

User's Guide

Vertex[®] Indirect Tax O Series[®] 9.0

Vertex[®] O Series[®] Client Utilities

August 2019



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What's New in This Guide?

This section describes the new features for the latest major release and all service releases.

What's New in this Guide for O Series 9.0 (August 2019)

Additional details about delete transactions are added to this version of the guide.

If you are upgrading to Vertex O Series 9.0, you need to be aware of the O Series schema changes and additions that may impact your integration. For details, refer to the chapter, "If You Are Upgrading to Vertex O Series 9.0," in the *XML Integration Guide*.

Review the annotated HTML files for the Vertex O Series 9.0 schema. These HTML files are included in the Vertex OSeries v9 Client Utilities.zip file that contains this guide.

Preface

This preface contains information about Vertex services, Vertex® Indirect Tax *O Series*®, and its documentation.

About Vertex and our services

Vertex Inc. is a leading tax software and services provider that empowers global commerce. Vertex connects customers and partners across all industries to deliver the world's most trusted tax solutions for businesses to grow with confidence. Vertex provides cloud-based and on-premise solutions that can be tailored to specific industries for every major line of indirect tax, including sales and consumer use, value added, and payroll. Headquartered in Pennsylvania and with offices worldwide, Vertex is a privately held company that employs over 1,000 professionals and serves companies across the globe.

Vertex has offices in King of Prussia, Pennsylvania; Sarasota, Florida; Naperville, Illinois; London, United Kingdom; and São Paulo, Brazil. For office addresses and telephone numbers, go to <https://www.vertexinc.com/contact>.

Vertex services

Vertex provides the following services:

For...	Go to...
Technical questions about your products	Vertex Customer Support Phone: 800.281.1900 (Monday through Friday, 8:15 A.M. to 8:00 P.M. United States Eastern Time) Web: https://vertexinc.custhelp.com/
Documentation, downloads, forums, service requests, and up-to-the-minute information about tax rates, tax rules, and jurisdictions	The myVertex customer portal Web: https://vertexinc.custhelp.com/
Questions about your licensing agreement, license renewal, and invoicing arrangements for your products	Vertex Account Services Phone: 800.355.3500 or 610.640.4200 Web: www.vertexinc.com/contact
Regional training classes, web-based training classes, or on-site training at your facility	Vertex Training Phone: 877.455.2645 (Monday through Friday, 8:15 A.M. to 8:00 P.M. United States Eastern Time) option #2 Web: www.vertexinc.com/training

About Vertex O Series

The Vertex O Series platform provides an advanced architecture for integrating a broad range of tax compliance features into a single, seamless application suite.

By using object-oriented techniques and web technologies, such as XML, HTML, SOAP, and Java, Vertex O Series efficiently combines functionality for data maintenance, tax calculation, system administration, and external interface to a financial host system that can be shared by multiple applications. Vertex O Series also provides easy, flexible deployment in a variety of operating environments.

The Vertex O Series suite offers the following products:

- *Vertex® Indirect Tax O Series®* for calculating tax on business transactions. To help you achieve tax compliance, it calculates tax based on Vertex-supplied research and your customizations of jurisdiction rates, rules, and exceptions.
- *Vertex® Indirect Tax Reporting & Analysis*, a web-based reporting and analytics application that works with IBM Cognos technology to turn your transaction and taxability data into valuable information. You can create custom tables, pivot tables, charts, and reports that contain the information that you need in the format that you require.
- *Vertex® Indirect Tax for Retail (Vertex Retail)*, which coordinates the exchange and maintenance of tax data for Point-of-Sale (POS) systems between a central headquarters and multiple POS locations.
- *Vertex® Indirect Tax for Leasing (Vertex Leasing)*, a tax calculation solution for major leasing software vendors and their enterprise customers within the equipment and vehicle leasing industries.
- Address Cleansing to improve the granularity of TaxGIS database searches for United States address data and provide better jurisdiction assignments. This service assigns nine-digit ZIP Codes, converts addresses to a standard format, and corrects address errors. You can purchase this service separately as an add-on feature.

Vertex provides On-Demand deployment options for all of the above products. These software-as-a-service, hosted models accelerate implementation and reduce hardware, database, and other support requirements.

Finding information about Vertex Indirect Tax O Series

Vertex provides documentation for the tasks that you must complete to use O Series successfully. Most documentation is available on the myVertex customer portal (<https://vertexinc.custhelp.com>).

Note: You can also use myVertex to access the online Knowledge Base, submit a Service Request, or visit the Communities where you can communicate with other Vertex users about tips, tricks, and best practices.

Preparing your O Series instance

For this task	Use this documentation
Planning your implementation for technology and tax compliance.	<i>Planning Guide</i>
Installing and deploying the O Series platform and loading O Series.	<i>Installation Guide</i>
Configuring O Series.	<i>Configuration Parameters Reference Guide</i>
Performing administrative tasks, such as defining user access and roles, applying data updates, moving data, and monitoring performance.	<i>Administration Guide</i>

Integrating O Series with your host system

For this task	Use this documentation
Using XML messages to integrate O Series and your host system.	<i>XML Integration Guide</i>
Using the Java interface to integrate O Series and your host system.	<i>Java Integration Guide</i>
Managing O Series tax data that is used in a calling application.	<i>Vertex Central Web Services Integration Guide</i>
Using the Batch Client Interface to process groups of transactions without writing an interface between O Series and your host system.	<i>Batch Client Interface Integration Guide</i>

Maintaining O Series

For this task	Use this documentation
Managing O Series data, customized data, and Tax Journal data.	<i>Administration Guide</i> <i>Vertex Central Help</i> <i>User's Guide</i>
Performing monthly updates.	<i>Administration Guide</i>
Upgrading to the latest major version of O Series.	<i>Upgrade Guide</i>

Using O Series for indirect tax

For this task	Use this documentation
Setting up taxability information and your structure, such as the following: <ul style="list-style-type: none"> • Taxpayers, customers, and vendors • Certificates • Taxability categories • Taxability drivers • Tax rules 	<i>Vertex Central Help</i> <i>User's Guide</i>
Generating standard reports and Data Extract reports.	<i>Vertex Central Help</i> <i>User's Guide</i>
Using the command line or web services to perform activities for Data Management, Data Extract, and file transfer.	<i>O Series Client Utilities User's Guide</i>
Using required data file formats to move data between O Series and your host system.	<i>Tax Data File Formats Handbook</i>
Reviewing formats in which you can view the Reporting database data.	<i>Reporting Database Views Tipsheet</i>
Exemption Certificate Manager	<i>Vertex Central Help</i> <i>ECM Administration Guide</i> <i>ECM Configuration Guide</i>
Exemption Certificate Portal	<i>Exemption Certificate Portal User's Guide</i>
Exemption Certificate Wizard	<i>ECW Integration Guide</i> <i>ECW Portal Help</i>

Using O Series with Vertex Returns

For this task	Use this documentation
Exporting data for returns.	<i>Vertex Central Help</i> <i>User's Guide</i>
Using the required header and export file formats to move data between O Series and Vertex Returns to create ready-to-file returns.	<i>Returns Export Data File Format Handbook</i>
Using the required header and export file formats to move data between O Series and Vertex Returns to create ready-to-file VAT returns.	<i>VAT Returns Export Data File Format Handbook</i>
Setting up data transfers and understanding data discrepancies between O Series and Vertex Returns.	<i>Returns Reconciliation Guide</i>

Using O Series with Vertex Reporting & Analysis

For this task	Use this documentation
Generating reports and adhoc queries.	<i>Vertex Reporting & Analysis User's Guide</i>
Learning more about Cognos.	<i>IBM Cognos Business Intelligence Installation and Configuration Guide</i> <i>IBM Cognos Query Studio User Guide</i> <i>IBM Cognos Connection User Guide</i>

Using O Series On-Demand

For this task	Use this documentation
Understanding your responsibilities for setting up and for implementing your hosted O Series environment.	<i>On-Demand Getting Started Guide</i>
Using O Series in your hosted environment.	<i>Vertex Central Help</i>
Supporting your decision-making during the onboarding process, reviewing configuration settings, and managing your Vertex O Series On-Demand instance.	<i>On-Demand Implementation Guide</i>

Using O Series with industry-specific and jurisdiction-specific data

For this product	Use this documentation
Vertex Indirect Tax for Retail	<i>Retail Getting Started Guide</i> <i>Retail Installation and Administration Guide</i> <i>Retail Tax Extract Integration Guide</i>
Vertex Indirect Tax for Leasing	<i>Vertex Indirect Tax for Leasing Planning Guide</i> <i>Administration Guide</i> <i>Vertex Central Help</i>
Vertex Indirect Tax for Hospitality	<i>Vertex Indirect Tax for Hospitality Planning Guide</i> <i>Vertex Central Help</i>
Vertex Indirect Tax for Brazil	<i>Brazil Guide</i>
Vertex® Indirect Tax for Communications	<i>Vertex® Indirect Tax for Communications Guide</i>

Using the O Series Tax Data Management Plug-in

For this task	Use this documentation
Moving O Series data into a tax data repository	<i>Tax Data Management Plug-In Quick Reference Guide</i>
Reviewing the format of the Wide Tax Journal File	<i>Tax Data Management Plug-In Wide Tax Journal File Format Handbook</i>

About this guide

The following table shows the audience for this guide:

Type of audience	How this audience uses Client Utilities	Required skills for this audience
IT professional. This professional is generally assigned the Vertex-defined role of Partition System Administrator.	Through the command line	<ul style="list-style-type: none"> Implementing new hardware and software Network management Databases Security
Software developer	Through the web services	<ul style="list-style-type: none"> Web services, including accessing, deploying, and troubleshooting Standalone XML or browser-based editors Simple Object Access Protocol (SOAP) toolkits for the relevant development environment

This guide describes what you need to know to do the following:

- Perform configuration tasks in an On-Premise environment (server-side Vertex O Series).
- Locate, download, and unzip the oseries-client.zip file that contains the command line scripts, configuration file, and supporting files.
- Perform Data Management, Data Extract, and File Transfer activities via the O Series Client Utilities that are available through the command line in Windows or UNIX.
- Connect to the Web Service Description Language (WSDL) endpoint for each O Series Client Utilities web service.
- Perform Data Management, Data Extract, File Transfer, and Security Services activities via the O Series Client Utilities that are available through the web services.
- Retrieve the status of a Data Management activity. This activity can be run only through a web service.
- Retrieve the status of a Data Extract activity. This activity can be run only through a web service.

