



TIBCO® Data Virtualization

Oracle E-Business Suite Adapter Guide

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Using the Oracle E-Business Suite Adapter

This topic describes:

- [About Oracle E-Business Suite Data Source](#)
- [Oracle EBS Basic Tab](#)
- [Oracle EBS Advanced Tab](#)
- [Security for Oracle E-Business Suite with TDV](#)

About Oracle E-Business Suite Data Source

For installation requirements, see the TDV Installation and Upgrade Guide.

Oracle EBS modules are classified into three large groups: Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), and Supply-Chain Management (SCM). This adapter supports the following applications

- CRM
- Financials
- Human Resources
- Manufacturing
- Supply Chain
- Items
- Purchasing
- Requisitions
- Sales Orders
- Transactions

Select Oracle E-Business Suite on 10g.

The 9i and 10g are historical labels for the database version number and have not been updated in the Studio UI; choose the one closest to the target database version and click Next to continue.

Prerequisite

To access Oracle EBS datasource, the user has to install the JDBC driver. The driver is not shipped and can be downloaded from Oracle.(Refer to [this link](#) to download Ojdbc10)

Any Oracle 12c or higher JDBC driver that works with JDK 11 will work. The Oracle JDBC driver should be placed under

```
<TDV_INSTALL_DIR>/apps/dlm/app_ds_oa/lib
```

or

```
INSTALL_DIR/conf/adapters/system/oracle_e-business_suite_on_X where  
X=10g,9i,8i
```

then restart your TDV server.

Oracle EBS Basic Tab

For Connection Information on the Basic tab, supply the required information in the following input fields:

Field	Description
Host	Name of the machine hosting Oracle E-Business Suite or the host machine's IP address.
Port	Port number of Oracle database instance. Default is 1521.
Service Name	Database ID for the Oracle E-Business Suite back-end database.
Database User Name and Database Password	User name and password to access Oracle instance. The user name “apps” is the default for Oracle E-Business Suite.Database User Name and Database Password are different

Field	Description
	from Application User Name and Application Password. Database means the credentials are used to connect to the Oracle database instance. Application credentials are used for authenticating as a user of Oracle E-Business Suite.
Transaction Isolation	Choose between Read Committed and Serializable. Read Committed can prevent dirty reads; Serializable can prevent dirty reads, non-repeatable reads and phantom reads.
Authentication	Choose between BASIC and KERBEROS
Oracle E-Business Suite Version	<p>Choose the right version or the nearest version. It is used when Multi-Org Enabled View is invoked. A different directory for a specific Oracle E-Business Suite version may have a different view definition.</p> <ul style="list-style-type: none"> • 11.5.8—select for EBS version 11.5.8 • 11.5.10—select for EBS version 11.5.10 • 12.1.3—select for EBS version 12.1.3
Row Level Security Filter	<p>Choose one of the following:</p> <ul style="list-style-type: none"> • None—No row level filter is applied • Retrieve data by setting connection context —No row level filter is applied. Data are retrieved in an Oracle E-Business Suite context. • Retrieve data based on user responsibilities —Enforces row-level authorization checking for tables supporting this feature. Users are able to see only those rows belonging to organizations they have rights to access, as specified by their user (Application) credentials. <ul style="list-style-type: none"> — Pass-through Login—Works in combination with the Application User Name and Application Password options. — Disabled (default)—Non-pass-through mode. — Enabled—Pass-through mode; the pass-through

Field	Description
	credential will replace the Application credential when connecting to Oracle E-Business Suite.
	<ul style="list-style-type: none"> — Application User Name and Application Password — User's credential to access Oracle E-Business Suite. In Pass-through mode these values are replaced with pass-through credentials provided by the user. — Multi-Org Reporting—Specify whether to use the Multiple Organization View (default) or the Oracle EBS Single Organization View. • Retrieve data by fixed organization IDs—Enforces row-level authorization checking for tables supporting this feature. Users are able to see only those rows belonging to organizations specified by a comma-separated organization ID list.

Oracle EBS Advanced Tab

Some properties refer directly to the configuration of the Oracle E-Business Suite Server and must be provided by an Oracle E-Business Suite Administrator. Other properties are specific to TDV and how it interacts with Oracle E-Business Suite.

