Oracle® Essbase

Getting Started with Oracle Essbase

Release 21
F17138-12
December 2024

ORACLE

Oracle Essbase Getting Started with Oracle Essbase, Release 21

F17138-12

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Accessibility and Support

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

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What Is Oracle Essbase?

Oracle Essbase is a business analytics solution that uses a proven, flexible, best-in-class architecture for analysis, reporting, and collaboration. Essbase delivers instant value and greater productivity for your business users, analysts, modelers, and decision-makers, across all lines of business within your organization.

Topics:

- About Oracle Essbase
- Features of Oracle Essbase
- Overview of Latest Oracle Essbase Platform
- Use Case Examples

About Oracle Essbase

Oracle Essbase provides a wide range of powerful and comprehensive functionality.

- **Best-in-Class Functionality**

  Oracle Essbase can be accessed on an intuitive web interface, or using Microsoft Office, for all of your analytic and business modeling needs, from multi-dimensional analysis to complex procedural business logic applied to your data. You can easily create and share on-the-fly transient models or deliver enterprise-wide long-established databases. New agile forecasting functionality facilitates collaborative what-if analysis and modeling. A gallery of cube templates provided with Essbase helps you get started.

- **Proven Platform and Technology**

  Oracle Essbase can be easily deployed on Oracle Cloud Infrastructure or independent deployments, and then widely used to solve simple to complex business analytics use cases across all industries. It is designed to help you model business performance levels and deliver what-if analyses for varying conditions.

  When using Oracle Essbase on Oracle Cloud Infrastructure via Marketplace, it helps you build your company's cloud strategy efficiently by avoiding data and business process fragmentation. With Oracle Identity Cloud Service, Essbase can utilize enterprise-wide user profiles to integrate with Oracle Cloud.

- **Flexible**

  Oracle Essbase leverages the best of your own applications, adds new functionality, and reduces the complexity of deployment. You get specially built technology to facilitate your rapid deployment of on-the-fly analytic models, enabling them to be extended as your business needs evolve or discarded in favor of your new models. By creating and sharing ad hoc models, you can quickly build and collaborate using Microsoft Excel or web interfaces.

- **Enterprise Ready**

  Oracle Essbase is your one-stop application to build, deploy, and manage analytic and reporting applications for any size organization and deployments. It supports data backup and migration, and can also distribute application templates throughout your organization

without compromising ease of use or self-service options. The software provides flat-file, Excel-based, and SQL-based import and export.

- **Rapid Deployment**

  With latest Essbase 21c independent deployment release, you can deploy Oracle Essbase with a stand-alone installer and configuration tool.

  When using Oracle Essbase on Oracle Cloud Infrastructure via Marketplace allows you to quickly deploy relevant Oracle Cloud Infrastructure stack components to get started using Essbase. You don't have to buy, install, or configure hardware on-premises. With quick deployment, you can deploy database, storage, and required network infrastructure components.

  Using the new application workbook upload, you can also leverage the deep product expertise of the worldwide Oracle Hyperion Partner network and the Essbase gallery templates to quickly develop and deploy cloud-based analytic models.

- **Portability**

  When using the Essbase 21c independent deployment release, you can migrate your Essbase users and applications and take advantage of the latest Oracle Essbase features.

  If you’re an existing Essbase customer, you can choose to leverage its built-in migration capabilities to port your on-premises or cloud applications to Oracle Essbase on Oracle Cloud Infrastructure via Marketplace. Migrating to the cloud enables your organization to extend Oracle Essbase usage across the enterprise to other lines of business, without additional demands on your IT resources, hardware, personnel or budget.

Features of Oracle Essbase

Oracle Essbase provides a complete set of tools and features for deriving and sharing data insights.

Both large organizations and small teams can share data more simply, without the need to manage or consolidate multiple versions of spreadsheets, and quickly perform ad hoc analysis of the spreadsheet data. Application developers can utilize interfaces that enable them to extend, customize, and embed rich analytic experiences in the application flow.

You can also:

- Create and manage Essbase applications from Microsoft Excel by using Cube Designer
- Create connections and data sources for drill through, data loads, and dimension builds
- Collect collaborative data, create scenarios, and perform what-if analysis using Smart View
- Create transparent and replicated partitions
- Manage Essbase, including backups, migration, monitoring, and patches, giving you control and manageability
- Using Essbase on the cloud, with Oracle Cloud Infrastructure via Marketplace, you can use Oracle Analytics data flows including ingestion, transformation, and persistence, to create Essbase applications. You can also set up a private VCN to connect to on-premises data sources.

