IMPORTING AND EXPORTING GUIDE

CubeMaster for Windows

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Importing Cargoes Sizes from External Database

The simplest way - Copy your Excel sheet and paste to CubeMaster manifest

You can copy the cells such as the list of the cargo names and sizes from your Excel sheet and paste them to the cargo list of the CubeMaster program. Make a block with selecting the cells of your Excel sheet and press Ctrl+C to copy the selections to the clipboard. After returning to the Setup page of the CubeMaster program, click a first top left cell in the cargo list and press Ctrl+V to paste the selections there. Please repeat for all necessary information of the sheet.

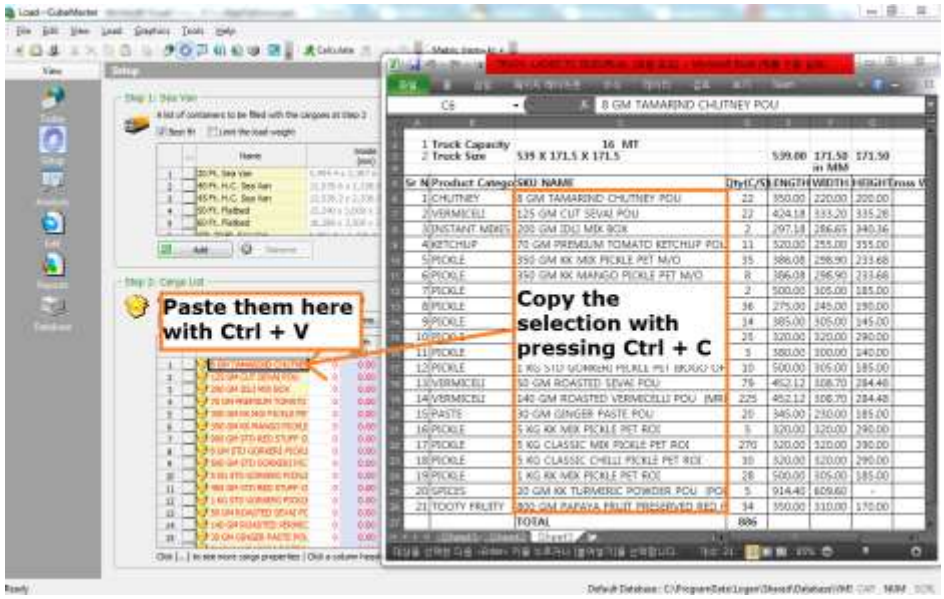


Figure 1 Copy the Excel cells and paste to the cargo list

Another simple way using the Excel/CSV Import Wizard

If you click From Excel or CSV File menu under the Add button in the Step 2: Cargo List or press F3 key, the Excel/CSV Import Wizard window opens as pictured below. It allows you to provide the name of your Excel or CSV file, define the columns in the file to be imported and preview the import.

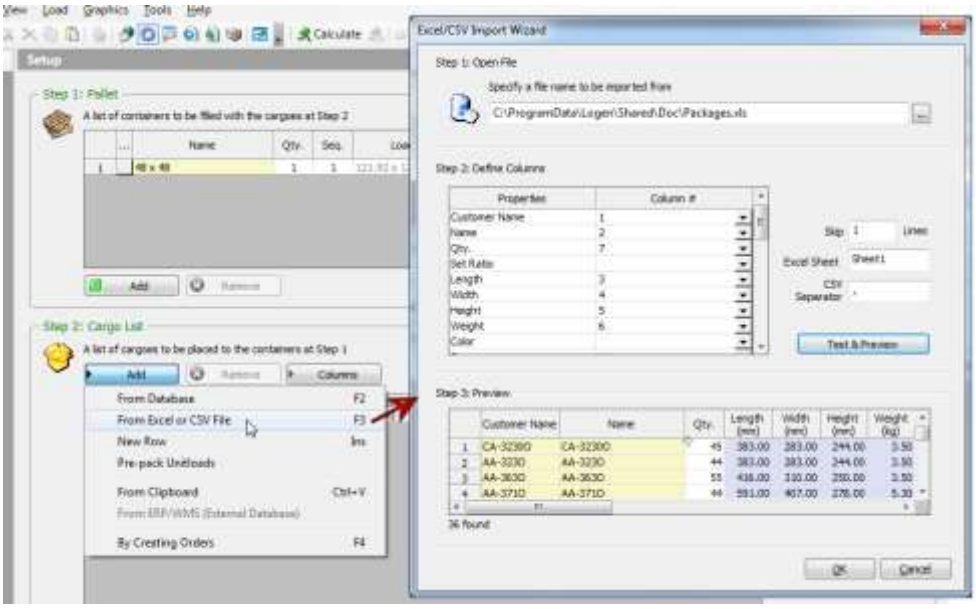


Figure 2 Excel/CSV Import Wizard

This window contains the following components/fields.

