privileges during installation:

```

CREATE SESSION,
CREATE SYNONYM,
DELETE ANY TABLE,
EXECUTE ANY PROCEDURE,
INSERT ANY TABLE,
SELECT ANY SEQUENCE,
SELECT ANY TABLE,
UPDATE ANY TABLE

```

After installation the 'create session' and 'create synonym' system privileges will be revoked from the [GENERATED] schema.

As a result of the security changes in Oracle9i, this schema also requires the following object privileges. These cannot be granted through a role because they are needed in order to compile package code:

```

EXECUTE ON SYS.DBMS_PIPE,
EXECUTE ON SYS.DBMS_ALERT

```

### **User Schemas**

Given that ARI monitors another product on the same database (which we assume has already been installed), user schemas should already exist for each user who will interact with ARI. They will be a subset of the users who already use the existing product.

Synonyms will be added to these schemas for objects in [MASTER]. Thus, users should have the 'create synonym' system privilege.

As a result of the security changes in Oracle9i, user schemas also requires the following object privileges. They can be granted to each user or to public, directly or through a role:

```
EXECUTE ON SYS.DBMS_SESSION,  
EXECUTE ON SYS.DBMS_SQL,  
SELECT ON SYS.USER_ROLE_PRIVS,  
SELECT ON SYS.ALL_TAB_COLUMNS
```

### Action Item

If you choose to use the provided scripts, run *schemas.sql* to create the [MASTER] and [GENERATED] schemas with the given assumptions about tablespace names, and with the same password. You may want to change the passwords after the installation process is complete.

The script will prompt you for the [MASTER] and [GENERATED] schema names, their initial password, database name and admin username and password. The admin user is a DBA user who has ‘create user’ and other appropriate privileges.

## [MASTER] Schema Objects

The sequences, tables, constraints and indexes can be created using the set of SQL scripts included with the release. Note that default storage definitions for all tables and indexes are included. These defaults may not be appropriate for your environment. You may choose to edit or delete these, or use them as is. In past releases we have provided an Oracle Designer dump file containing the same DDL information. We have not used Designer in this release due to a lack of demand. We may provide the Designer data in a future patch release if there is a need for it.

Important note, do not create views at this time. Some views refer to packages, so all views will be created after the package specifications have been started.

### Action Item

If you choose to use the provided scripts, run *master\_ddl.sql* to create the [MASTER] schema objects.

## [MASTER] Schema Packages and Views

### Package Specifications

There are 52 package specifications included with ARI 10.0. Strictly speaking, they can be started in any order since they will be recompiled again if necessary when the bodies are started. However, some specifications do rely on the existence of others, and if you start them in an arbitrary order, compiling errors may result.

### Action Item

Use the script *master\_specs.sql* to compile the package specifications. This is an order that will avoid compiling errors.

### Views

44 files are provided in the *master\_views* directory to create the necessary views. Each file contains the SQL to define one view.

### Action Item

Run the script *master\_views.sql* to start the provided view definition scripts.

### Package Bodies

There are 51 package bodies included with ARI 10.0. Start them in any order.

### Action Item

Use the script *master\_bods.sql* to start the package body definition files in the *master\_packages* directory.

## [MASTER] Schema Data

32 tables in the [MASTER] schema must be pre-populated with data for ARI 10.0 to function properly. 27 of these have “static data”. That is, they are populated once and (under normal circumstances) are never again inserted into, updated or deleted from. They are:

```
ari_context_help
ari_data_creator
ari_encoded_string
ari_encoded_string_type
ari_options
ari_program_subunit
ari_program_unit
ari_trans_data_element_type
ari_trans_data_element_xref
event_hist_action_type
event_parm_sort_cat
event_routing_method_type
event_status
event_type_priority
event_type_status
event_user_type
exception_monitor_type
exception_status
exception_type_status
forms_deployment
realm_category
realm_type
schedule_recurrence_type
schedule_type
system_alert_filter
toolset_options
user_group_type
```

The remaining five tables that require data at installation require “seed data”. That is, they are pre-populated with an initial set of data, but additional rows may be added during normal operation of the system. These tables include:

```
ari_language
ari_user_group
parm_type
parm
realm
```

Scripts are provided in the *master\_data* directory with the necessary insert statements.

### Action Item

Run the *master\_data.sql* script. It calls the 31 individual table population scripts in the correct order.

Note that most of these scripts in turn call *disable\_fks.sql* and *enable\_fks.sql* to disable foreign keys while inserting this initial data. When the process is complete, all foreign keys will be re-enabled.