Overview of Latest Oracle Essbase Platform

Oracle Essbase on Oracle Cloud Infrastructure (OCI) via Marketplace and Essbase 21c on independent deployments, are available as part of standalone deployments as a powerful analytic platform with robust new features added since Release 11g.

You can implement Essbase:

- on the cloud, using Oracle Cloud Infrastructure via Marketplace listings
- by installing Essbase 21c on independent deployments. For supported platforms, see the Oracle certification matrix.

Platform Features

Architecture — The Essbase 21c independent deployment architecture includes a middle-tier platform that runs on WebLogic. This Fusion Middleware architecture enables fast performance, optimized memory usage, high concurrency, flexible deployment options, and failover.

Essbase on Oracle Cloud Infrastructure architecture utilizes OCI to enable the same benefits. Both independent and cloud-based architectures utilize Oracle Database and/or your choice of relational database to store Essbase schemas.

Query Engine — Hybrid mode is the default query engine for block storage cubes, providing robust dependency analysis and fast aggregation. Hybrid mode has fewer limitations than it did in Release 11g, handles more calculations, and is enhanced with several tuning options.

Failover — In Essbase 11g, Provider Services enabled failover leasing managed through OPMN. Today, on Essbase 21c independent deployments only, failover is integrated with WebLogic to support a central request leasing system that determines which node is active and which nodes are waiting on standby.

Security — In Essbase 21c independent deployments, all data is encrypted in transit layer using Transport Layer Security (TLS) 1.2. You can implement a load balancer. In deployments of Essbase on Oracle Cloud Infrastructure, you can implement public or private subnets, policies, firewalls, and other network security options available in Oracle Cloud Infrastructure.

For user authentication, you can choose WebLogic Embedded LDAP in conjunction with your choice of external authentication provider, or, if you already use EPM Shared Services security, you can continue to use it with Essbase 21c independent deployments only. Authentication using Identity Cloud Service (IDCS) is an option if you are deploying Essbase on Oracle Cloud Infrastructure via Marketplace.

There are three Essbase user roles: User, Power User, and Service Administrator. Application permissions, granted separately, are Application Manager, Database Manager, Database Update, and Database Access. All roles from EPM Shared Services can be mapped to the new roles and permissions, or, you can continue to use EPM Shared Services (Essbase Essbase 21c independent deployments only).

Essbase filters help you implement fine-tuned, cell-level access controls to your cubes. Using dynamic filters with built in functions/variables, you can make filters extensible and adaptible to a changing user base and real-time source data. You can use LoginAs to test the filters in the administrative interface.

Administrative Interface —The Essbase web interface enables you to manage applications, users/groups, and Essbase artifacts. It includes a rich outline editor, scripting editors, a data analysis interface where you can save grid layouts, and a load rules editor with built-in data previews. A centralized Jobs interface lets you initiate requests, and monitor active and recent requests. Cube Designer and Smart View, as well as utilities for migration, automation, and administration, are available to download from the Console.

Essbase Administration Services Lite — Although the Essbase web interface is the modern administration interface and offers the current platform features, a light version of Essbase Administration Services (EAS) is a limited-support option for continued management of your applications, in case your company is not ready to adopt the new interface. The features and

functionality of EAS are limited to what was available in Release 11g and do not encompass the modern platform features.

Accelerated Development and Audit Capabilities — Calculation tracing lets you monitor and debug calculation scripts. Query tracing can be used to monitor and debug query performance. Audit trail enables you to track changes made to data. Solve order can be adjusted while you're working in Smart View.

Automation and Developer tools — REST API helps you automate management of hosted Essbase resources and operations over secured HTTP. Java and C API are also available, as well as a new command line interface (CLI), the MaxL administrative scripting language, Report Writer, and backward-compatibility support for the ESSCMD command language.

Catalog — The Catalog is a central place to store files and artifacts associated with Essbase applications and users. It includes user and shared directories, and an instructive Gallery of sample cubes.

Gallery — Included in the Catalog is a Gallery of cube templates, in the form of Excel application workbooks. You can easily import these workbooks to build a diverse variety of sample cubes. The samples are instructional for learning about different use cases for Essbase applications and features, as well as learning how to build and design cubes from structured and unstructured workbooks.

Cube Designer — The Cube Designer extension for Excel is a client interface for designing and building Essbase cubes from application workbooks. This interface offers a flexible and portable cube design and administration system. Structured workbooks simplify everyday cube design, optimization, and portability. Cube Designer infers patterns found in unstructured workbooks, to help you shape raw data into hierachically organized cubes.

