# Anaplan Connect Quick Start Guide

## Overview

Anaplan Connect is an API Client with a command-line interface that supports the following types of Anaplan actions:

- import
- export

- delete - "Delete from List using Selection" to remove specific items from a list
- process - a combination of the other types of actions

The advantages include:

- No need for manual work in the Anaplan GUI for each run. You can schedule jobs to run automatically at the interval you want
- No need to code a full-scale software application

This document shows you how to write a file of commands for your operating system.

| Windows | UNIX, Linux, MacOS |
|---|---|
| Write the batch (.bat) file using TextPad, SublimeText, Notepad, or similar | Write the script (.sh) file using nano, vi, SublimeText, or similar |
| Use a command prompt to run a batch file, such as myImport.bat | Use Terminal to run a shell script, such as myImport.sh |

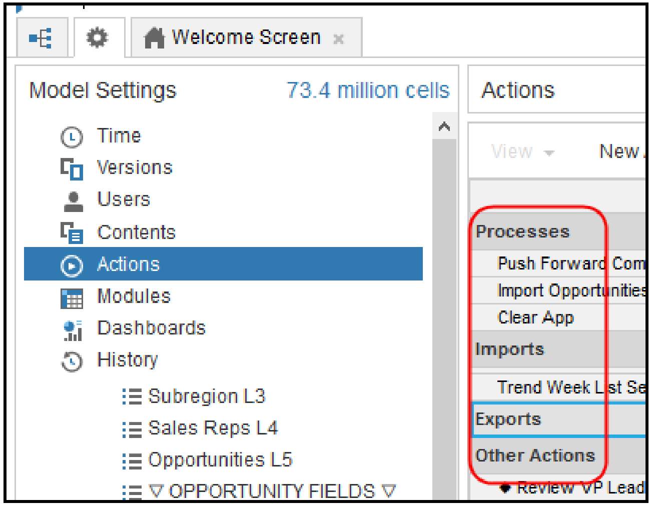
Example: a batch file named **RunMyImport.bat** that loads a text file, **Europe.txt**, onto the Anaplan server.
If you also use a scheduling tool, the batch file can run itself at any hour and interval you choose (daily, weekly) without you having to log onto Anaplan or be present.

> Anaplan Connect compresses the files during upload. Referring to zip files in the .bat or .sh file is not supported.

# Prerequisites

## Access to Anaplan model with the actions

Ability to open an Anaplan model that already has the actions (Import, Export, Delete, or Process) that you want Anaplan Connect to run.



> If you do not have access to Anaplan, work with someone who has the ability to create actions in Anaplan.

## Java version and third-party data sources

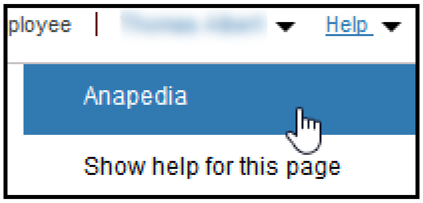
- An installation of Java 7 or 8.
  - If you want to use Anaplan Connect to import from an ODBC data source, note that Java 8 does not support the JDBC-ODBC Bridge (see https://blogs.oracle.com/Lance/entry/removal_of_the_jdbc_odbc).
- Anaplan Connect supports Java Database Connectivity (JDBC), which means it is possible to work with many third-party data sources.
- See also:
  - Appendix D: JDBC for Oracle, Access, MySQL, Excel
  - Appendix E: Import through a JDBC Connection for a Microsoft SQL Server database

### If using SSO-enabled workspace

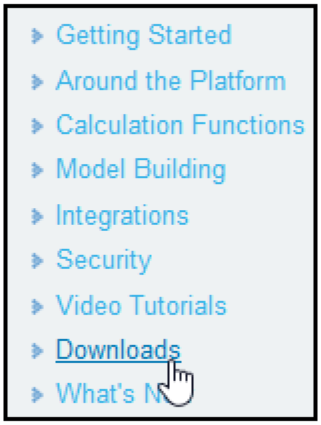
- If the actions you want Anaplan Connect to run are for models in a workspace using **Single Sign-on (SSO)** access, the Anaplan Connect user must be an "Exception User". An "Exception User" can authenticate by username and password or by certificate, rather than through SAML. See https://community.anaplan.com/anapedia/integrations/single-sign-on-sso

## Download and Setup

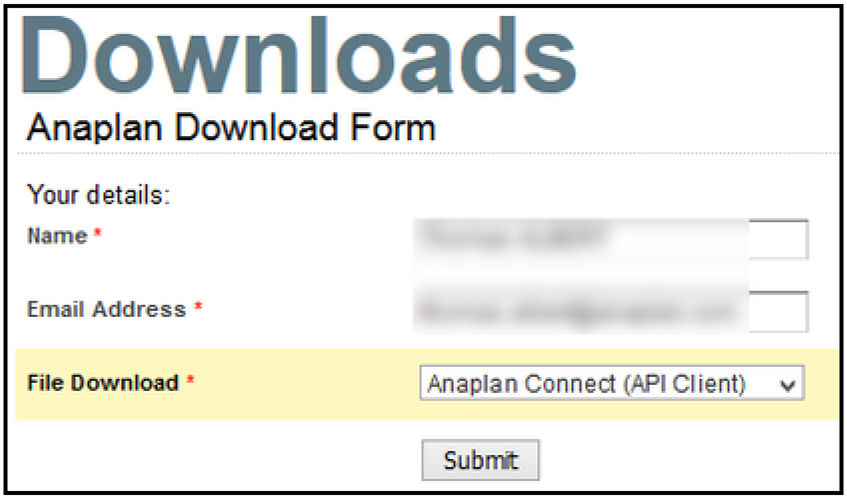
1. Log in to Anaplan.
2. In the upper right corner of the workspace, click **Help** > **Anapedia**.



3. In the Anapedia tab, click **Downloads**.



4. Fill in the information, click the arrow for the Download list, click **Anaplan Connect (API Client)**, and click **Submit**.



Downloads

Anaplan Download Form

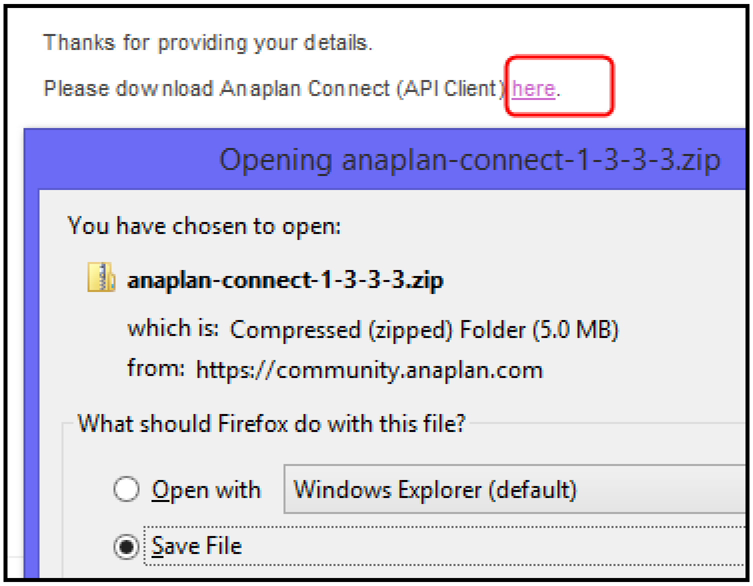
Your details:

Name *

Email Address *

File Download * Anaplan Connect (API Client)

5. Click the **here** link and save the zip file to your hard drive.



Thanks for providing your details.