Vertex product documentation covers only the software functionality and usage. For information about scenarios outside the documented functionality, visit myVertex (<https://vertexinc.custhelp.com/>).

To provide questions and/or feedback, email documentation@vertexinc.com.

Chapter 1. O Series Client Utilities Overview

The Vertex® Indirect Tax *O Series*® Client Utilities (O Series Client Utilities) consist of the command line utilities and web services that enable you to perform specific Data Management, Data Extract, File Transfer, and Security Services activities. You can perform these activities in both an On-Demand environment (client-side using hosted Vertex O Series) and an On-Premise environment (server-side Vertex O Series).

This chapter provides a summary of these utilities and describes how to access them.

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O Series Client Utilities command line overview

Use the command line when you want to schedule activities to run at a specific time.

The tables below provide an overview of the Data Management, Data Extract, and File Transfer functions that are available through the command line:

Note: *You can use the File Transfer utilities independently of the Data Management utilities.*

Windows

These O Series Client Utilities...	Enable you to...	With this command line...
Batch Client Interface	Perform Batch Client Interface processing. This includes uploading the associated CSV file or database for processing, downloading the results file and, if applicable, an errors file.	runBatchClientInterface.bat
Batch Client Interface	Use a delete transaction file to mark transactions as deleted in the Tax Journal. The delete transaction file is a CSV file with the Delete message type and either document numbers or transaction IDs. Refer to the <i>Batch Client Interface Integration Guide</i> for more information.	runBatchClientInterface.bat

Chapter 1. O Series Client Utilities Overview

These O Series Client Utilities...	Enable you to...	With this command line...
Tax Data Import	Perform a Tax Data Import. This includes uploading the import file to the Vertex O Series server from the local machine.	runTaxDataImport.bat
Tax Data Export	Perform a Tax Data Export. This includes downloading the export file to the local machine from the Vertex O Series server.	runTaxDataExport.bat
Tax Engine Extract in a Vertex® Indirect Tax for Retail - Local Indirect Tax Engine (LITE) deployment	Perform a Tax Engine Extract. This includes downloading the extract file to the local machine from the Vertex O Series server.	runTaxEngineExtract.bat
Retail Tax Extract in a Vertex Retail - Retail Tax Extract deployment	Perform a Retail Tax Extract. This includes downloading the extract file to the local machine from the Vertex O Series server.	runRetailTaxExtract.bat

Chapter 1. O Series Client Utilities Overview

These O Series Client Utilities...	Enable you to...	With this command line...
EU MOSS Extract	<p>Perform an EU MOSS Extract. For more details about EU MOSS, refer to the <i>EU Mini One Stop Shop in O Series Guide</i>.</p> <p>This includes uploading the exchange rates file from the local machine to the Vertex O Series server.</p> <p>This includes downloading the extract file to the local machine from the Vertex O Series server.</p>	runEUMossExtract.bat
Data Extract	<p>Perform a Data Extract.</p> <p>This includes downloading the extract file to the local machine from the Vertex O Series server.</p>	runDataExtract.bat
File Transfer - Download	<p>Download a file from the Vertex O Series server to the local machine.</p>	getFile.bat
File Transfer - Upload	<p>Upload a file from the local machine to the Vertex O Series server.</p>	putFile.bat

UNIX

These O Series Client Utilities...	Enable you to...	With this command line...
Batch Client Interface	<p>Perform Batch Client Interface processing.</p> <p>This includes uploading the associated CSV file or database for processing, downloading the results file and, if applicable, an errors file.</p>	runBatchClientInterface.sh
Batch Client Interface	<p>Use a delete transaction file to mark transactions as deleted in the Tax Journal.</p> <p>The delete transaction file is a CSV file with the Delete message type and either document numbers or transaction IDs. Refer to the <i>Batch Client Interface Integration Guide</i> for more information.</p>	runBatchClientInterface.sh
Tax Data Import	<p>Perform a Tax Data Import.</p> <p>This includes uploading the import file to the Vertex O Series server from the local machine.</p>	runTaxDataImport.sh

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These O Series Client Utilities...	Enable you to...	With this command line...
Tax Data Export	<p>Perform a Tax Data Export.</p> <p>This includes downloading the export file to the local machine from the Vertex O Series server.</p>	runTaxDataExport.sh
Tax Engine Extract in a Vertex® Indirect Tax for Retail - Local Indirect Tax Engine (LITE) deployment	<p>Perform a Tax Engine Extract.</p> <p>This includes downloading the extract file to the local machine from the Vertex O Series server.</p>	runTaxEngineExtract.sh
Retail Tax Extract in a Vertex Retail - Retail Tax Extract deployment	<p>Perform a Retail Tax Extract.</p> <p>This includes downloading the extract file to the local machine from the Vertex O Series server.</p>	runRetailTaxExtract.sh
EU MOSS Extract	<p>Perform an EU MOSS Extract. For more details about EU MOSS, refer to the <i>EU Mini One Stop Shop in O Series Guide</i>.</p> <p>This includes uploading the exchange rates file from the local machine to the Vertex O Series server.</p> <p>This includes downloading the extract file to the local machine from the Vertex O Series server.</p>	runEUMossExtract.sh

Chapter 1. O Series Client Utilities Overview

These O Series Client Utilities...	Enable you to...	With this command line...
Data Extract	Perform a Data Extract. This includes downloading the extract file to the local machine from the Vertex O Series server.	runDataExtract.sh
File Transfer - Download	Download a file from the Vertex O Series server to the local machine.	getFile.sh
File Transfer - Upload	Upload a file from the local machine to the Vertex O Series server.	putFile.sh

O Series Client Utilities web services overview

Connect to the Web Service Description Language (WSDL) endpoint for the O Series Client Utilities web services at:

```
http://server:port/vertex-remote-services/listVertexServices.jsp
```

where:

server is the name of the server for the Vertex O Series web services page.

port is the name of the connection port that directs you to the Vertex O Series web services page.

This WSDL enables you to access Data Management, Data Extract, File Transfer, and Security Services web services.

The table below provides an overview of the Data Management, Data Extract, File Transfer, and Security Services functions that are available through the web services:

These O Series Client Utilities...	Enable you to ...
<i>Data Management web services</i>	
Batch Client Interface	Perform Batch Client Interface processing. This does <i>not</i> include uploading or downloading a file. Create a PutFile Request message to upload a file and a GetFile Request message to download a file.
Tax Journal Export	Perform a Tax Journal Export. This does <i>not</i> include downloading a file. Create a GetFile Request message to download the export file.
Tax Data Import	Perform a Tax Data Import. This does <i>not</i> include uploading a file. Create a PutFile Request message to upload the import file.
Tax Data Export	Perform a Tax Data Export. This does <i>not</i> include downloading a file. Create a GetFile Request message to download the export file.

Chapter 1. O Series Client Utilities Overview

These O Series Client Utilities...	Enable you to ...
Tax Engine Extract in a Vertex Retail - Local Indirect Tax Engine (LITE) deployment	Perform a Tax Engine Extract. This does <i>not</i> include downloading a file. Create a GetFile Request message to download the export file.
Retail Tax Extract in a Vertex Retail - Retail Tax Extract deployment	Perform a Retail Tax Extract. This does <i>not</i> include downloading a file. Create a GetFile Request message to download the export file.
EU MOSS Extract	Perform an EU MOSS Extract. This does <i>not</i> include either of the following: <ul style="list-style-type: none"> • Uploading the exchange rates file. Create a PutFile Request message to upload the exchange rates file. • Downloading a file. Create a GetFile Request message to download the extract file.
Get Activity Status	Retrieve the current status of a Data Management Activity.
<i>Data Extract web services</i>	
Data Extract	Perform a Data Extract. This does <i>not</i> include downloading a file. Create a GetFile Request message to download the export file.
Get Extract Status	Retrieve the current status of an extract activity.
<i>File Transfer web services</i>	
GetFile	Download a file from the Vertex O Series server to the local machine.
PutFile	Upload a file from the local machine to the Vertex O Series server.
<i>Security Services web services</i>	
CreatePartition	Create a new partition on the Vertex O Series server.
CreateUser	Create a new user on the Vertex O Series server.