Connection Pool Minimum Size, Maximum Size, Idle Timeout(s), and Maximum Connection Lifetime—These control the JDBC connections made to Oracle E-Business Suite, specifying timeout in seconds, the minimum and maximum number of simultaneous connections in a Oracle E-Business Suite connection pool.

Connection Validation Query—A simple query to test whether the connection is valid or not. You can leave it empty, or use simple queries like “select * from dual.”

Organization Id Cache Timeout Seconds—Length of time to cache user security information. After this time the security information is refreshed from Oracle E-Business Suite. If an Oracle E-Business Suite user's security information is changed before the cache is refreshed, the changes will not be available to the Oracle E-Business Suite data source until the cache is refreshed.

Security for Oracle E-Business Suite with TDV

This topic describes TDV's security support for Oracle E-Business Suite. Security involves two parts: authentication and access control.

The following topics are covered:

- [Understanding Authentication for Oracle E-Business Suite](#)
- [Understanding Access Control for Oracle E-Business Suite](#)
- [Using Data Filters with Oracle E-Business Suite](#)
- [Understanding Multi-Org Enabled Views](#)

Understanding Authentication for Oracle E-Business Suite

The data source properties Database Username and Database Password are needed to connect to the Oracle database. This connection is used to verify application credentials, gather access information, execute queries, and read query results.

If Enable Multi-Organization is checked, data in Oracle E-Business Suite is restricted based on the user's application credentials. Application credentials are specified in the data source properties Application Username and Application Password, or by enabling pass-through login. The application credentials are authenticated using Oracle E-Business Suite's API and used to obtain the users permitted organizations and responsibilities.

Understanding Access Control for Oracle E-Business Suite

An application user has one or more responsibilities. A responsibility is a level of authority in Oracle E-Business Suite that lets users access only those Oracle E-Business Suite functions and data appropriate to their roles in an organization. For data access control, each responsibility allows access to a set of books, such as U.S. Operations or German Sales, or an organization, such as New York Manufacturing or New York Distribution.

Each responsibility has one organization (org_id) associated with it, which can be set at system, site, responsibility, or user level. The organization limits users to data relevant to their organization. For example, you can limit the access of order administration clerks to sales orders associated exclusively with their sales office.

Information limited by organization is stored in Multiple Organization-enabled tables. Their names typically end in `_ALL` or `_ALL_B`. When displayed during introspection, these tables are notated with the word `Secure` after their names. When querying against these tables

with **Enable Multi-Organization** checked, only information visible to the current user is retrieved. The filtering is transparent to the user.

You can specify which inventory organization is available to users by responsibility. A single responsibility, by system level or responsibility level, determines an operating unit. So a user with multiple responsibilities may have multiple organizations visible. The union of all the user's visible organizations determines how information is filtered in their queries.

- [Reporting with Multiple Organizations](#)
- [Using Organization Names in Queries](#)

Reporting with Multiple Organizations

For reporting purposes users may need to read information for which they lack the authority, as defined by their responsibilities. To achieve the flexibility required in reporting, the Oracle Applications profile option, “MO: Top Reporting Level” can be used to expand the list of organizations visible to users.

The value of this profile option is set to “Operating Unit” at the site level. Your Oracle E-Business Suite system administrator can set this profile option at the responsibility level. The following table shows the access given to a user depending on the setting of the Top Reporting Level profile option.

Top Reporting Level Setting	Enables Users to
Set of Books	View all the data belonging to the set of books, legal entities, and operating units.
Legal Entity	View all the data belonging to the legal entity and operating units.
Operating Unit	View data only in the operating unit assigned to their responsibility.

Using Organization Names in Queries

All secure tables (enabled for multiple organization use) contain a column named Organization ID. This query translates the organization id into meaningful organization name:


```
SELECT name
```

```
FROM /shared/DataService_Oracle_EBS11i_on_9i/"Data Services"/"Human  
Resources"/Organizations Organizations
```

```
WHERE "Organization Id" = 204
```

An application user has one or more responsibilities. A responsibility is a level of authority in Oracle E-Business Suite that lets users access only those Oracle E-Business Suite functions and data appropriate to their roles in an organization. For data access control, each responsibility allows access to a set of books, such as U.S. Operations or German Sales, or an organization, such as New York Manufacturing or New York Distribution. For more details, please refer to “Multiple Organizations in Oracle Applications, Release 11i.”