Please download Anaplan Connect (API Client) here.

Opening anaplan-connect-1-3-3-3.zip

You have chosen to open:

anaplan-connect-1-3-3-3.zip

which is: Compressed (zipped) Folder (5.0 MB)

from: https://community.anaplan.com

What should Firefox do with this file?

○ Open with Windows Explorer (default)

● Save File

6. Extract the zip to a directory.

## Work with Batch Files (.bat)

In your Anaplan Connect installation folder, at **examples\example.bat**, is the following code:

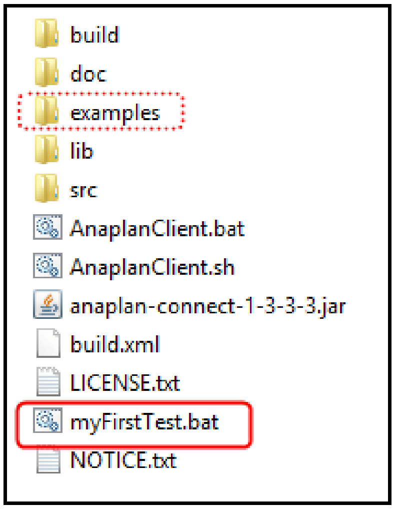
```
@echo off
rem This example loads a source text file and runs an Anaplan import into a
module.
rem For details of how to configure this script see doc\Anaplan Connect
User Guide.doc

set AnaplanUser="fred.smith@mycompany.com:password"
set WorkspaceId="My Workspace"
set ModelId="My Model"
set Operation=-file "My Source.txt" -put "C:\My Source.txt" -import "My
Module from My Source.txt" -execute -output "C:\My Errors.txt"

rem *** End of settings - Do not edit below this line ***

setlocal enableextensions enabledelayedexpansion || exit /b 1
cd %~dp0
if not %AnaplanUser% == "" set Credentials=-user %AnaplanUser%
set Command=.\AnaplanClient.bat %Credentials% -workspace %WorkspaceId%
-model %ModelId% %Operation%
@echo %Command%
cmd /c %Command%
pause
```

where:

| Code | Indicates to Anaplan Connect |
|---|---|

| | |
|---|---|
| `fred.smith@mycompany.com:password` | your Anaplan login credentials |
| `My Workspace` | your workspace ID |
| `My Model` | your model ID |
| `My Source.txt` | a flat file in your local host |
| `C:\My Source.txt` | full path to the flat file in your local host |
| `C:\My Errors.txt` | full path to where you want Anaplan Connect to create a log file in your local host |

Copy the example.bat file up one directory, to the root of your Anaplan Connection installation, and rename it myFirstTest.bat. This location guarantees that the Anaplan Connect can use any batch file you create.



build
doc
examples
lib
src
AnaplanClient.bat
AnaplanClient.sh
anaplan-connect-1-3-3-3.jar
build.xml
LICENSE.txt
myFirstTest.bat
NOTICE.txt

## Standard Information

Every batch file contains the following information:

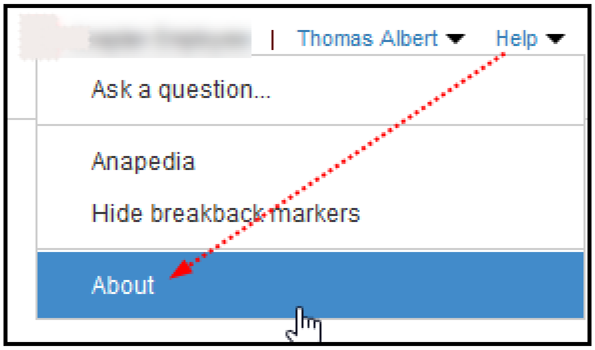
- Credentials: User Name and Password - unless you are using Certificate-based Authentication
  - When running a batch file or script at an interactive terminal, the user is prompted for the password if the password is not included in the script

> A script that runs without user interaction must contain the credentials, so take measures to secure the file, machine, and account.

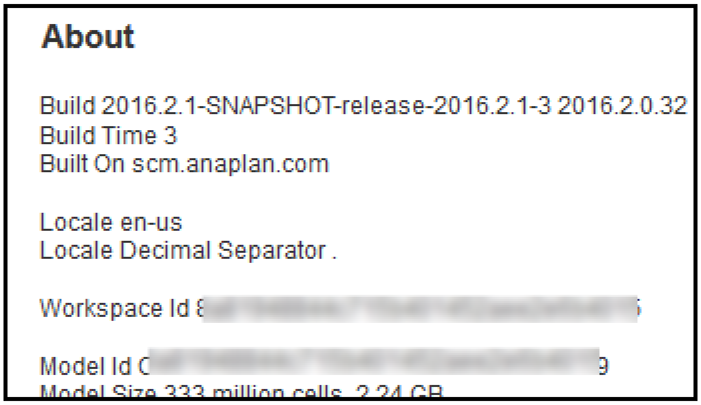
- Workspace ID - Unique and will not change
- Model ID - Unique to each model and will not change
- Action from Anaplan, such as a specific Import or Export

## To locate the Workspace ID and Model ID

1. Login to Anaplan.
2. Open the model you want to use.
3. In the upper-right corner, click **Help** > **About**.



4. Note that the About dialog displays the values of the Workspace and Model IDs.



**About**

Build 2016.2.1-SNAPSHOT-release-2016.2.1-3 2016.2.0.32
Build Time 3
Built On scm.anaplan.com

Locale en-us
Locale Decimal Separator .

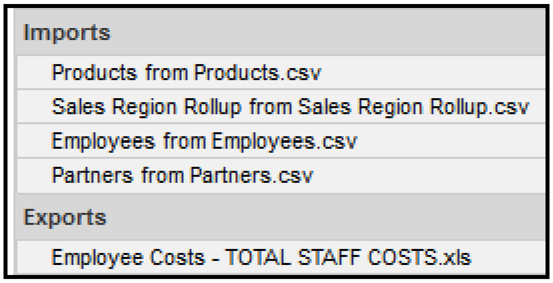
Workspace Id 8[redacted]5

Model Id C[redacted]9
Model Size 333 million cells, 2.24 GB

5. Copy the value of the Workspace ID to the line of your batch file that begins with **set WorkspaceId="**.
6. Copy the value of the Model ID to the line of your batch file that begins with **set ModelId="**.

### To locate the Actions for Anaplan Connect to perform

1. Open the Anaplan model that already has the Actions you want Anaplan Connect to perform.
2. In Model Settings > Actions, **note the exact names of the actions, including capitalization and file extensions**.