Before you begin using the O Series Client Utilities

To ensure that the O Series Client Utilities function properly, you must perform the following tasks before you begin using these utilities:

1. If you have an On-Premise environment (server-side Vertex O Series), perform configuration tasks (see page 24).
2. Locate, download, and unzip the `oseries-client.zip` file (see page 29).
3. If you use the Vertex Retail utilities, create a Data Management filter (see page 30).
4. If you use the Data Extract utilities, create a Data Extract definition (see page 30).

Best practice: Create a custom role with a password that does not expire for your O Series Client Utilities activities

If you perform regularly scheduled activities through the Vertex O Series Client Utilities in *either* an Vertex O Series On-Demand *or* a Vertex O Series on premise environment, Vertex recommends that you create a password that does not expire. This will enable you to perform your scheduled Data Management, Data Extract, or File Transfer activities without interruption.

To prevent any potential security issues that may occur by using a password that does not expire, Vertex also recommends that you create a custom role that is dedicated to performing the scheduled O Series Client Utilities activities. Vertex recommends that this role have permissions *only* for the Vertex O Series features that you use in your scheduled activities. Assign the password that does not expire to this custom role.

For more details about creating a password that does not expire, refer to the *Vertex Central Help*.

For details about Vertex Indirect Tax O Series On-Demand, refer to the *Vertex O Series On-Demand Getting Started Guide*.

How to configure the O Series Client Utilities in an On-Premise environment (server-side Vertex O Series)

If you have an On-Premise environment (server-side Vertex O Series), complete the following configuration process:

1. Set permissions in Vertex Central related to O Series Client Utilities (see page 25).
2. If needed, set O Series Client Utilities-related configuration parameters (see page 26).
3. Set the oseries-client.properties file configuration parameters (see page 27).

Optionally, you may choose to configure log4j functions to create an O Series Client Utilities log file (see page 28).

How the Vertex Retail license and permissions in Vertex Central relate to O Series Client Utilities

Before you can use the O Series Client Utilities in an On-Premise environment (server-side Vertex O Series), you must have obtained the appropriate Vertex O Series license and set the appropriate Vertex O Series permissions. You must have a Vertex® Indirect Tax for Retail license to use the retail features in the O Series Client Utilities.

To use the O Series Client utilities for Data Management activities, you must have enabled permissions for:

- Batch Client Interface
- Tax Engine Extract and Import Service
- Retail Tax Extract
- Tax Journal Export
- Tax Data Import
- Tax Data Export
- Task Log features
- Data Extract

Set the permissions for O Series Client Utilities in Vertex Central through **System > Roles**.

Note: *The Import Service feature is available to only a Vertex O Series user with a Master Administrator role.*

When you set the permissions for Batch Client Interface, Tax Engine Extract, and Retail Tax Extract, the associated file transfer activities are also enabled.

Refer to Data Management permissions in the *Vertex Central Online Help* for more details on the permissions related to:

- Batch Client Interface
- Tax Engine Extract
- Import Service
- Retail Tax Extract
- Tax Journal Export
- Tax Data Import
- Tax Data Export
- Task Log

For more details on the permissions related to Data Extract, refer to Data Extract Permissions in the *Vertex Central Online Help*.

Vertex O Series configuration parameters you may need to set for the O Series Client Utilities

If your Vertex O Series deployment uses multiple application servers and these servers do *not* share the Vertex Home directory you specified during Vertex O Series installation, set the following parameters in the vertex.cfg file to point to a shared file directory:

- `common.reports.dir.batch.client.output.dir`. For more details on this parameter, refer to the *Configuration File Parameters Reference Guide*.
- `retail.taxjournal.dir`. For more details on this parameter, refer to the *Vertex® Indirect Tax for Retail Installation and Administration Guide*.
- `retail.taxdata.dir`. For more details on this parameter, refer to the *Vertex® Indirect Tax for Retail Installation and Administration Guide*.

Configuration parameters in the O Series Client Utilities `oseries-client.properties` file

The `oseries-client.properties` file enables you to configure the O Series Client Utilities. The `oseries-client.properties` file resides in the `/config` subdirectory where you unzipped the `oseries-client.zip` file on your local machine.

Web services-related parameters

The `oseries-client.properties` file contains the following web-services-related parameters:

Parameter	Definition	Default value	Additional information
WebServiceURL	The URL for the Vertex O Series web services.	<code>http://<server>:<port>/vertex-remote-services</code>	Specify the location of the server and port information for the O Series web services at your site.
PollingFrequency	The frequency in seconds in which the command line scripts poll the O Series Client Utilities web service to determine if any activity has been completed.	10 seconds.	This value must be a positive integer.
TransferBufferSize	The maximum number of bytes that the O Series Client Utilities can transfer at a given time.	64KB.	N/A.
Timeout	The time limit in minutes for the completion of an O Series Client Utilities activity.	60 minutes.	If the activity does not complete within this time limit, the associated command line scripts time out. This value must be a positive integer.

Batch Client Interface-related parameters

If you want to use a local Batch Client Interface database as input for Batch Client Interface processing, you must set the following parameters in the `oseries-client.properties` file. There are no default values for these parameters:

Parameter	Definition	References
BciDriverName	The database driver name for the local Batch Client Interface database.	Refer to the comments in this file for examples of JDBC driver names.
BciUrl	The database URL for the local Batch Client Interface database.	Refer to the comments in this file for examples of connection URLs.
BciUserName	The database user name for the local Batch Client Interface database.	N/A.
BciPassword	The database password for the local Batch Client Interface database.	N/A.

Configuring log4j to create an O Series Client Utilities log file

The O Series Client Utilities display the error and status messages below on the command line console as it processes transactions.

If you want to save these error and status messages to a log file in addition to viewing them on the command line console, complete the following steps:

1. Locate the `log4j.properties` file in the `Vertex Home/config` directory.
2. Open the `log4j.properties` file with a text editor.
3. Comment out the following text by adding a # sign:


```
# Define the root logger with appender file
log4j.rootLogger=INFO, ConsoleAppender
```
4. Uncomment the following lines by removing the # sign:


```
# log4j.rootLogger = INFO, ConsoleAppender, FileAppender
# log4j.appender.FileAppender=org.apache.log4j.FileAppender
# log4j.appender.FileAppender.File=./on_demand_client.log
# log4j.appender.FileAppender.layout=org.apache.log4j.PatternLayout
# log4j.appender.FileAppender.layout.conversionPattern=%d{HH:mm:ss} [%p] %m%n
```
5. Save your changes in the text editor.

The oseries-client.zip file

The oseries-client.zip file contains the command line scripts, configuration file, and supporting files for the O Series Client Utilities.

Locate the oseries-client.zip file

The location of the oseries-client.zip file depends on what type of Vertex O Series environment you have:

- If you have an On-Demand environment (client-side using hosted Vertex O Series), a link to this file is located in the Client Tools section that is on the O Series landing page.
- If you have an On-Premise environment (server-side Vertex O Series), this file is located on the myVertex customer portal.

Download and unzip the oseries-client.zip file

Download and unzip the oseries-client.zip file to a directory on your local machine.

Where can I find the components of the oseries-client.zip file?

This oseries-client.zip file contains the following directory structure:

This O Series Client Utilities directory...	Contains these files ...
bin	Command Line script files (.bat and .sh)
config	Configuration file
lib	Supporting JAR files
sql	SQL scripts for the Retail Tax Extract database <i>Note: If you are licensed for Vertex Retail and have a Retail Tax Extract deployment, use these SQL scripts to manipulate the Retail Tax Extract data on your local machine. For details, refer to Manipulating Retail Tax Extract data using the O Series Client Utilities (see page 47).</i>

Requirement: Vertex Retail users must create a Data Management filter

If you are licensed for Vertex Retail, create a Data Management filter *before* you use the Vertex Retail utilities in the O Series Client. You can create a new Data Management filter through Vertex Central.

For details on creating a Data Management filter, refer to the *Vertex Central Online Help*.

Requirement: Data Extract users must create a Data Extract definition

If you are a Data Extract user, create a Data Extract definition *before* you use the Data Extract utilities in the O Series Client. You can create a new data extract definition through Vertex Central.

For details on creating a Data Extract definition, refer to the *Vertex Central Online Help*.

Chapter 2. O Series Client Utilities Through the Command Line

The O Series Client Utilities that are available through the command line include the Data Management, Data Extract, and File Transfer utilities. This chapter includes the procedures and parameters associated with each utility.

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File Transfer command line utilities	53

Data Management command line utilities

The Data Management utilities that are available through the command line enable you to perform the following activities in Windows or UNIX:

- The runBatchClientInterface utility (see page 32)
- The runTaxDataImport utility (see page 38)
- The runTaxDataExport utility (see page 40)
- The runTaxEngineExtract utility (see page 43) for the Local Indirect Tax Engine (LITE) deployment of Vertex Retail
- The runRetailTaxExtract utility (see page 45) for the Retail Tax Extract deployment of Vertex Retail
- The runEUMossExtract utility (see page 47)

Before you use the Vertex Retail utilities, you need to create a Data Management filter. For details about creating a filter, refer to the *Vertex Central Online Help*.