Each responsibility has one organization (org_id) associated with it, which can be set at system, site, responsibility, or user level. The organization limits users to data relevant to their organization. For example, you can limit access for order administration clerks to sales orders associated exclusively with their sales office.

Information limited by organization is stored in Multiple Organization-enabled tables. Their names are typically ended in _ALL or _ALL_B. When displayed during introspection, these tables are notated with word “Secure” after their names. When querying against these tables with Enable Multi-Organization checked, only information visible to the current user is retrieved. The filtering happens transparently to the user.

You can specify which inventory organization is available to users by responsibility. A single responsibility, by system level or responsibility level, determines an operating unit. So a user with multiple responsibilities may have multiple organizations visible. The union of all the user's visible organizations determines how information is filtered in their queries.

Using Data Filters with Oracle E-Business Suite

With TDV's query engine, you can dynamically apply a data filter to control the data retrieved. So when the situation changes—for instance, a report for one organization needs to extend to several organizations—you just need to change the filter in the data source configuration.

This filter mechanism works well with Oracle's multi-org reporting. In Oracle's own database view, many views are limited to one organization. There is no simple way to query on these views for multiple organizations or all the organizations. With the

organization ID filter and a simple view translation, multiple organizations' data can be retrieved from the same view. For more information about Oracle's multi-org reporting, see [Understanding Multi-Org Enabled Views](#).

For example, the following table shows the results returned for the same query "SELECT * FROM AP_CHECKS_V":

	Query without Multi-Org Enabled View	Query with Multi-Org Enabled View
All Rows of Data	Not Available	Available
One Organization's Data	Available	Available
Multiple Organization's Data	Not Available	Available

Use the following topics to learn more:

- [Choosing a Data Filter](#)
- [List of Shipped Multi-Org Enabled Views](#)
- [How Credentials Are Used](#)

Choosing a Data Filter

Different data filters return different stripes of data from the same view. The following table shows the results returned for the same query "SELECT * FROM AP_CHECKS_V":

	SELECT * FROM AP_CHECKS_ALL	Query without Multi-Org Enabled View	Query with Multi-Org Enabled View
None	All rows	No rows	All rows
Org ID(204) in connection context	All rows	Rows for org 204	Rows for org 204
Pass-through or fixed	Rows for the org	No rows	Rows for the org

	SELECT * FROM AP_CHECKS_ALL	Query without Multi- Org Enabled View	Query with Multi-Org Enabled View
application username and password	the specific user has access to		the specific user has access to
List of organization IDs	Rows for the list of org ids	No rows	Rows for the list of org ids

For views that are not related to organization ID, all rows are returned in all cases.

List of Shipped Multi-Org Enabled Views

The following views are translated and extended to cover multiple organizations. The view definitions reside in the installation directory depending on the Oracle E-Business Suite version you have chosen.

C:\<TDV_install_dir>\apps\d\m\app_ds_oe\conf\<ver_num>AP_BANK_ACCOUNT_USES_V

AP_CHECKS_V

AP_HOLDS_OVERVIEW_V

AP_INVOICES_V

AP_INVOICE_PAYMENTS_V

AP_PAYMENT_SCHEDULES_V

AP_VENDORS_V

AP_VENDOR_SITES_V

AR_ADJUSTMENTS_V

AR_CASH_RECEIPTS_V

AR_CUSTOMER_CALLS_V

AR_MEMO_LINES_VL

AR_RECEIVABLE_APPLICATIONS_V

OE_ORDER_HEADERS_V

OE_ORDER_LINES_V

PER_ASSIGNMENTS_V

PER_PEOPLE

PER_PEOPLE_V

PO_DOCUMENT_TYPES_VL

PO_HEADERS_V

PO_LINES_V

PO_REQUISITION_HEADERS_V

PO_REQUISITION_LINES_V

RA_CUSTOMER_TRX_LINES_V

```
RA_CUSTOMER_TRX_PARTIAL_V
```

```
RA_CUST_TRX_LINE_GL_DIST_V
```

How Credentials Are Used

The following table describes various credentials and their usage:

Credentials	Usage
Database User Name / Password	To establish database connections
Application User Name / Password	Authentication, Access Control
Pass-Through User Name / Password	Overwrite Application User Name / Password for Authentication, Access Control

Understanding Multi-Org Enabled Views

Multi-Org Enabled Views are one way to use the Oracle E-Business Suite Adapter's dynamic filtering. The views in the existing Oracle E-Business Suite system are limiting. For example, view AP_CHECKS_V has some useful information, but for only one organization. But with the Oracle E-Business Suite Adapter, you can select rows of all organizations, or a specific list of organizations, from AP_CHECKS_V. This is done by replacing limitations in the view.