**Imports**

Products from Products.csv
Sales Region Rollup from Sales Region Rollup.csv
Employees from Employees.csv
Partners from Partners.csv

**Exports**

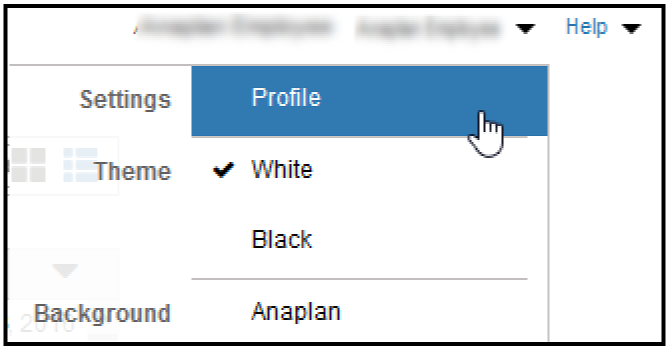
Employee Costs - TOTAL STAFF COSTS.xls

## Certificate Authentication

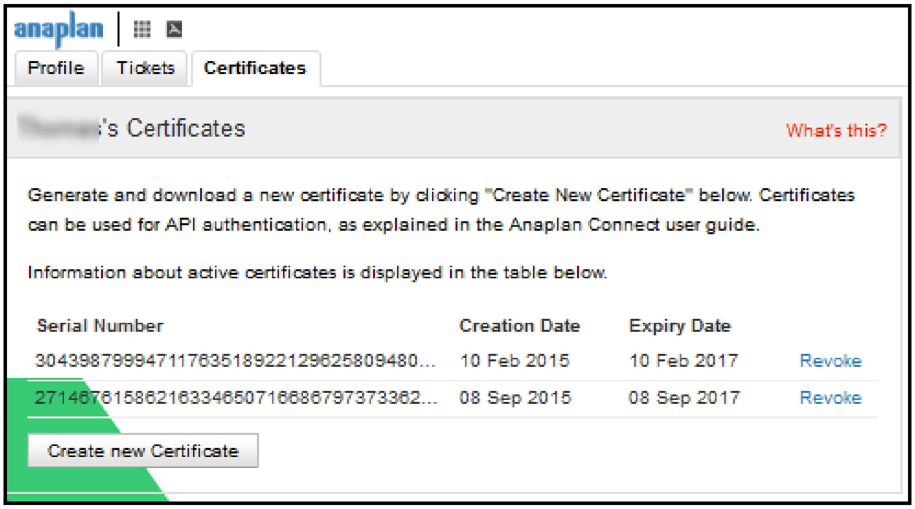
For simplicity, the examples in this document show the use of a User Name and Password. This might be fine for your initial experiments. Be aware, however, that Certificate Authentication is more secure.

### If you want to obtain a digital certificate

To access the **Certificates** tab, click your name at the top right and then click **Profile**:



The **Certificates** tab lists the certificates that allow a user to authenticate when using Anaplan Connect.



[redacted]'s Certificates

Generate and download a new certificate by clicking "Create New Certificate" below. Certificates can be used for API authentication, as explained in the Anaplan Connect user guide.

Information about active certificates is displayed in the table below.

| Serial Number | Creation Date | Expiry Date | |
|---|---|---|---|
| 30439879994711763518922129625809480... | 10 Feb 2015 | 10 Feb 2017 | Revoke |
| 27146761586216334650716686797373362... | 08 Sep 2015 | 08 Sep 2017 | Revoke |

Click **Create new Certificate** to obtain a valid certificate tied to your user name. You'll be prompted to download a newly-generated certificate (a CER file). Save this file locally on your file system.

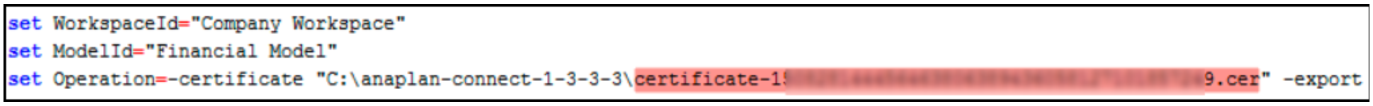
## To configure Anaplan Connect to use a certificate for authentication

Use Option 1, the -certification option, or use Option 2, a KeyStore:

### Option 1, the -certification option

Provided Anaplan Connect the location of the downloaded certificate (CER file) by using the *-certificate* option.

### Example for Windows:



```
set WorkspaceId="Company Workspace"
set ModelId="Financial Model"
set Operation=-certificate "C:\anaplan-connect-1-3-3-3\certificate-1[redacted]9.cer" -export
```

### Example for MacOS or Linux

where the line with the *-certificate* option might be similar to:

```
Operation="-certificate '/Users/yourname/Documents/anaplan-connect-1-3-3-3/certificate-123456789.cer'
-process 'Add New Data1'
-execute"
```

but on a single line:

```
#!/bin/sh
# This example uploads a file and runs an import

WorkspaceId="12345678912345678912345678912345"
ModelId="09876543209876543209876543209876"
Operation="-certificate
'/Users/yourname/Documents/anaplan-connect-1-3-3-3/certificate-09876543209
8765432098765432098765432098.cer' -process 'Add New Data1' -execute"

#____________________________ Do not edit below this line
______________________________
if [ "${AnaplanUser}" ]; then
  Credentials="-user ${AnaplanUser}"
fi

echo cd "`dirname "$0"`"
cd "`dirname "$0"`"
if [ ! -f AnaplanClient.sh ]; then
  echo "Please ensure this script is in the same directory as
AnaplanClient.sh." >&2
  exit 1
elif [ ! -x AnaplanClient.sh ]; then
  echo "Please ensure you have executable permissions on AnaplanClient.sh."
>&2
  exit 1
fi
Command="./AnaplanClient.sh ${Credentials} -workspace ${WorkspaceId} -model
${ModelId} ${Operation}"
/bin/echo "${Command}"
exec /bin/sh -c "${Command}"
```

### Option 2, KeyStore

Store the certificate in a password-protected Java KeyStore under an alias. Provide the path to the KeyStore, the KeyStore password, and the certificate alias to Anaplan Connect using the *-keystore*, *-keystorepass* and *-keystorealias* options. For instructions on how to import a certificate into a Java KeyStore, see the keytool documentation.

```
@echo off
 rem This example lists a user's workspaces
 set Keystore="/path/to/keystore.jks"
 set KeystoreAlias="alias"
 set KeystorePassword="password"
 set Operation="-W"
 rem *** End of settings - Do not edit below this line ***
```

## Create an Import File

An example batch file for import:

```
@echo off
rem This example loads a source text file and runs an Anaplan import into a
module.
rem For details of how to configure this script see doc\Anaplan Connect
User Guide.doc

set AnaplanUser="anaplan.user@anaplan.com:Password"
set WorkspaceId="8a1234567897c12b014bf01234567890"
set ModelId="CD1234D60CA84E9A123C1C5D061C1234"
set Operation=-file "Employee.txt" -put
"C:\AnaplanConnect\Import\Employee.txt" -import "New Hire from
Employee.txt" -execute -output "C:\My Errors.txt"

rem *** End of settings - Do not edit below this line ***

setlocal enableextensions enabledelayedexpansion || exit /b 1
cd %~dp0
if not %AnaplanUser% == "" set Credentials=-user %AnaplanUser%
set Command=.\AnaplanClient.bat %Credentials% -workspace %WorkspaceId%
-model %ModelId% %Operation%
@echo %Command%
cmd /c %Command%
pause
```

## Set the Import Operation

The name of the Import action should indicate the name of the file (or other source) from which data will be imported, such as **Import From Employee.txt**

