Training Guide

QAD BI v3 Technical Level 1

70-3299-3.11
BI Technical Level 1 v3.11
March 2015

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Business Intelligence Technical Level 1 3.11 Training Guide Change Summary

The following table summarizes significant differences between this document and the previous version.

Date/Version	Description	Reference
March 2015/QAD BI 3.11	Rebranded for QAD BI 3.11	--
November 2013	1st Release	--
		--
		--

About This Course

Course Description

This course covers the basics to install and support the Business Intelligence solution and includes activities and exercises throughout the course. The topics covered include the following:

- Installing BI3, including Data Warehouse Designer, Modules, BI Portal and Tomcat
- Connecting to Source systems
- Using the BI Scheduler
- Configuring and Executing BI Data Loads
- Data Validation
- Activities and exercises throughout the class.

Course Objectives

This class is designed to provide you with a fairly intensive overview of the BI installation process. You will use the BI Installer to do the following:

- Setup a database
- Setup ODBC connections
- Install QAD BI DWD (Data Warehouse Designer)
- Install QAD BI Portal
- Support QAD's BI solution using some advanced features including troubleshooting
- Build cubes
- Integrate outside flat file data sources into DWD
- Run simple queries in SQL Server.

Audience

QAD and QAD Partner services consultants who plan to implement for QAD clients and those preparing for the BI Technical Level 1 certification exam. This course is not open to QAD customers at this time.

Prerequisites

Information about prerequisites is sent to participants by the instructor in an email prior to class start date. Before the class, participants are required to watch the following self-study videos:

- Running Queries and Manipulating Data in SQL Server 2008
- SQL Server 2008 Installation
- Completed Business Intelligence (BI): 1-2 Overview
- Completed Business Intelligence (BI): 1-3 Portal User Introduction

- Completed Business Intelligence (BI): 1-4 Modules
- Completed Business Intelligence (BI): 1-10 Data Warehouse Designer Introduction
- Completed Business Intelligence (BI): 1-11 Data Warehouse Scheduler Introduction

In addition, an intermediate knowledge of SQL Query is required. Also, a basic knowledge of SQL Server Management Studio, Tomcat and Excel Pivot tables is required.

Course Credit and Scheduling

This course provides 30 credit units. It is designed to be taught in 5 days.

Virtual Environment Information

The hands-on exercises in this book should be used with the latest BI learning environment.

Additional Resources

If you encounter questions on QAD software that are not addressed in this book, several resources are available. The QAD corporate Web site (http://www.qad.com/) provides product and company overviews. From the main site, you can access the QAD Learning or Support site and the QAD Document Library. Access to some portions of these sites depends on having a registered account.

QAD Learning Center

To view available training courses, locations, and materials, use the QAD Learning Center. Choose Education under the Services tab to access this resource. In the Learning Center, you can reserve a learning environment if you want to perform self-study and follow a training guide on your own.

QAD Document Library

To access release notes, user guides, training guides, and installation and conversion guides by product and release, visit the QAD Document Library. Choose Document Library under the Support tab. In the QAD Document Library, you can view HTML pages online, print specific pages, or download a PDF of an entire book. To find a resource, you can use the navigation tree on the left or use a powerful cross-document search, which finds all documents with your search terms and lets you refine the search by book type, product suite or module, and date published.

QAD Support

Support also offers an array of tools depending on your company's maintenance agreement with QAD. These include the Knowledgebase and QAD Forums, where you can post questions and search for topics of interest. To access these, choose Visit Online Support Center under the Support tab.