Step 1: Open File: Enter the name of an Excel or CSV file which contains your cargo data such as cargo name and sizes.

Step 2: Define Columns: Tell the wizard about the configurations of the file specified at the Step 1 such as columns order, # of skip lines, name of Excel sheet and CSV separator.

Skip Lines: Enter the number of top rows in the file the import would skip.

Excel Sheet: Enter the name of sheet if the file is an Excel.

CSV Separator: Enter the letter of separator if the file is a CSV.

Columns #: Tell the wizard about which columns in your CSV file or Excel sheet go to what cargo properties. Just assign the order of a column in your CSV file or Excel sheet to each Column # field. The column order should start with 1 from the left to right in the CSV file. For example if a column after first separator in a CSV file should go to the cargo name, you should enter 2 to the Column # of the Name property. The available cargo properties are summarized at following table.

Cargo Properties	Description
Group Name	Group name of the cargo.
Name	Name of the cargo.
Qty	Number of carton or order qty of the cargo.
SetRatio	Set ratio of the cargo. (E.g. 1.2)
Length	Length of the cargo.
Width	Width of the cargo.
Height	Height of the cargo.
Weight	Weight of the cargo.
Color	Color of cargo to be presented in the graphics (E,g, .255 for red, 65280 for green). See 'C:\ProgramData\Logen\Shared\Doc\Packages.xls' for more detail.
Seq.	Loading sequence. The smaller value place the cargo earlier in the shipment.
Orientation	A number to present the loading orientation permitted. One of the following numbers are available. 1 = Permits orientation #1 2 = Permits orientation #2 3 = Permits orientation #1 and #2 4 = Permits orientation #3 8 = Permits orientation #4 12 = Permits orientation #3 and #4 16 = Permits orientation #5 32 = Permits orientation #6 63 = Permits all orientations (#1,2,3,4,5,6)
Floor Stack Type	A number to present the floor stacking type of the cargo. One of the following numbers are available. 0 = Best Fit 1 = Bottom Only 2 = No Bottom
Supports Others	A number to present whether the cargo is allowed to support other cargoes or not. One of the following numbers are available. 0 = No 1 = Yes
Pallet	A pallet name to be used at the palletizing rule. It should exist in the pallet database.
Overhang:Length	Max length allowed for overhang on the pallet.
Overhang:Width	Max width allowed for overhang on the pallet.
Max Layers	Max number of layers allowed to the cargo.
Description	Description of the cargo.

Alias1	Alias 1 of the cargo.
Alias2	Alias 2 of the cargo.
Property 1~10	Property 1~10 of the cargo.
Piece Inside	A number of pieces inside the cargo.
Group Name:Seq.	Loading sequence of the group contains the cargo.

Test to Preview Button: Click this button to test your configuration and see the imports in advance. The imports will display at the list under Step 3: Preview group.

For better understand of the column definition, please see the sample CSV file '[C:\ProgramData\Logen\Shared\Doc\Packages.csv](C:\ProgramData\Logen\Shared\Doc\Packages.csv)'.

Importing from your existing DBMS to CubeMaster cargoes database

This option allows you to access your database directly and bring them to CubeMaster with OLEDB connection. If you click From External DBMS menu under the Add button in the Step 2: Cargo List, the External DBMS Import Wizard window opens as pictured below. It allows you to provide the location of your DBMS, define the SQL to be executed for the import and preview the import.