**Example:**

```
set Operation=-file "Employee.txt" -put "C:\AnaplanConnect\Import\Employee.txt" -import "New Hire from
Employee.txt" -execute -output "C:\ImportDumpFilesDirectory"
```

where:

| Code | Indicates to Anaplan Connect |
|---|---|
| `-file “Employee.txt”` | The action involves a file named **Employee.txt** but .csv is also supported |
| `-put “C:\AnaplanConnect\Import\Employee.txt”` | Upload onto the Anaplan Server the file at the specified absolute or relative path |
| `-import “New Hire from Employee.txt”` | This action is an Import with the specified name. To see this name, in Anaplan, in **Settings** click **Actions** and view the list of Imports. Name your import (or export) action such that it matches the name of the file. |
| `–execute` | Run the action |
| `-output "C:\ImportDumpFilesDirectory"` | (Optional) Generate at the specified directory a file that lists any Import errors. This file is created only if at least one Import error occurs. |

### MacOS example for Import

Compare the double-quotes of Windows with the single-quotes of MacOS and Linux.

| | |
|---|---|
| **Windows** | `-put "C:\testdata\Europe P&L.txt"`<br>or<br>`-p "C:\testdata\Europe P&L.txt"` |
| **MacOS and Linux** | `-put '/Users/user1/testdata/Europe P&L.txt'`<br>or<br>`–p  '/Users/user1/testdata/Europe P&L.txt'` |

MacOS Import code

```
#!/bin/sh # This example uploads a file and runs an import
 AnaplanUser=firstname.lastname@yourcompany.com
 WorkspaceId="yourWorkspaceId"
 ModelId="yourModelId"
 Operation="-file 'file-to-import.csv' -put
'/path/to/anaplan-connect/file-to-import.csv' -import
'ImportDefinitionName'
 -execute -output 'MyImportErrors.txt'"
 #____________________________ Do not edit below this line
______________________________
 if [ "${AnaplanUser}" ]; then
 Credentials="-user ${AnaplanUser}"
 fi
 echo cd "`dirname "$0"`"
 cd "`dirname "$0"`"
 if [ ! -f AnaplanClient.sh ]; then
 echo "Please ensure this script is in the same directory as
AnaplanClient.sh." >&2
 exit 1
 elif [ ! -x AnaplanClient.sh ]; then
 echo "Please ensure you have executable permissions on AnaplanClient.sh."
>&2
 exit 1
 fi
 Command="./AnaplanClient.sh ${Credentials} -workspace ${WorkspaceId}
-model ${ModelId} ${Operation}"
 /bin/echo "${Command}"
 exec /bin/sh -c "${Command}"
```

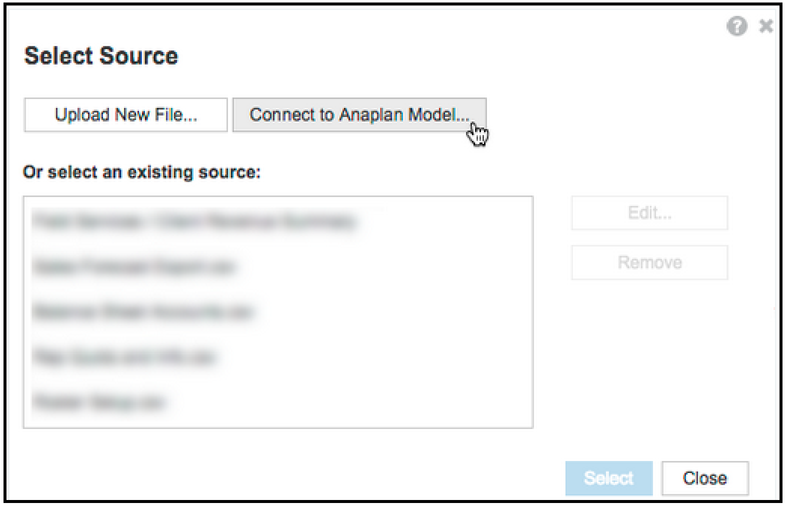
To run the shell script, at the command prompt, type:

```
./RunMyImport.sh
```

# Model-to-model Import

This example runs a model-to-model import within Anaplan, transferring data from the *Installation Sales* module in *Model2* to the *P&L* module in *M* *yBudgetModel*.

1. Run the import manually. On the **Data** menu, click **Import** then click **Connect to Anaplan Model**.



2. Select a module (or list) as the source of the import.
3. Note the Import ID that will be used in the batch file, which in the example below is *P&L from Model2 / Installation Sales*.
4. Click **Run Import** then edit and run the batch file.

Note the space before and after the forward slash "/" in the string "P&L from Model2 / Installation Sales".

```
@echo off
rem This example runs a model to model import within Anaplan.
set AnaplanUser="firstname.lastname@company.com"
set WorkspaceId="8a819488459fa63301462b73fe785786"
set ModelId="CB0A5A4D5C5943B5837FF42C5FAA95E1"
set Operation=-import "P&L from Model2 / Installation Sales" -execute
rem *** End of settings - Do not edit below this line ***
```

## Create an Export File

An example batch file for export:

```
@echo off

set AnaplanUser="Anaplan.User@anaplan.com:Password"
set WorkspaceId="8a1234567897c12b014bf01234567890"
set ModelID="CD1234D60CA84E9A123C1C5D061C1234"
set Operation=-export "Employee by Department.xls" -execute -get
"C:\Employee.xls"

rem *** End of settings - Do not edit below this line ***

setlocal enableextensions enabledelayedexpansion || exit /b 1
cd %~dp0
if not %AnaplanUser% == "" set Credentials=-user %AnaplanUser%
set Command=.\AnaplanClient.bat %Credentials% -workspace %WorkspaceId%
-model %ModelId% %Operation%
@echo %Command%
cmd /c %Command%
pause
```

## Set the Export Operation

**Example:**

```
set Operation=-export "Employee by Department.xls" -execute –get "C:\Employee.xls"
```

where:

| Code | Indicates to Anaplan Connect |
|---|---|
| `-export "Employee by Department.xls"` | An Export action exists named "Employee by Department.xls" |
| `-execute` | Run the Export |
| `–get "C:\Employee.xls"` | Create a new file with the exported data at the specified path |

An Export action cannot generate an error file, so we do not specify a path for it.