CHAPTER 1

QAD BI Technical Level 1 Certification – Part 1

QAD BI v3 -Technical Level 1 Certification - Part I



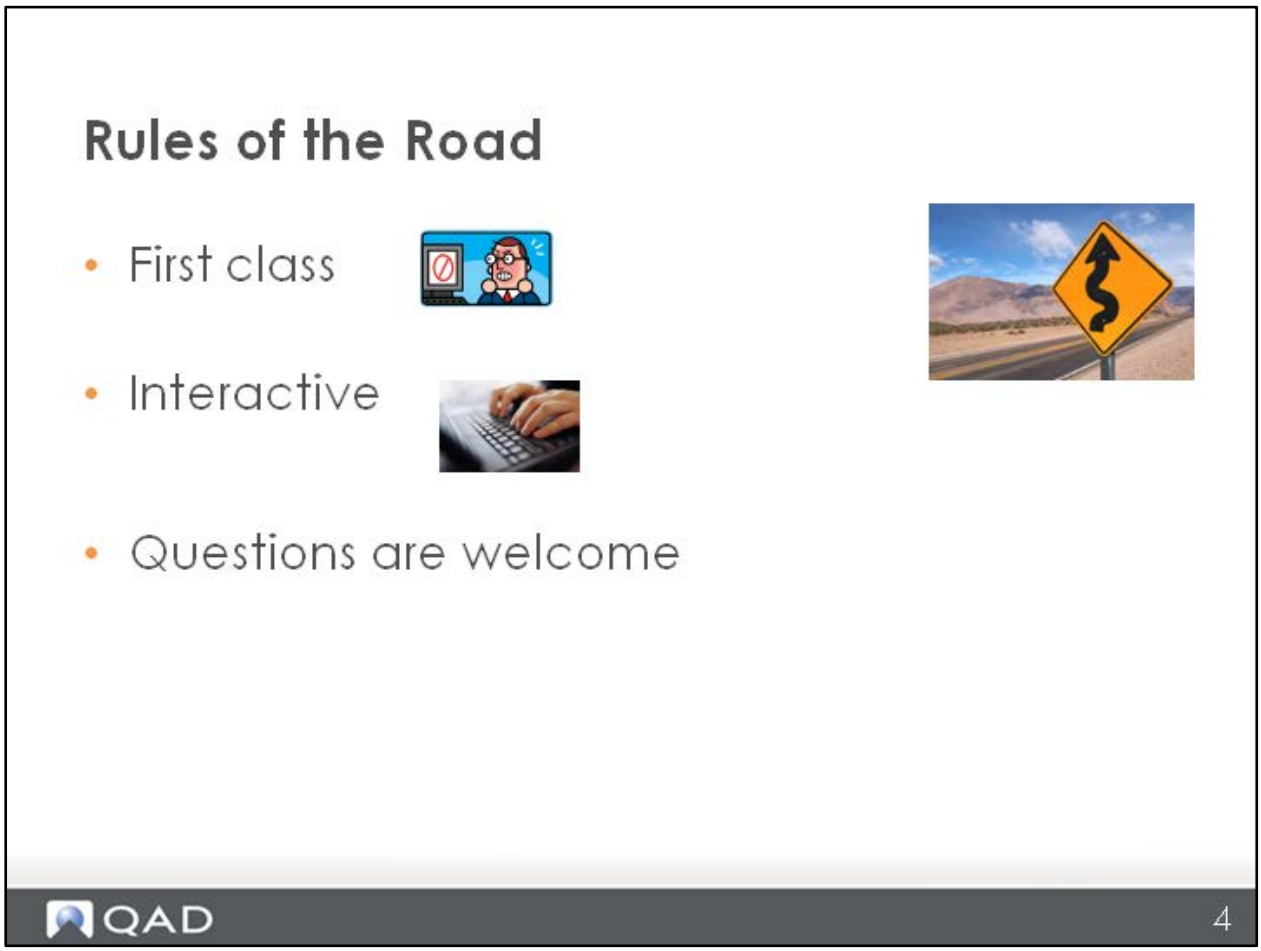
Introductions



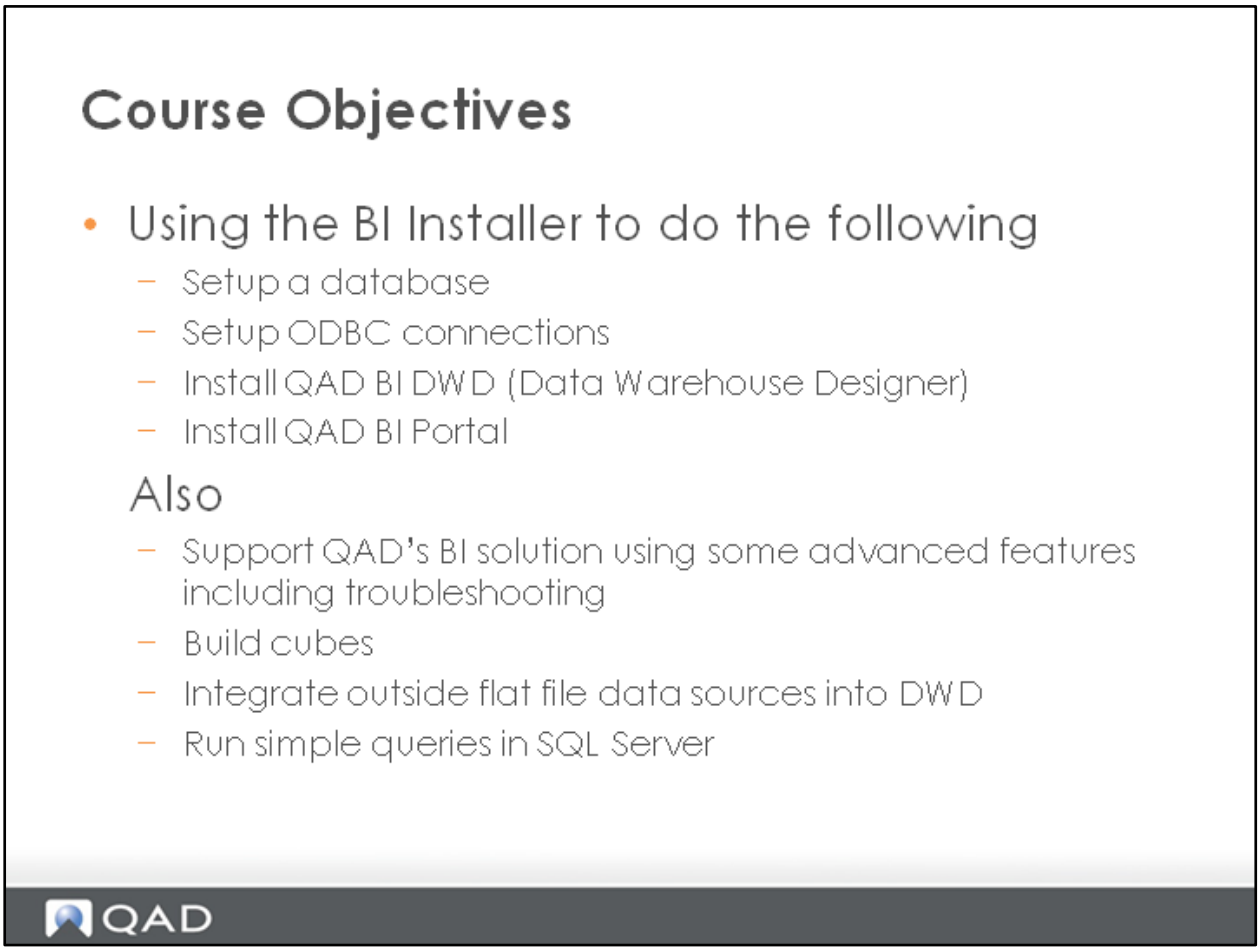
Facilities



Rules of the Road

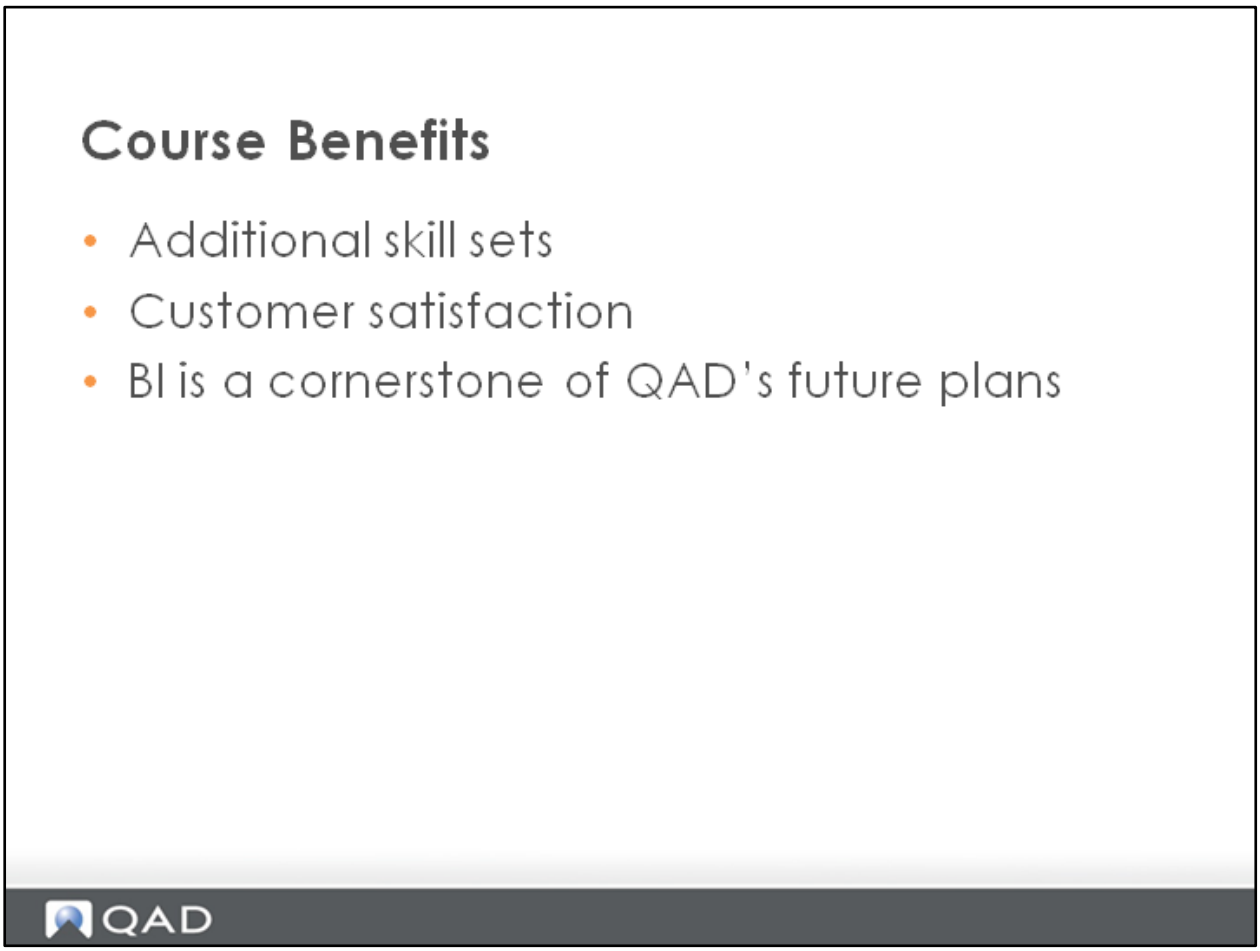


Course Objectives



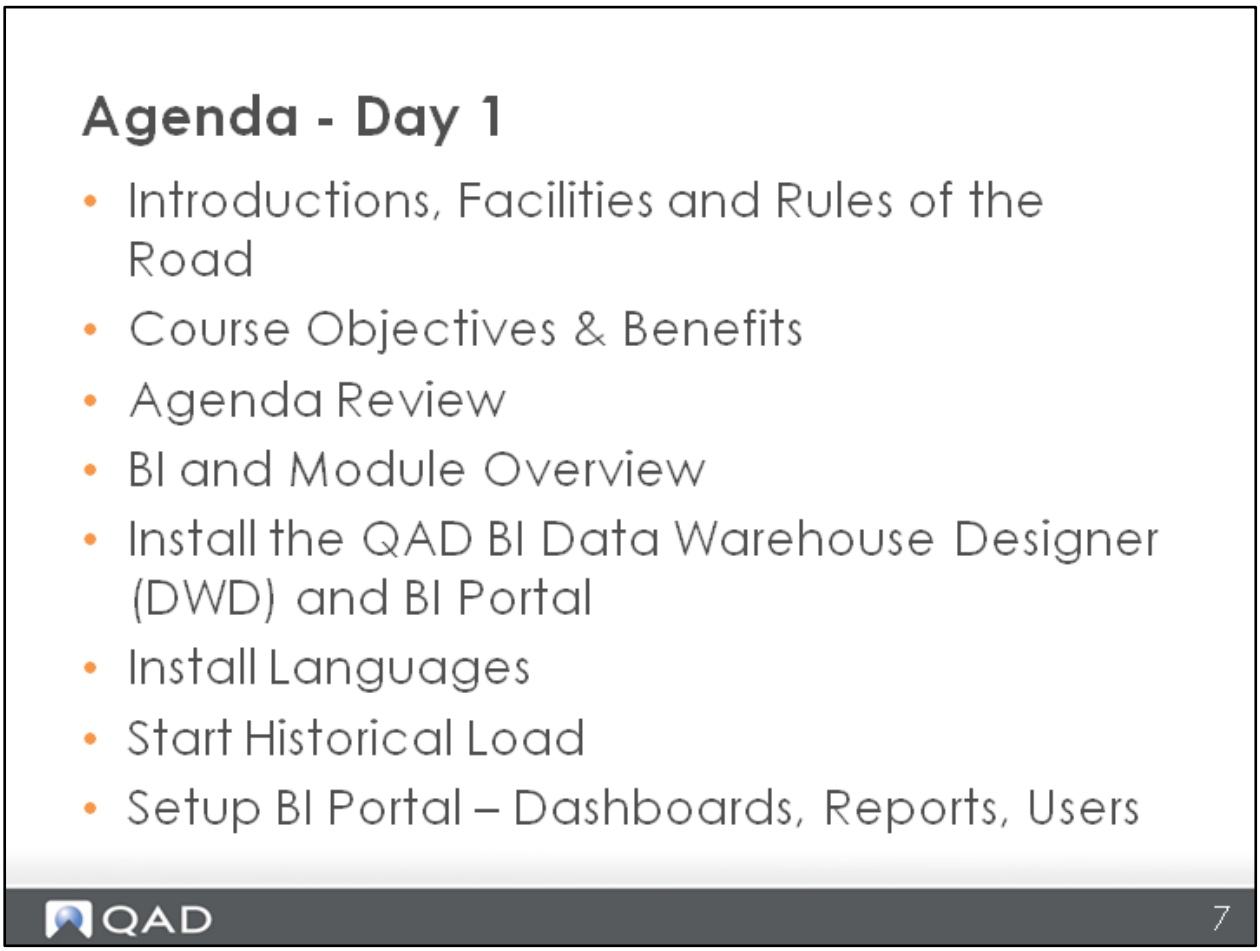
By the end of this class, you will know how to

Course Benefits

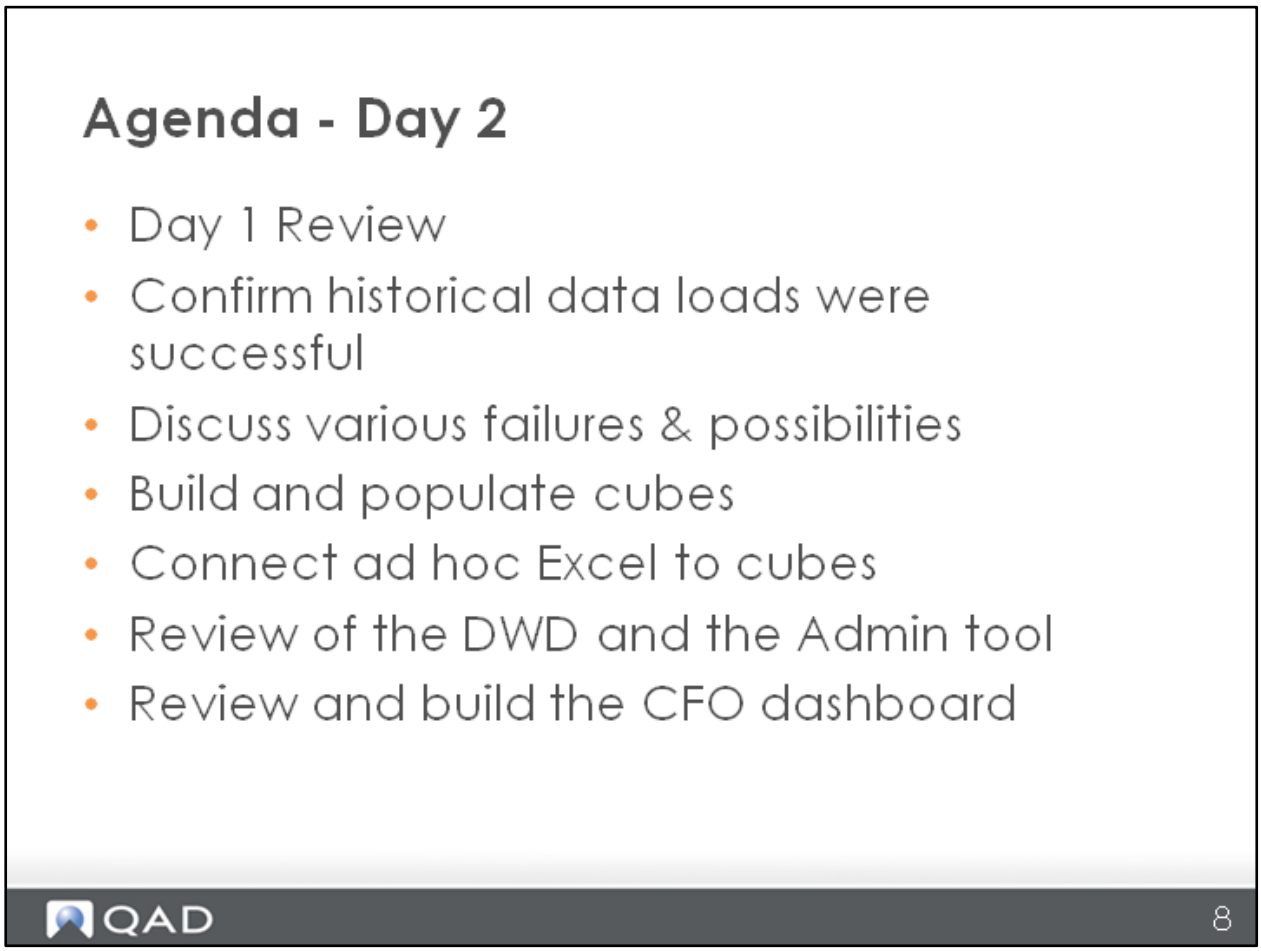


By learning these skills we benefit by

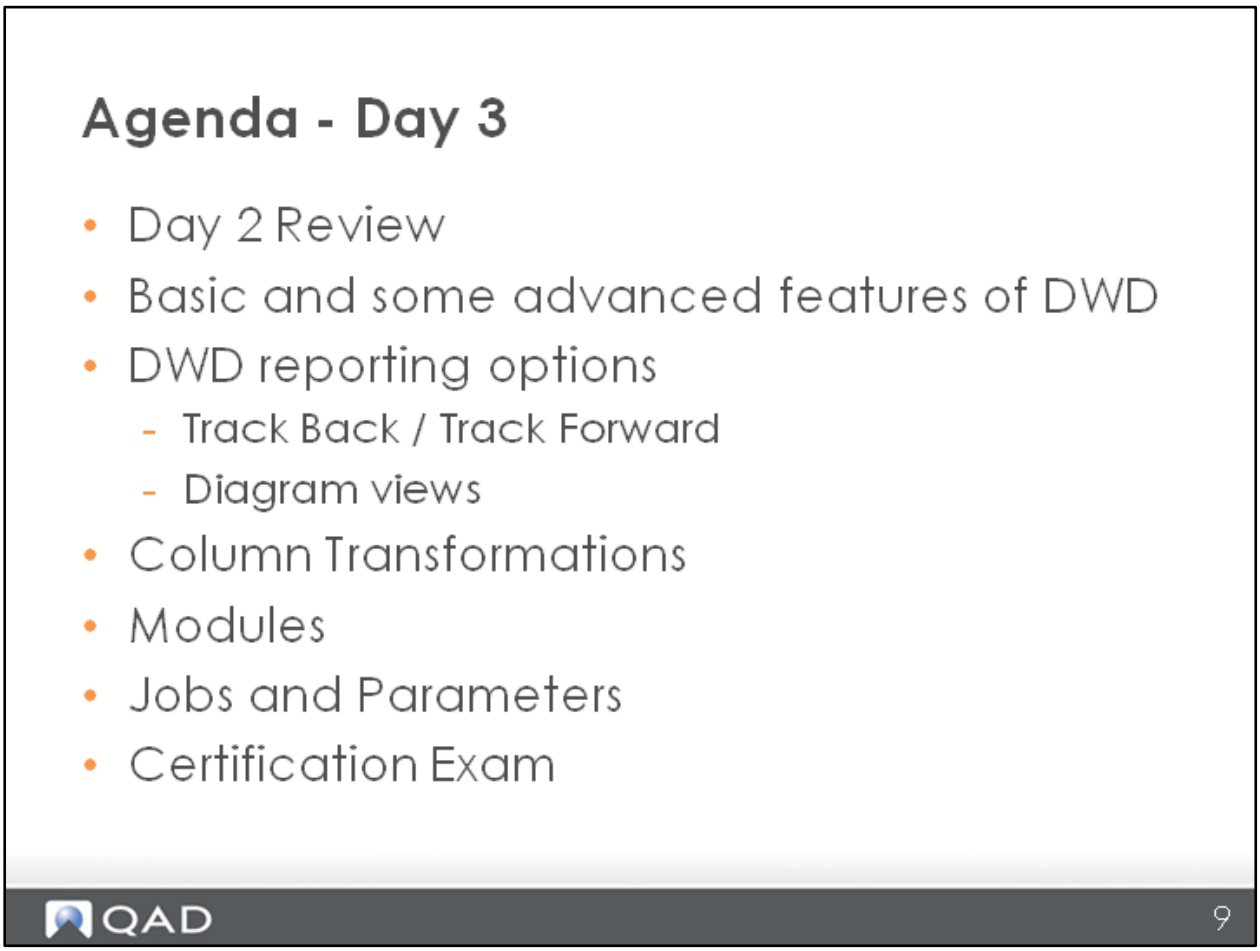
Agenda - Day 1


Agenda - Day 1
Introductions, Facilities and Rules of the Road
Course Objectives & Benefits
Agenda Review
BI and Module Overview
Install the QAD BI Data Warehouse Designer (DWD) and BI Portal
Install Languages
Start Historical Load
Setup BI Portal – Dashboards, Reports, Users
QAD
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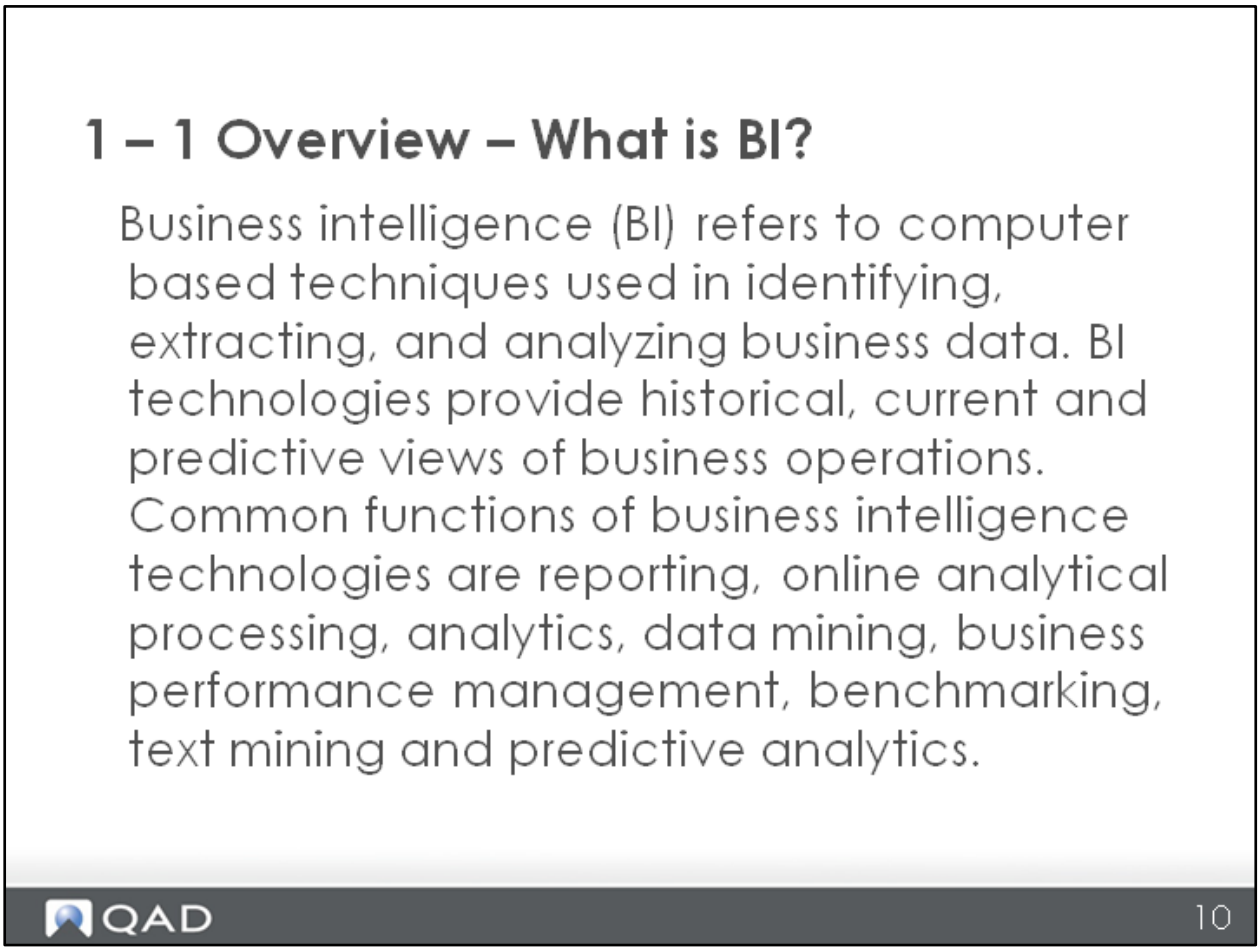
Agenda - Day 2