The runBatchClientInterface utility

This section tells you:

- The parameters that are associated with the runBatchClientInterface utility (see page 32)
- How to run the runBatchClientInterface utility from the command line (see page 34)
- How to manage errors when using a local database as input (see page 37)
- The limitations of Batch Client Interface processing using a local database (see page 38)

Command line parameters for the runBatchClientInterface utility

The runBatchClientInterface command line utility has both required and optional parameters. Both short and long parameter options are provided.

User authentication parameters

The following parameters are required:

- `-u <userName>` or `--userName <userName>`
userName: This parameter is the O Series user name for authentication purposes.
- `-p <password>` or `--password <password>`
password: This parameter is the O Series user password for authentication purposes.

Input parameters

You *must* set *one* of these parameters:

- `-f <inputFileName>` or `--inputFileName <inputFileName>`
inputFileName: This parameter enables you to specify the name of the CSV file to process. This file name must be the absolute path of the file on the client machine.

Note: Any value that you specify in this parameter overrides the value in the *transactionTableName* parameter.

- `-x <transactionTableName>` or `--transactionTableName <transactionTableName>`
transactionTableName: This parameter enables you to specify the name of the database to process.

Valid values are A-Z (uppercase alphabetic letters), a-z (lowercase alphabetic letters), 0-9 (numbers), and _ (underscores). Before performing any queries, the Batch Client Interface utility confirms that the values in the transactionTableName are valid.

When you specify this parameter, the Batch Client Interface utility does the following:

- Processes *transactionTableName.csv* in the `inputFileName` parameter.
- Ignores the `fieldDelimiter` and `textQualifier` parameters during processing. The Batch Client Interface uses the default values for the `fieldDelimiter` (COMMA) and `textQualifier` (DOUBLE_QUOTE) parameters.

Transaction parameters

The following parameters are optional:

- `-d <fieldDelimiter>` or `--fieldDelimiter <fieldDelimiter>`
`fieldDelimiter`: This parameter enables you to define the character that you use as a delimiter in your CSV file. For example, `-d ASTERISK` sets the delimiter value to an asterisk. Valid values are COMMA (,), FORWARD_SLASH (/), ASTERISK (*), TILDE (~), SEMICOLON (;), PIPE (|), AND CARET (^). The default value is a COMMA (,).
- `-e <skipExistingDocuments>` or `--skipExistingDocuments <skipExistingDocuments>`
`skipExistingDocuments`: This parameter directs the `runBatchClientInterface` utility to skip transactions that have already been processed. Any transactions that already reside in the Tax Journal are *not* processed.

Note: *Vertex recommends that you use this -e parameter if you are processing a failed batch. This will prevent a transaction from being processed twice.*

- `-l <lineItemLevelProcessing>` or `--lineItemLevelProcessing <lineItemLevelProcessing>`
`lineItemLevelProcessing`: This parameter indicates whether the `runBatchClientInterface` utility should process each row as a separate transaction. The default value is false, that is, each row is processed as a separate transaction.
- `-q <quotationOnly>` or `--quotationOnly <quotationOnly>`
`quotationOnly`: This parameter directs the `runBatchClientInterface` utility to process each transaction as a quotation without writing the results to the Tax Journal. You can use this parameter with any type of message. If you do not specify this parameter, the default value is false.
- `-s <startRow>` or `--startRow <startRow>`
`startRow`: This parameter directs the `runBatchClientInterface` utility to begin processing the data input file at a specified line. Entering a value causes processing to begin at the line numbered one more than the specified number. For example, if you specify 16 in this parameter, the `runBatchClientInterface` utility begins processing the data input file at row 17.

If you do not specify this parameter, the default value is 0 and processing begins at line 1.

- `-t <textQualifier>` or `--textQualifier <textQualifier>`
textQualifier: This parameter enables you to define the quote character that is used to encapsulate text fields. For example, `-t SINGLE_QUOTE` sets the quote character to single quote (').
Valid values are NONE, DOUBLE_QUOTE, and SINGLE_QUOTE. The default value is a DOUBLE_QUOTE.

Testing or troubleshooting diagnostic parameters

The following parameter is optional:

- `-n <documentNumberPrefix>` or `--documentNumberPrefix <documentNumberPrefix>`
documentNumberPrefix: This parameter adds a specified string to the beginning of each document number. This numeric prefix enables you to generate distinct transactions from the same CSV data input file.

Running the runBatchClientInterface utility from the command line

You can run the runBatchClientInterface utility through the command line in Windows or UNIX. The runBatchClientInterface utility performs tax calculations. This processing includes the upload of the input CSV file or database from the client location, the tax calculation activity itself, the download of the generated results file and, if applicable, a generated errors file to the client location.

Complete the following steps to run the runBatchClientInterface utility from the command line:

1. Access the command line.
2. Access the directory that contains the unzipped oseries-client file.
3. Run the runBatchClientInterface script by doing one of the following:
 - For Windows systems, enter `runBatchClientInterface.bat -u userName -p password -f inputFileName OR -x transactionTableName`
 - For UNIX systems, enter `runBatchClientInterface.sh -u userName -p password -f inputFileName OR -x transactionTableName`

where:

userName is your Vertex O Series user name.

password is your Vertex O Series password.

Chapter 2. O Series Client Utilities Through the Command Line

Depending on the type of input you want the Batch Client Interface utility to process, specify *one* of the following parameters:

inputFileName is the name of the saved CSV file to process.

or

transactionTableName is the name of the database to process.

Press **Enter**.

The following messages display as the Batch Client Interface utility uploads and processes the input file or database, then downloads the results file, and, if applicable, generates the errors file.

Depending on the type of input you are using, the Batch Client Interface utility displays *one* of the following messages:

```
Running batch client interface for file <inputFileName>
```

or

```
Running batch client interface for file <transactionTableName>
```

If you are using a database as input, the Batch Client Interface utility displays an additional message:

```
Exporting transaction data from table <transactionTableName> to  
<inputFileName>...
```

The Batch Client Interface utility displays the following messages as it uploads and processes your input and downloads the tax calculation results:

```
Uploading <inputFileName>
```

```
Upload complete.
```

```
Running batch client interface...
```

```
Batch Client Interface activity completed with status <message>.
```

Valid status messages include the following:

- RUNNING
- COMPLETED SUCCESSFULLY
- COMPLETED WITH WARNING
- COMPLETED WITH FAILURE

Downloading results file to *<resultsFileName>*

Download complete.

Downloading errors file to *<errorsFileName>*

Download complete.

When the Batch Client Interface utility updates the database with the calculated results, the following message displays:

Updating table *<transactionTableName>* with transaction results.

Managing errors for Batch Client Interface processing when using a local database as input

When using a local database as input, Batch Client Interface processing errors may occur. For details on types of errors and how to address them, review the table below:

If a Batch Client Interface processing error occurs...	O Series...	To correct this error,
While the Batch Client Interface exports transaction data from the local database.	Does not write information to the O Series database.	Re-run the Batch Client Interface command line utility.
While the Batch Client Interface transfers the CSV file from local database to the remote server.	Does not write information to the O Series database.	Re-run the Batch Client Interface command line utility.
While the Batch Client Interface processes transactions.	May record some transactions in Vertex O Series Tax Journal.	Re-run the Batch Client Interface input file using the <code>-e skipExistingDocuments</code> parameter. Also, run the Tax Journal Data Extract template to determine the transactions that were recorded in the Vertex O Series Tax Journal.
And the Batch Client Interface cannot transfer calculation results back to the local client.	May record some transactions in Vertex O Series Tax Journal.	Re-run the Batch Client Interface input file using the <code>-e skipExistingDocument</code> parameter. Also, run the Tax Journal Data Extract template to determine the transactions that were recorded in the Vertex O Series Tax Journal.
While the Batch Client Interface uploads the local database with transaction results.	May have irregular results.	Synchronize your local database with the results of the downloaded Batch Client Interface file.

Limitation of Batch Client Interface processing using a local database

In On-Premise Vertex O Series, you *can* perform batch processing when the Batch Client Interface utility uses a local database as input.

In On-Demand Vertex O Series, you *cannot* perform batch processing when the Batch Client Interface utility uses a local database as input.

The runTaxDataImport utility

This section tells you:

- The parameters that are associated with the runTaxDataImport utility (see page 38)
- How to run the runTaxDataImport utility from the command line (see page 39)

Command line parameters for the runTaxDataImport utility

The runTaxDataImport command line utility has both required and optional parameters. Both short and long parameter options are provided.

User authentication parameters

The following parameters are required:

- `-u <userName>` or `--userName <userName>`
userName: This parameter is the O Series user name for authentication purposes.
- `-p <password>` or `--password <password>`
password: This parameter is the O Series user password for authentication purposes.

Input file parameter

The following parameter is required:

- `-l <importFileName>` or `--importFileName <importFileName>`
importFileName: This parameter enables you to specify the local file name for the tax data import file that is uploaded to the remote O Series server. This file name must be the absolute path of the file on the client machine.

Transaction parameters

The following parameter is required:

- `-d <fieldDelimiter>` or `--fieldDelimiter <fieldDelimiter>`
fieldDelimiter: This parameter enables you to define the character that you use as a delimiter in your tax data import file. For example, `-d ASTERISK` sets the delimiter value to an asterisk. Valid values are COMMA (,), FORWARD_SLASH (/), ASTERISK (*), TILDE (~), SEMICOLON (;), PIPE (|), AND CARET (^). The default value is a COMMA (,).