## MacOS example for Export

```
# This example runs an export, then downloads the file to the client.
 # In the Operation, specify the name of the Export definition before
 # giving the path to client file the server will create.

 AnaplanUser=firstname.lastname@company.com
 WorkspaceId="8a819488459fa63301462b73fe785786"
 ModelId="85EFA3E719AF49E183118A58C644D802"
 Operation="-export 'company-summary-export-definition' -execute -get
'/Users/username/Downloads/Company Summary.csv'"
```

## Getting metadata for an export

The following shell script uses the **-emd** command to get metadata for the specified export:

```
#!/bin/sh
 # This example gets export metadata
 AnaplanUser=thomas.albert@anaplan.com
 WorkspaceId="8a819488459fa63301462b73fe785786"
 ModelId="85EFA3E719AF49E183118A58C644D802"
 Operation="-export 'Archived Opportunities - Account.xls' -emd"
```

The output:

```
Export: Archived Opportunities - Account.xls
 columns: 15
 rows: 780
 format: application/vnd.ms-excel
 delimiter: null
 encoding: null
 separator: null
  col 0:
   name:
   type: ENTITY
   list:
  col 1:
   name: Forecast
   type: NUMBER
 ...
```

## Create a Delete File

An example batch file for delete:

```
@echo off
rem This example deletes obsolete customers from a list
set AnaplanUser="firstname.lastname@company.com"
set WorkspaceId="8a1234567897c12b014bf01234567890"
set ModelId="CB0A5A4D5C5943B5837FF42C5FAA95E1"
set Operation=-action "Delete from Customers Using Obsolete" -execute
rem *** End of settings - Do not edit below this line ***
```

## Set the Delete Operation to delete items from a list

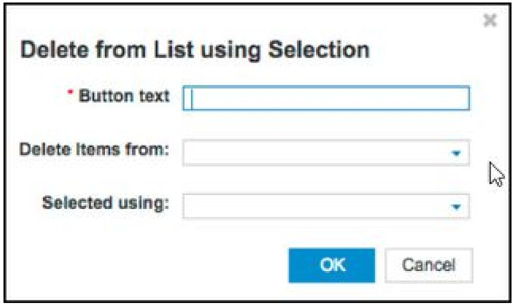
This example shows how to automate deleting items from a list based on Boolean criteria.

For example, you might want to automatically delete items in a list that are now obsolete, say customers are deemed to be obsolete if the rating is less than or equal to 2. The ‘Obsolete' line item is of Boolean data type and has been set up to be a formula:

**Obsolete = Rating <= 2**

Line items of Boolean data type that only have the dimensionality of the list can be used as the criteria to determine which items to delete.

1. On the **Model Settings** tab, click **Actions**. On the **New Action** list, click **Delete from List using Selection**.
2. Enter the button text, select the list (for example *Customers*) and the line item that contains the selection criteria (for example **Customer Rating.Obsolete**).



3. Click **OK**. The action appears under **Other Actions** at the bottom of the list.

**Example:**

`set Operation=-action "Delete from Customers Using Obsolete" -execute`

where:

| **Code** | **Indicates to Anaplan Connect** |
|---|---|
| `-action "Delete from Customers Using Obsolete"` | An Other Action (neither Import nor Export) is named "Delete from Customers Using Obsolete" |
| `-execute` | Run the Delete |

# Create a Process File

A Process is a list that contains any combination of Imports, Exports, and/or Deletes.

You do not need to run the Process manually within Anaplan before calling it in the Anaplan Connect script.

An example batch file for Process that contains 2 Import actions and 2 Export actions. Note that the Process can also contain Delete actions:

```
@echo off
rem This example runs a Process that contains multiple Export actions
set AnaplanUser="firstname.lastname@company.com"
set WorkspaceId="8a1234567897c12b014bf01234567890"
set ModelId="CB0A5A4D5C5943B5837FF42C5FAA95E1"
set Operation=-file "file1.txt" -put "data/ImportModule.csv" -file
"file2.txt" -put "data/ExportList.csv" -process "Import Export Delete"
-execute -file "ExportList" -get "export/ProcessExportList.csv" -file
"ExportModule" -get "export/ProcessExportModule.csv" -output
"C:\MyDirectoryForImportDumpFiles"
rem *** End of settings - Do not edit below this line ***
```

### Set the Process Operation

```
set Operation=-file "file1.csv" -put "data/ImportModule.csv" -file "file2.csv" -put "data/ImportList.csv"
-process "Import Export Delete" -execute
-file "ExportList" -get "export/ProcessExportList.csv" -file "ExportModule" -get
"export/ProcessExportModule.csv"  -output "MyImports/MyDirectoryForImportDumpFiles"
```

where

| Code | Indicates to Anaplan Connect |
|---|---|
| `-file "file1.csv" -put "data/ImportModule.csv"` | Upload onto the Anaplan server the local file "data/ImportModule.csv", so that its data can be stored into the Import data source named "file1.csv" |
| `-file "file2.csv" -put "data/ImportList.csv"` | Upload onto the Anaplan server the local file "data/ImportList.csv", so that its data can be stored into the Import data source named "file2.csv" |
| `-process "Import Export Delete" -execute` | Run the Process named "Import Export Delete" |
| `-file "ExportList" -get "export/ProcessExportList.csv"` | Download the data last exported by the export "ExportList" to the local file "export/ProcessExportList.csv" |
| `-file "ExportModule" -get "export/ProcessExportModule.csv"` | Download the data last exported by the export "ExportModule" to the local file "export/ProcessExportModule.csv" |
| `-output "MyImports/MyDirectoryForImportDumpFiles"` | (Optional) Generate within the specified directory a file for each Import action that lists one or more Import errors. |

## End Users versus Workspace Administrators

An end user can run the same actions through Anaplan Connect that the end user can run manually.

| | End User can run ... | Workspace Admin can create and run ... |
|---|---|---|
| **Import** | • model-to-model import<br>• from Salesforce.com<br>• **List Imports** - requires write access to the target list<br>• **Module Imports** - requires write access to the target module | any type of import, including imports that involve uploading external files or data |
| **Export** | Requires read access to the module or list. | export |
| **Delete** | Requires write access to the list. | delete |

| | | |
|---|---|---|
| **Process** | Requires access to the actions in the process | process |
| **Note:** | | • Can change the **model**, unless the role is No Access to a particular model, which also prevents the Workspace Admin from finding the model.<br>• Can have a role that has access to no **module**, but can grant self rights to the module. |

# Scheduling an import or export

A batch file that runs the import or export can be scheduled to run at a specific time, as a one-time operation, or recurring at the interval you choose, such as daily, weekly, or monthly. The scheduler is not part of Anaplan Connect, and the scheduling program and set-up depends on your operating system. The computer must be running at the scheduled time.
In the batch file, the password needs to be appended to the Anaplan user name.

```
set AnaplanUser=firstname.lastname@company.com:'mysecretpassword'
```

## Windows

Optionally, you might want to remove the **pause** command at the end of the batch file. The **pause** command leaves the messages on the screen that records what the batch file has done.

### Scheduler for Windows XP

This example shows the steps involved on a Windows XP operating system to schedule an import on a specific day and time, once a month:

**Start > All Programs > Accessories > System Tools > Scheduled Tasks > Add Scheduled Tasks > Next > Browse**

*C:\anaplan-connect-1-0-44/RunMyImport*

**Monthly > Next >** The First Monday at 05.00 > Enter name & password for the PC **> Finish**

### Scheduler for Windows 7

The Scheduler in Windows 7 is almost the same as XP:

**Start** > **All Programs** > **Accessories** > **System Tools** > **Task Scheduler** > **Create Basic Task** > Name the task > **Next** > Set when to trigger the task > **Next** > Select **Start a program** and browse to *C:\anaplan-connect* **> RunMyImport > Next > Finish**

## MacOS, Linux, or UNIX

Consider using a job scheduling utility for Unix-like operating systems, such as cron.