Agenda - Day 2
Day 1 Review
Confirm historical data loads were successful
Discuss various failures & possibilities
Build and populate cubes
Connect ad hoc Excel to cubes
Review of the DWD and the Admin tool
Review and build the CFO dashboard
QAD
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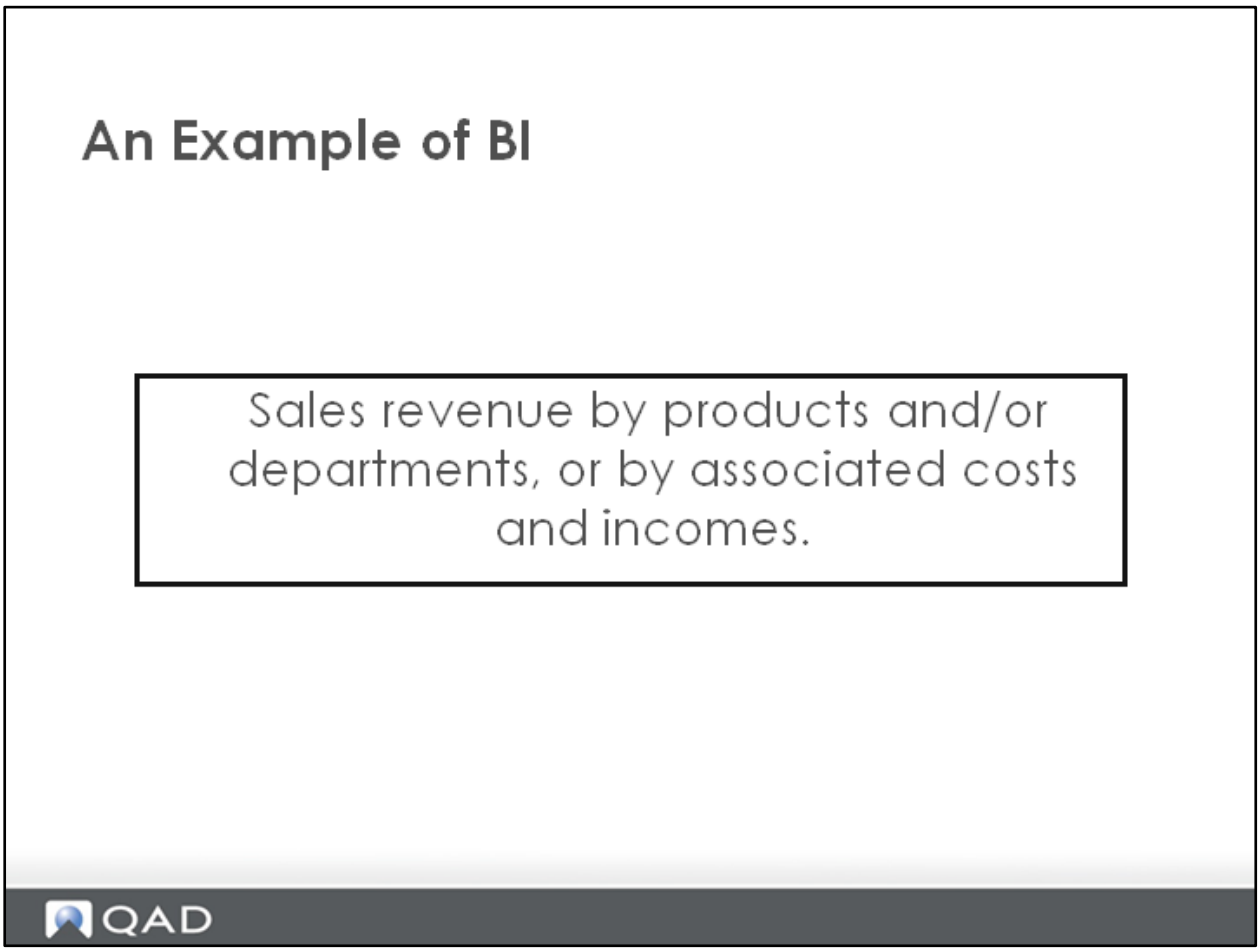
Agenda - Day 3


Agenda - Day 3
Day 2 Review
Basic and some advanced features of DWD
DWD reporting options
Track Back / Track Forward
Diagram views
Column Transformations
Modules
Jobs and Parameters
Certification Exam
QAD
9

1 – 1 Overview – What is BI?



An Example of BI



BI Overview



Use this video for the BI overview.

https://share.qad.com/gm/document-1.9.697589/BI1-2%20BI%20Overview.wmv

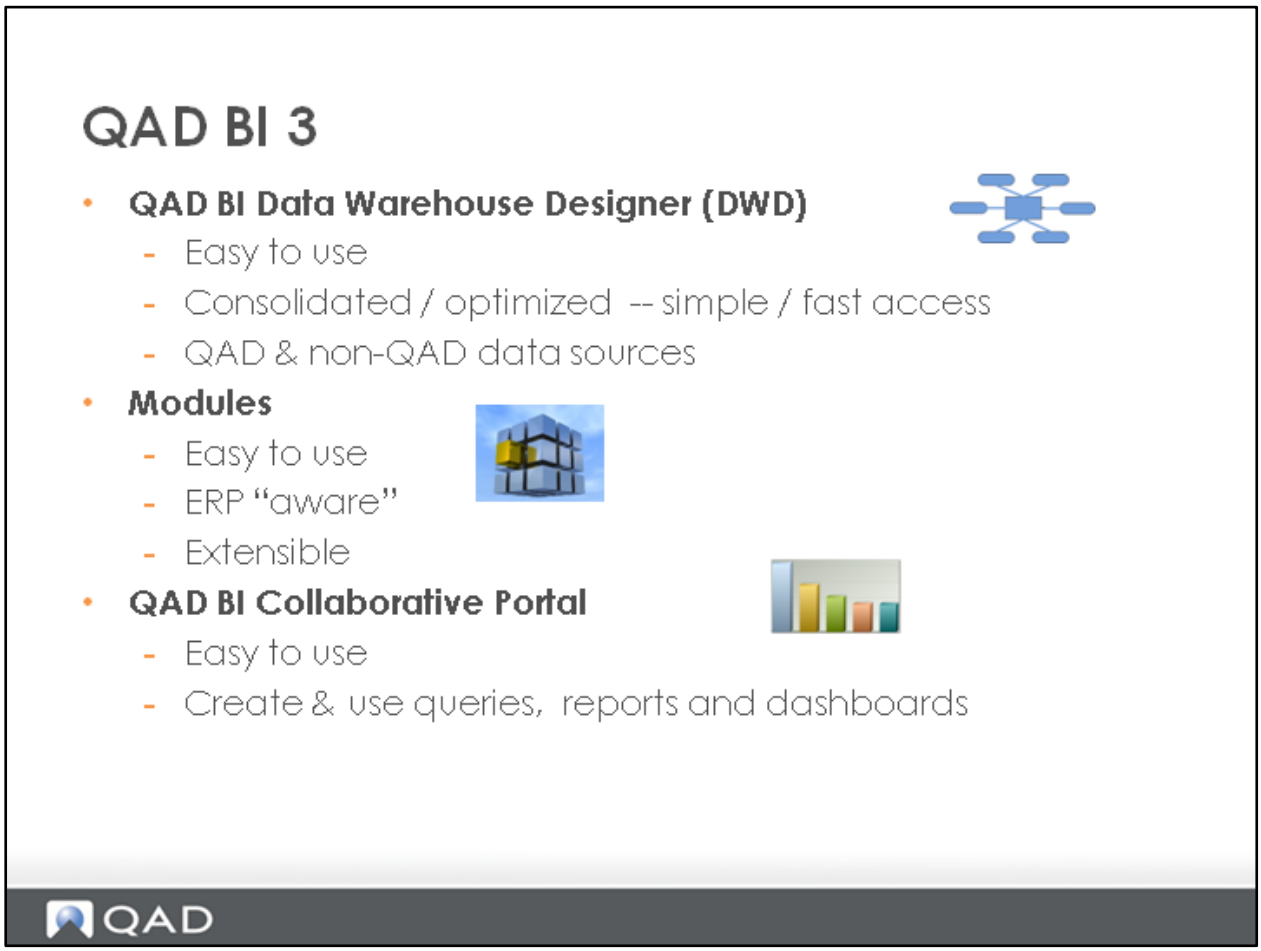
http://media.qad.com/qad/Play/c69f15137f90482081751cefc74d86c21d?catalog=229c8aec-7ef0-4643-be54-2a5b3227c04b

BI Positioning



While decision making is moving down the organization, the day to day requirements of company representatives and the breadth of the analysis varies by a user's position in the corporate hierarchy. Operational representatives such as warehouse staff and planners regularly use very detailed capabilities such as inquiries and reports or browses and collections to manage their operational tasks. As we move up through the level of focus from Operational to Strategic, we move from detailed, daily requirements to higher levels of aggregation and a greater need for analysis by various attributes such as product family, product group, customer, or region. Another form of analysis is changes tactically and strategically over time. How have our inventory turns changed by product line or family over the past 6 or 12 months. Aggregations, attributes, and changes over time are all the domain of Business Intelligence.

QAD BI 3



Key Concept:

QAD BI Components:

QAD BI Data Warehouse Developer (DWD)

Consolidate into a single warehouse optimized for simple, fast access

QAD and non-QAD data sources

Modules

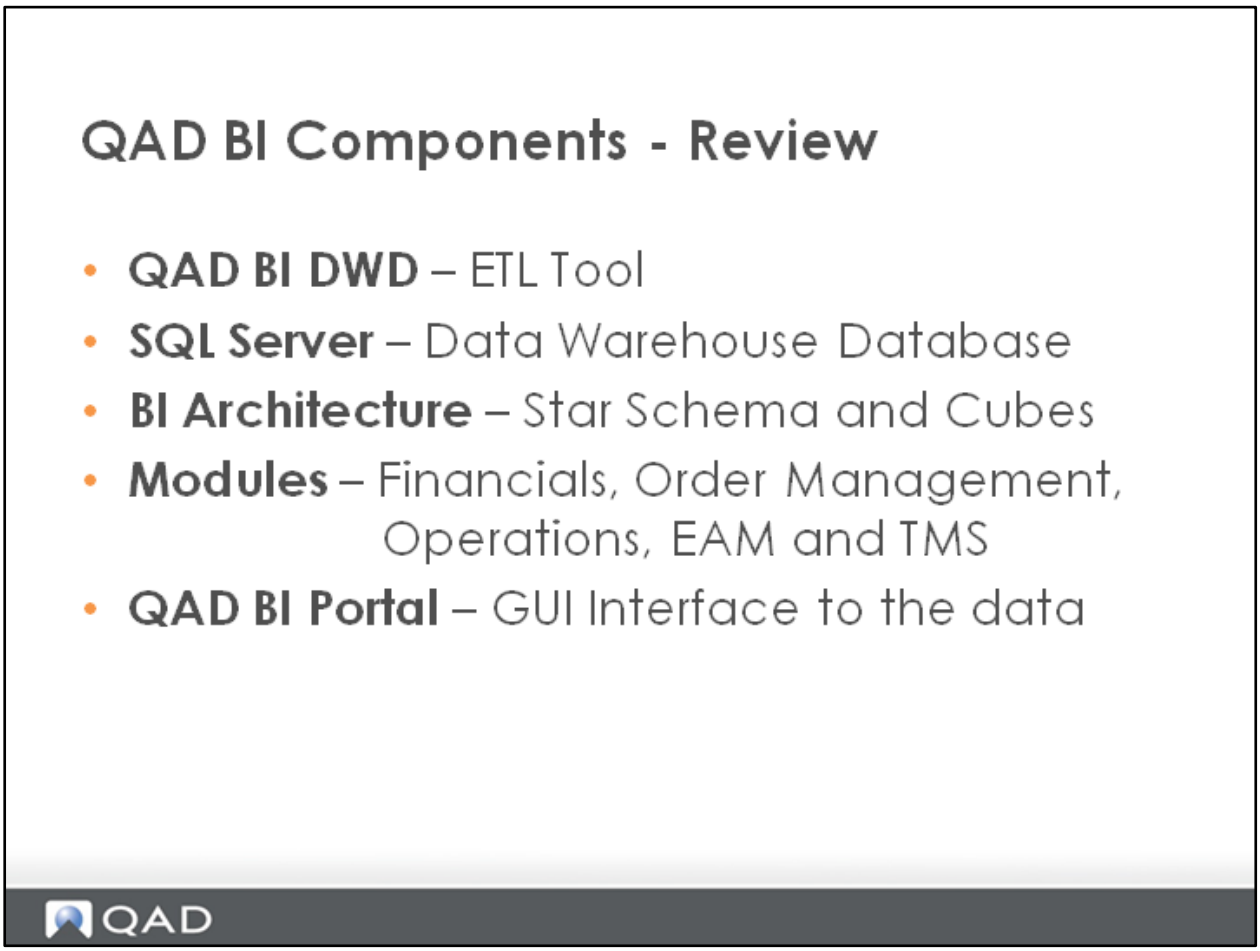
ERP "aware" streamlines access to current and historical QAD ERP data

Extensible to support non-QAD data sources

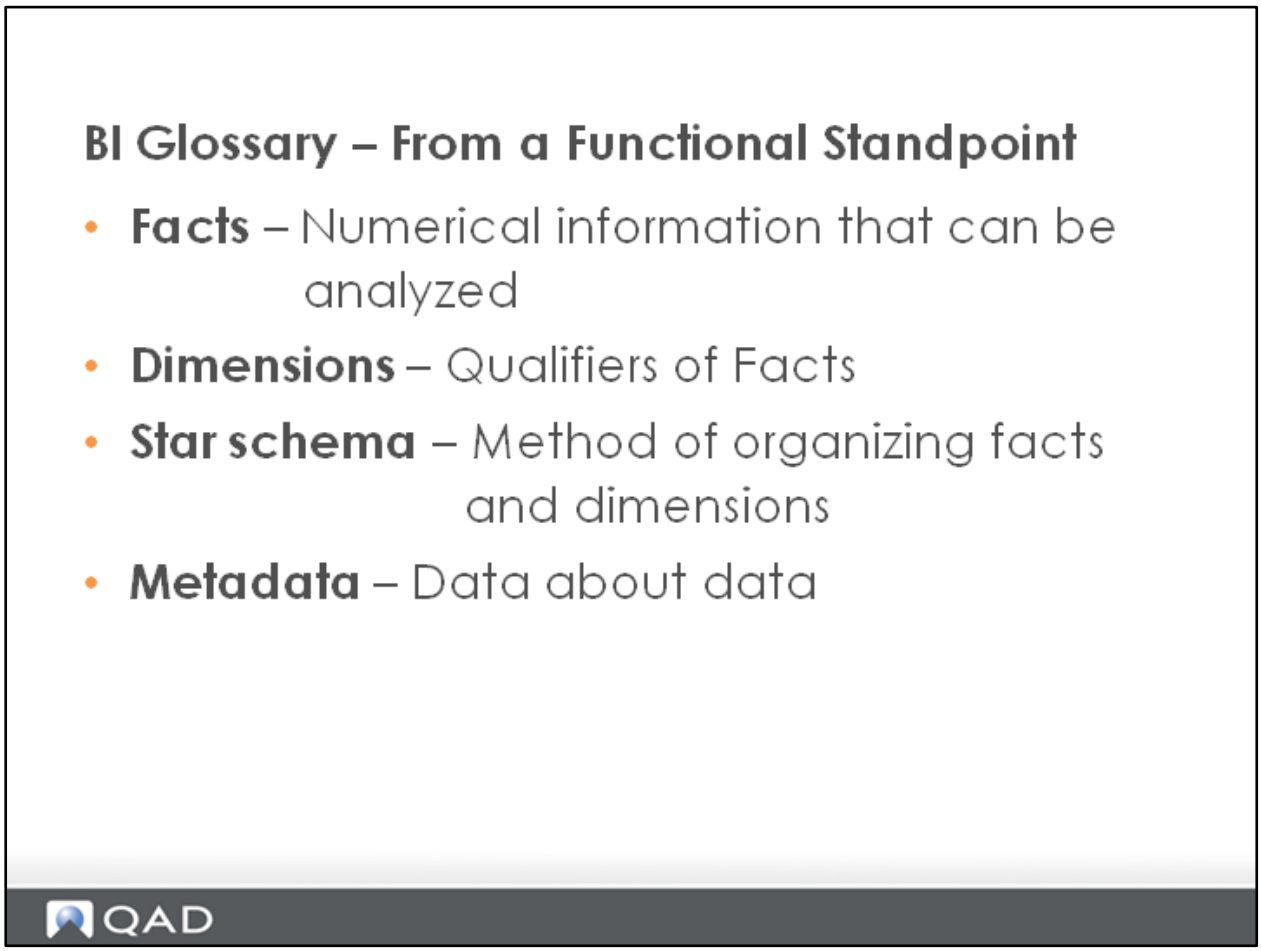
QAD BI Collaborative Portal

Easy to use and create dashboard and reporting environment

QAD BI Components - Review



BI Glossary – From a Functional Standpoint



Glossary:

