Oracle® Machine Learning for R

Oracle Machine Learning for R 2.0 Release Notes

These release notes contain important information about Release 2.0 of OML4R.

The OML application programming interface for R, previously under the name Oracle R Enterprise, is now named Oracle Machine Learning for R (OML4R). The package, class, and function names are not rebranded. They remain `ORE`, `OREbase`, `ore.frame`, `ore.connect`, and so on.

The OML application programming interfaces for SQL include PL/SQL packages, SQL functions, and data dictionary views. Using these APIs is described in publications, previously under the name Oracle Data Mining, that are now named Oracle Machine Learning for SQL (OML4SQL). The PL/SQL package and database view names are not rebranded. They remain `DBMS_DATA_MINING`, `ALL_MINING_MODELS`, and so on.

- New Features in Oracle Machine Learning for R 2.0
    OML4R 2.0 has some new features that are compatible with Oracle Database Release 23ai.

- Oracle Machine Learning for R 2.0 Platform and Configuration Requirements
    OML4R 2.0 runs on Linux 64-bit platforms only.

- Bugs Fixed in Oracle Machine Learning for R 2.0
    OML4R 2.0 fixes the problems listed in this topic.

New Features in Oracle Machine Learning for R 2.0

OML4R 2.0 has some new features that are compatible with Oracle Database Release 23ai.

Support for R-4.0.5

OML4R 2.0 requires R-4.0.5. As with earlier releases of OML4R, Oracle recommends that you use Oracle R Distribution.

> **✎ Note:**
>
> Each version of Oracle R Distribution (ORD) is compatible with the OML4R binary built under that specific R version.

- New Features for Oracle Database Release 23ai
  This topic describes the new features in Oracle Machine Learning for R for Oracle Database Release 23ai release.

New Features for Oracle Database Release 23ai

This topic describes the new features in Oracle Machine Learning for R for Oracle Database Release 23ai release.

The following in-database algorithms are exposed in the OML4R Release 2.0:

- Neural Network
- Random Forest
- Exponential Smoothing Models
- XGBoost (DB 21c and later)

The following functions are deprecated in Oracle Database (on premises and cloud) for OML4R Release 2.0:

- ore.lm (use oml.odmGLM or oml.odmSVM)
- ore.stepwise (use oml.odmGLM with feature selection and generation)
- ore.glm (use oml.odmGLM)
- ore.neural (use oml.odmNN)
- ore.randomForest (use ore.odmRF)
- ore.esm (use ore.odmESM)
- prcomp (use ore.odmSVD)
- Singular Value Decomposition (SVD) (use ore.odmSVD)

For more information, see User Guide

Oracle Machine Learning for R 2.0 Platform and Configuration Requirements

OML4R 2.0 runs on Linux 64-bit platforms only.

Both client and server components are supported on each of the platforms described in this topic.

Table 1-1   Oracle Machine Learning for R Platform Requirements

Operating System	Hardware Platform	Description
Linux x86-64	Intel and AMD	64-bit Red Hat Enterprise Linux Releases 7 and 8.

> **✎ Note:**
>
> R-3.6.1 is supported on Linux 7, and R-4.0.5 is supported on Linux 7 and 8. Linux 8 is a supported OS with the introduction of R-4.0.5.

Oracle Linux may be running on Oracle Exadata Database Machine.

Table 1-2   Oracle Machine Learning for R Configuration Requirements and Server Support Matrix

OML4R Version	Open Source R or Oracle R Distribution	Oracle Database Release
2.0	4.0.5	19c, 21c, 23ai
1.5.1	3.6.1	12.2.0.1, 18c, 19c, 21c
1.5.1	3.3.0	11.2.0.4, 12.1.0.1, 12.1.0.2, 12.2.0.1
1.5	3.2.0	11.2.0.4, 12.1.0.1, 12.1.0.2
1.4.1	3.0.1, 3.1.1	11.2.0.3, 11.2.0.4, 12.1.0.1, 12.1.0.2
1.4	2.15.2, 2.15.3, 3.0.1	11.2.0.3, 11.2.0.4, 12.1.0.1
1.3.1	2.15.1, 2.15.2, 2.15.3	11.2.0.3, 11.2.0.4, 12.1.0.1
1.3	2.15.1	11.2.0.3, 11.2.0.4, 12.1.0.1
1.2	2.15.1	11.2.0.3, 11.2.0.4, 12.1.0.1
1.1	2.13.2	11.2.0.3, 11.2.0.4, 12.1.0.1
1.0	2.13.2	11.2.0.3, 11.2.0.4, 12.1.0.1

> **✎ Note:**
>
> In Oracle Database Release 12.1.0.2, for some embedded R operations to be successful, Oracle R Enterprise releases 1.4.1 and later require the database patch -- 20173897 WRONG RESULT OF GROUP BY FROM A TABLE RETURNED BY EXTPROC (Patch).

Bugs Fixed in Oracle Machine Learning for R 2.0

OML4R 2.0 fixes the problems listed in this topic.

Table 1-3   Bugs Fixed in OML4R 2.0

Number	Description
34682590	DATASTORE PYQDROPDATASTORE (AND RQDROPDATASTORE) ERROR MESSAGE UNCLEAR IF NOT FOUND
34318474	ADD TOPN_ATTRS TO OREDM PREDICT METHOD
34325698	PROVIDE API FUNCTION TO DROP A NAMED MODEL
26865094	ENABLE PATTERN MATCHING FOR ORE.SCRIPTLOAD AND ORE.SCRIPTDROP
26248901	ADD TOPN BESTN OPTION IN ORE.ODM MODEL PREDICTION
21576922	ORE.DELETE FOR DATASTORE TO SUPPORT PATTERN FOR BATCH DELETION
17654997	DATASTORE - PROVIDE ABILITY TO RENAME EXISTING DATASTORE AND CONTAINED OBJECTS
21106144	EMBEDDED R PASSES FACTOR COLUMNS AS CHARACTER
20417467	ORE: USING R OPERATOR %IN% PRODUCES ERROR ORA-00913 FOR LARGE VECTORS
22567206	ORE.SCRIPTLIST AND VIEWS TO SHOW RQ$ & RQG$ SCRIPTS VISIBLE TO USER
22558188	ORE UNINSTALL REMOVING ORACLE_HOME/R DIRECTORY
22554793	ORE.SCRIPTDROP: NEED BETTER ERROR IF SCRIPT IS NOT IN USER SCHEMA
32286586	RQSYS USER AUTHENTICATION_TYPE SHOWS PASSWORD AND ACCOUNT_STATUS SHOWS EXPIRED & LOCKED
34485716	ORE.SUMMARY FAILED WITH STATS SET TO MODE AND NMISS
27201219	PREDICT ON ORE.ODMESA MODEL WITH TYPE="RAW" PRODUCES ERROR " IDENTIFIER IS TOO"
27194453	ESA MODEL FEATURE_COMPARE SHOULD RETURN ONLY NON-DUPLICATE RESULTS
26026670	TAIL FUNCTION DOES NOT WORK CORRECTLY FOR ORE.FRAME
23732451	ORE.CORR(): WEIGHT ARGUMENT RETURNS ERROR