Also, one of the “static data” population scripts, *ari\_options.sql*, requires input values for the [MASTER] and [GENERATED] schema names. These values are inserted in the *ari\_options.option\_value* column where *option\_name* is MASTER\_SCHEMA and INTERNAL\_SCHEMA rows. If you have been running all the scripts in a single SQL\*PLUS session, these values will already be defined in bind variables. If they have somehow been undefined, you will be prompted for the appropriate values.

## [Generated] Schema Synonyms

The [GENERATED] schema will contain synonyms to all the objects of type table, view, function, package, procedure and sequence in the [MASTER] schema.

### Action Item

Run the script *generated\_syns.sql* to loop through all the appropriate objects in the master schema and create a synonym to each.



## Revoke Installation-only Privileges, Change Passwords

Certain [MASTER] and [GENERATED] schema system privileges are only required during the installation process. Create session and create synonym can be revoked from the [GENERATED] schema. Create sequence and create view can be revoked from the [MASTER] schema.

Also, this may be a convenient time to consider changing the initial [GENERATED] and [MASTER] schema password. Since the [MASTER] schema has the 'create session' privilege, and several 'any' type privileges (that is, delete any table, drop any table, alter any procedure), keeping this schema secure should be of particular concern. Note that the [MASTER] schema requires 'create session' only so that the administrator can log in to perform administrative tasks such as starting and stopping EVE. This privilege is NOT required for ARI to operate once it is started.

### Action Item

Run the *revoke\_install\_privs.sql* script to revoke the listed privileges. Manually change the passwords, if you like.

## User Synonyms

Each user of ARI 10.0 requires synonyms to the [MASTER] schema objects. After ensuring that each user has the 'create synonym' system privilege, create synonyms to each [MASTER] schema object of type table, view, function, package, procedure or sequence.

### Action Item

A SQL script example, *user\_syns.sql* is provided that uses dynamic SQL in a PL/SQL block to loop through the [MASTER] objects. It requires that each user have the 'select' object privilege on the ALL\_OBJECTS view. For a large number of users, this script can be modified to be called from a shell script or another SQL script which loops through all the users. A modified script, *syns.sql*, is distributed with the 10.0.3 patch and fixes some errors that may be encountered when running the original script.

## Compile ARI Oracle Forms

### Setup

All ARI forms are written for Oracle Developer 6i. They can be deployed either on an application server or directly to a user's desktop. It is assumed that Oracle Forms have already been installed in one of these modes at your site.

### Set Forms Path

The FORMS60\_PATH on the computer where forms is being deployed needs to be expanded to include the directory where the ARI forms and libraries will reside. This is stored in the registry for Windows computers and as a shell variable in UNIX.

### Compile Libraries

All of the forms libraries that ship with ARI need to be compiled in the following order: ariiflib90, arimessage, ariswidget, aristandard, arimblock, arimview. The compiled libraries need to end up in a directory in the FORMS60\_PATH. To compile a forms library:

- 1 Choose File > Open and select <INSTALL\_DIR>/forms/bin/FILENAME.pll.
- 2 Click **OK**.
- 3 Highlight FILENAME.pll and select Program > Compile.
- 4 After successful compilation, click **OK**.
- 5 After all the toolset libraries have been compiled, select File > Save.
- 6 The toolset forms libraries have been compiled. Exit the tool by selecting File > Quit.

### Compile Reference Forms

Compile the referenced forms for ARI in the following order:

- 1 fm\_refer
- 2 fm\_date
- 3 fm\_edit
- 4 fm\_mblk
- 5 fm\_multi
- 6 fm\_work
- 7 fm\_xtet

Reference forms compile the same way libraries do.

## Generate Forms and Menus

Lastly generate executables for all forms and menus. This can either be done by logging into forms and using the ‘Compile File’ command, or by using the UNIX scripts `fmb2fmx` and `mmb2mmx`. The following ARI forms and menus need to be compiled:

- `ariewiew.fmb`
- `ariewiew.mmb`
- `ariform.mmb`
- `arimblock.mmb`
- `arimstr.fmb`
- `arimstr.mmb`
- `arimview.mmb`
- `arisearch.mmb`
- `aritrans.fmb`
- `aviewer.fmb`
- `aviewer.mmb`
- `evmgmt.fmb`
- `exmgmt.fmb`
- `metadata.fmb`
- `schedule.fmb`
- `usergrp.fmb`

## Web Deployment on Oracle 9IAS and Forms Server 6i

**Note:** The following instructions are for integrating the ARI Forms Web Deployment with an existing Web Deployment of a monitored application on Oracle 9IAS and Forms Server 6i (such as RMS or RDM). Contact Retek support if you need instructions to install ARI in a stand-alone configuration.