Connectivity — Essbase APIs use TLS/SSL for secure connectivity both internally between components and externally with other applications. You can connect from any software using Essbase Runtime Client (RTC) over secure HTTP without needing to open additional TCP/IP ports to enable client connectivity.

Connections and Datasources — Essbase administration tasks often require connectivity to remote source data or hosts. With reusable connections and Datasources, you no longer have to code the connection details into artifacts like rule files or filters, or enter them each time you perform other connection-dependent tasks.

Analysis — You can perform ad hoc data queries/grid analyses on cube data from the administrative Essbase web interface, as a built-in alternative to connecting via Smart View. You can save your grid layouts, run report scripts, and run and save named MDX queries.

Calculation — Essbase offers a rich library of calculation functions and commands to suit most analytical applications, and you can add your own custom defined functions and macros built using Java. Calculation tracing helps you analyze and debug calculation script performance and member formula processing. Tuple-based calculation helps you optimize and refine calculation scope, limiting it to focus on the active Smart View grid. Hybrid mode calculation can be selected, and is enhanced with several tuning options.

MDX Insert and Export — In addition to MDX's well-known utility as a multidimensional query language, you can use its Insert and Export directives to shape, copy, move, and update any custom slice of multidimensional data.

Aggregate Storage Calculation — You can use MDX Insert to perform custom calculations and allocations. You can automate the creation and maintenance of default aggregate views.

Data Load and Dimension Build — The Essbase web interface load rules editor with built-in data previews enables import of data and dimension from the Catalog or from outside sources. Rule file columns can employ functions like Sum, Min, Max, Count, and Avg to help you shape

your import. SQL-based loading has improved performance. Batch Outline Editing can be performed programatically from Java or REST API. Command-line interface (CLI) supports streaming data load from a variety of sources. Aggregate storage data load optimizations are added, including buffer, merge, and cache tuning options.

Drill Through — When you need more data than what you can see in the Essbase cube, you can use drill through reports to access external data sources. Performance is improved for drill through connections to Oracle Database. The flexibility of drill through report design is improved, allowing diversified selection of multiple cells or ranges of cells. Selections can be recursive, non-recursive, level 0, contiguous, or non-contiguous.

Scenario Management — Scenario management offers the ability to build private work areas or “sandboxes” in which users can model different assumptions within the data to see the effect on aggregated results, without affecting the cube.

Shadow Applications — To perform cube modifications and restructures with limited down time, you can create a shadow application that is a copy of the primary application. The primary application continues to serve read-only operations, such as queries, while you perform modifications on the shadow application. You can make the shadow application visible or hidden. For more information, see the Create Shadow Application endpoint in the REST API.

Configuration — Most configuration parameters you need for application tuning should be set per application, using the Essbase web interface. If you install Essbase 21c on independent deployments, you also have control of the system wide configuration defaults in essbase.cfg, if needed.

Logging — Logs are in Oracle Diagnostic Logging (ODL) format. You can download log files from the Essbase web interface. You can use Performance Analyzer to analyze Essbase logs to generate usage and performance statistics.

Migration, Backup/Restore— Lifecycle Management Utility (LCM) makes it easy to migrate on premise applications across Essbase releases and host servers. An additional migration utility that helps migrate users and groups is also available to download from the Console. For deployments on Oracle Cloud Infrastructure, you back up your Essbase stack using the infrastructure.

Use Case Examples

Here are some use cases examples for your deployment of Oracle Essbase.

Sample Scenario	Description
Drill Through to Source	Define and execute drill through reports so that you can analyze additional detailed data retrieved from external data sources.
Perform What-if Analysis	Create, manage, and analyze scenarios, and also use light-weight life cycle management of the scenario themselves.
Forecast	Perform top-down and bottom-up forecasting and allocations.

Sample Scenario	Description
Create and Manage Cubes from Excel	Design, create, and modify fully functional cubes from Excel-based application workbooks. Design the cube within the application workbook, import the workbook to the cloud service to create a cube, load data, and calculate the cube. Create cubes from tabular data, from any source system.

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How Do I Get Started?

Here are some steps and information to help you get started.

Topics:

- Differences Between Essbase Deployment Options
- Installing Oracle Essbase on Independent Deployments
- Deploying Oracle Essbase on Oracle Cloud Infrastructure via Marketplace
- Using Oracle Essbase
- Oracle Learning Library
- Oracle Essbase Accessibility

Differences Between Essbase Deployment Options

Review this topic to learn the differences between Essbase 21c deployment options.