# Troubleshooting Tips

## Getting Debug Information

To get verbose command-line output that might be useful for debugging, in the Operation statement, include the **-debug** argument at the beginning:

```
Operation="-debug -file 'file-to-import.csv' -put '/path/to/anaplan-connect/file-to-import.csv' -import
'Organization from Salesforce' -execute -output 'MyImportErrors.txt'"
```

## Symptoms and Remedies

| Symptom | Remedy |
|---|---|
| The batch file appears to run OK, but numbers do not appear to come through into Anaplan | • Try changing page, refreshing the browser, or closing and re-opening the target module. The target module might have already been open when you ran the batch file, in which case it would need some event to trigger recontacting the Anaplan server, which refreshes the view with the latest data.<br>• Check syntax details.<br>  • For example, that variables such as the file name are enclosed in **straight** double quotes **" "** (as typed in Notepad), not curly double quotes **“ ”** (as typed in MS Word).<br>  • A percent sign (%) anywhere in a batch file (such as in a file or import name) probably needs escaping<br>  • Escape a leading dollar sign ($) in a shell script unless it is inside single quotes.<br>  • You might need to escape a single quote (') next to an apostrophes ('Jane's'), double-quote ("'Jane'"), or backtick \ backquote \ accent grave (`).<br>  • A common problem for .sh files is not having execute permissions on the file you want to copy. You can grant execution permission with the command **chmod +x filename.sh** |
| Model-to-model import | Make sure there is a space before and after the **/** in the syntax **-import “Target Module from Source Model / Source Module”** |
| If you are deleting items from a list | Check that the list does not contain summary items or subtotals. Such lists cannot use the delete action (due to the difficulty of dealing with “orphaned” subtotals that lack children). Lists that have parent hierarchies or top level items can use the bulk delete action, provided that the list that you are editing does not have subtotals. |
| If you are performing a SQL query from a Windows machine with the **-jdbcquery** option, and<br>if are using the percent character (**%**) as the wildcard character in a pattern for the **like** operator, | The Windows command processor might perform variable substitution on an expression like '%a%', even though no variable a has been defined, resulting in an empty pattern. If so, escape the % sign with %%. For example, %a% is escaped by %%a%% |

# Appendix A: Network drive as location for Anaplan Connect

This example is for Windows.

1. Put a copy of **example.bat** (located in the Anaplan Connect **examples** folder) into the main Anaplan Connect folder.
2. Replace line 13:
   **cd %~dp0**
   with:
   **pushd %~dp0**
3. Before the **pause** line, insert **popd**
4. Create a shortcut to the batch file in the same directory by right clicking it and selecting **Create shortcut**
5. Edit the shortcut properties and set the **Start in:** field to a value that represents a local directory on every machine that runs Anaplan Connect. For example, **%USERPROFILE%** can substitute the user's profile folder.

Note:

- When given a UNC path (\\computer\share\...), the pushd will map the share to a drive, typically Z: or the last unmapped drive letter.
- The popd will unmap the drive and return to the original location.
- If the command window is closed before the program completes, the drive will be left mapped.

# Appendix B: Java 6 Compatibility

If your organization uses Java 6.x for other applications, choose one of the following options.

| | |
|---|---|
| **Option 1** | Write a shell script that sets the **JAVA_HOME** environment variable to the location of the Java 7 (or Java 8) Runtime Environment you want to use. This change is necessary only for the duration of running the Anaplan Connect script. |

<table>
<tr><td><b>Option 2</b></td><td>Contact Anaplan Support for a script to replace <i>AnaplanConnect.bat</i> or <i>AnaplanConnect.sh</i>. The replacement script ensures that you are using a supported version of Java for Anaplan Connect while also allowing you to use Java 6.x for other applications.</td></tr>
<tr><td><b>Option 3</b></td><td>
<p>If you prefer to create the replacement script on your own, follow the instructions below. These instructions:</p>
<ul>
<li>Assume that you've already installed Anaplan Connect.</li>
<li>Allow you to use Java 7 or Java 8 for Anaplan Connect.</li>
<li>Do not change the version of Java you use for other applications.</li>
</ul>
<p>For more information, visit the Data Integration Community.</p>
<ol>
<li>Navigate to the Anaplan Connect directory. For example, on Windows, the directory might be <i>C:\anaplan-connect-1-3-3-3.</i></li>
<li>Make a backup copy of the script that calls Anaplan Connect:
<ul>
<li><b>Windows:</b> Make a copy of <i>AnaplanClient.bat</i> and name that backup copy <i>AnaplanClient.bat-OLD</i>.</li>
<li><b>Linux/UNIX/MacOS:</b> Make a copy of <i>AnaplanClient.sh</i> and name the backup copy <i>AnaplanClient.sh-OLD</i>.</li>
</ul></li>
</ol>
<ol>
<li>Edit the script that calls Anaplan Connect:
<ul>
<li><b>Windows:</b> In <i>AnaplanClient.bat</i> replace <b>"%JAVA%"</b> with the the version directory of Java that you want to use for Anaplan Connect.</li>
<li><b>Linux/UNIX/MacOS:</b> In <i>AnaplanClient.sh</i> to replace <b>"${java}"</b> with the the version directory of Java that you want to use for Anaplan Connect.</li>
</ul></li>
</ol>
<p>The directory name on your computer might be different than what is shown in the following examples.</p>
<table>
<tr><th></th><th>Windows .bat file</th><th>Linux/UNIX/MacOS .sh file</th></tr>
<tr><td><b>Original:</b></td><td>rem Start the Java virtual machine<br><b>"%JAVA%"</b> %JAVA_OPTS% -classpath "%CP%" com.anaplan.client.Program %*</td><td># Start the Java virtual machine<br>exec <b>"${java}"</b> ${JAVA_OPTS} -classpath "${classpath}" com.anaplan.client.Program "$@"</td></tr>
<tr><td><b>Change to Java 8:</b></td><td>rem Start the Java virtual machine<br><b>"C:\Program Files\Java\jre1.8.0_66\bin\java"</b> %JAVA_OPTS% -classpath "%CP%" com.anaplan.client.Program %*</td><td># Start the Java virtual machine for MacOS involves /Library<br>exec <b>"/Library/Java/JavaVirtualMachines/jdk1.8.0_60.jdk /Contents/Home/bin/java"</b>${JAVA_OPTS} -classpath "${classpath}" com.anaplan.client.Program "$@"</td></tr>
<tr><td><b>Change to Java 7:</b></td><td>rem Start the Java virtual machine<br><b>"C:\Program Files\Java\jre7\bin\java"</b> %JAVA_OPTS% -classpath "%CP%" com.anaplan.client.Program %*</td><td># Start the Java virtual machine for Linux or UNIX involves /usr<br>exec <b>"/usr/local/java1.7.0-57/bin/java"</b> ${JAVA_OPTS} -classpath "${classpath}" com.anaplan.client.Program "$@"</td></tr>
</table>
</td></tr>
</table>

# Appendix C: List of all the Operation Commands

On Windows, if you navigate inside the directory of the installation, you can:

- get a list of the operation commands by typing **AnaplanClient**
- get version information about Anaplan Connect and Java by typing **AnaplanClient - version**

On Mac, UNIX and Linux, the commands are **./AnaplanClient.sh** and **./AnaplanClient.sh -version**