### ARI HTTP Listener

ARI can either share an http listener with the monitored app or have a separate listener. If a shared listener is used, then ARI and the monitored app will share the listener settings. Modify or copy an existing listener .conf file to use the appropriate settings for the ARI listener. These settings include:

```

ServerName: the machine hosting the http server

Port: the port that the server will listen on

DocumentRoot: the directory that the server will look in
for html files

Alias: Virtual Paths used by the standard Retek web
setup, including

    /web_gif/ (for gifs),
    /english/ (for help files),
    /java/help/ (for the rhelp file),
    /web_code/, /web_jars/, /jinitiator/ (used in html
files).
```

In the standard Retek web setup, the listener would be added to the listener startup section of the `ias_web_start` script.

### ARI Icons Location

The ARI gif files can be found in the release directory `Forms/Source/Icons/Web`. Note that the ARI icons distributed in the RMS 10.0.0.1 release cause a forms bug (100% client cpu usage), so it is important to use the versions distributed with ARI 10.0. The gifs should be placed inside the `/web_gif/` virtual directory (defined in the .conf file). Make sure that the following line

```
default.icons.iconpath=/web_gif/
```

is found at the bottom of the registry file

```

9IAS_ORACLE_HOME/6iserver/forms60/java/oracle/forms/regi
stry/Registry.dat (unix), or
9IAS_ORACLE_HOME\806\forms60\java\Oracle\forms\registry\
Registry.dat (NT).
```

## ARI WebHelp

The ARI WebHelp installation can be found in the ARI 10.0.1 patch. Note that the help installation included in the base ARI 10.0 release should not be used. The WebHelp files can be found in the patch directory Forms/WebHelp. The base directory ("ari") should be placed inside the /english/ virtual directory (defined in the .conf file). The rhelp file (also found in Forms/WebHelp) should be placed stored in the /java/help/ virtual directory (defined in the .conf file). The ari\_context\_help.sql script (found in Database/master\_data) should be installed on the database. Log into SQL\*Plus as the ARI master schema owner and issue the following commands:

```
start <PATCH_DIR>/Database/master_data/ari_context_help.sql
update ari_language set
WEBHELP_SERVER='http://<ServerName>:<Port>' where lang=1;
```

(where the ServerName and Port settings are defined in the .conf file).

## ARI Forms Server

In production, ARI usually shares a same Forms server process with the monitored app. This enables the integration between the user interfaces of the two applications. In the standard Retek web setup, the Forms Server processes would be started by the ias\_web\_start script. The Form Server environment settings are usually stored from a separate script which is called from ias\_web\_start. The FORMS60\_PATH variable should point to directories containing the .fmx and .pll files for both ARI and the monitored app. In a development or testing setup, it is often appropriate to have multiple forms servers set up for each product.

## ARI html file

ARI forms can be accessed in two ways:

- by using the ARI Alert Viewer button within the monitored application.
- by launching the ARI administrative forms.

Use of the Alert Viewer button is documented in the ARI 10.0 Operations Guide, Appendix B – API List (ARI Alert Notification API). In order to use the ARI administrative forms, you must install the ARI html file.

Two sample html files are provided in the 10.0.3 patch. ari10launch.html uses JavaScript to dynamically control the forms settings. Use of this file is required for integration with the Retek Workbenches. It is set up so as to simplify modification of settings for customers. ari100.html is a static html file. It is appropriate for use at sites where scripting is disabled. The serverPort parameter should be set to match the Forms Server port for ARI (set in the ias\_web\_start script).

The parameters classid, codebase, type, and pluginspage are set to the values for JInitiator 1.1.8.19. If you wish to upgrade to a different version of JInitiator, those values must be updated. The modified html file should be placed in the DocumentRoot directory (defined in the .conf file). If you have multiple ARI Forms Servers, you will need a separate ARI html file for each Forms Server (each with the appropriate serverPort setting).

## Import-Export Tool Installation Instructions

The current version of IET (ARI Import-Export Tool) is 1.3.1 (provided in the 10.0.3 patch). Most clients will want to install IET so that they can import pre-packaged rules, and move rules between ARI instances. The IET Windows Installer is the file ariiet131.exe. It can be found in the IET release directory. Updated versions can always be downloaded in a zip format from the Retek website; you can contact Retek Support to get the URL for the current version.

Run this installer on the Windows machine that you want to run IET on (should have database access to all ARI instances). Follow the directions within the installer to complete your IET installation. IET requires a JDK 1.3 compliant Java Virtual Machine; the installer gives you the option of using an existing JVM or installing one that is bundled with IET.