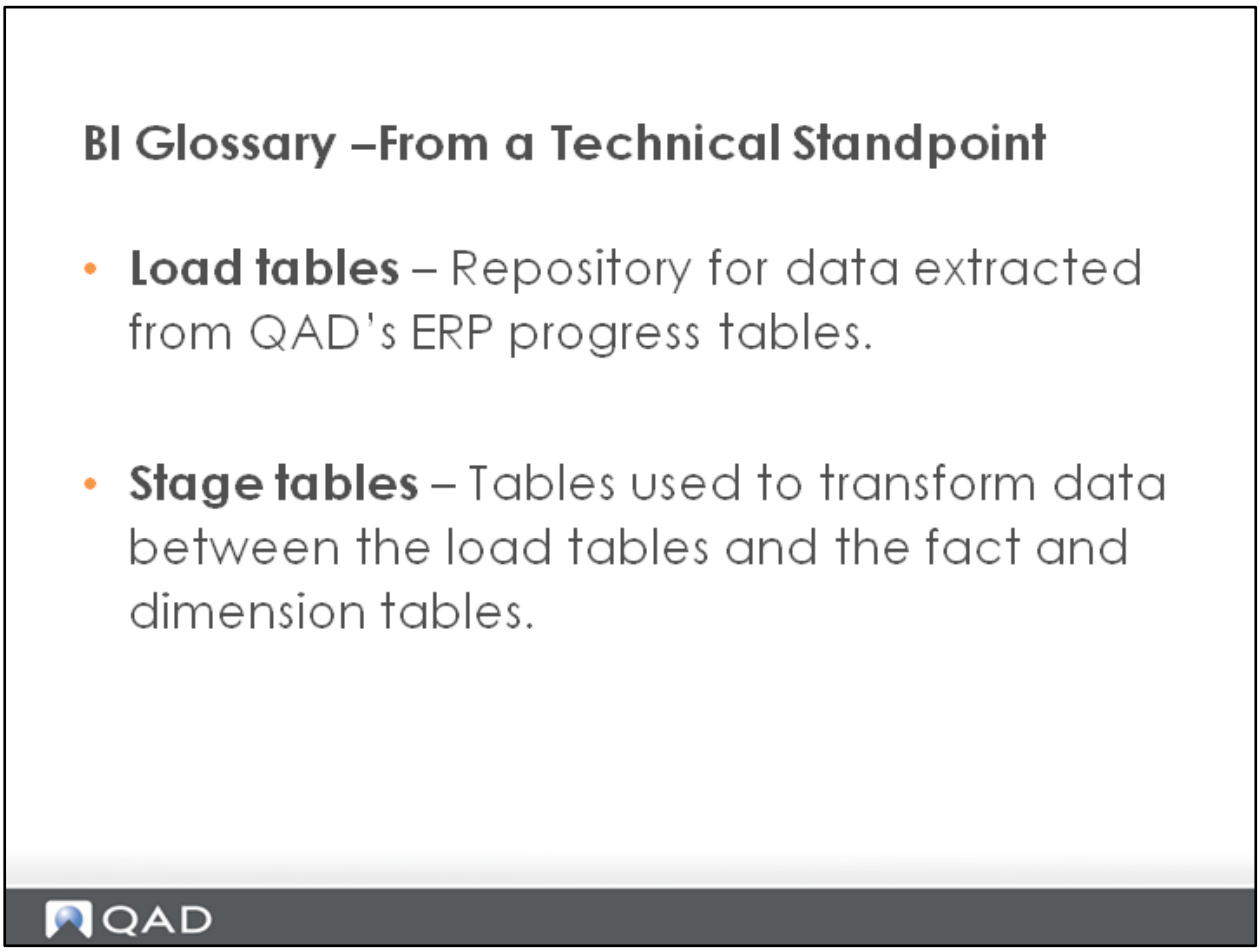
Facts – Numerical information that can be analyzed by BI applications. E.g. total quantity sold, total sales dollars

Dimensions – Qualifiers of Facts. E.g. Transaction date, Customer name, Sales territory

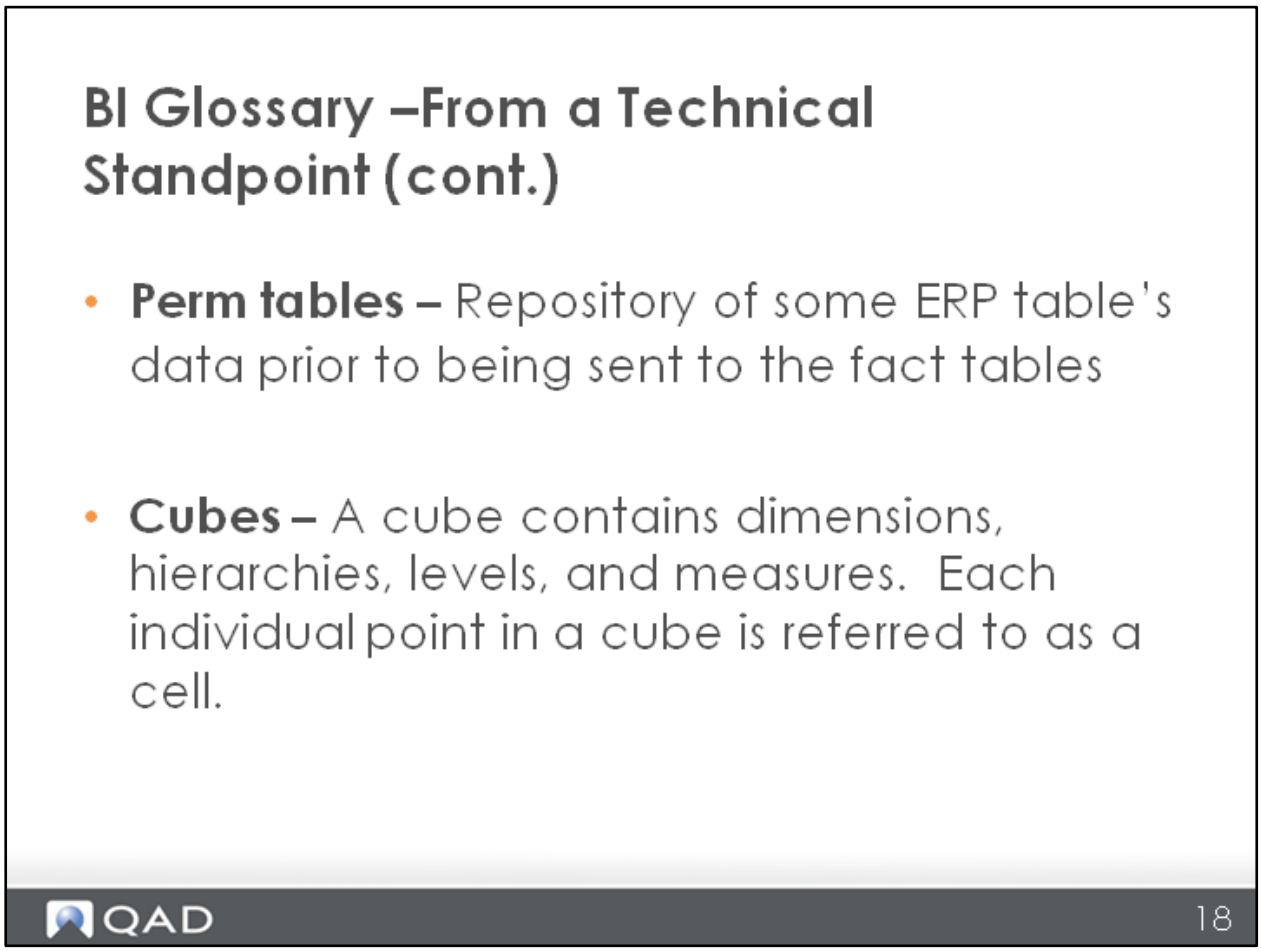
Star schema - Method of organizing facts and dimensions for BI purposes. Star schemas can be deployed into Relational databases (in our case SQL Server) and into proprietary Cubes . Examples of the latter are Microsoft's Analysis Services cubes or Cognos' cubes.

Metadata – Data about data. For example: Columns in a fact table. Column names and formats.

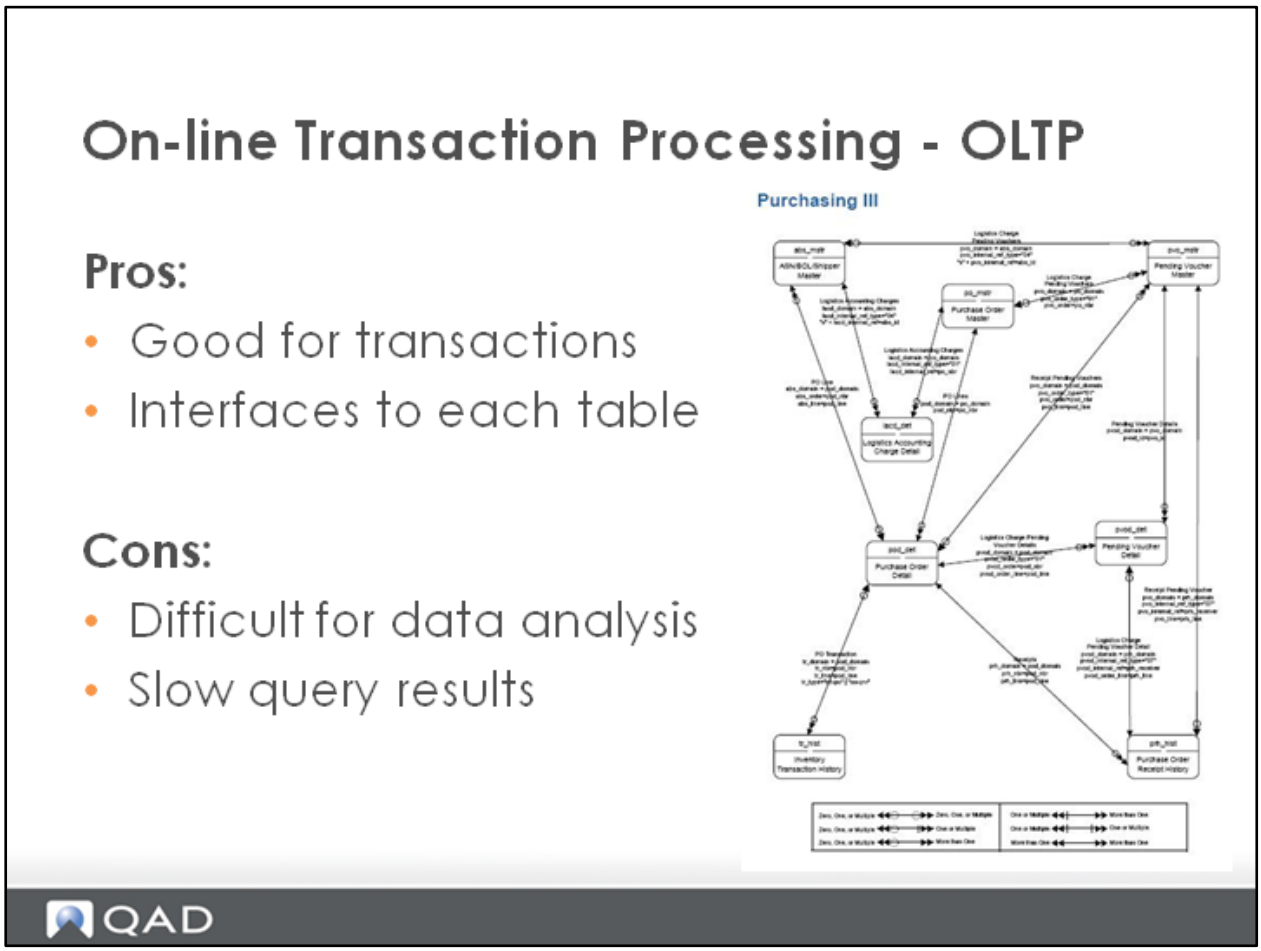
BI Glossary –From a Technical Standpoint



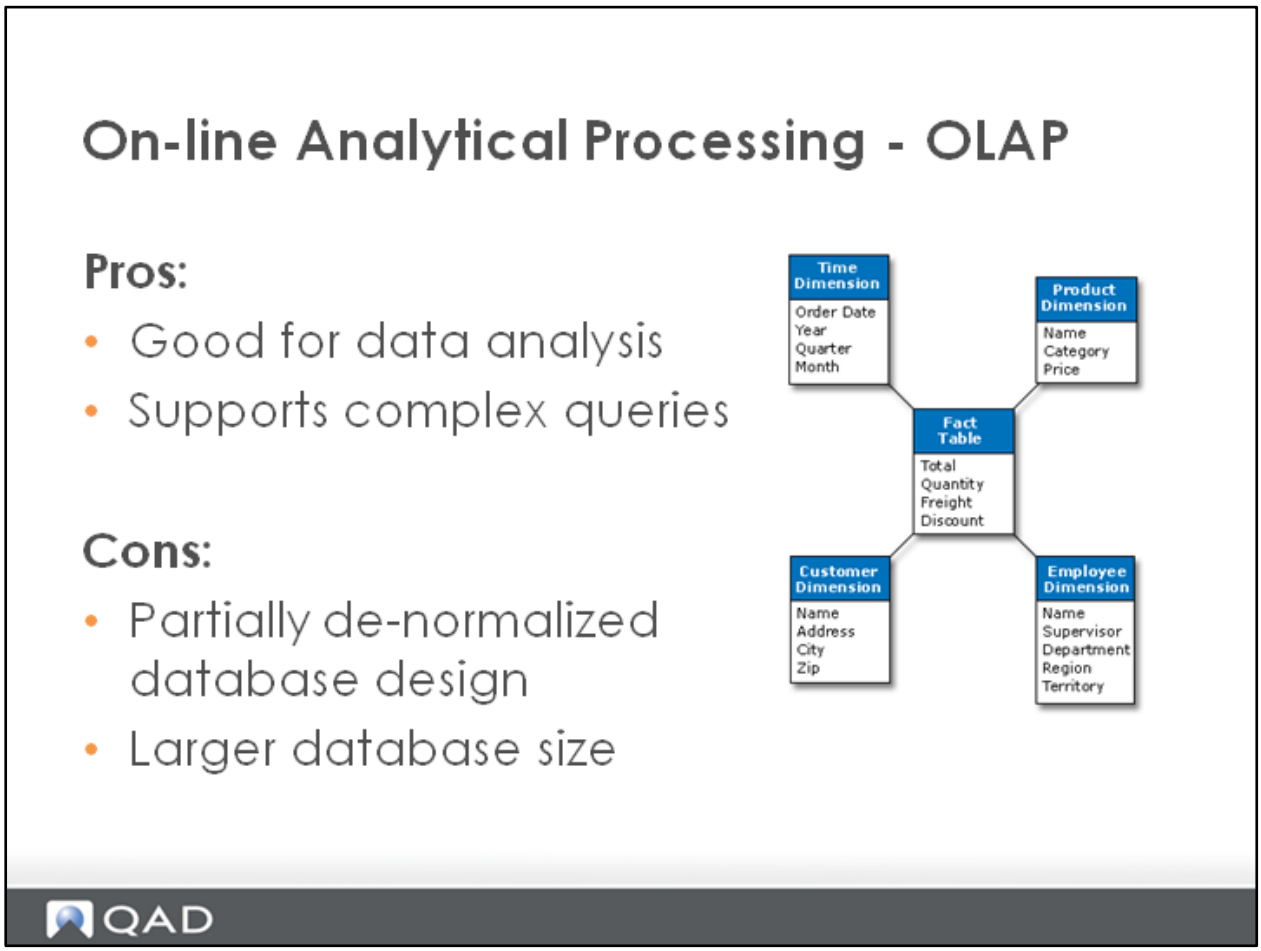
BI Glossary –From a Technical Standpoint (cont.)