For an Essbase 21c independent deployment, you install and configure Essbase using installation and configuration tools available on Oracle Software Delivery Cloud.

If you select to use Essbase 21c deployment on Oracle Cloud Infrastructure, you do not need to run the installation and configuration tools. The deployment process sets up Essbase on your Oracle Cloud Infrastructure (OCI) tenancy. Access the deployment stack listings from Oracle Cloud Marketplace.

Feature or Component	Independent Deployment	Stack Deployment on OCI
Integration with EPM System Foundation Services	Yes	No
Built-in integration with Identity Cloud Service	No	Yes
Support for failover configuration	Yes	No
Essbase Administration Services (EAS Lite)	Yes	No
Support for federated partitions to Autonomous Data Warehouse	No	Yes
Support on Windows	Yes	No
Support for centralized Smart View URL for multiple Essbase instances	Yes	No
Support for Smart View for Office (Mac and Browser).	No	Yes

Installing Oracle Essbase on Independent Deployments

Here are steps and information for getting started with installing and maintaining Oracle Essbase on independent deployments. All topics referenced below are located in the *Essbase Independent Deployment* documentation.

First Steps	More Information
Plan your installation and configuration	Get Started with Oracle Essbase Installation and Maintenance Before You Begin Certification Matrix
Install Oracle Essbase	Install Oracle Essbase
Configure Oracle Essbase	Configure Oracle Essbase Configure Essbase Servers in a Failover Cluster
Manage user roles and application permissions	Manage Essbase User Roles and Application Permissions
Migrate applications and users to Oracle Essbase	Migrate Essbase Applications and Users
Manage server operations including backup, patches, start or stop instances, uninstall, and more	Manage Server Operations

Deploying Oracle Essbase on Oracle Cloud Infrastructure via Marketplace

Here are steps and information for getting started with deploying and maintaining Oracle Essbase on Oracle Cloud Infrastructure via Marketplace. All topics referenced below are located in the *Deploying Oracle Essbase on OCI via Marketplace* documentation, unless stated otherwise.

First Steps	More Information
Plan your deployment	Get Started with Deployment and Administration Before You Begin with Oracle Essbase
Deploy Oracle Essbase	Set Up Oracle Essbase
Migrate applications and users to Oracle Essbase	Migrate Applications and Users
Manage user and roles	Manage Users and Roles
Maintain Essbase including backup, patches, start or stop instances, and more	Manage Oracle Essbase
Find out more about Oracle Cloud Infrastructure	Get Started with Oracle Cloud Infrastructure in the *Oracle Cloud Infrastructure Documentation*
Find out more about Oracle Marketplace	Overview of Marketplace in the *Oracle Cloud Infrastructure Documentation*

Using Oracle Essbase

Here are steps and information for getting started with Oracle Essbase. All topic referenced below are located in the *Using Oracle Essbase* documentation.

First Steps	More Information
Access Oracle Essbase and its tools	Access Tools and Tasks from the Console Essbase, REST, and Smart View Client URLs
Set Up your Client	Set Up Your Client
Explore gallery templates	Explore the Gallery Templates
Administer an application by executing MaxL scripts	Manage Essbase Using the MaxL Client

First Steps	More Information
Modify an outline	Modify an Outline
Manage jobs	Run and Manage Jobs Using the Web Interface
Create Essbase applications and provision a user	Create an Application in the Essbase Web Interface and Provision a User to Access and Query the Cube Create an Application and Cube in Cube Designer
Solve business analytics scenarios and model business performance	Model Data in Private Scenarios
Analyze data and scenarios using Smart View	Analyze Forecast Data in Smart View

For information on user roles and permissions, see Understand Your Access Permissions in Essbase.

Oracle Learning Library

The Oracle Learning Library (OLL) is dedicated to hosting free instructional content developed by Oracle subject-matter experts.

Use the Search function, OLL Advanced Search, to find resources for learning resources, including general tutorials, videos, and Oracle by Example (OBE) tutorials.

Oracle Essbase Accessibility

Accessibility features in Oracle Essbase help make navigating and using the product easier for persons with disabilities and for the aging population. Standards-based assistive-technology hardware and software (such as Freedom Scientific JAWS or Microsoft Narrator) are supported.

Topics:

- Web Interface Keyboard Equivalents
- Cube Designer Keyboard Equivalents
- About the Analyze Data View

Notes:

- For full screen reader support, use JAWS.
- When navigating tables using the JAWS screen reader, use the keystrokes described on HTML Tables with JAWS and MAGic.
- If a list row has an actionable item, such as an anchor or tag, press Enter to perform the action. Press Esc to exit actionable mode.