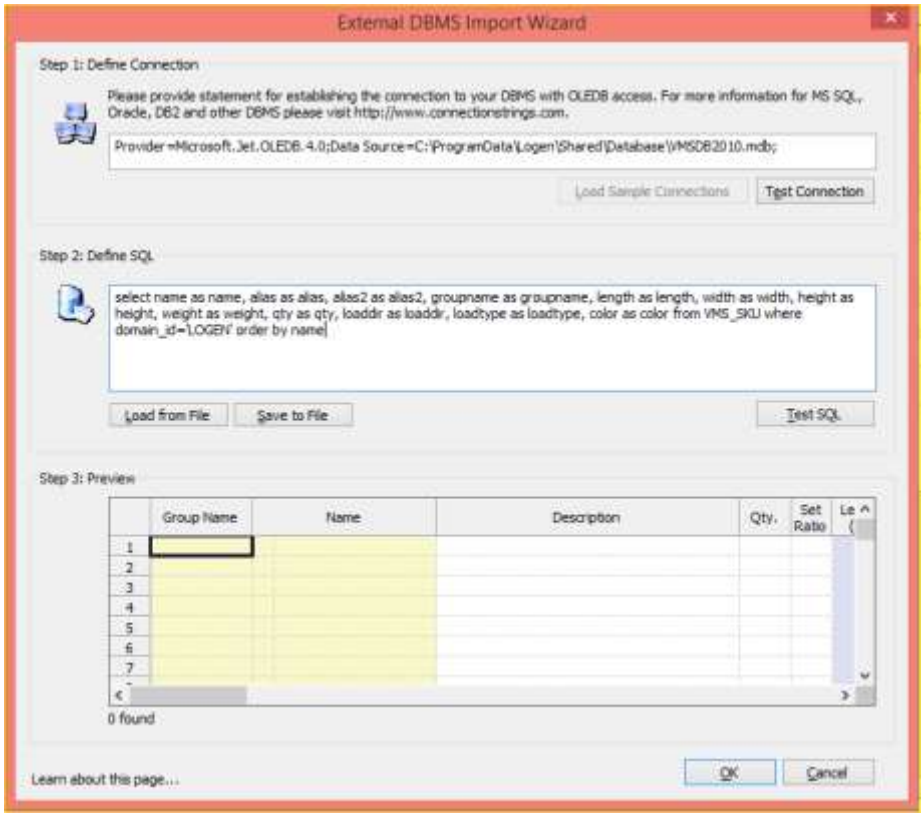


Figure 3 Excel/CSV Import Wizard

This window contains the following components/fields.

Step 1: Define Connection: The connection statement should contain a provider of your database.

The default connection statement is "Provider= Microsoft.Jet.OLEDB.4.0; Data Source = C:\ProgramData\Logen\Shared\Database\VMSDB2010.mdb;" which points to the local database exists on your computer. Please see the following table to learn about other connection statement samples. Please visit http://www.connectionstrings.com for more samples.

Database	Connection Strings
MS Access 97, 2003, 2002, 2000	Provider = Microsoft.Jet.OLEDB.4.0; Data Source = C:\mydatabase.mdb; User Id = admin; Password = ;
MS Access 2013, 2010, 2007	Provider = Microsoft.ACE.OLEDB.12.0; Data Source = C:\myFolder\myAccessFile.accdb; Persist Security Info = False;
SQL Server 2012, 2008, 2005, 2000, 7.0	Server = myServerAddress; Database = myDataBase; User Id = myUsername; Password = myPassword; For more information, please visit http://www.connectionstrings.com/sql-server/
ORACLE	Data Source = MyOracleDB; User Id = myUsername; Password = myPassword; Integrated Security = no; For more information, please visit http://www.connectionstrings.com/oracle/
MySQL	Server = myServerAddress; Database = myDataBase; Uid = myUsername; Pwd = myPassword; For more information, please visit http://www.connectionstrings.com/mysql/

Step 2: Define SQL: Tells the wizard about the configurations of the SQL.

The default SQL is "select name as name, alias as alias, alias2 as alias2, groupname as groupname, length as length, width as width, height as height, weight as weight, qty as qty, loaddir as orientation, loadtype as stackvalue, color as color from MaterSKUList where qty > 50". It defines what columns should be selected and how they converted to CubeMaster cargo fields when the import is established.

As shown in the sample statement, it should contain the reserved field names as summarized in the following table.

Fields	Descriptions
GroupName	Group name of the cargo.
Name	Name of the cargo. Required column.
Description	Description of the cargo. Required column.
Length	Length of the cargo. Required column.
Width	Width of the cargo. Required column.
Height	Height of the cargo. Required column.
Weight	Weight of the cargo.
Qty	Number of carton or order qty. of the cargo.
SetRatio	Set ratio of the cargo.
Orientation	Numbers to present the loading orientation of the cargo allowed. One of the following numbers are available. 1 = Permits orientation #1 2 = Permits orientation #2 3 = Permits orientation #1 and #2 4 = Permits orientation #3 8 = Permits orientation #4 12 = Permits orientation #3 and #4 16 = Permits orientation #5 32 = Permits orientation #6 63 = Permits all orientations (#1,2,3,4,5,6)
Seq	Loading sequence of the cargo.
StackValue	A stack value of the cargo. Utilized when the stacking rule 'Higher stack values are placed bottom first'.
TurnAllowedOnFloor	A number to present whether the turning orientations of the cargo are allowed on the floor of the container or not. One of the following numbers are available.