The following parameter is optional:

- `-C <importIntoCurrentPartition>` or `--importIntoCurrentPartition <importIntoCurrentPartition>`
importIntoCurrentPartition: This parameter enables you to determine whether the tax data import file is imported into the partition that is associated with the O Series user running the Tax Data Import utility, instead of the partition specified in the tax data import file. If you do not specify a value for this parameter, Vertex O Series imports the tax data import file into the partition specified in the tax data import file.

Running the runTaxDataImport utility from the command line

You can run the runTaxDataImport utility through the command line in Windows or UNIX. The runTaxDataImport utility performs a Tax Data import activity and uploads the import file to the remote Vertex O Series server.

Complete the following steps to run the runTaxDataImport utility from the command line:

1. Access the command line.
2. Access the directory that contains the unzipped oseries-client file.
3. Run the runTaxDataImport script by doing one of the following:
 - For Windows systems, enter `runTaxDataImport.bat -u userName -p password -l importFileName -d fieldDelimiter`
 - For UNIX systems, enter `runTaxDataImport.sh -u userName -p password -l importFileName -d fieldDelimiter`

where:

userName is your Vertex O Series user name.

password is your Vertex O Series password.

importFileName is the name of the local tax data import file.

fieldDelimiter is the value that separates each field.

Press **Enter**.

The following messages display as the utility imports the tax data file and uploads the import file to the remote Vertex O Series server:

```
Running tax data import for file <importFileName>
Uploading <importFileName>
Upload complete.
Running tax data import ...
Tax data import activity submitted with activity id <id>.
Tax data import activity completed with status <statusName>.
```

Valid status messages include the following:

- RUNNING
- COMPLETED SUCCESSFULLY
- COMPLETED WITH WARNING
- COMPLETED WITH FAILURE

The runTaxDataExport utility

This section tells you:

- The parameters that are associated with the runTaxDataExport utility (see page 40)
- How to run the runTaxDataExport utility from the command line (see page 42)

Command line parameters for the runTaxDataExport utility

The runTaxDataExport command line utility has both required and optional parameters. Both short and long parameter options are provided.

User authentication parameters

The following parameters are required:

- `-u <userName>` or `--userName <userName>`
userName: This parameter is the O Series user name for authentication purposes.
- `-p <password>` or `--password <password>`
password: This parameter is the O Series user password for authentication purposes.

Input file parameter

The following parameter is required:

- `-l <exportFileName>` or `--exportFileName <exportFileName>`
exportFileName: This parameter enables you to specify the local file name to assign to the tax data export file that is downloaded from the remote O Series server. This file name must be the absolute path of the file on the client machine.

Transaction parameters

The following parameters are optional:

- `-c <taxpayerCompanyCode>` or `--taxpayerCompanyCode <taxpayerCompanyCode>`
taxpayerCompanyCode: This parameter enables you to define the company-level taxpayer code.
- `-d <fieldDelimiter>` or `--fieldDelimiter <fieldDelimiter>`
fieldDelimiter: This parameter enables you to define the character that you use as a delimiter in your tax data export file. For example, `-d ASTERISK` sets the delimiter value to an asterisk. Valid values are COMMA (,), FORWARD_SLASH (/), ASTERISK (*), TILDE (~), SEMICOLON (;), PIPE (|), AND CARET (^). The default value is a COMMA (,).
- `-e <endDate>` or `--endDate <endDate>`
endDate: This parameter enables you to define the end date of the effective date range for the tax data being exported.
- `-i <taxpayerDivisionCode>` or `--taxpayerDivisionCode <taxpayerDivisionCode>`
taxpayerDivisionCode: This parameter enables you to define the division-level taxpayer code.
- `-n <targetPartitionName>` or `--targetPartitionName <targetPartitionName>`
targetPartitionName: This parameter enables you to specify the name of the partition in which to export tax data.
- `-r <recordType>` or `--recordType <recordType>`
recordType: This parameter enables you to specify the type of data that you want to export. Valid values are CERTIFICATE, CUSTOMER, FLEX_FIELDS_DEFINITIONS, FORM, SITUS_TREATMENT_RULE, TAX_ASSIST_ALLOCATION_TABLE, TAX_ASSIST_LOOKUP_TABLE, TAX_ASSIST_RULE, TAX_RULE, TAXABILITY_CATEGORY, TAXABILITY_CATEGORY_MAPPING, TAXABILITY_DRIVER, TAXABILITY_MAPPING, TAXPAYER, and VENDOR. If you do not specify a value for this parameter, Vertex O Series defaults to include all values.
- `-s <startDate>` or `--startDate <startDate>`
startDate: This parameter enables you to define the start date of the effective date range for the tax data being exported.

- `-t <taxpayerDepartmentCode>` or `--taxpayerDepartmentCode <taxpayerDepartmentCode>`

`taxpayerDepartmentCode`: This parameter enables you to define the department-level taxpayer code.

Running the `runTaxDataExport` utility from the command line

You can run the `runTaxDataExport` utility through the command line in Windows or UNIX. The `runTaxDataExport` utility performs a Tax Data export activity and downloads the export file to your local machine.

Complete the following steps to run the `runTaxDataExport` utility from the command line:

1. Access the command line.
2. Access the directory that contains the unzipped `oseries-client` file.
3. Run the `runTaxDataExport` script by doing one of the following:
 - For Windows systems, enter `runTaxDataExport.bat -u userName -p password -l exportFileName`
 - For UNIX systems, enter `runTaxDataExport.sh -u userName -p password -l exportFileName`

where:

`userName` is your Vertex O Series user name.

`password` is your Vertex O Series password.

`exportFileName` is the name of the local file to assign to the downloaded tax data export file.

Press **Enter**.

The following messages display as the utility exports the tax data file and downloads the export file to your local machine:

```
Running tax data export...
```

```
Tax data export activity submitted with activity id <id>.
```

```
Tax data export activity completed with status <statusName>.
```

Valid status messages include the following:

- RUNNING
- COMPLETED SUCCESSFULLY
- COMPLETED WITH WARNING
- COMPLETED WITH FAILURE

```
Downloading export file to <exportFileName>.
```

```
Download completed.
```

The runTaxEngineExtract utility

This section tells you:

- The parameters that are associated with the runTaxEngineExtract utility (see page 43)
- How to run the runTaxEngineExtract utility from the command line (see page 44)

Command line parameters for the runTaxEngineExtract utility

The following runTaxEngineExtract command line parameters are required. Both short and long parameter options are provided.

User authentication parameters

The following parameters are required:

- `-u <userName>` or `--userName <userName>`
userName: This parameter is the O Series user name for authentication purposes.
- `-p <password>` or `--password <password>`
password: This parameter is the O Series user password for authentication purposes.

Input file parameters

The following parameters are required:

- `-f <filterName>` or `--filterName <filterName>`
filterName: This parameter enables you to specify the name of the Tax Engine Extract filter to be run.
- `-l <localUpdateFileName>` or `--localUpdateFileName <localUpdateFileName>`
localUpdateFileName: This parameter enables you to specify the local file name to assign to the downloaded Tax Engine Extract update file.

Running the runTaxEngineExtract utility from the command line

You can run the runTaxEngineExtract utility through the command line in Windows or UNIX. Use this utility to perform a Tax Engine Extract if you have a Local Indirect Tax Engine (LITE) deployment of Vertex Retail. Make sure you have created a Data Management filter through **System > Data Management** in Vertex Central *before* you run the runTaxEngineExtract.

Complete the following steps to run the runTaxEngineExtract utility from the command line:

1. Access the command line.
2. Access the directory that contains the unzipped oseries-client file.
3. Run the runTaxEngineExtract script by doing one of the following:
 - For Windows systems, enter `runTaxEngineExtract.bat -u userName -p password -f filterName -l localUpdateFileName`
 - For UNIX systems, enter `runTaxEngineExtract.sh -u userName -p password -f filterName -l localUpdateFileName`

where:

userName is your Vertex O Series user name.

password is your Vertex O Series password.

filterName is the name of the saved Data Management activity filter you created.

localUpdateFileName is the local file name to assign to the downloaded Tax Engine Extract update file.

Press **Enter**.

The following messages display as the utility performs the extract and then downloads the update file to your local machine:

```
Running tax engine extract for filter <filterName>
Tax Engine Extract activity completed with status <message>.
```

Valid status messages include:

- RUNNING
- COMPLETED SUCCESSFULLY
- COMPLETED WITH WARNING
- COMPLETED WITH FAILURE

If the Tax Engine Extract fails, the utility does not download a file and the following error message displays:

```
Issues running Tax Engine Extract activity, stopping...
```

Otherwise, the following messages display:

```
Downloading update file to <localUpdateFileName>
Download complete.
```

The runRetailTaxExtract utility

This section tells you:

- The parameters that are associated with the runRetailTaxExtract utility (see page 45)
- How to run the runRetailTaxExtract utility from the command line (see page 46)
- How to manipulate Retail Tax Extract data (see page 47)
- How to retrieve the Retail XML Schema file (see page 47)

Command line parameters for the runRetailTaxExtract utility

The following runRetailTaxExtract command line parameters are required. Both short and long parameter options are provided.