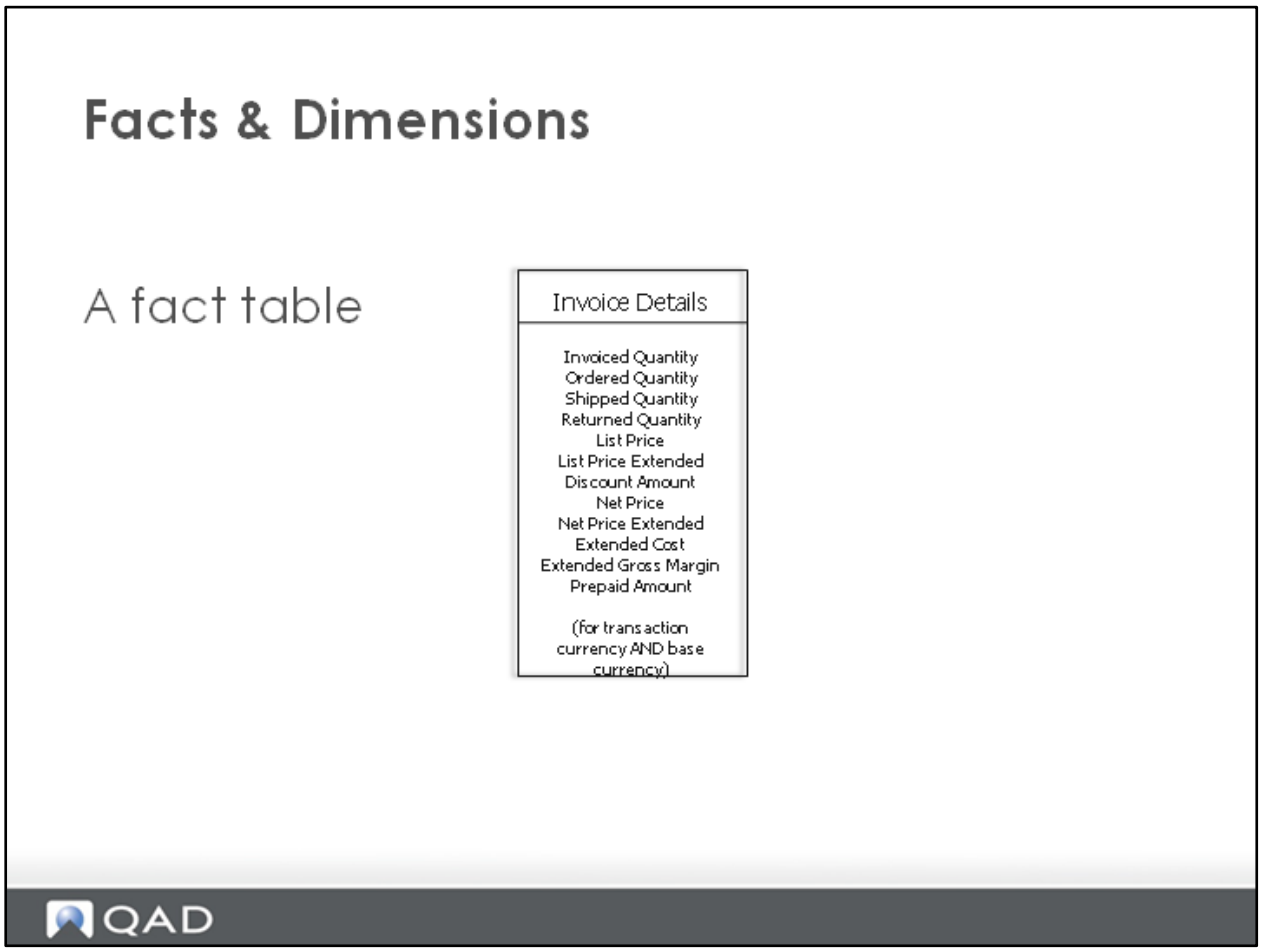
On-line Transaction Processing - OLTP



On-line Analytical Processing - OLAP

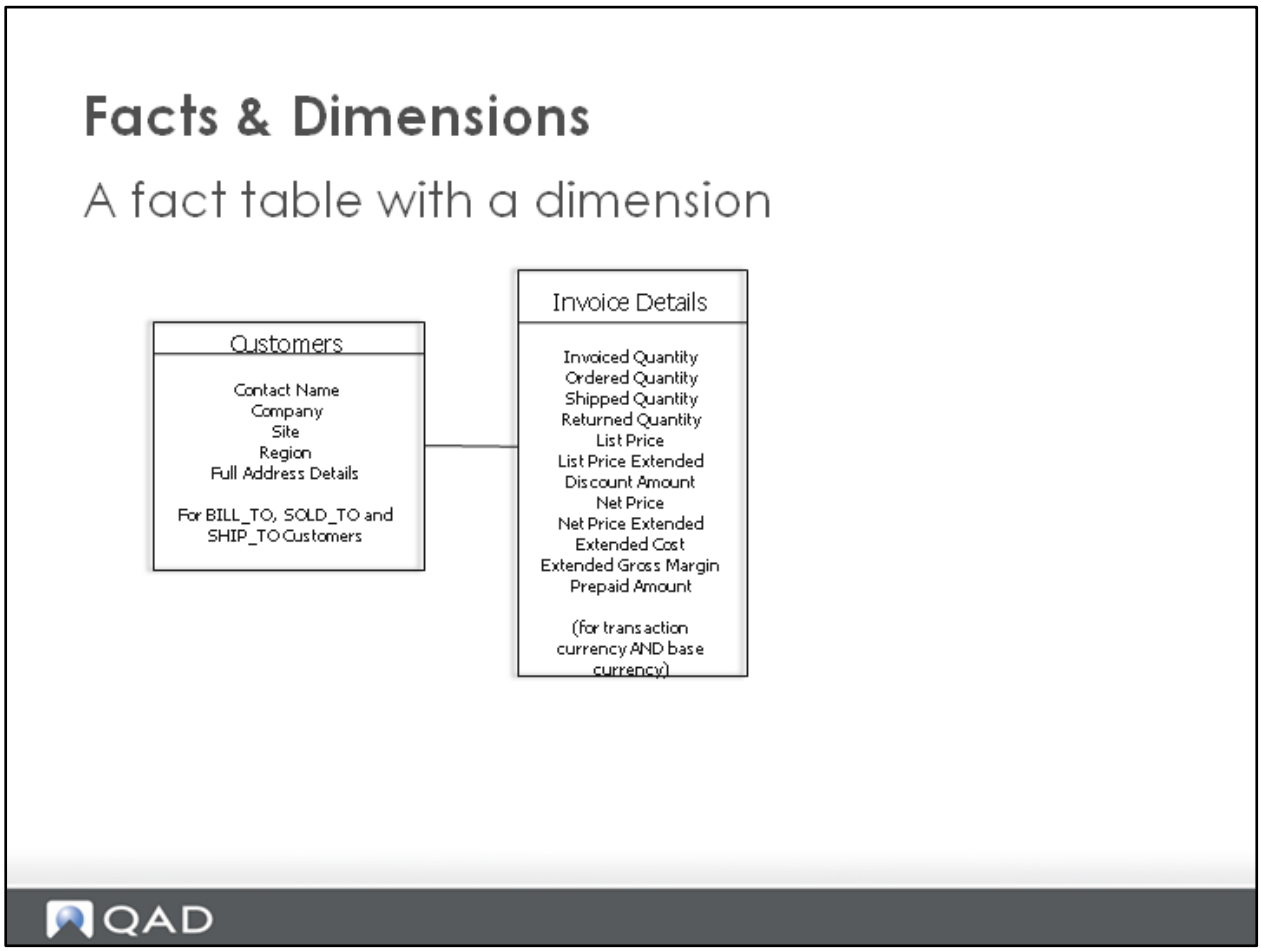


Facts & Dimensions



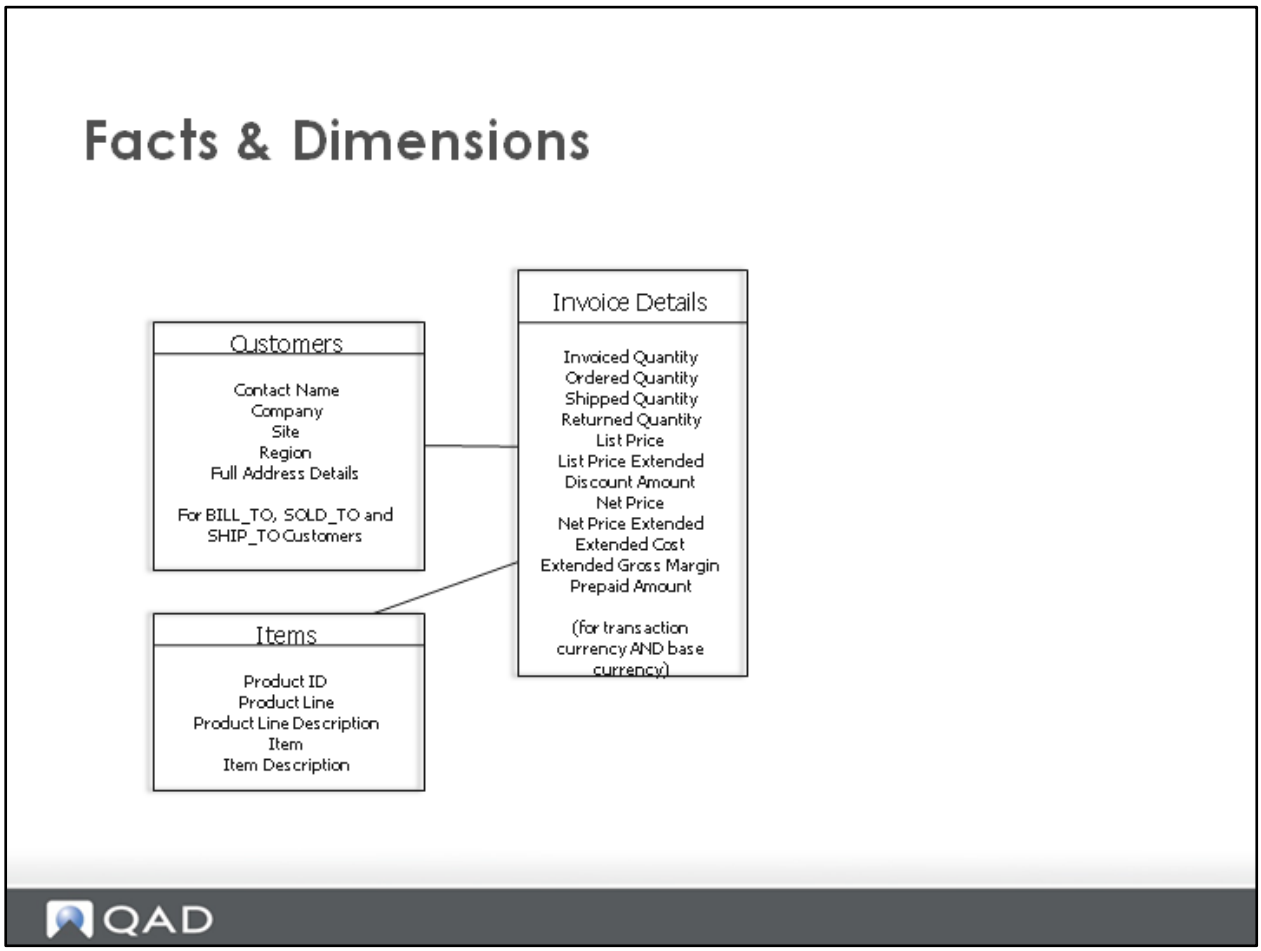
The object *Invoice Details* is a **Fact** table.

Facts & Dimensions



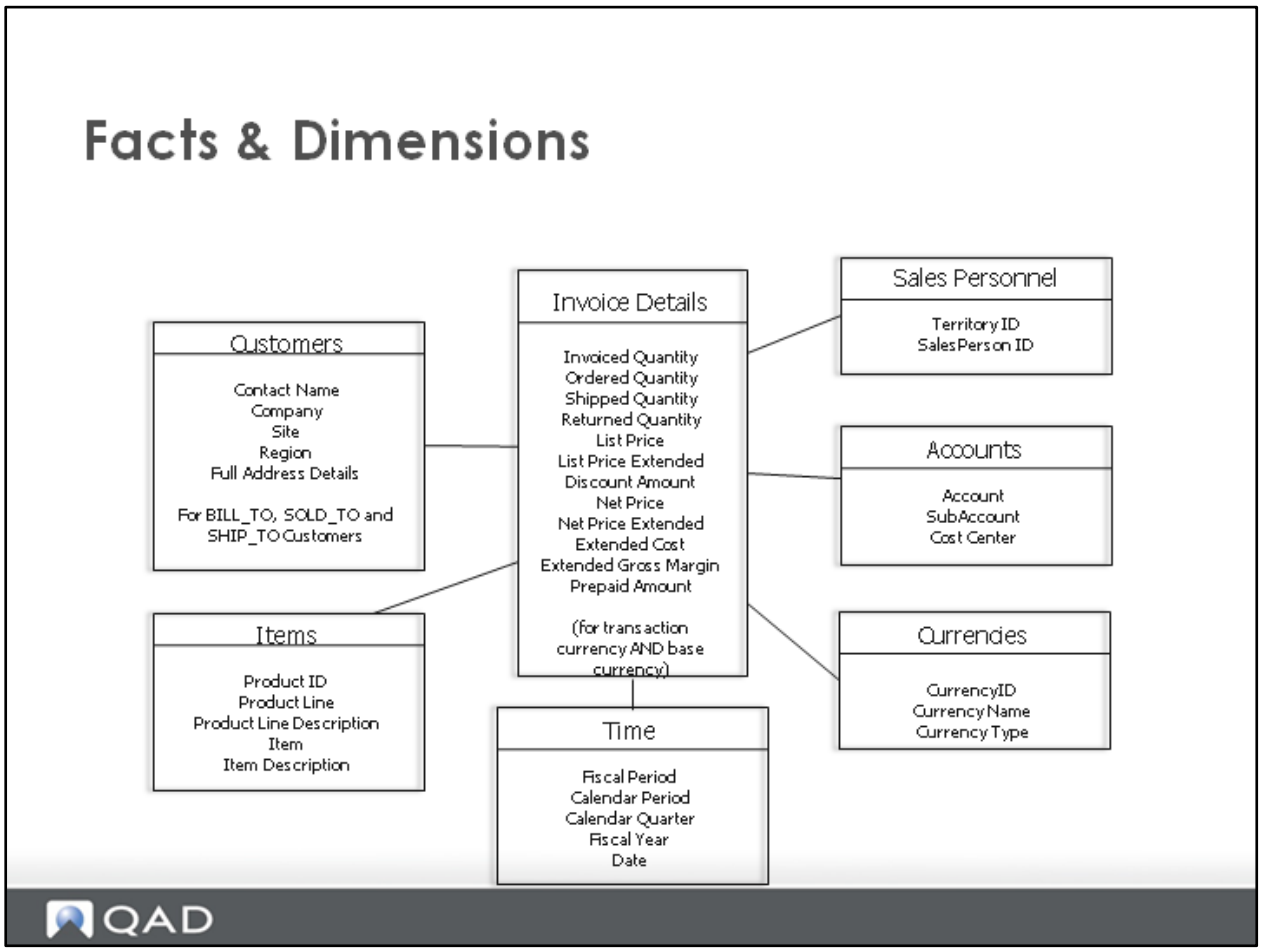
The object *Customers* is an example of a **Dimension** table.