For example,

```
WHERE org_id = 204
```

You can replace this with

```
WHERE org_id in (204, 600)
```

See [List of Shipped Multi-Org Enabled Views](#) to locate the translated views' definition.

When TDV is querying the Oracle database, if a view's definition is found under the directory, the view's definition will be used.

How to Write Multi-Org Enabled Views

To write multi-org-enabled views, you need to find the view's original definition from the database, and change the views referenced inside the original definition to grammar like this:

```
SELECT . . .
```

```
AP_CHECKS_PKG.GET_POSTING_STATUS(AC.CHECK_ID) POSTING_FLAG
```

```
FROM #{AP_BANK_ACCOUNTS} ABA,...
```

```
WHERE . . .
```

That is, change "FROM AP_BANK_ACCOUNTS ABA" to "FROM #{AP_BANK_ACCOUNTS} ABA".

If the organization id list is "204, -1", the meaning of the grammar is as follows:

Grammar	Translated into
#{abc}	(select * from abc_ALL where org_id in (204,-1))
#{abc real_table_name_ ALL_B}	(select * from real_table_name_ALL_B where org_id in (204,-1))
#V{abc}	(' + content from abc.sql + ')
#L{the_column}	the_column in (204,-1)

The #V{abc} is for recursive translated view definitions.

TIBCO Product Documentation and Support Services

For information about this product, you can read the documentation, contact TIBCO Support, and join the TIBCO Community.

How to Access TIBCO Documentation

Documentation for TIBCO products is available on the [TIBCO Product Documentation](#) website, mainly in HTML and PDF formats.

The [TIBCO Product Documentation](#) website is updated frequently and is more current than any other documentation included with the product.

Product-Specific Documentation

The following documentation for this product is available on the [TIBCO® Data Virtualization](#) page.

- **Users**
 - TDV Getting Started Guide
 - TDV User Guide
 - TDV Web UI User Guide
 - TDV Client Interfaces Guide
 - TDV Tutorial Guide
 - TDV Northbay Example
- **Administration**
 - TDV Installation and Upgrade Guide
 - TDV Administration Guide
 - TDV Active Cluster Guide
 - TDV Security Features Guide
- **Data Sources**

TDV Adapter Guides

TDV Data Source Toolkit Guide (Formerly Extensibility Guide)

- **References**

TDV Reference Guide

TDV Application Programming Interface Guide

- **Other**

TDV Business Directory Guide

TDV Discovery Guide

- *TIBCO TDV and Business Directory Release Notes* Read the release notes for a list of new and changed features. This document also contains lists of known issues and closed issues for this release.

How to Contact TIBCO Support

Get an overview of [TIBCO Support](#). You can contact TIBCO Support in the following ways:

- For accessing the Support Knowledge Base and getting personalized content about products you are interested in, visit the [TIBCO Support](#) website.
- For creating a Support case, you must have a valid maintenance or support contract with TIBCO. You also need a user name and password to log in to [TIBCO Support](#) website. If you do not have a user name, you can request one by clicking **Register** on the website.

Release Version Support

TDV 8.5 is designated as a Long Term Support (LTS) version. Some release versions of TIBCO® Data Virtualization products are selected to be long-term support (LTS) versions. Defect corrections will typically be delivered in a new release version and as hotfixes or service packs to one or more LTS versions. See also

https://docs.tibco.com/pub/tdv/general/LTS/tdv_LTS_releases.htm.

How to Join TIBCO Community

TIBCO Community is the official channel for TIBCO customers, partners, and employee subject matter experts to share and access their collective experience. TIBCO Community offers access to Q&A forums, product wikis, and best practices. It also offers access to extensions, adapters, solution accelerators, and tools that extend and enable customers to gain full value from TIBCO products. In addition, users can submit and vote on feature requests from within the [TIBCO Ideas Portal](#). For a free registration, visit [TIBCO Community](#).

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