This table shows the commands for the Operation line of the batch file.
The abbreviated syntax can be used to reduce typing, for example **–x** instead of **–execute**.
Some operations are followed by a variable, such as a path to a file. For example, **-put "C:\testdata\Europe P&L.txt"** or **–p "C:\testdata\Europe P&L.txt"**

| Syntax | Abbreviated Syntax | Followed by a variable, if applicable | What it does |
|---|---|---|---|
| -help | -h | | Display this help |
| -chunksize | -ch | | Determines the size of chunks for import in bytes. Default value is 1048576. |

|  |  |  |  |
|---|---|---|---|
| -debug | -d |  | Show detailed (verbose) output, which can help you debug any problems. See Getting Debug Information. |
| -quiet | -q |  | Show less detailed output |
| -service | -s |  | API service endpoint (defaults to https://api.anaplan.com/) |
| -user | -u | username:password | Anaplan user name and optional password in the format “username:password”.<br>If the batch file (or shell script) does not set a value for the AnaplanUser, the program prompts the user to supply the username, then the password. |
| -certificate | -c | Pathname on local machine | Path to user certificate used for authentication (an alternative to using a key store) |
| -keystore | -k | Pathname on local machine | Path to local key store containing user certificate(s) for authentication |
| -keystorepass | -kp | *Password* | Password for the key store.<br>If this option is not provided, and the file<br>*~/.anaplan/api-client/keystore-access.txt*<br>exists (where ~ is the user’s home directory),<br>the password is read and decoded from the contents of this file.<br>Otherwise, the user is prompted for a password.<br>Note that obfuscation is the URL-encoded form of the result of:<br>• taking the exclusive-or of each of the characters in the password<br>• and the value 129 |
| -keystorealias | -ka | Alias | Alias of the public certificate in the specified key store |
| -via | -v | *Proxy URL* | Use specified proxy |
| -viauser | -vu | *username:password* | Pass credentials to authenticating proxy.<br>Consider NTLM Authentication using JCIFS |
| -workspaces | -W |  | To get workspace values from a batch file (or shell script), use the **-W** flag.<br>`# This example lists the workspaces`<br>`AnaplanUser=firstname.lastname@company.com`<br>`WorkspaceId="8a819488472c2c950147411f574a085b"`<br>`ModelId="B378C20804234C1BBFBAB0D7EF1CD1D3"`<br>`Operation="-W"`<br>The output lists Workspace ID followed by Workspace Name:<br>`8a8194824317414b0143540f2d5e357d Finance`<br>`8a819488472c2c250147411f574a085b Sales` |
| -workspace | -w | *Workspace name or ID* | Select a workspace by ID or name |
| -models | -M |  | List available models in selected workspace<br>To get model values from a batch file (or shell script), use the **-M** flag.<br>`# This example lists the models`<br>`AnaplanUser=firstname.lastname@company.com`<br>`WorkspaceId="8a819488472c2c950147411f574a085b"`<br>`ModelId="B378C20804234C1BBFBAB0D7EF1CD1D3"`<br>`Operation="-M"`<br>The output lists Model ID followed by Model Name:<br>`7C5B30DE5C374163A23ADD6D2B0622F8 Financial Consolidation`<br>`569418FFCDF041678273620FFCDE2330 Sales Rep Territory` |
| -model | -m | *Model name or ID* | Select a module by ID or name |
| -modules | -MO |  | List available modules in selected model |
| -module | -mo | *Module name or ID* | Select a module by ID or name |
| -views | -VI |  | List available views in selected module |
| -view | -vi | *View name or ID* | Select a view by ID or name |

|  |  |  |  |
|---|---|---|---|
| -files | -F |  | List available files on the Anaplan server in selected model |
| -file | -f | *File name on Anaplan server* | Select a server file by ID or name |
| -get | -g | *Pathname on local machine* | Download the specified file |
| -gets |  |  | Write specified server file to standard output |
| -getc |  |  | Write tab-separated sever file to standard output |
| -put | -p | *Pathname on local machine* | Upload the specified file |
| -puts |  |  | Upload to specified server file from standard input |
| -putc |  |  | Upload to specified server file from tab-separated standard input |
| -imports | -I |  | List available imports in selected model<br>The output lists all the import definitions that are available in a given model.<br>The list of imports and exports is also available in Anaplan. To view, on the **Settings** tab, click **Actions**.<br>Similarly:<br>- to list the available file IDs on the Anaplan server, use **–files**<br>- for models use **–models**<br>- for workspaces use **–workspaces**<br>- for other actions, such as Delete actions, use **–actions**. |
| -import | -i | *Import name or ID* | Select an import by ID or name |
| -exports | -E |  | List available exports in selected model |
| -export | -e | *Export name or ID* | Select an export by ID or name |
| -actions | -A |  | List available actions in selected model, such as delete actions. This list corresponds to the **Other Actions** (**Settings** tab, **Actions**) list, and does not include Processes, Imports, or Exports. |
| -action | -a | *Action name or ID* | Select a saved action. For example, Delete items from a list. |
| -processes | -P |  | List available processes in selected model |
| -process | -pr | *Process name or ID* | Select a process by ID or name |
| -locale | -xl | ISO language & country code separated by underscore. For example, **'en_US'** | Specify the locale to use when performing the server operation, which affects the available date formats when parsing date values in imports, and the month names when using a specified timescale format. For details, see http://docs.oracle.com/javase/8/docs/api/java/util/Locale.html. |
| -connectorproperty | -xc | Property identifier and value separated by colon. If value is ?, prompt user | Specify import data source connection property. For example, Salesforce credentials. |
| -mappingproperty | -xm | Dimension and value separated by colon. If value is ?, prompt user | Specify prompt-at-runtime import mapping value |
| -execute | -x |  | Run the preceding -import, -export, -process or -action |
| -output | -o | *Pathname on local machine* | Retrieve dump file for completed import |
| -emd |  |  | Get metadata for an export |

# Appendix D: JDBC for Oracle, Access, MySQL, Excel

Provided you have the appropriate JDBC driver, you can link directly into Anaplan from databases such as Oracle, Access, MySQL, MS SQL Server, or from Excel. Both lists and data can be imported into Anaplan in this way, and combined with a scheduler, can be updated on a regular basis automatically.

```
set Operation=-loadclass "com.mysql.jdbc.Driver" -jdbcurl "jdbc:mysql://localhost/apcustomer" -jdbcuser ?:?
-file "Upload from jdbc" -jdbcquery "SELECT * FROM Customers"
```

Code

| Code | Indicates to Anaplan Connect |
|---|---|

| | |
|---|---|
| `-loadclass "com.mysql.jdbc.Driver"` | • which JDBC driver to load. **Each database vendor has a different class name for its JDBC driver.**<br>• **-loadclass** is for drivers prior to JDBC 4.0, so the MySQL driver does not need it, nor should the ODBC bridge driver. |
| `-jdbcurl "jdbc:mysql://localhost/apcustomer"` | • **-jdbcurl** is the location of your database instance. This location does not have to be on the local host if the machine connecting to the database has access to the network location.<br>• To connect to an ODBC source (no longer supported in JRE 8+), you must configure your URL as follows:<br>`"jdbc:odbc:location_of_instance"` |
| `-jdbcuser "?:?"` | • Prompt the user for the username and password<br>• If no user name or password is required by the source, omit the **-jdbcuser** parameter. |
| `-file "Upload from jdbc"` | The action involves a file with the specified name. |
| `-jdbcquery "SELECT * FROM Anaplan"` | **-jdbcquery** specifies the query type<br>**"SELECT * FROM Anaplan"** is the query to run. |

You can set additional properties if needed using **-jdbcproperty**. The property name can also be ‘user' or ‘password', and these are equivalent of setting these properties using **-jdbcuser**, but also allow for a username containing ":"

| Parameter | Description |
|---|---|
| `-jdbcuser michael Username = michael` | `no password required` |
| `-jdbcuser michael:? Username = michael` | `prompt for password` |
| `-jdbcuser ?:?` | `prompt for both username and password` |
| `-jdbcuser michael:mypassword` | `username = michael, password = mypassword` |

You can set additional properties if needed using **-jdbcproperty**. The property name can also be ‘user' or ‘password', and these are equivalent of setting these properties using **-jdbcuser**, but also allow for a username containing ":"

```
-jdbcproperty user:fred:smith
```

# Appendix E: Import through a JDBC Connection for a Microsoft SQL Server database

An alternative to importing data into Anaplan from a file on the local host is to import data from a relational database using a Java Database Connectivity (JDBC) connection.