	0 = No 1 = Yes
MaxLayersExtended	A number to present whether the max layers of the cargo are extended on the other cargoes. One of the following numbers are available. 0 = No 1 = Yes
FloorStackType	A number to present the floor stacking type of the cargo. One of the following numbers are available. 0 = Best Fit 1 = Bottom Only 2 = No Bottom
SupportsOthers	A number to present whether the cargo is allowed to support other cargoes or not. One of the following numbers are available. 0 = No 1 = Yes
SKUStyle	A value to present the style of the cargo. One of the following numbers are available. 0 = Shipcase 3 = Roll
MaxLayer1	Max number of layers for orientation #1 allowed to the cargo.
MaxLayer2	Max number of layers for orientation #2 allowed to the cargo.
MaxLayer3	Max number of layers for orientation #3 allowed to the cargo.
MaxLayer4	Max number of layers for orientation #4 allowed to the cargo.
MaxLayer5	Max number of layers for orientation #5 allowed to the cargo.
MaxLayer6	Max number of layers for orientation #6 allowed to the cargo.
PieceInside	A number of pieces inside the cargo.
UnitPrice	Unit price of the cargo.
Alias1	Alias 1 of the cargo.
Alias2	Alias 2 of the cargo.
Property 1~10	Property 1~10 of the cargo.
MaxSupportingWeight	Max supporting weight of the cargo.
Color	Color of the cargo.

Understanding the Cargo Data Source and Cargo Data Source window

The cargo data source is a file or storage locates the cargo information. Once the data source is defined, all further setup of new loads in CubeMaster program will bring the cargoes from it. CubeMaster provides the multiple options for helping you dealing multiple data sources.

The cargo data source can be changed and customized at the Cargo Data Source window as picture below. It is opened by two locations. Please choose Cargo Data Source under the Tools top menu or press [Change data source] button on the [Add From Cargo Database] window.

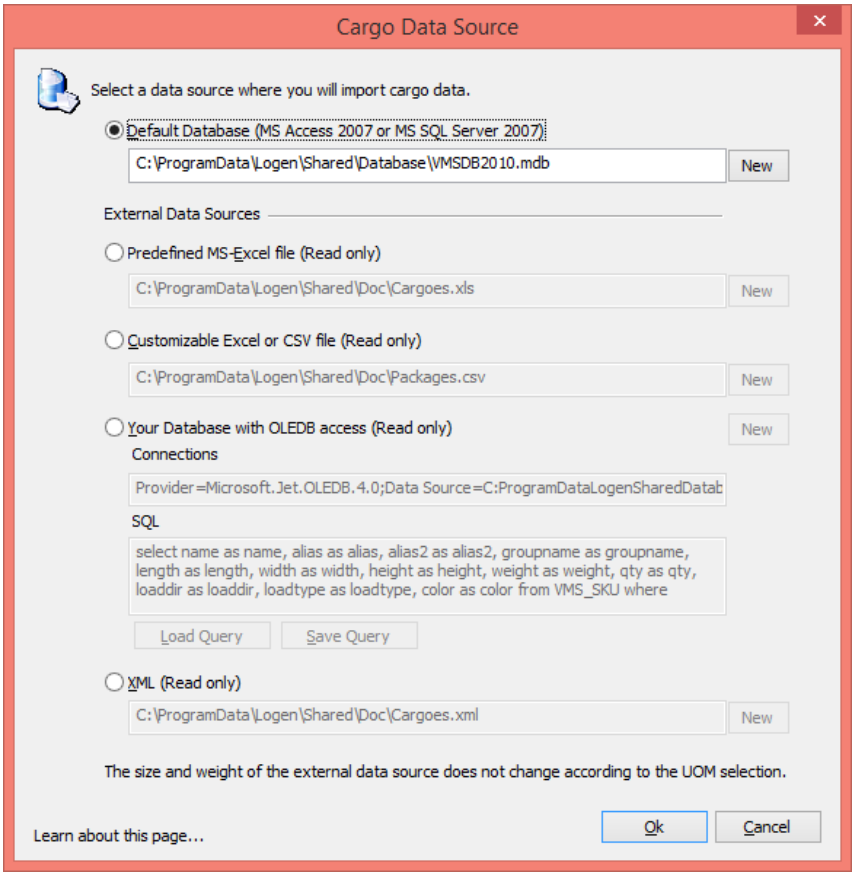


Figure 4 Cargo Data Source Window

The available options in the Cargo Data Source window are listed below.