Oracle customers can access online support at My Oracle Support. See Global Customer Support Accessibility or, if you are hearing impaired, visit Accessible Oracle Support.

You can read about Oracle's commitment to accessibility on the Oracle's Accessibility Program website: Oracle's Accessibility Program.

Web Interface Keyboard Equivalents

Use these keyboard equivalents to access Essbase.

Activating Keyboard Shortcuts in Browsers

Browser	Activation Keyboard Shortcuts
Firefox	Alt + Shift + Keys
Internet Explorer	Alt+ Keys
Google Chrome	Alt+ Keys
Apple Safari	Alt+ Keys

Analyze Data View in the Essbase web interface

Keys	Actions
Shift + up arrow key	To enter to the first cell inside grid and to get the focus out of the grid (in both **Ad Hoc Analysis** and **Reports** tabs).
Shift + Ctrl + up arrow key	Launch the context menu.

Formula Inspector and Script Editor in the Essbase web interface

When you access the formula editor and the script editor using the keyboard, and the cursor is inside the editor, use these keys to reach the element prior to or after the script editor.

Keys	Actions
Ctrl+Alt+Enter	Move the cursor to the element previous to the script editor.
Ctrl+Enter	Move the cursor to the element after the script editor.

Cube Designer Keyboard Equivalents

Use these keyboard equivalents to access Cube Designer.

Cube Designer Ribbon

Press Alt + CD to open the Cube Designer ribbon. The relevant equivalent keys will appear next to the icons.

Keys	Actions
CO	Connections
CAT	Catalog
LO	Local
DP	Designer panel
FE	Formula editor
HV	Hierarchy viewer
BC	Build cube

Keys	Actions
LD	Load data
CAL	Calculate
AN	Analyze
VJ	View jobs
TD	Transform data
OP	Options
HE	Help
AT	Admin tasks
CS	Currently selected

Designer Panel

The designer panel keyboard equivalents work only when the cursor is on the designer panel. If the cursor is on the worksheet, then press F6 + Tab to move the cursor to the designer panel and use the panel equivalents.

Keys	Actions
Ctrl + Alt + F	From sheet
Ctrl + Alt + T	To sheet
Ctrl + Alt + R	Reset
Ctrl + Alt + S	Sync
Menu (or right click)	When a dimension from the dimensions list is selected, opens the dimensions context menu

Cube Designer Catalog

Keys	Actions
Ctrl + U	Upload to Essbase
Enter	Enter folder or download file
Ctrl + X	Select a file to be moved to another location
Ctrl + C	Select a file to be copied to another location
Ctrl + V	Paste a file
Del	Delete a file or files
F2	Rename the selected file or folder
F5	Refresh
Ctrl + Shift + N	Create a new folder
Ctrl + A	Select all items
Left and right arrows	Toggle focus between the catalog and the files area
Backspace	Navigate to parent folder
Menu (or right click)	Opens file context menu

Cube Designer Formula Editor

Keys	Actions
Ctrl + 1	Focus on member tree
Ctrl + 2	Focus on formula content

Keys	Actions
Ctrl + 3	Focus on function tree
Ctrl + A	Select all text
Ctrl + V	Paste file
Alt + V	Validate formula
Alt + S	Save formula
F3	Search
Ctrl + Tab	Tabular spacing
Enter	Add a new line to the formula content, or, if focused on the function list, insert the selected item into the formula

Cube Designer Hierarchy Viewer

Keys	Actions
F2	Rename member
F3	Find next (according to search term)
F5	Reload
Menu (or right click)	Opens member context menu

Optimize Cube

Keys	Actions
Esc	Ends analysis operation

Job Manager

Keys	Actions
Del	Deletes a job from the table

Transform Data

Keys	Actions
Menu (or right click)	Opens the member context menu

About the Analyze Data View

Use these accessibility guidelines for the Analyze Data View in the Essbase web interface.

- It does not support screen readers. If you need a screen reader, use Smart View instead.
- You can use shortcut keys to navigate the grid.
- When navigating the **Ad Hoc Analysis** and **Reports** tabs, use the arrow keys to move across cells. To focus on a link in a cell, first navigate to that cell and then press the Enter key.
- If a cell has an actionable item, such as a link, menu, image, or radio button, press Enter to perform the action. Press Esc to exit actionable mode.