Facts & Dimensions



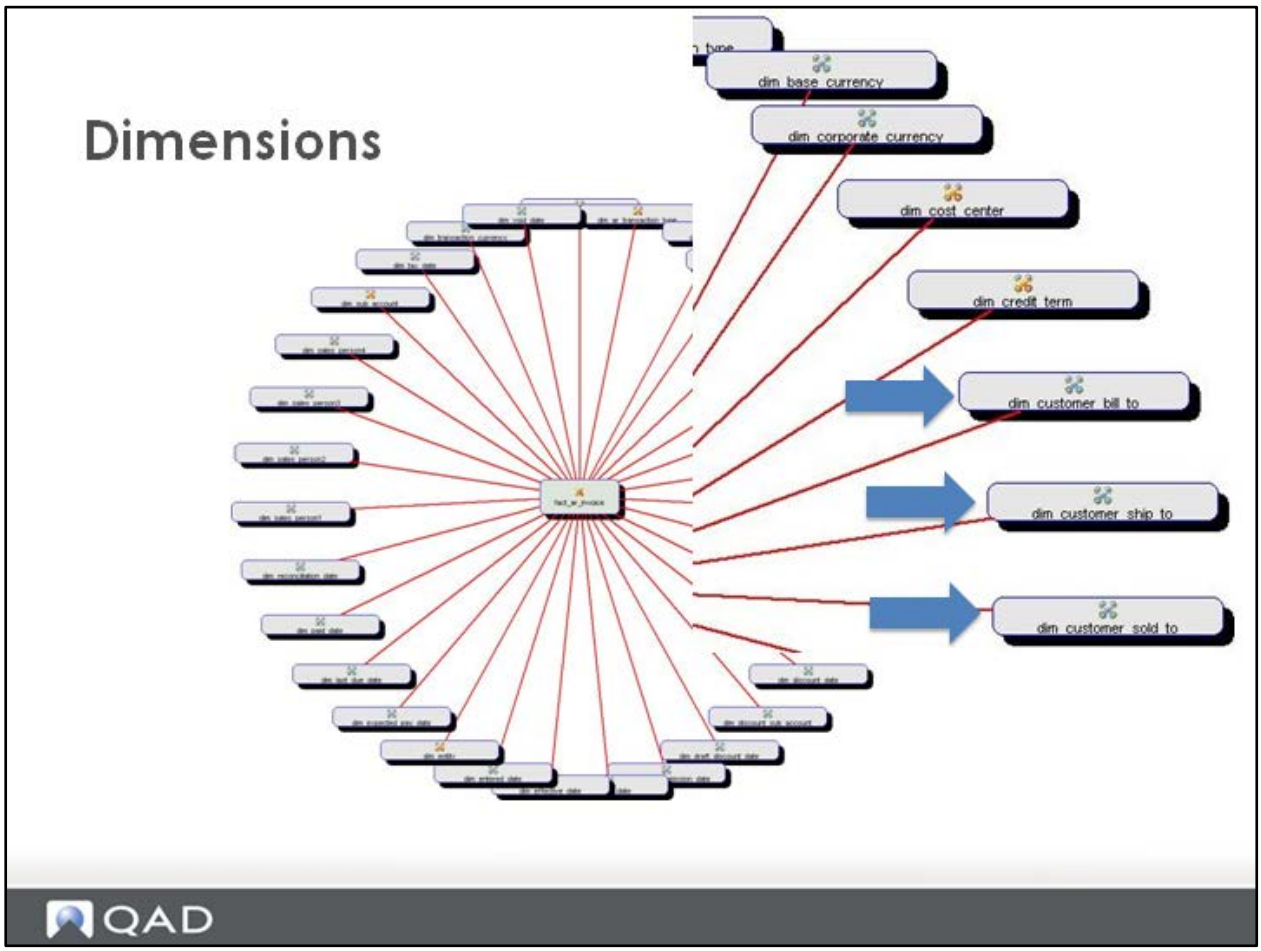
Items is another example of a **dimension** table.

Facts & Dimensions



Here are some other examples of dimension tables related to the fact table *Invoice Details.*

Dimensions



Dimensions are qualifiers of facts.

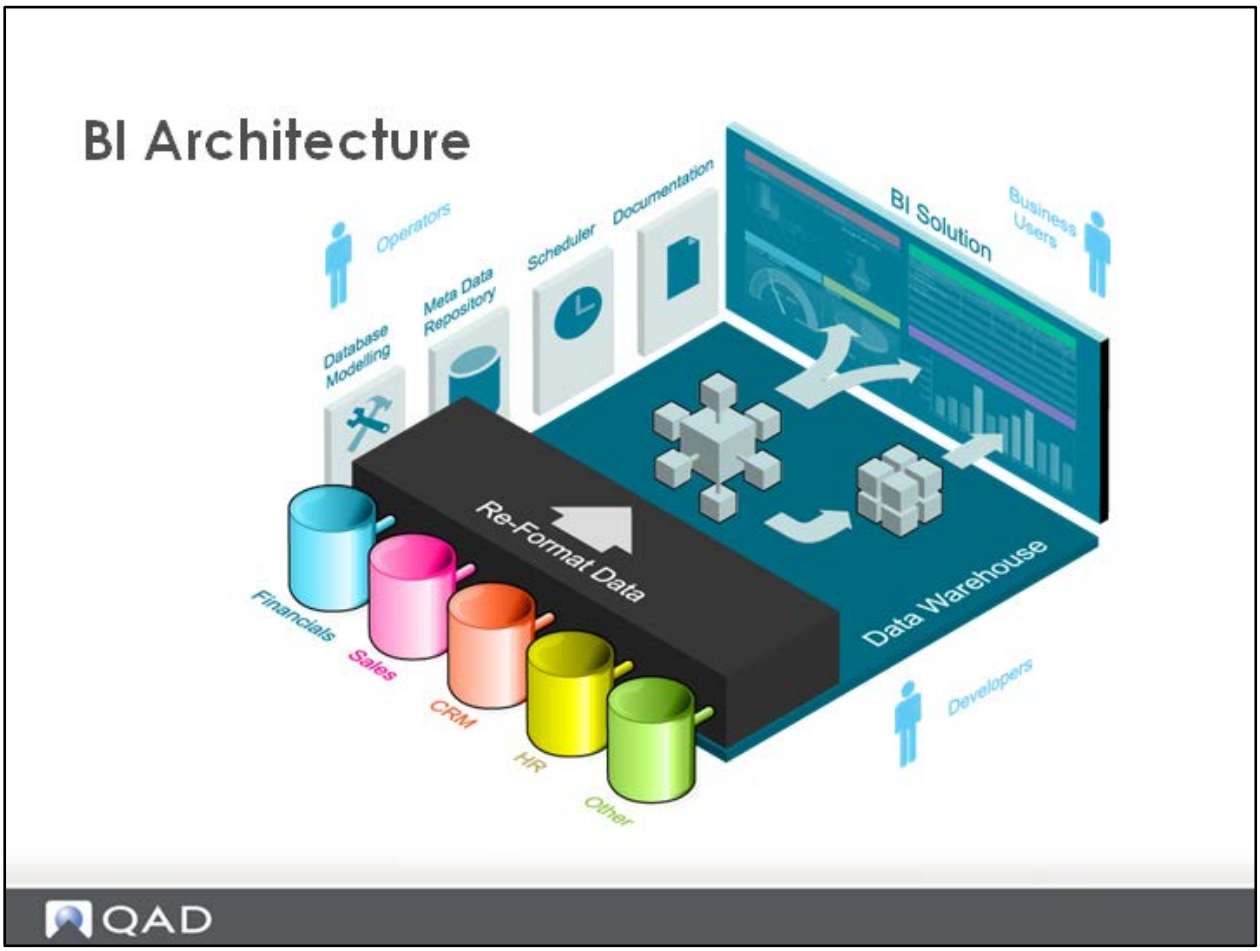
This diagram was produced using the QAD Data Warehouse Designer and one of the standard tools.

It is the fact_ar_invoice and all the related dimensions.

It is not important that you know which dimensions are available for each fact table. For standard QAD functionality, any dimension you need will generally be available.

The dimension tables shown in focus is an example of *dimension **views***. A view makes it possible to look at a common file in different ways.

BI Architecture

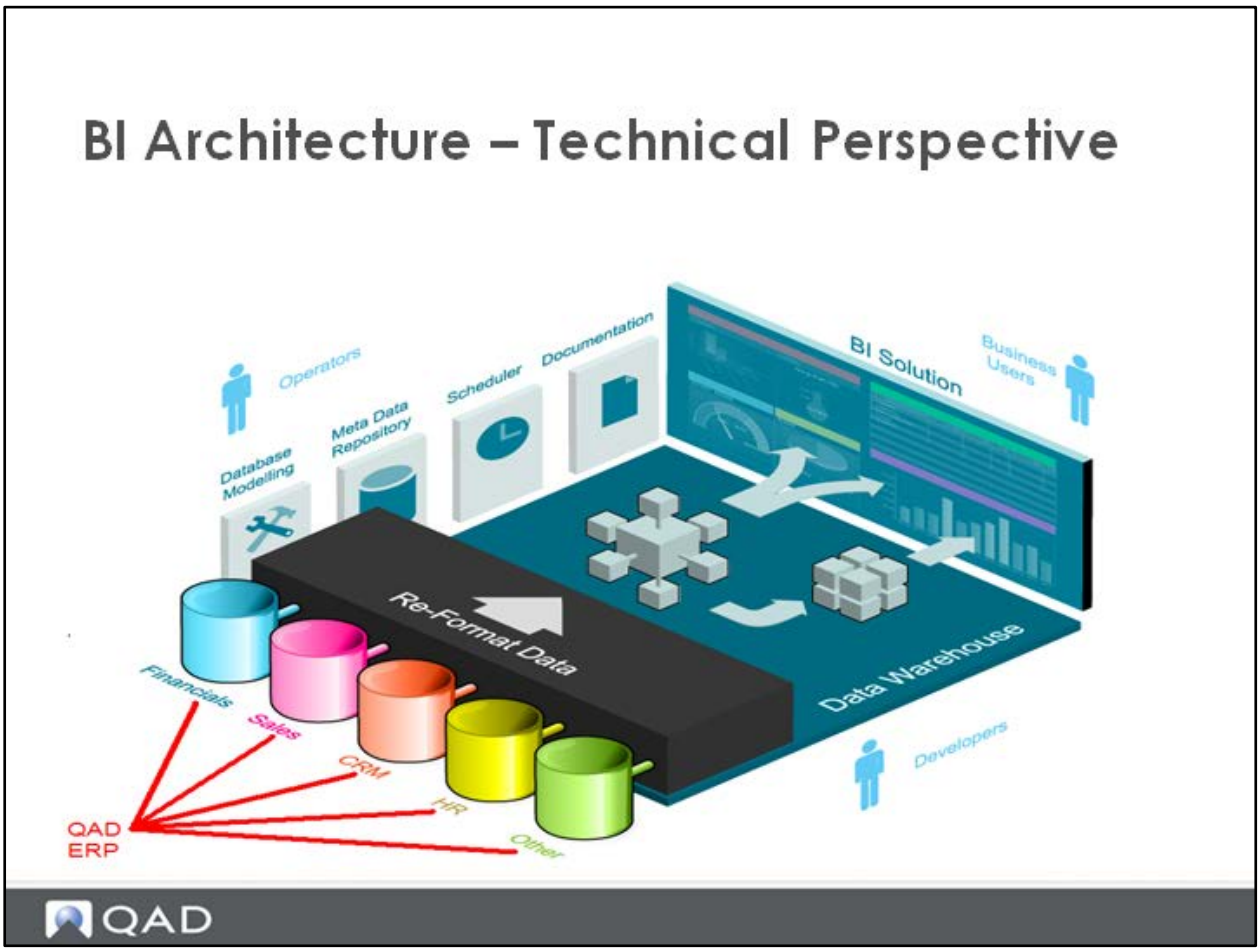


The last piece of the BI puzzle is Documentation.

The QAD DWD can automatically generate both technical and end-user documentation.

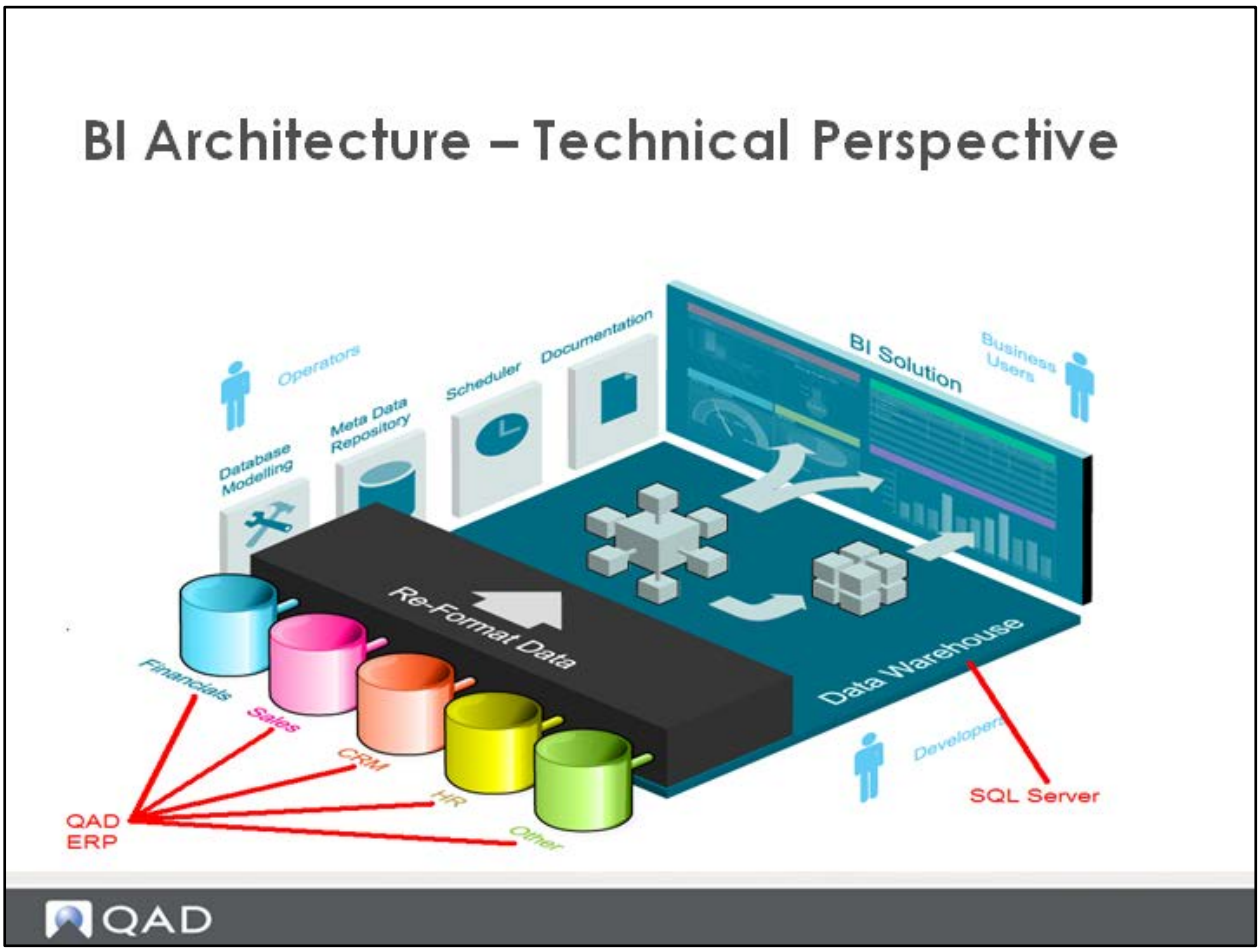
It also is our ETL tool. This is the structure of from the perspective of the DWD.