- **Default database (MS Access 2007 or MS SQL Server 2007)**: This option locates a local database with CubeMaste data scheme. To select this option as a current data source, press OK button after activating the [Default database] check box. You can choose a different CubeMaster database file existing in other locations such as the network folder.
- **Predefined MS-Excel file**: This option locates an Excel file with pre-defined columns. To select this option as a current data source, press OK button after activating the [Predefined MS-Excel file] check box. Please enter the name of your Excel file if necessary. The default file is 'C:\Documents and Settings\All Users\Logen\Shared\Doc\Cargoes.xls' or 'C:\ProgramData\Logen\Shared\Doc\Cargoes.xls' created during the installation of the program.
- **Customizable Excel or CSV file**: This option locates an Excel or CSV file with custom defined columns. To select this option as a current data source, press OK button after activating the [Customizable Excel or CSV file] check box. Please change the settings of the Excel/CSV Import Wizard with pressing [New] button if necessary. The default file is 'C:\Documents and Settings\All Users\Logen\Shared\Doc\Packages.csv' or 'C:\ProgramData\Logen\Shared\Doc\Packages.csv' created during the installation of the program. For more detail about the Excel/CSV Import Wizard, please refer the previous section [Another simple way using the Excel/CSV Import Wizard].
- **Your Database with OLEDB access**: This option locates a RDBMS database. To select this option as a current data source, press OK button after activating the [Your Database with OLEDB access] check box. Please change the settings of the External RDBMS Import Wizard with pressing [New] button if necessary. For more detail about the External RDBMS Import Wizard, please refer the previous section [Importing from your existing DBMS to CubeMaster cargoes database].
- **XML file**: This option locates a XML with predefined tags and data presenting the cargoes information. To select this option as a current data source, press OK button after activating the [XML] check box. The default is 'C:\Documents and Settings\All Users\Logen\Shared\Doc\Cargoes.xml' or 'C:\ProgramData\Logen\Shared\Doc\Cargoes.xml' created during the installation of the program.

The contents of the XML looks like below picture.

```
<Cargoes>
  <Line No="1">
    <SKU>WE 12500</SKU>
    <Qty>3</Qty>
    <Length>120</Length>
    <Width>185</Width>
    <Height>100</Height>
    <Weight>2.5</Weight>
    <Orientation>3</Orientation>
  </Line>
  <Line No="2">
    <SKU>PH 14740</SKU>
    <Qty>3</Qty>
    <Length>120</Length>
    <Width>185</Width>
    <Height>100</Height>
    <Weight>2.5</Weight>
    <Orientation>3</Orientation>
  </Line>
  <Line No="3">
    <SKU>WE 17850</SKU>
    <Qty>3</Qty>
    <Length>120</Length>
    <Width>185</Width>
    <Height>100</Height>
    <Weight>2.5</Weight>
    <Orientation>3</Orientation>
  </Line>
</Cargoes>
```

The tags inside the <Line> tag should include the fields as summarized at following table.

Tags	Descriptions
GroupName	Group name of the cargo.
Name	Name of the cargo.
Length	Length of the cargo.
Width	Width of the cargo.
Height	Height of the cargo.
Weight	Weight of the cargo.
Qty	Number of the cargo.
SetRatio	Set ratio of the cargo.
Orientation	Numbers to present the loading orientation of the cargo allowed. One of the following numbers are available. 1 = Permits orientation #1 2 = Permits orientation #2 3 = Permits orientation #1 and #2 4 = Permits orientation #3 8 = Permits orientation #4 12 = Permits orientation #3 and #4 16 = Permits orientation #5 32 = Permits orientation #6 63 = Permits all orientations (#1,2,3,4,5,6)
PieceInside	A number of pieces inside the cargo.
UnitPrice	Unit price of the cargo.
MaxLayersExtended	A number to present whether the max layers of the cargo are extended on the other cargoes. One of the following numbers are available. 0 = No 1 = Yes
TurnAllowedOnFloor	A number to present whether the turning orientations of the cargo are allowed on the floor of the container or not. One of the following numbers are available. 0 = No 1 = Yes
Seq	Loading order of the cargo.
MaxLayer1	Max number of layers for orientation #1 allowed to the cargo.

MaxLayer2	Max number of layers for orientation #2 allowed to the cargo.
MaxLayer3	Max number of layers for orientation #3 allowed to the cargo.
MaxLayer4	Max number of layers for orientation #4 allowed to the cargo.
MaxLayer5	Max number of layers for orientation #5 allowed to the cargo.
MaxLayer6	Max number of layers for orientation #6 allowed to the cargo.
Alias1	Alias 1 of the cargo.
Alias2	Alias 2 of the cargo.
StackValue	Stack Value of the cargo.
FloorStackType	A number to present the floor stacking type of the cargo. One of the following numbers are available. 0 = Best Fit 1 = Bottom Only 2 = No Bottom
SupportsOthers	A number to present whether the cargo is allowed to support other cargoes or not. One of the following numbers are available. 0 = No 1 = Yes

Importing Truck and Container Sizes from External Database

If you like to import containers data from an external database such as a RDBMS, you need to define a new data source. The data source is a file, storage or connection with SQL where the data is queried automatically when the Container (Truck, Sea Van, Pallet or Carton) Database Dialog opens. The default data source is a Microsoft Access 2007 file 'C:\ProgramData\Logen\Shared\Database\VMSDB2010.mdb' which was created during the installation.