A
Certification Matrix

This matrix provides certification for: Oracle Essbase 21c independent deployments (where you download software from Oracle Software Development Cloud and then install and configure setup) and for Oracle Cloud Infrastructure (OCI) via Marketplace (where you deploy Essbase, from the OCI Console, using Marketplace listings).

For interoperability and compatibility information, see *Understanding Interoperability and Compatibility* at https://docs.oracle.com/en/middleware/fusion-middleware/12.2.1.4/intop/toc.htm.

- System Certification
- Client Certification
- Browser Certification
- Database Certification
- Interoperability
- Identity and Access Management

> **Note:**
>
> **Conventions in this matrix**:
>
> - The phrase "and higher" after a version number indicates that this version and all higher versions are certified. For example, "21.1 and higher" means 21.1, 21.1.1, 21.1.2, 21.2, 21.3, 21.4, 21.4.2, and so on.
> - The use of an "x" after a version number indicates that this version, and all higher versions at that decimal level, are certified. For example, "Release 21.1.x" means 21.1.0.0.0, 21.1.1, 21.1.2, and so on - only versions of 21.1 decimal level, and not 21.2 or higher.
> - Any exceptions are noted in the Notes column.

> **Note:**
>
> **Regarding Virtualization - for independent deployments only:**
>
> Oracle Essbase is mainly certified against the Operating System (OS) and not a specific virtualization technology. If an OS vendor releases a newer OS version, along with a complementary virtualization and/or partitioning technology, the support of this new combination depends on the new OS being certified
>
> - by Oracle
> - by virtualization technology provider

System

This matrix provides certification for Oracle Essbase (Plus) 21c independent deployments and Oracle Cloud Infrastructure (OCI) via Marketplace.

For interoperability and compatibility information, see *Understanding Interoperability and Compatibility* at https://docs.oracle.com/en/middleware/fusion-middleware/12.2.1.4/intop/toc.htm.

Independent Deployments

Essbase Version	OS Version	Notes
21.1 and higher	Red Hat Enterprise Linux 7, 8	See Note 3
21.1 and higher	Oracle Linux 7, 8	See Notes 1, 2, 3
21.3 and higher	Windows Server 2019	-
21.5 and higher	Windows 2022	-

Notes:

- Oracle App 64 bit support for all Oracle Essbase versions.
- Note 1: If running on Oracle VM, Oracle VM 3.3.1 and higher is supported.
- Note 2: For Oracle Unbreakable Enterprise Kernel Release 4 on Oracle Linux 7, UL 1 or higher is required.
- Note 3: For Linux 8, install libnsl.so.1, with the assistance of your Linux System Administrator, if not installed by default. EAS lite requires this file.
- Note 4: All sub versions of the OS are supported unless stated otherwise.

Essbase Version	Supported JDK 8 Version*
21.1	1.8.0_261 and higher
21.2	1.8.0_261 and higher
21.3	1.8.0_302 and higher
21.4	1.8.0_302 and higher
21.5	1.8.0_361 and higher
21.6	1.8.0_411 and higher
21.7	1.8.0_421 and higher

> **Note:**
>
> "and higher" refers to *xxx* (increasing update versions of JDK 1.8.0_*xxx*).

> **Note:**
>
> Oracle App and JDK 64 bit support for all Oracle Essbase versions.

OCI Deployments
For Release Notes deployments listings on OCI, see OCI Marketplace Deployment.

Client

This matrix provides certification for Oracle Essbase (Plus) 21c independent deployments and Oracle Cloud Infrastructure (OCI) via Marketplace. For JDK supported versions, see supported versions on the System page of the Certification Matrix.

Essbase Version	Client	Processor	Notes
21.1 and higher	Export Utility	Linux x86-64	-
21.1 and higher	Export Utility	Microsoft Windows x64 (64-bit)	-
21.1 and higher	LCM Utility	Linux x86-64	-
21.1 and higher	LCM Utility	Microsoft Windows x64 (64-bit)	-
21.1 and higher	CLI Utility	Linux x86-64	-
21.1 and higher	CLI Utility	Microsoft Windows x64 (64-bit)	-
21.1 and higher	Migration Utility	NA	Will not work with EPM Shared Services Security Mode.
21.1 and higher	MaxL Client	Linux x86-64	-
21.1 and higher	MaxL Client	Microsoft Windows x64 (64-bit)	-
21.1 and higher	Essbase Client	Linux x86-64	-
21.1 and higher	Essbase Client	Microsoft Windows x64 (64-bit)	-
21.1 and higher	Essbase Client	MacOSx	Supported version is 10.10 and higher.
21.1 and higher	Cube Designer	NA	1. Works with latest version of Smart View. See Interoperability page. 2. Cube Designer version and Essbase Server versions should always be the same.
21.1 and higher	Essbase JAPI	NA	-
21.1 and higher	EAS Lite for 21c	Microsoft Windows x64 (64-bit)	For independent deployments only. See Use Essbase Administration Services Lite.