User authentication parameters

The following parameters are required:

- `-u <userName>` or `--userName <userName>`
userName: This parameter is the O Series user name for authentication purposes.
- `-p <password>` or `--password <password>`
password: This parameter is the O Series user password for authentication purposes.

Input file parameters

The following parameters are required:

- `-f <filterName>` or `--filterName <filterName>`
filterName: This parameter enables you to specify the name of the Retail Tax Extract filter to be run.
- `-l <localExtractFileName>` or `--localExtractFileName <localExtractFileName>`
localExtractFileName: This parameter enables you to specify the local file name to assign to the downloaded Retail Tax Extract file.

Running the runRetailTaxExtract utility from the command line

You can perform the runRetailTaxExtract utility through the command line in Windows or UNIX. Use this utility to perform a Retail Tax Extract if you have a Retail Tax Extract deployment of Vertex Retail. Make sure that you have created a Data Management filter through **System > Data Management** in Vertex Central *before* you run the runRetailTaxExtract.

Complete the following steps to run the runRetailTaxExtract utility from the command line:

1. Access the command line.
2. Access the directory that contains the unzipped oseries-client file.
3. Run the runRetailTaxExtract script by doing one of the following:
 - For Windows systems, enter `runRetailTaxExtract.bat -u userName -p password -f filterName -l localExtractFileName`
 - For UNIX systems, enter `runRetailTaxExtract.sh -u userName -p password -f filterName -l localExtractFileName`

where:

`userName` is your Vertex O Series user name.

`password` is your Vertex O Series password.

`filterName` is the name of the saved Data Management activity filter you created.

`localExtractFileName` is the local file name to assign to the downloaded Retail Tax Extract file.

Press **Enter**.

The following messages display as the utility performs the extract activity and then downloads the extract file to your local machine:

```
Running Retail Tax Extract for filter <filterName>
Retail Tax Extract activity completed with status <message>.
```

Valid status messages include:

- RUNNING
- COMPLETED SUCCESSFULLY
- COMPLETED WITH WARNING
- COMPLETED WITH FAILURE

Note: *If the Retail Tax Engine Extract fails, the utility does not download a file and the following error message displays:*

```
Issues running Retail Tax Extract activity, stopping...
```

Otherwise, the following messages display:

```
Downloading extract file to <localExtractFileName>
Download complete.
```

Manipulating Retail Tax Extract data by using the O Series Client Utilities

If you want to manipulate the Retail Tax Extract data on your local machine, select the Generate Database Export check box when you create a Retail Tax Extract filter through **System > Data Management** in Vertex Central.

The Generate Database Export check box enables you to export the data in the Retail Tax Extract database as a ZIP file. This file contains tilde (~)-delimited files for each database table. You can then load this file into another database, such as Oracle or SQL, to manipulate and extract the appropriate data as needed.

Select **Include Date Time Stamp** to automatically append a date and time stamp to the file name.

Retrieve the Retail XML Schema file

If you selected both the Generate Retail XML Schema check box and Generate Database Export check box when you created a filter for a Retail Tax Extract, you need to perform an additional step to retrieve the generated Retail XML Schema file.

To retrieve the generated Retail XML Schema file, use the `getFile` utility (see page 57) to download the file from the server to your local machine.

You do not have to do anything special to retrieve the generated database ZIP file. This file is downloaded from the O Series remote server to your local machine as part of the `runRetailTaxExtract` utility.

The `runEUMossExtract` utility

This section tells you the following:

- The parameters that are associated with the `runEUMossExtract` utility (see page 47)
- How to run the `runEUMossExtract` utility from the command line (see page 49)

For more details about EU MOSS, refer to the *EU Mini One Stop Shop in O Series Guide*.

Command line parameters for the `runEUMossExtract` utility

The `runEUMossExtract` command line utility has both required and optional parameters. Both short and long parameter options are provided.

User authentication parameters

The following parameters are required:

- `-u <userName>` or `--userName <userName>`

`userName`: This parameter is the O Series user name for authentication purposes.

- `-p <password>` or `--password <password>`
password: This parameter is the O Series user password for authentication purposes.

Transaction parameters

The following parameters are required:

- `-d <exchangeRateDate>` or `--exchangeRateDate <exchangeRateDate>`
exchangeRateDate: This parameter enables you to set the date for currency conversion (*yyyy-MM-dd*).
- `-e <endDate>` or `--endDate <endDate>`
endDate: This parameter enables you to set the posting end date of the data to be extracted (*yyyy-MM-dd*).
- `-r <exchangeRatesFileName>` or `--exchangeRatesFileName <exchangeRatesFileName>`
exchangeRatesFileName: This parameter enables you to identify the name of the exchange rates file. This file is in .csv format.
- `-s <startDate>` or `--startDate <startDate>`
startDate: This parameter enables you to set the posting start date of the data to be extracted (*yyyy-MM-dd*).
- `-x <extractFileName>` or `--extractFileName <extractFileName>`
extractFileName: This parameter enables you to identify the name of the EU MOSS extract file. This file is in .csv format.

The following parameter is optional:

- `-t <taxpayers>` or `--taxpayers <taxpayers>`
taxpayers: This parameter enables you to identify the taxpayers for which the data is extracted. Taxpayers are delimited by commas (,). Company Code, Division Code, and Department Code are delimited by a colon (:).

Example: `-t ABCCorporation::,DEFCorporation:LosAngeles:Department12`

Running the runEUMossExtract utility from the command line

You can run the runEUMossExtract utility through the command line in Windows or UNIX. The runEUMossExtract utility uploads the Exchange Rates File, performs an EU MOSS Extract activity, and downloads the extract file and extract detail file from the remote Vertex O Series server.

Complete the following steps to perform an EU MOSS Extract:

1. Access the command line.
2. Access the directory that contains the unzipped oseries-client file.
3. Run the runEUMossExtract script by doing one of the following:
 - For Windows systems, enter `runEUMossExtract.bat -u userName -p password -s startDate -e endDate -d exchangeRateDate -r exchangeRatesFileName -x extractFileName`
 - For UNIX systems, enter `runEUMossExtract.sh -u userName -p password -s startDate -e endDate -d exchangeRateDate -r exchangeRatesFileName -x exchangeFileName`

where:

userName is your Vertex O Series user name.

password is your Vertex O Series password.

startDate is the posting start date of the data to be extracted (*yyyy-MM-dd*).

endDate is the posting end date of the data to be extracted (*yyyy-MM-dd*).

exchangeRateDate is the date for currency conversion (*yyyy-MM-dd*).

exchangeRatesFileName is the name of the exchange rates file.

extractFileName is the name of the extract file.

Press **Enter**.

The runEUMossExtract utility displays the following messages as it uploads the Exchange Rates file:

```
Uploading exchange rates file <exchangeRatesFileName>
Upload complete.
```

The runEUMossExtract utility displays the following messages as it submits, processes, and completes the extract. It also displays the status of the completed extract activity.

```
Running EU MOSS extract...
EU MOSS extract activity submitted with activity id <id>.
EU MOSS extract activity status:<status>
EU Moss extract activity completed with status <statusName>
```

Valid status messages include the following:

- RUNNING
- COMPLETED SUCCESSFULLY
- COMPLETED WITH WARNING
- COMPLETED WITH FAILURE

The runEUMossExtract utility displays the following messages as it downloads the extract file:

```
Downloading extract file to <extractFileName>
Download complete.
```

The runEUMossExtract utility displays the following messages as it downloads the extract detail file:

```
Downloading extract detail file to <extractDetailFileName>
Download complete.
```

Data Extract command line utilities

The Data Extract utilities available through the command line enable you to perform a Data Extract in Windows or UNIX:

Before you use these utilities, you must create a Data Extract definition. For details on creating a definition, refer to the *Vertex Central Online Help*.

The runDataExtract utility

This section tells you:

- The parameters that are associated with the runDataExtract utility (see page 51)
- How to run the runDataExtract utility from the command line (see page 52)

Command line parameters for the runDataExtract utility

The runDataExtract command line utility has both required and optional parameters. Both short and long parameter options are provided.

User authentication parameters

The following parameters are required:

- `-u <userName>` or `--userName <userName>`
userName: This parameter is the O Series user name for authentication purposes.
- `-p <password>` or `--password <password>`
password: This parameter is the O Series user password for authentication purposes.

Input parameters

The following parameter is required:

- `-n <extractName>` or `--extractName <extractName>`
extractName: This parameter enables you to specify the name of the data extract to run.

Transaction parameters

The following parameters are optional:

- `-l <localFileName>` or `--localFileName <localFileName>`
localFileName: This parameter enables you to specify the local file name to assign to the downloaded Data Extract results file. This file can be in any format that is supported by Data Extract in Vertex O Series. This parameter can include an absolute path. If you do not specify an absolute path for this parameter, this utility downloads this file, by default, to the `oseries-client-utilities/bin` directory on your local machine.
- `<filterValue1...N>`
filterValue1...N: These parameters enable you to specify values for the filters that you defined when creating the Data Extract definition. The filter values that you enter on the command line *override* the values that you entered when creating the Data Extract definition. The number of filter values that you specify on the command line *must be less than or equal* to the number of filter values that you defined in the Data Extract definition.