To define new data source, use the Container Data Source dialog as pictured below. To display this screen, choose Container Data Source under the Tools menu.

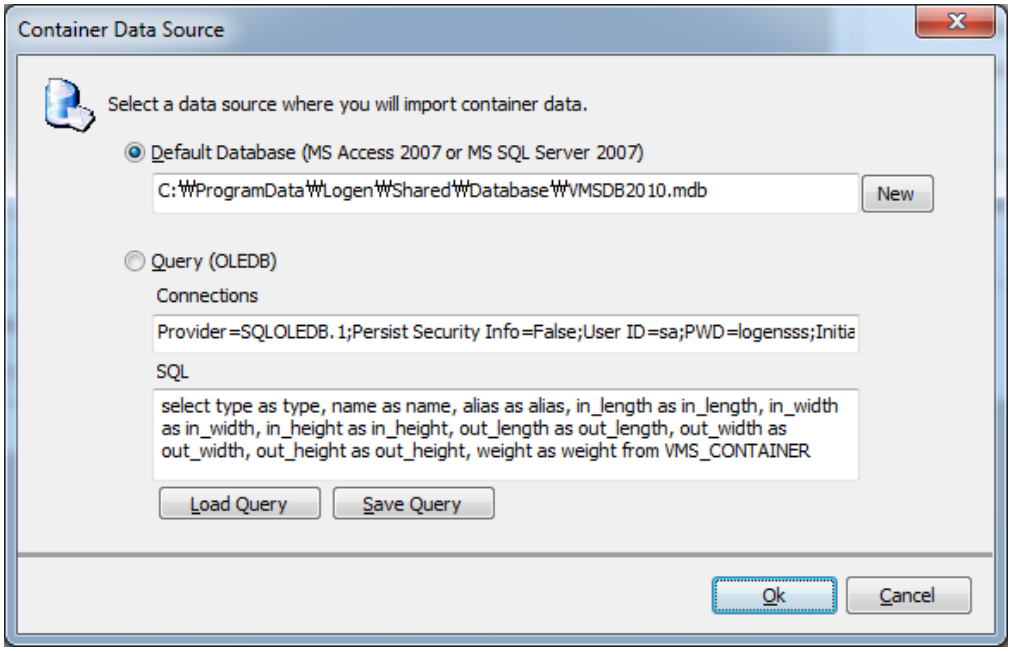


Figure 5 Cargo Data Source Dialog

The available data sources in the cargo Data Source dialog are as below.

- **Default database (MS Access 2007 or MS SQL Server 2007)**: This source is a local MDB file. To determine this as current data source, activate the [Default database] check box and enter the file name, where you will browse from, into the field at below of the check box. The default filename is 'C:\Documents and Settings\All Users\Logen\Shared\Database\VMSDB2010.mdb', which was created during the installation of the program.
- **Query (OLEDB)**: This source is an OLEDB. To determine this as a current data source, activate the [Query (OLEDB)] check box and enter the statement of connection and SQL into the field [Connections] and [SQL] respectively.

  The connection statement should contain the provider of the OLEDB data source which points to the database name where your legacy data exists. The default connection is "Provider=SQLOLEDB.1; Persist Security Info=False; User ID=guest; PWD=guest; Initial Catalog=CubeMaster2006; Data Source=www.logen.co.kr", which points to the sample database created already at the Logen Solutions data server.

  The default statement is "select type as type, name as name, alias as alias, in_length as in_length, in_width as in_width, in_height as in_height, out_length as out_length, out_width as out_width, out_height as out_height, weight as weight from VMS_CONTAINER where domain_id = 'LOGENS' order by name" which queries container data from the connection. Here in the statement, the field name (or its alias) should be the same as reserved one. The reserved field names are summarized at following table.

Cell Text	Description
Name	Name of container
In_Length	Inside Length of container
In_Width	Inside Width of container
In_Height	Inside Height of container
Out_Length	Outside Length of container
Out_Width	Outside Width of container
Out_Height	Outside Height of container
Weight	Weight of container (Empty weight)
Alias	Description of container
Type	Type of container. The following values are available. • 'CNT': Sea Container • 'TRK': Truck • 'PLT': Pallet • 'ULD': Air Container

If you click the [Load Query] button, the saved connections and the SQL statement will be loaded from a file. And if you click the [Save Query] button, the current connections and SQL statement will be saved to a file.