Browser

This matrix provides certification for Oracle Essbase (Plus) 21c web user interface independent deployments and Oracle Cloud Infrastructure (OCI) via Marketplace.

The following are the browser software supported versions for the Essbase web interface:

- Safari
- Edge
- Chrome
- Firefox

Please see Oracle Software Web Browser Support Policy (Doc ID 2092205.1) for more details.

> **Note:**
>
> For all of the above, browser support is no longer based on operating systems, but strictly tied to the browser themselves, no matter operating systems on which they are installed.

Database

This matrix provides certification for Oracle Essbase (Plus) 21c independent deployments and Oracle Cloud Infrastructure (OCI) via Marketplace.

Target Database for RCU

Essbase Version	Database*	Notes
21.1 and higher	Oracle Autonomous Database (ATP and ADW) 19c	For OCI deployments only; see Notes 1, 2, 4, and KM DOC ID 2825030.1.
21.1 and higher	Oracle Database 12.1.0.x, 18.y, 19.z	If deploying on OCI, see Notes 2, 3. Where x >=1; y>=3, z>=3.
21.1 and higher	Microsoft SQL Server Enterprise Edition 2016 SP2	For independent deployments only.
21.3 and higher	Microsoft SQL Server Enterprise Edition 2019	For independent deployments only.
21.7 and higher	Oracle Database 23.x AI	Where x >=0.
21.7 and higher	Microsoft SQL Server Enterprise Edition 2022	For independent deployments only.

Notes:

- Note 1: The latest available Autonomous database on OCI (ATP) will be deployed in case users do NOT select the “USE EXISTING DATABASE” option at the time of deployment of the stack.
- Note 2: If OCI DB System is used, Essbase compute and Database (OCI or Autonomous) should be in the same Region.
- Note 3: Bare Metal and VM databases are supported. Exadata is not supported in 21.4 and higher, as it is no longer supported in OCI provisioning and with Terraform.
- Note 4: Both serverless and dedicated are supported.

Platform SQL
Platform SQL refers to performing a data load or dimension build using the Connections and Datasource constructs. The database used in Platform SQL should be network accessible, if you're not using the CLI or REST streaming options.

Essbase Version	Database*	Notes
21.1	IBM DB2 10.1	For IBM DB2 10.1, FP 2 and higher are supported.
21.1 and higher	Oracle Database 12.1.0.x, 18.y, 19.z	Where x >=1; y>=3, z>=3.
21.1 and higher	Oracle Autonomous Database (19C)	ATP and ADW can be used via the wallet files provided. For OCI deployments, both serverless and dedicated are supported.

Essbase Version	Database*	Notes
21.1 and higher	MySQL Database Server 5.6.x and 5.7.x	Only MySQL Enterprise Edition is supported.
21.1 and higher	Oracle Essbase 19.x	Where x>=3.
21.1 and higher	Microsoft SQL Server 2012, 2014, 2016	For Microsoft SQL Server 2012, SP1 and higher is supported.
21.2	IBM DB2 10.1	For IBM DB2 10.1, FP 2 and higher are supported.
21.3 and higher	Microsoft SQL Server 2019	For independent deployments only.

Direct SQL

Direct SQL allows users to connect to the data sources by direct SQL in rules files.

Essbase Versions	Database*	Notes
21.1	Teradata Database 16.20	See Note 2.
21.1	IBM DB2 10.1	See Note 3.
21.1	MySQL Database Server 5.6.x and 5.7.x	Only MySQL Enterprise Edition is supported.
21.1 and higher	Oracle Database 12.1.0.x, 18.y, 19.z	Where x >=1; y>=3, z>=3.
21.1 and higher	Oracle Autonomous Database (19c)	For OCI deployments, see Note 1.
21.1 and higher	Microsoft SQL Server 2012, 2014 and 2016	For Microsoft SQL Server 2012, SP1 and higher are supported.
21.1 and higher	Microsoft SQL Server 2012, 2014 and 2016	For Microsoft SQL Server 2012, SP1 and higher are supported.
21.2	IBM DB2 10.1	See Note 3.
21.2	MySQL Database Server 5.6.x and 5.7.x	Only MySQL Enterprise Edition is supported.
21.3 and higher	Microsoft SQL Server 2019	For independent deployments only.
21.3	Teradata Database 17.0	See Note 2.
21.4	Teradata Database 17.1	See Note 2.
21.5	Teradata Database 17.2	See Note 2.
21.5	Oracle Database 21.x	Starting with Essbase 21.5, Oracle 21.x are supported as a repository schema and data source. Where x>=1.