Running the runDataExtract utility from the command line

You can run the runDataExtract utility through the command line in Windows or UNIX. The runDataExtract utility performs a data extract and downloads the data extract results file to the client location.

Complete the following steps to run the runDataExtract utility from the command line:

1. Access the command line.
2. Access the directory that contains the unzipped oseries-client file.
3. Run the runDataExtract script by doing one of the following:
 - For Windows systems, enter `runDataExtract.bat -u userName -p password -n extractName [-l localFileName][filterValue1][filterValue2]...[filterValueN]`
 - For UNIX systems, enter `runDataExtract.sh -u userName -p password -n extractName [-l localFileName][filterValue1][filterValue2]...[filterValueN]`

where:

userName is your Vertex O Series user name.

password is your Vertex O Series password.

extractName is the name of the data extract to run.

[*localFileName*] is the local file name to assign to the downloaded Data Extract results file.

[*filterValue1*][*filterValue2*]...[*filterValueN*] are the values for the filters that you defined when creating the Data Extract definition.

Press **Enter**.

The following messages display as the utility performs a data extract and then downloads the results file:

```
Running data extract for filter <extractName>
Data extract completed with status <message>.
```

Valid status messages include the following:

- RUNNING
 - COMPLETED SUCCESSFULLY
 - COMPLETED WITH WARNING
 - COMPLETED WITH FAILURE
- ```
Downloading results file to <extractName>
Download complete.
```

## File Transfer command line utilities

The File Transfer utilities available through the command line enable you to perform file transfer activities in Windows or UNIX. These activities include moving files between the O Series server and your local client.

**Note:** *When you perform Data Management activities through the command line, the File Transfer steps are performed as part of the Data Management processing, so you do not need to perform the File Transfer steps separately.*

If you want to perform a file transfer *unrelated* to Data Management activities, you can run these file transfer utilities separately:

- putFile (see page 53) utility (File upload)
- getFile (see page 55) utility (File download)

### The putFile utility

This section tells you:

- The parameters that are associated with the putFile utility (see page 53)
- How to run the putFile utility through the command line (see page 54)

### Command line parameters for the putFile utility

The putFile command line utility has both required and optional parameters. Both short and long parameter options are provided.

#### User authentication parameters

The following putFile command line parameters are required:

- `-u <userName>` or `--userName <userName>`  
userName: This parameter is the O Series user name for authentication purposes.
- `-p <password>` or `--password <password>`  
password: This parameter is the O Series user password for authentication purposes.

## Input file parameters

The following putFile command line parameters are required:

- `-l <localFileName>` or `--localFileName <localFileName>`  
localFileName: This parameter enables you to specify the name of the file to upload.
- `-d <remoteDirectoryName>` or `--remoteDirectoryName <remoteDirectoryName>`  
remoteDirectoryName: This parameter enables you to specify the logical directory on the remote O Series server in which to upload the file.  
Valid values are BATCH\_CLIENT\_INTERFACE, EU\_MOSS\_EXTRACT, RETAIL\_JOURNAL, RETAIL\_STATUS, and TAX\_DATA\_IMPORT.

## Other putFile parameters

The following putFile command line parameters are optional:

- `-r <remoteFileName>` or `--remoteFileName <remoteFileName>`  
remoteFileName: This parameter enables you to specify the name of the file to create on the remote O Series server. If you do not specify this parameter, the default value is the same as the localFileName.
- `-z <zip>` or `--zip <zip>`  
zip: This parameter enables you to zip your local file before Vertex O Series uploads it to the Vertex O Series server. The file on your local computer, by default, is not a zipped file. If you specify this parameter but do not specify a *remoteFileName*, Vertex O Series appends a *.zip* extension to the uploaded file name. If you specify this parameter and a *remoteFileName*, Vertex O Series provides a *.zip* extension to remoteFileName.

## Running the putFile utility through the command line

You can run the putFile utility through the command line in Windows or UNIX. Use this utility to perform a file upload from a local computer to the O Series server.

**Note:** *When you perform Data Management activities through the command line, the File Transfer steps are performed as part of the Data Management processing. You do not need to perform the File Transfer separately for a Data Management activity.*

Complete the following steps to run the putFile utility from the command line:

1. Access the command line.
2. Access the directory that contains the unzipped oseries-client file.

3. Run the `putFile` script by doing one of the following:

- For Windows systems, enter `putFile.bat -u userName -p password -l localFileName -d remoteDirectoryName -r remoteFileName`
- For UNIX systems, enter `putFile.sh -u userName -p password -l localFileName -d remoteDirectoryName -r remoteFileName`

where:

`userName` is your Vertex O Series user name.

`password` is your Vertex O Series password.

`localFileName` is the name of the file to upload.

`remoteDirectoryName` is the name of the directory where the file should be created on the remote O Series server.

`remoteFileName` is the name of the file to create on the remote O Series server.

Press **Enter**.

The following initial message displays as the utility uploads the remote file to the O Series server:

```
Uploading file <localFileName> to <remoteFileName>
```

While the file is uploading, the following message displays:

```
Uploaded <totalBytesTransferred> of <fileSize> bytes (<percentComplete>% complete).
```

After the entire file has been uploaded, the following message displays:

```
Upload complete.
```

## The `getFile` utility

This section tells you:

- The parameters that are associated with the `getFile` utility (see page 56)
- How to run the `getFile` utility through the command line (see page 57)

## Command line parameters for the getFile utility

The getFile command line utility has both required and optional parameters. Both short and long parameter options are provided.

### User authentication parameters

The following getFile command line parameters are required:

- `-u <userName>` or `--userName <userName>`  
userName: This parameter is the O Series user name for authentication purposes.
- `-p <password>` or `--password <password>`  
password: This parameter is the O Series user password for authentication purposes.

### Remote file parameters

The following getFile command line parameters are required:

- `-d <remoteDirectoryName>` or `--remoteDirectoryName <remoteDirectoryName>`  
remoteDirectoryName: This parameter enables you to specify the logical directory on the remote O Series server where the file to be downloaded resides.  
Valid values are BATCH\_CLIENT\_INTERFACE, DATA\_EXTRACT, EU\_MOSS\_EXTRACT, RETAIL\_TAX\_EXTRACT, RETURNS\_EXPORT, TAX\_DATA\_EXPORT, TAX\_ENGINE\_EXTRACT, STANDARD\_AUDIT\_FILE, and VAT\_RETURNS\_EXPORT.
- `-r <remoteFileName>` or `--remoteFileName <remoteFileName>`  
remoteFileName: This parameter enables you to specify the name of the remote file to download.

### Other getFile parameters

The following getFile command line parameters are optional:

- `-l <localFileName>` or `--localFileName <localFileName>`  
localFileName: This parameter enables you to specify the local file name to assign to the downloaded file. If you do not specify this parameter, the default value is the same as the remoteFileName.

**Note:** You can specify the complete local directory path for this file or only a file name. If you specify only a file name, the `getFile` utility downloads the file into the current directory where the utility resides.

- `-z <zip>` or `--zip <zip>`

`zip`: This parameter enables you to zip your remote file before Vertex O Series downloads it to your local computer. The file on your Vertex O Series server, by default, is not a zipped file. If you specify this parameter but do not specify a `localFileName`, Vertex O Series appends a `.zip` extension to the downloaded `localFileName`. If you specify this parameter and a `localFileName`, Vertex O Series provides a `.zip` extension to `localFileName`.

### Running the `getFile` utility from the command line

You can run the `getFile` utility through the command line in Windows or UNIX. Use this utility to perform a file download from the remote O Series server.

**Note:** When you perform Data Management activities through the command line, the File Transfer steps are performed as part of the Data Management processing. As a result, you do not need to perform the File Transfer separately for a Data Management activity.

Complete the following steps to run the `getFile` utility from the command line:

1. Access the command line.
2. Access the directory that contains the unzipped `oseries-client` file.
3. Run the `getFile` script by doing one of the following:
  - For Windows systems, enter `getFile.bat -u userName -p password -d remoteDirectoryName -r remoteFileName`
  - For UNIX systems, enter `getFile.sh -u userName -p password -d remoteDirectoryName -r remoteFileName`

where:

`userName` is your Vertex O Series user name.

`password` is your Vertex O Series password.

`remoteDirectoryName` is the name of the directory where the file to download resides on the remote O Series server.

`remoteFileName` is the name of the file to download from the remote O Series server.

Press **Enter**.

## Chapter 2. O Series Client Utilities Through the Command Line

The following initial message displays as the utility downloads the remote file to your local machine:

```
Downloading file <remoteFileName> to <localFileName>
```

While the file is downloading, the following message displays:

```
Downloaded <totalBytesTransferred> of <fileSize> bytes (<percentComplete>%
complete).
```

After the entire file has been downloaded, the following message displays:

```
Download complete.
```

# Chapter 3. O Series Client Utilities Through Web Services

The O Series Client Utilities web services include Data Management, Data Extract, File Transfer, and Security Services. These services enable you to do the following:

- Generate XML messages that are used to perform Data Management and Data Extract activities and the associated file transfer tasks.
- Remotely create users and partitions.

This chapter includes a procedure to connect to the WSDL endpoint, information about each web service, and where to find annotated schema documentation. This documentation can help you understand the required data elements in the web service request and response messages.