Creating a New Load from Order XML

You can define a new load from a XML after importing to CubeMaster program. Use the Notepad program to open the sample XML file 'C:\ProgramData\Logen\Shared\Doc\Order sample for sea containers.xml' and fill with your definition. Or your existing application such as WMS or ERP could create a XML in your network drive.

If you click the 'New From XML' menu under the File menu, you will be allowed to choose a XML file at the File Open window. Once a XML file is open, the Setup View shows the contents automatically and allows you to see and change them. Just pressing F5 will start the calculation.

The following picture shows the sample of an order XML.

```
<?xml version="1.0" encoding="UTF-8" ?>
<Order Title="ABC123" Description="Sample Order">

  <Containers Type="CNT">
    <Line No="1">
      <Name>40FTDC</Name>
      <Qty>0</Qty>
      <Length>12050.0</Length>
      <Width>2340.0</Width>
      <Height>2370.0</Height>
      <Weight>0</Weight>
      <MaxWeight>0</MaxWeight>
    </Line>
    <Line No="2">
      <Name>20FTDC</Name>
      <Qty>0</Qty>
      <Length>5890.0</Length>
      <Width>2340.0</Width>
      <Height>2370.0</Height>
      <Weight>0</Weight>
      <MaxWeight>0</MaxWeight>
    </Line>
  </Containers>

  <Cargoes>
    <Line No="1">
      <Name>WE 12500</Name>
      <Qty>34</Qty>
      <Length>500</Length>
      <Width>585</Width>
      <Height>800</Height>
      <Weight>2.5</Weight>
      <Orientation>3</Orientation>
    </Line>
    <Line No="2">
      <Name>PH 14740</Name>
      <Qty>53</Qty>
      <Length>820</Length>
      <Width>985</Width>
      <Height>600</Height>
      <Weight>2.5</Weight>
      <Orientation>63</Orientation>
    </Line>
    <Line No="3">
      <Name>WE 17850</Name>
      <Qty>63</Qty>
      <Length>1320</Length>
      <Width>1435</Width>
      <Height>700</Height>
      <Weight>2.5</Weight>
      <Orientation>63</Orientation>
    </Line>
  </Cargoes>

  <Rules>
    <IsGroupUsed>0</IsGroupUsed>
    <IsSequenceUsed>0</IsSequenceUsed>
    <IsSafeStackingUsed>1</IsSafeStackingUsed>
    <MinSupportRate>50</MinSupportRate>
    <IsPalletized>0</IsPalletized>
    <IsBestFitContainersSelection>1</IsBestFitContainersSelection>
    <IsWeightLimited>1</IsWeightLimited>
    <StackingRule>100</StackingRule>
    <FillDirection>0</FillDirection>
  </Rules>

  <Options>
    <UOM>1</UOM>
  </Options>
</Order>
```

The following table shows the specification what an order XML should has.

Tag	Description	Available Values
Order		
Title	Title for a load	
Description	Description for a load	
Containers	Containers information for Step 1	
Type	The type of the containers	Sea Container = CNT, Pallet = PLT, Truck = TRK, Carton = BOX, Air Pallet = ULD
Line		
No	A sequence in the containers list	
Name	Name of the container	
Qty	Amount of the container	
Length	Length of the container	
Width	Width of the container	
Height	Height of the container	
Weight	Weight of the container (Empty weight)	
MaxHeight	Max height of the pallet	
MaxWeight	Max weight of the container including the empty weight	
Cargoes	Cargoes information for Step 2	
Line		
No	A sequence in the cargoes list	
Name	Name of the cargo	
Qty	Amount of the cargo	
Length	Length of the cargo	
Width	Width of the cargo	
Height	Height of the cargo	
Weight	Weight of the cargo	
Orientation	A number to present the loading orient	1 = Permits orientation #1 2 = Permits orientation #2 3 = Permits orientation #1 and #2 4 = Permits orientation #3 8 = Permits orientation #4 12 = Permits orientation #3 and #4 16 = Permits orientation #5 32 = Permits orientation #6 63 = Permits all orientations (#1,2,3,4,5,6)
Palletizing	Pallet configuration for the palletizing this cargo	
Pallet	Name of the pallet to be filled for the palletizing	
Rules	Rules information for the More Rules	
IsGroupUsed	Keep same groups together (Use the ca	0/1
IsSequenceUsed	Load by sequence (Cargoes with low se	0/1
IsSafeStackingUsed	Use safe stacking or not	0/1
MinSupportRate	Minimum supporting rate in percent fo	Number in percentage
IsPalletized	Palletized or not before loading vehicle	0/1
Palletizing	Palletizing information	
MixPallet	Name of the pallet to be filled with the different cargoes for the palletizing	
IsBestFitContainersSelection	Select the multiple containers from the	0/1
IsWeightLimited	The max weight of the containers are li	0/1
StackingRule	A number to present the stacking rules	BestFit = 100, HigherStackValueBottomFirst = 1, AllowedTopBottmStackValueSame = 2, AllowedTopBottomFootPrintSame = 3, HeavierBottomFirst = 4, FloorStack = 5, FollowStackMatrix = 6, AlwaysNotAllowed = 101
FillDirection	A number to present the filling directio	FrontToRear=0, BottomToTop=2, ColumnStack=0, LayerStack=2
Options	Settings	
UOM	A number to present the UOM	English (Inch + Lbs) = 0, Metric (mm + Kg) = 1, HighMetric (Cm + Kg) = 2