Notes:

- *Database column notes for Direct SQL:
  - Oracle databases listed in Database column are supported on all platforms supported on this page.
  - For all Oracle configurations: Single instance, RAC, XA, and DR are supported.
  - Oracle DB XE is not supported.
  - Oracle recommends using latest Oracle DB PSU's.
  - Essbase uses ODBC 8.0.2; see related ODBC documentation: https://www.progress.com/odbc.
  - For latest recommended patch information, see Oracle Support.
- Note 1: Both serverless and dedicated are supported.

- Note 2: Database Client: Teradata Native ODBC and JDBC driver client version. Native Drivers are recommended.
- Note 3: Repositories hosted in DB2 or Sybase must set DB (tablespace/dbspace) page size greater than 4k. For IBM DB2 10.1, FP 2 and higher are supported.

Interoperability

This matrix provides certification for Oracle Essbase (Plus) 21c independent deployments and Oracle Cloud Infrastructure (OCI) via Marketplace.

For Interoperability and Compatibility information, see *Understanding Interoperability and Compatibility* at https://docs.oracle.com/en/middleware/fusion-middleware/12.2.1.4/intop/toc.htm.

For Oracle Smart View support versions, see Supported Platforms Matrices

For Oracle Smart View for Office (Mac and Browser) requirements, see:

- Working with Oracle Smart View for Office (Mac and Browser): Supported Data Source Providers
- Deploying and Administering Oracle Smart View for Office (Mac and Browser): Prerequisites

Essbase Version	Interoperability Product	Interoperability Version
21.1 and higher	Oracle Fusion Middleware	12.2.1.4.0

> **Note:**
>
> Check **Version Details** in Release Notes for Essbase for specific Fusion Middleware patches required.

ID and Access

This matrix provides certification for Oracle Essbase (Plus) 21c independent deployments and Oracle Cloud Infrastructure (OCI) via Marketplace.

Directory Services and User Directories

Essbase Version	Identity Provider Product	Version	Notes
21.1 and higher	Oracle Identity Cloud Services on OCI	-	For OCI deployments only.
21.1 and higher	As supported by WebLogic Server (see Notes 1 and 2)	12.2.1.4	CSS API is not supported in WebLogic Security Mode.
21.1	EPM Shared Services Security	11.1.2.4.x or 11.2.x	See Note 3.
21.2	EPM Shared Services Security	11.2.6.1 and higher	See Note 3.
21.3	EPM Shared Services Security	11.2.6.1 and higher	See Notes 3 and 4.
21.4	EPM Shared Services Security	11.2.8 and higher	See Notes 3 and 4.

Essbase Version	Identity Provider Product	Version	Notes
21.5	EPM Shared Services Security	11.2.8 and higher	See Notes 3 and 4.
21.6	EPM Shared Services Security	11.2.8 and higher	See Notes 3 and 4.

Notes:

- Note 1: WebLogic Embedded LDAP is provided and is not recommended for production use cases.
- Note 2: All security providers supported are based on the WebLogic security mode. For details, see: https://www.oracle.com/middleware/technologies/fusion-certification.html
- Note 3: For independent deployments only. For EPM Shared Services Security, see "Non-Oracle ID and Access Mgmt" in the 11.1.2.x / 11.2.x Certification Matrix available here: https://www.oracle.com/middleware/technologies/bi-foundation/hyperion-supported-platforms.html. EPM products are governed by the Life Time Support Policy here: https://www.oracle.com/us/assets/lifetime-support-applications-069216.pdf, the "Premiere Support End" date for EPM 11.1.2.4.x release is Dec 2021.
- Note 4: Support only for Shared Services and Oracle Essbase instances that are running on the same platform. Cross platform support is not certified.

Access Management

Essbase Version	SSO Product	Version	Exceptions and Additional Information
21.1 and higher	Oracle Access Management	12.2.1.3.0	1. Uses Webgates listed at http://www.oracle.com/technetwork/middleware/id-mgmt/documentation/identity-access-111230certmatrix-2539086.xlsx. 2. Oracle HTTP Server 12.2.1.3 and higher are certified for integration.