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## Connecting to the WSDL endpoint

Complete the following steps to access the WSDL endpoint for each O Series Client Utilities web service:

1. Type `http://<server>:<port>/vertex-remote-services/` in your Internet browser:

where:

*server* is the name of the server that directs you to the Vertex O Series web services page.

*port* is the name of the connection port for the Vertex O Series web services page.

Type the server and port names that you specified in the `WebServiceURL` parameter in the `oseries-client.properties` file. For details, refer to the `oseries-client.properties` file for configuration parameters (see page 27).

2. Press **Enter**.

The Vertex O Series web services page displays.

3. Click **View the list of deployed Vertex O Series web services and their Endpoints**.

A list of Vertex O Series web services displays, with a brief description and the WSDL endpoint for each web service.

4. Select the O Series Client web service you want to use:

- Data Management web services (see page 61)
- Data Extract web services (see page 62)
- File Transfer web services (see page 62)
- Security Services web services (see page 65)

5. Point the SOAP toolkit to the WSDL endpoint for the web service you selected to create a SOAP Request message for the host application.

## Where to find annotated schema documentation

Vertex provides annotated schema documentation in HTML format for your reference. This schema documentation can help you understand the required data elements in the web service request and response messages.

The annotated schema documentation is included in the Vertex Oseries ClientUtilities.zip file:

- If you have an On-Demand environment (client-side using hosted Vertex O Series), you can access a link to the Vertex Oseries v9 ClientUtilities.zip file in the Client Tools section that is on the O Series landing page.
- If you have an On-Premise environment (server-side Vertex O Series), you can access the Vertex Oseries v9 ClientUtilities.zip file on the myVertex customer portal (<https://vertexinc.custhelp.com>).

## Data Management web services

The Data Management web services enable you to perform Data Management activities remotely. These web services include the following:

- RunBatchClientInterface

**Note:** *You cannot run the Batch Client Interface utility when using a database as input through web services.*

- RunEUMossExtract
- RunRetailTaxExtract for the Retail Tax Extract deployment of Vertex Retail
- RunTaxDataExport
- RunTaxDataImport
- RunTaxEngineExtract for the Local Indirect Tax Engine (LITE) deployment of Vertex Retail
- RunTaxJournalExport (can be run only through a web service)

**Note:** *The RunTaxJournalExport Request message may create one or multiple Tax Journal Export files, depending on how you segment the export file size.*

- GetActivityStatus to retrieve the status of a Data Management activity

Before you use the Vertex Retail web services, you must create a Data Management filter. You can create a new Data Management filter through Vertex Central. For details about creating a filter, refer to the *Vertex Central Online Help*.

For details about these web services, refer to the annotated schema documentation (see page 60).

## Can I access a local Batch Client Interface database using the Batch Client Interface web service?

The O Series Client Utilities *cannot* access a local Batch Client Interface database through a web service. You can run Batch Client Interface processing using a local database as input through the command line *only*. For details, refer to Running the runBatchClientInterface utility from the command line (see page 34).

## Data Extract web services

The Data Extract web services enable you to perform Data Extract activities remotely. These web services include the following:

- RunDataExtract
- GetExtractStatus to retrieve the current status of a Data Extract

Before you use the RunDataExtract web service, you must create a Data Extract definition for your Data Extract. You can create a new data extract definition through Vertex Central. For details about creating a Data Extract definition, refer to the *Vertex Central Online Help*.

For details about these web services, refer to the annotated schema documentation (see page 60).

## File Transfer web services

The File Transfer web services enable you to perform file transfer activities between the O Series server and your local client. These web services include the following:

- GetFile (file download)
- PutFile (file upload)

**Note:** *To limit the access to the directories that are under the `vertexroot/data` folder, you cannot use relative path characters (`.`, `/`, `\`) in the directories that you specify when using the GetFile and PutFile web services.*

For details about these web services, refer to the annotated schema documentation (see page 60).

## How uploading status files from a Vertex Retail Local Indirect Tax Engine (LITE) deployment to a Vertex Central deployment works

If you have a Vertex Retail LITE deployment and want to upload the status files from your location to a Vertex Central location, use the putFile utility with the `<remoteDirectoryName>` parameter (see page 53). The `RETAIL_STATUS` value for this parameter enables you to upload these status files to a Vertex Central location. After you upload these status files, you can successfully run the Data Extract Retail Location Status report.

## How retrieving files from Batch Client Interface processing works

If you are writing your own client by calling the web services directly, use the GetFile utility to download the Batch Client Interface processing results file and errors file from the Vertex O Series server to your local machine. Before you can do this, you need to understand the following:

1. How the Batch Client Interface directory structure (see page 63) impacts file retrieval
2. How file movement during Batch Client Interface processing (see page 64) impacts file retrieval
3. How to specify the ResultsFileName and ErrorsFileName values that are returned by the RunBatchClientInterfaceResponse XML message as input in the GetFile utility (see page 64)

### Directories for generated Batch Client Interface files

Vertex O Series identifies each Data Management activity by a unique numeric identifier (Activity Log Id). The Activity Log Id identifies each Data Management job.

The files that Vertex O Series generates during a Batch Client Interface activity are located in the Vertex Home/data/bci directory, in a sub-directory identified by the Activity Log Id. For example:

```
Vertex Home/data/bci/<Activity Log Id>
```

where:

*<Activity Log Id>* is the directory that contains the results and errors files from the processing that is associated with that specific Batch Client Interface job.

The Activity Log Id is returned by the RunBatchClientInterfaceResponse XML message.

## Stages of file movement during Batch Client Interface processing and file retrieval activities

To retrieve the results and errors files from Batch Client Interface processing, you must understand the exchange of files between the client location and the O Series server. You need to know the specific file names from Batch Client Interface processing to use in the GetFile utility.

Review the following stages of file movement:

1. Use the PutFile utility to upload the input CSV file from your local computer to the O Series server.
2. Use the RunBatchClientInterface utility to use the uploaded CSV file as input for Batch Client Interface processing. Batch Client Interface processing calculates tax and generates a results file and, if applicable, an errors file.
3. Use the GetFile Utility to retrieve the files that were generated by Batch Client Interface processing. For details, refer to Guideline: Use the ResultsFileName and ErrorsFileName values returned by the RunBatchClientInterfaceResponse XML message as input in the GetFile utility (see page 64).

### Guideline: Use the ResultsFileName and ErrorsFileName values returned by the RunBatchClientInterfaceResponse XML message as input in the GetFile utility

Use the ResultsFileName and ErrorsFileName values returned by the RunBatchClientInterfaceResponse XML message as input in the GetFile utility.

### How the Batch Client Interface ResultsFileName relates to the GetFile utility

To retrieve the results file from Batch Client Interface processing, use the value from the ResultsFileName data element as the value for the RemoteFileName in the GetFile utility. This file name must be prefaced by Activity Log Id directory, such as

*<Activity Log Id>/ResultsFileName*

where:

*<Activity Log Id>* is the unique identifier for each Data Management activity.

*ResultsFileName* is the results file returned in the RunBatchClientInterfaceResponse XML message.

### How the Batch Client Interface ErrorsFileName relates to the GetFile utility

To retrieve the errors file from Batch Client Interface processing, use the value from the ErrorsFileName data element as the value for the RemoteFileName in the GetFile utility. This file name must be prefaced by Activity Log Id directory, such as

*<Activity Log Id>/ErrorsFileName*

where:

*<Activity Log Id>* is the unique identifier for each Data Management activity.

*ErrorsFileName* is the errors file that was returned in the RunBatchClientInterfaceResponse XML message.

## Security Services web services

The Security Services enable you to remotely create partitions and users. These web services include the following:

- CreatePartition
- CreateUser

**Note:** *For users that are created via web services, a cache refresh must occur before those users can log in to Vertex Central. With default settings, this refresh can take up to 5 minutes.*

For details about these web services, refer to the annotated schema documentation (see page 60).

# Chapter 4. Troubleshooting the Vertex O Series Client Utilities Run Through web services

You may get Simple Object Access Protocol (SOAP) errors while Vertex O Series processes XML messages. The cause of the error determines the type of SOAP fault message that you receive. For more details on the SOAP portion of the W3C standard, go to <http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>.

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## Troubleshooting a client fault

A client fault indicates that the SOAP message was incorrectly formed or did not include a required element.

Troubleshooting a client fault involves:

1. Reviewing the message against the SOAP standard and correcting any omissions. Then, resend the message.
2. If you still receive a client fault, have your IT Department review the Vertex O Series Log files to determine the type of error. If necessary, contact Vertex Product Support.

For more details about SOAP faults, go to [http://www.w3.org/TR/2000/NOTE-SOAP-20000508/#\\_Toc478383510](http://www.w3.org/TR/2000/NOTE-SOAP-20000508/#_Toc478383510).

## Troubleshooting a server fault

A server fault indicates that a SOAP message could not be processed for reasons unrelated to the contents of the message. This message indicates that the processing server may be unresponsive or not available for processing.

Troubleshooting a server fault involves:

1. Vertex addressing and resolving the server issue.
2. Resending your message at a later date when the processing server is available.

For more details on SOAP faults, go to [http://www.w3.org/TR/2000/NOTE-SOAP-20000508/#\\_Toc478383510](http://www.w3.org/TR/2000/NOTE-SOAP-20000508/#_Toc478383510).