BI Architecture – Technical Perspective



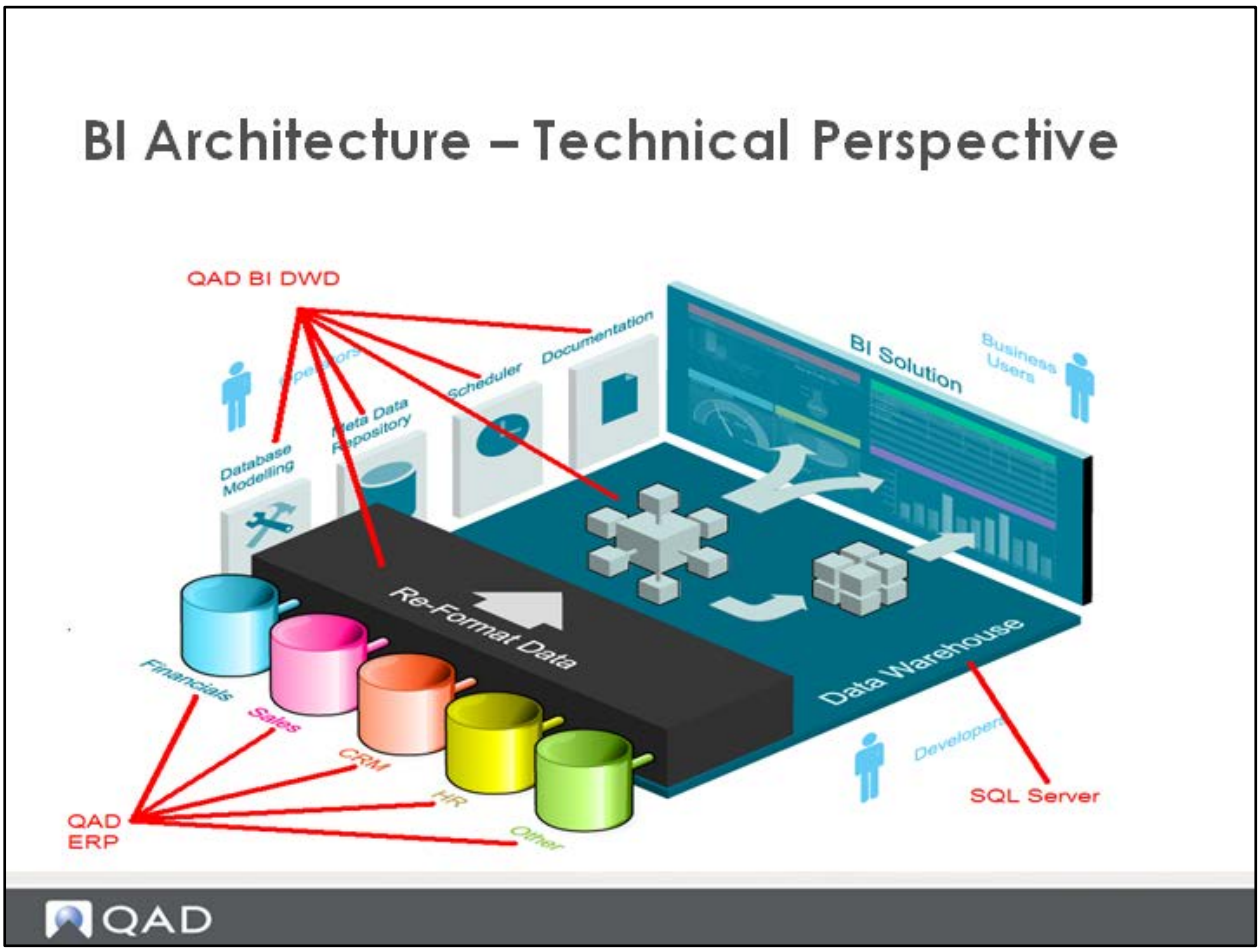
The QAD ERP Progress tables are the source of most of the data for our BI Modules.

BI Architecture – Technical Perspective



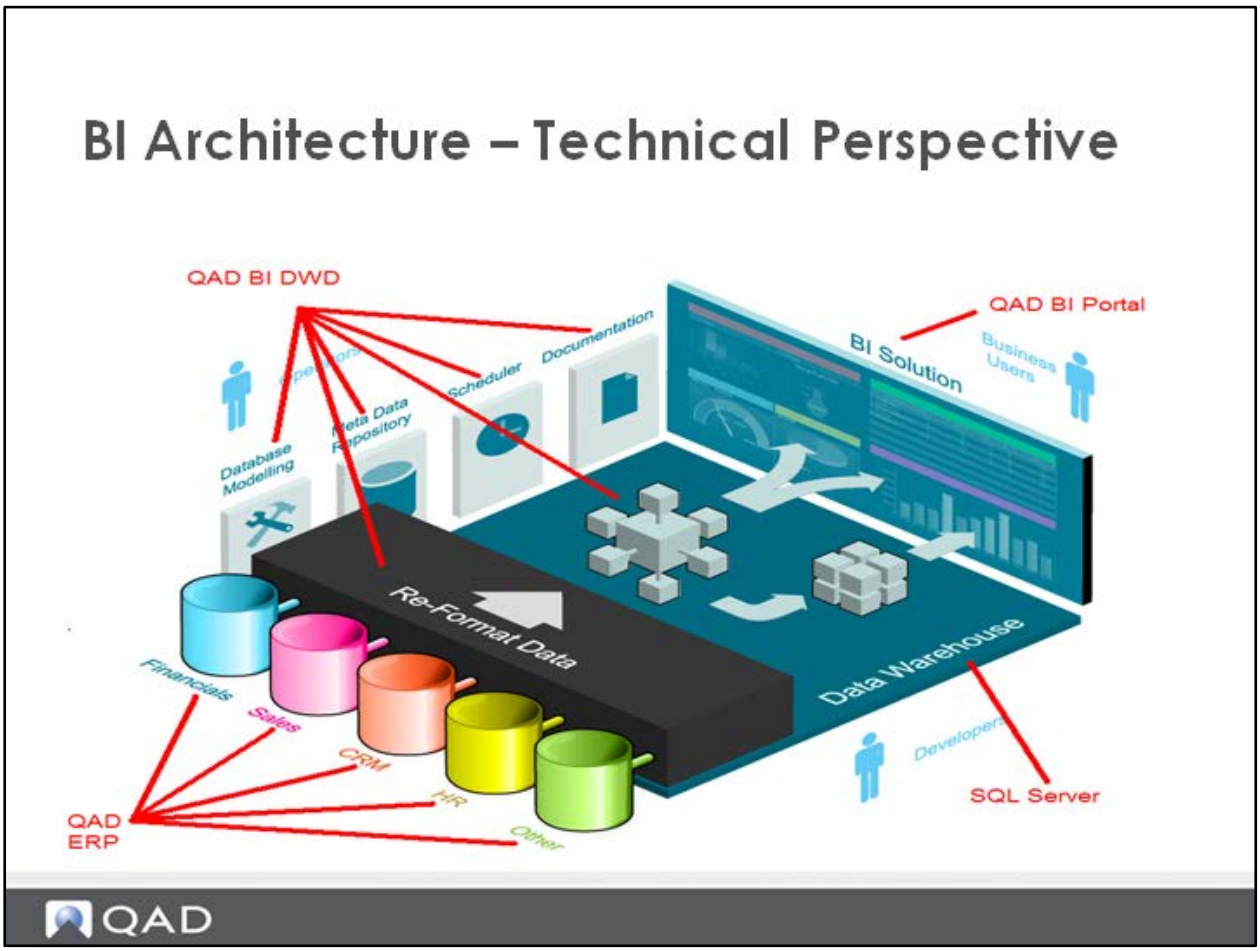
SQL Server is the underlying database that the data warehouse resides in.

BI Architecture – Technical Perspective



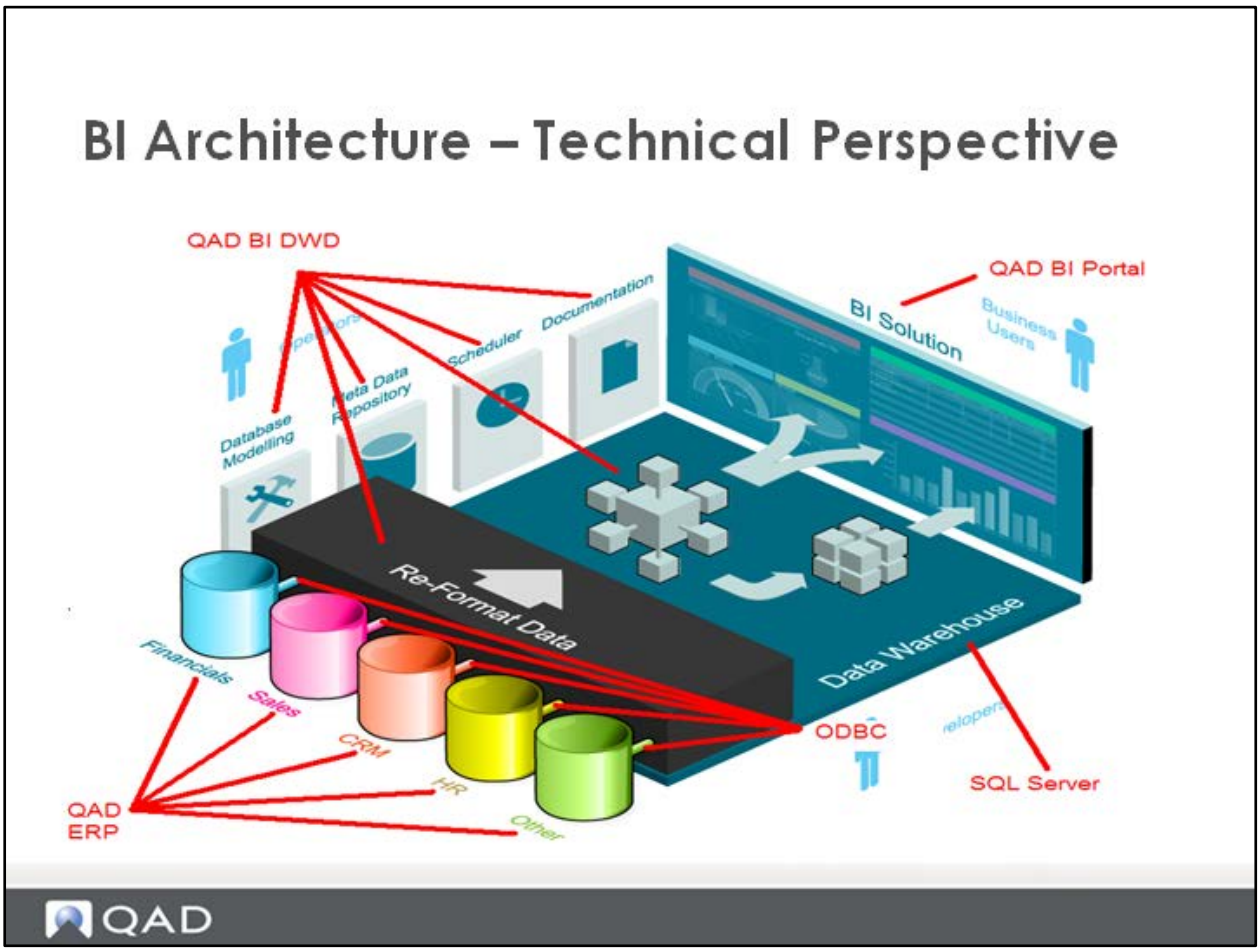
QAD BI DWD (Data Warehouse Designer) is the ETL tool that provides the means for Extraction, Transformation and Loading of data into the data warehouse. The DWD maintains all the metadata about the data warehouse tables as well as documentation, scheduling and anything else controlling the construction and building of the warehouses.

BI Architecture – Technical Perspective



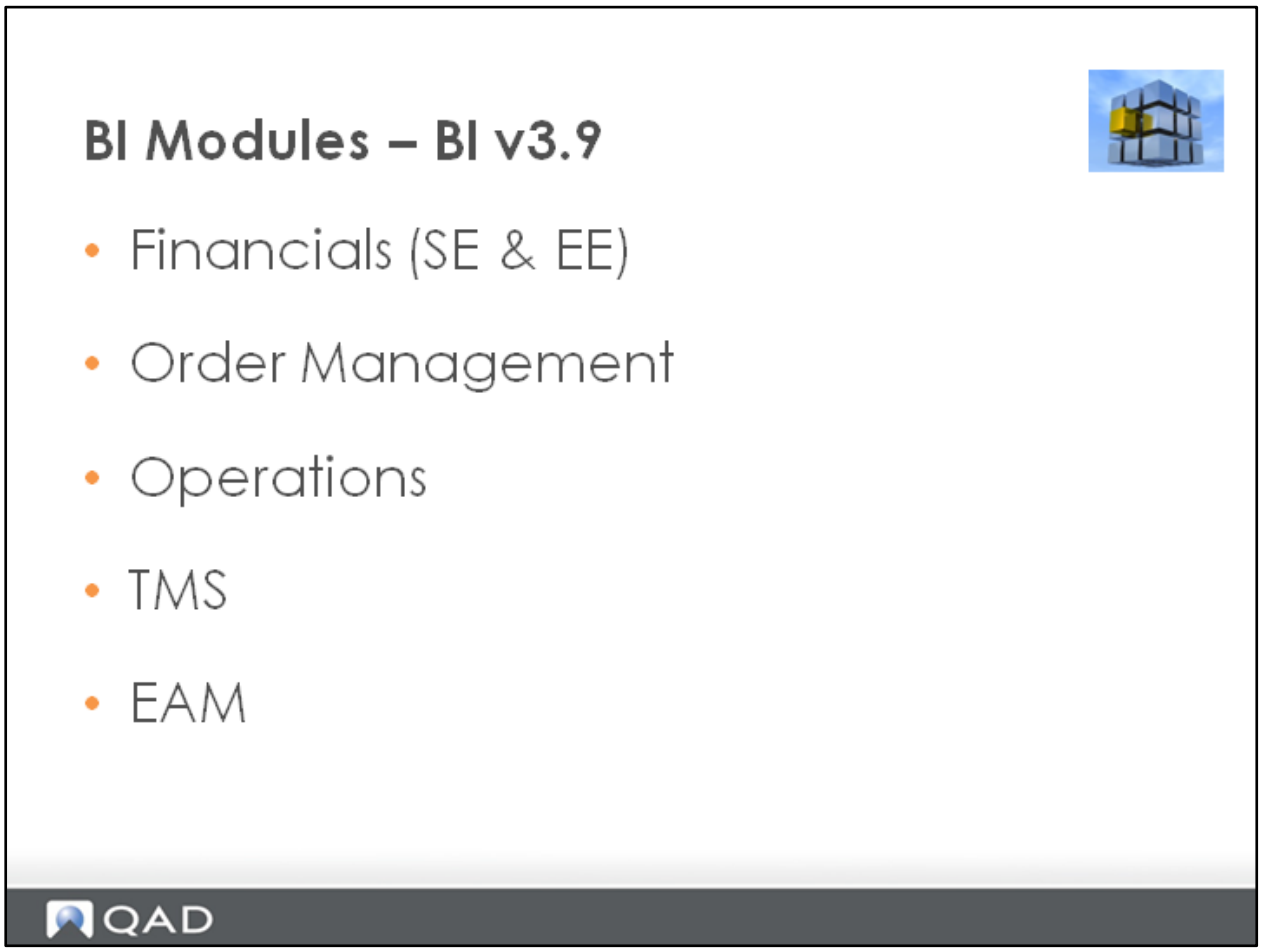
The QAD BI Portal is the front end web based portal GUI for Business Users to access the data in the data warehouse and see it in useful ways such as reports, charts, graphs and spreadsheets.