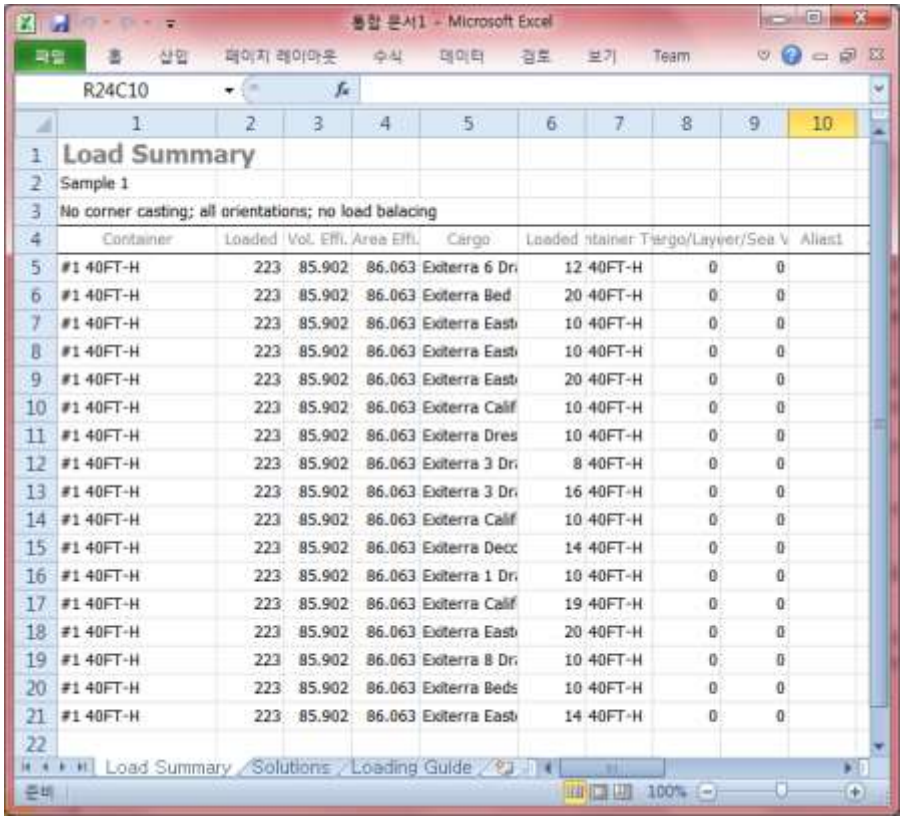
Figure 6 Specification of the Order XML

Exporting Solutions

CubeMaster allows you to export solutions to a Microsoft Excel sheet, an XML file or an ASCII comma delimited text file. You can use this file to transfer the solutions to other program such as ERP or WMS.

To export solutions from the CubeMaster system, follow these instructions:

1. Export to a Microsoft Excel sheet: From the Menu Bar, open the File menu and select Export to Microsoft Excel File. In a few seconds, a new MS Excel program opens and shows three new sheets – Load Summary, Solutions and Loading Guide. You can save the Excel sheets to a new file by selecting the Save under the File menu at the Microsoft Excel program.



2. Export to an XML file: From the Menu Bar, open the File menu and select Export to XML. The New File dialog window opens and prompts a file name. Just pressing [Open] button after entering a new file name at a desired folder, a new XML file is created at your computer.

3. Export to an ASCII file: From the Menu Bar, open the File menu and select Export to Text File. The New File dialog window opens and prompts a file name. Just pressing [Open] button after entering a new file name at a desired folder, a new text file is created at your computer.