- The database can be any database that directly supports JDBC.
- Although you write Windows batch files (or Linux/Mac OS shell script files) for Anaplan Connect to run, Anaplan Connect itself is written in Java, and thus is well-suited for JDBC.
- Anaplan Connect supports using JDBC for Import into Anaplan, not for exporting from Anaplan into an external database. In effect, you run a query against the database, but you cannot update the database.

## Preparation

Suppose that you want to create a connection to a Microsoft SQL Server database:

1. Copy a .jar file from the Microsoft SQL Server database server or client tools directory.
   **Example:** If we are using Microsoft SQL Server 2008, the file name is *sqljdbc41.jar*.

2. Paste the .jar file into the **lib** subfolder of the Anaplan Connect installation.
3. Make sure you have the following information:

   - UNC path to the Sql Server instance
   - Valid user name and password for the database login
   - A valid query to select the data you want brought into Anaplan. For example, **SELECT * FROM MYTABLE**

An example batch file for an Import action through JDBC:

```
@echo off
rem This example loads a source text file and runs an Anaplan import into a module.
rem For details of how to configure this script see doc\Anaplan Connect User Guide.doc

set AnaplanUser="Anapolan.User@anaplan.com:Password"
set WorkspaceId="8a8194884b27c72b014bf06a2b227f90"
set ModelId="CD9662D60CA84E9A871C1C5D061C7426"
set Operation=-file "Anaplan_Demo_Sql" -jdbcurl "jdbc:sqlserver://localhost" -jdbcuser "sa:Password" -jdbcquery "SELECT * FROM Anaplan_Demo.dbo.Roster"

rem *** End of settings - Do not edit below this line ***

setlocal enableextensions enabledelayedexpansion || exit /b 1
cd %~dp0
if not %AnaplanUser% == "" set Credentials=-user %AnaplanUser%
set Command=.\AnaplanClient.bat %Credentials% -workspace %WorkspaceId% -model %ModelId% %Operation%
@echo %Command%
cmd /c %Command%
pause
```

## Set the JDBC operation

```
set Operation=-file "Anaplan_Demo_Sql" -jdbcurl "jdbc:sqlserver://localhost" -jdbcuser "userName:Password"
-jdbcquery "SELECT * FROM Anaplan_Demo.dbo.Roster"
```

where:

| Code | Indicates to Anaplan Connect |
|---|---|
| `-file "Anaplan_Demo_Sql"` | The action involves a file with the specified name.<br>(A model to model import would not involve a file)<br>"Anaplan_Demo_Sql" represents the name of the new import file that will show up in Anaplan after the batch file has been run successfully |

| | |
|---|---|
| `-jdbcurl "jdbc:sqlserver://localhost"` | Get data from a specified URL using a JDBC driver<br>**jdbc:sqlserver** means JDBC is the type of connection<br>**sqlserver** means Microsoft SQL Server.<br>**localhost** means the local computer is acting as the test server. A production server would have a different name and path |
| `-jdbcuser "userName:Password"` | **–jdbcuse**r specifies that the user is connecting through JDBC<br>“userName:Password” represent the user name and password |
| `-jdbcquery "SELECT * FROM Anaplan_Demo.dbo.Roster"` | **-jdbcquery** specifies the query type<br>"SELECT * FROM Anaplan_Demo.Table" is the query to run. |

Import through an ODBC Connection for an Oracle database

Open Database Connectivity (OBDC) is similar to JDBC, but you can use ODBC for applications that are written in a language other than Java. To enable Anaplan Connect, a Java application, to connect to an Oracle database, the core of which is a C programming language application, you must reference an ODBC-JDBC bridge.

- We do not reference an ODBC-JDBC bridge for Microsoft SQL Server because SQL Server provides direct JDBC support.
- If you want to use Anaplan Connect to import from an Oracle database, note that Java 8 does not support the JDBC-ODBC Bridge (see https://blogs.oracle.com/Lance/entry/removal_of_the_jdbc_odbc).

An example batch file for an Import action through ODBC:

## Set the ODBC operation

```
set Operation=-file "Anaplan_Demo_ORA" -jdbcurl "jdbc:odbc:Anaplan_Demo" -jdbcuser "User:Password"
-jdbcquery "Select * from Anaplan"
```

```
@echo off
rem This example loads a source text file and runs an Anaplan import into a
module.
rem For details of how to configure this script, see doc\Anaplan Connect
User Guide.doc

set AnaplanUser="anaplan.user@anaplan.com:Password"
set WorkspaceId="8a8194884b27c72b014bf06a2b227f90"
set ModelId="CD9662D60CA84E9A871C1C5D061C7426"
set Operation=-file "Anaplan_Demo_ORA" -jdbcurl "jdbc:odbc:Anaplan_Demo"
-jdbcuser "User:Password" -jdbcquery "Select * from Anaplan"

rem *** End of settings - Do not edit below this line ***

setlocal enableextensions enabledelayedexpansion || exit /b 1
cd %~dp0
if not %AnaplanUser% == "" set Credentials=-user %AnaplanUser%
set Command=.\AnaplanClient.bat %Credentials% -workspace %WorkspaceId%
-model %ModelId% %Operation%
@echo %Command%
cmd /c %Command%
pause
```

where:

| Code | Indicates to Anaplan Connect |
|---|---|
| `-file "Anaplan_Demo_ORA"` | The action involves a file with the specified name.<br>(A model to model import would not involve a file)<br>"Anaplan_Demo_ORA" represents the Name of the new import file that will show up in Anaplan after the batch file has been run successfully |
| `-jdbcurl "jdbc:odbc:Anaplan_Demo"` | Get data from a specified URL using a JDBC driver<br>**jdbc:obdc** means the type of connection is an ODBC-JDBC bridge<br>**Anaplan_Demo** refers to the ODBC connection |
| `-jdbcuser "User:Password"` | **–jdbcuse**r specifies that the user is connecting through JDBC, which is now possible through the ODBC-JDBC bridge<br>"User:Password" are credentials for the ODBC connection, which might be different from the credentials for the database or schema |
| `-jdbcquery "SELECT * FROM Anaplan"` | -jdbcquery specifies the query type<br>"SELECT * FROM Anaplan" is the query to run. |