BI Architecture – Technical Perspective



The data flows from the ERP into the data warehouse via ODBC connections between SQL Server and Progress.

BI Modules – BI v3.9



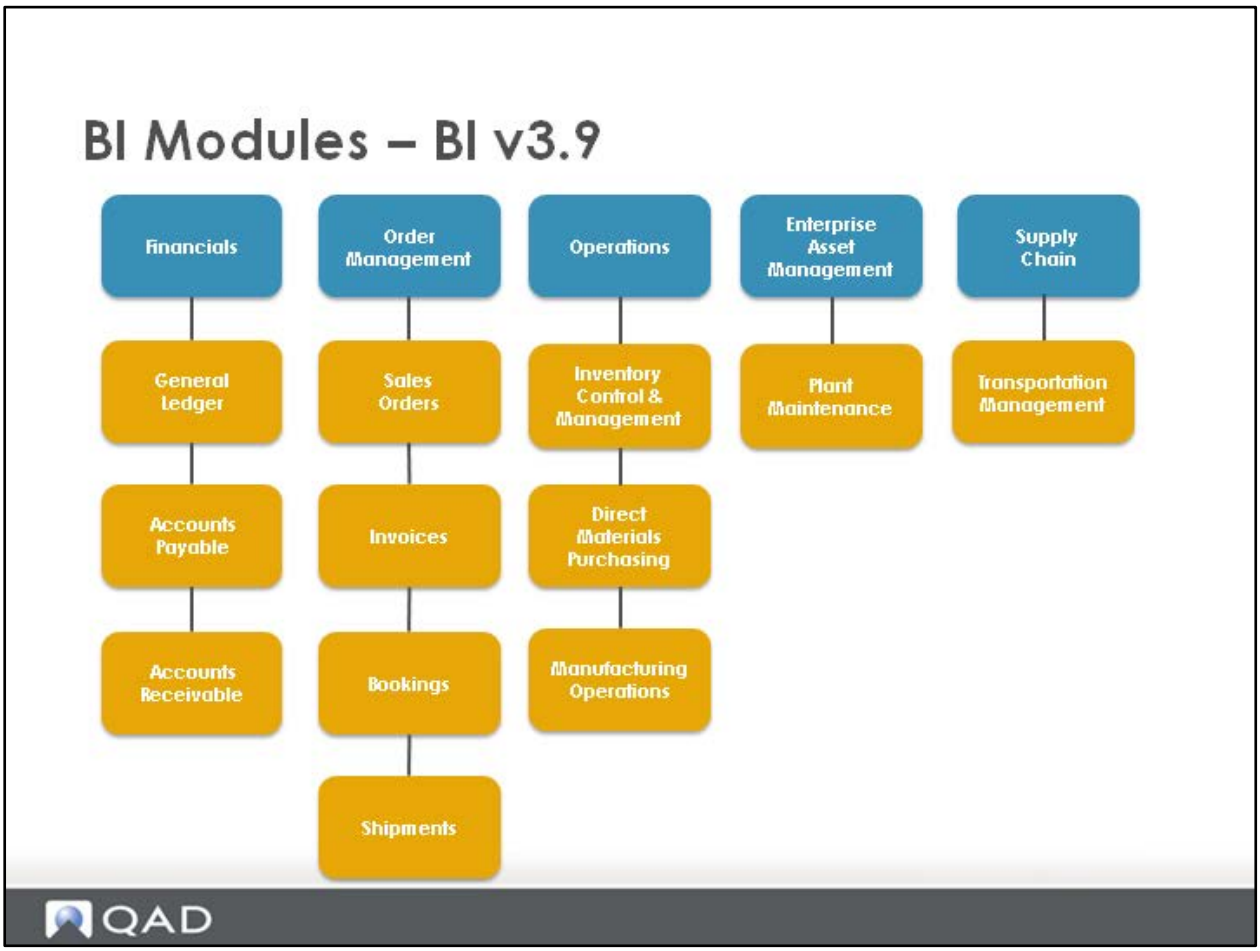
Key Concept:

The BI solution provides out-of-the box ERP and EAM "aware" modules. This streamlines access to current and historical QAD ERP data.

Current modules are:

- Financials (SE & EE)
- Order Management
- Operations
- TMS
- EAM

BI Modules – BI v3.9



Key Concept:

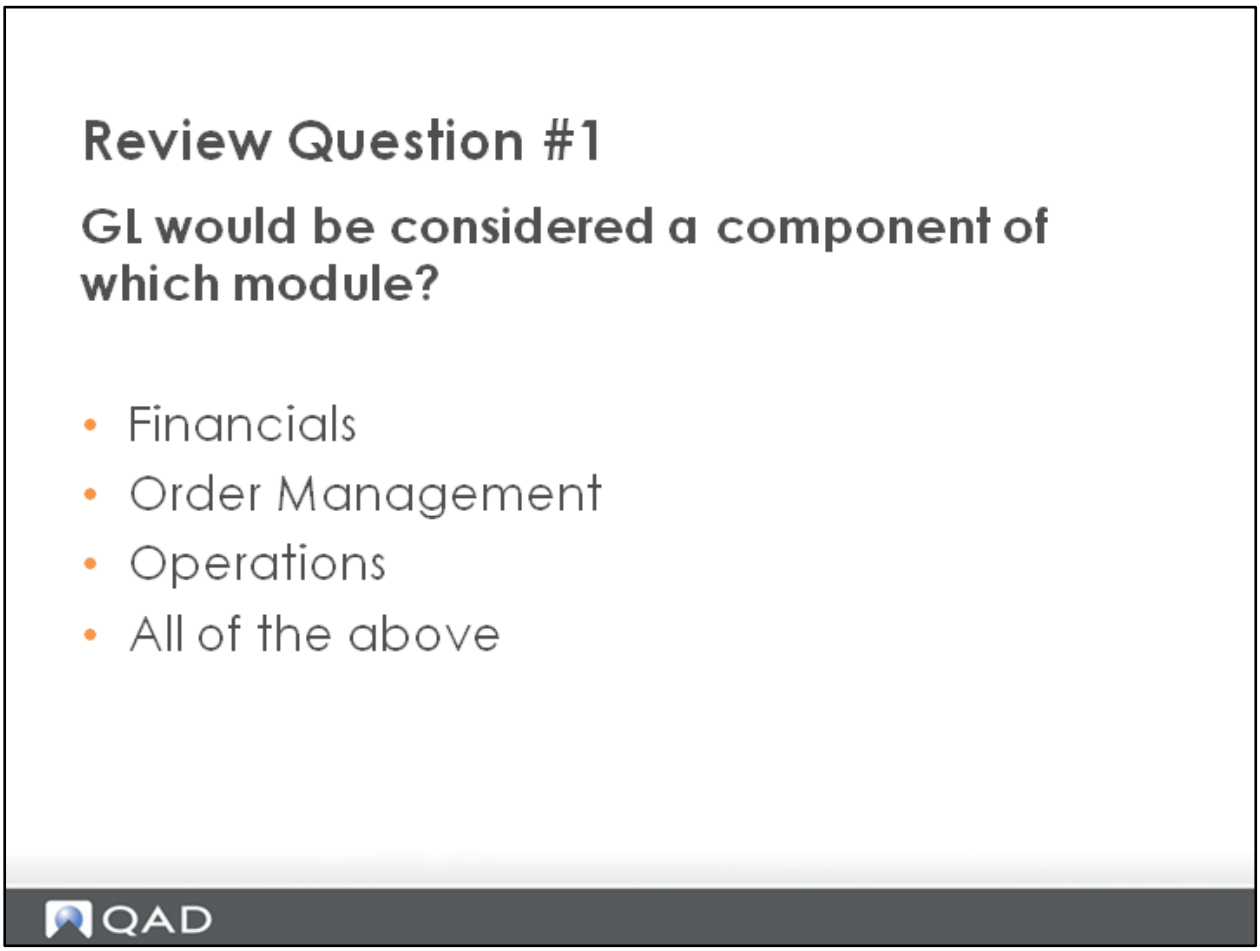
The BI solution provides out-of-the box QAD application "aware" modules. This streamlines access to current and historical QAD source data.

Current modules are as of the BI3.7 release are:

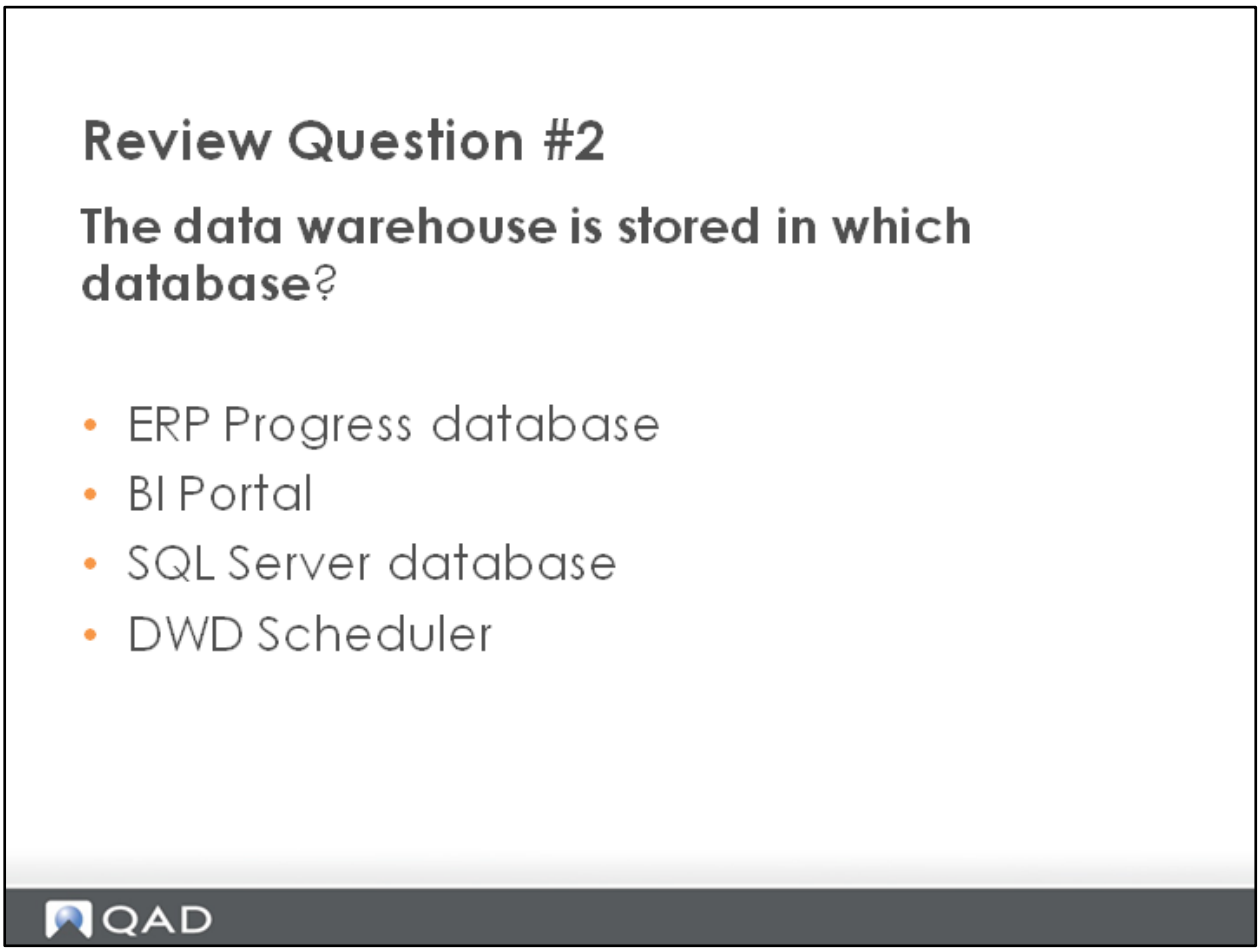
- Financials (SE & EE)
- Order Management
- Operations
- Enterprise Asset Management
- Supply Chain

Most modules have 1-4 submodules in the BI v3.7 release. Refer to the most recent Release Qbit for updated module information.

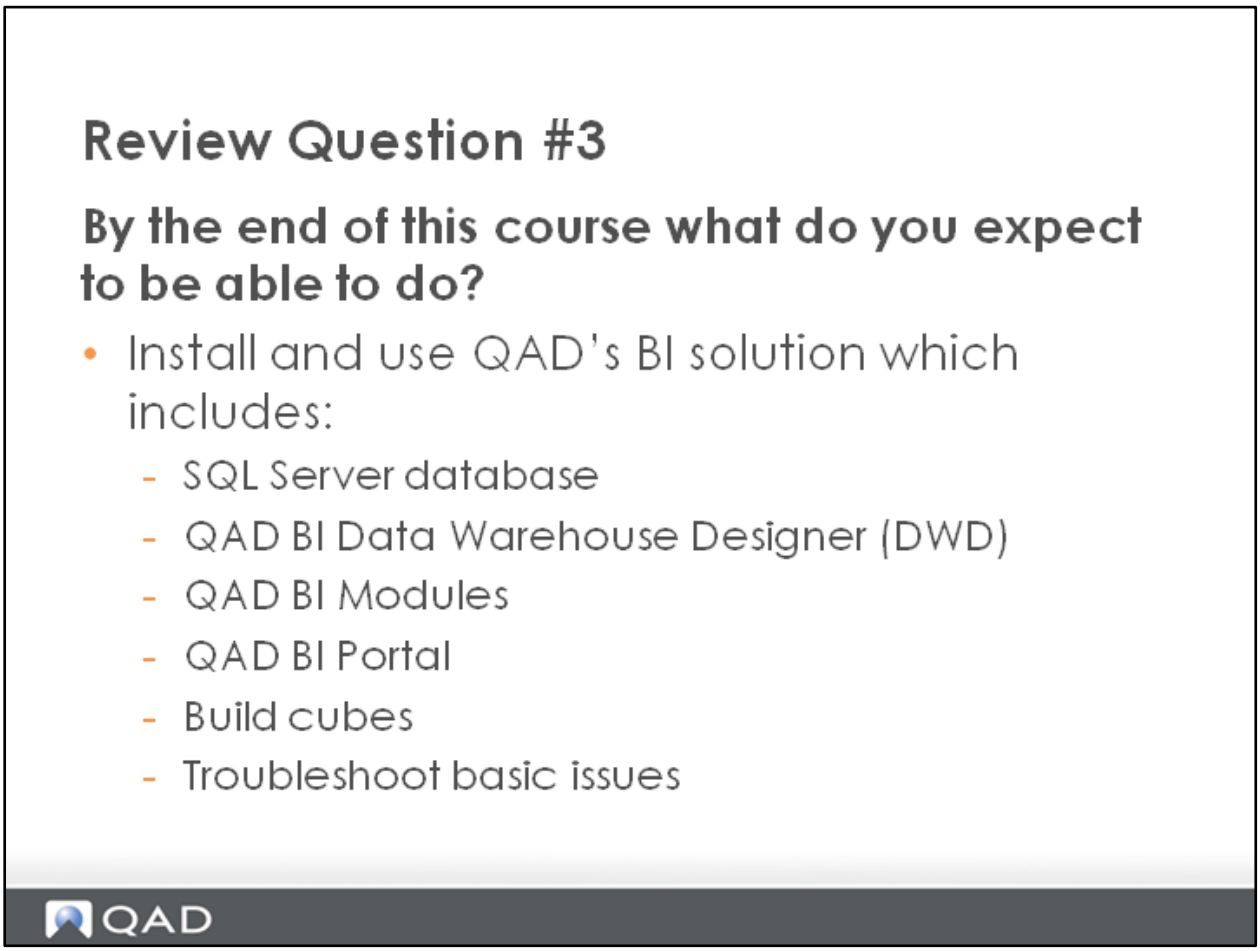
Review Question #1



Review Question #2



Review Question #3



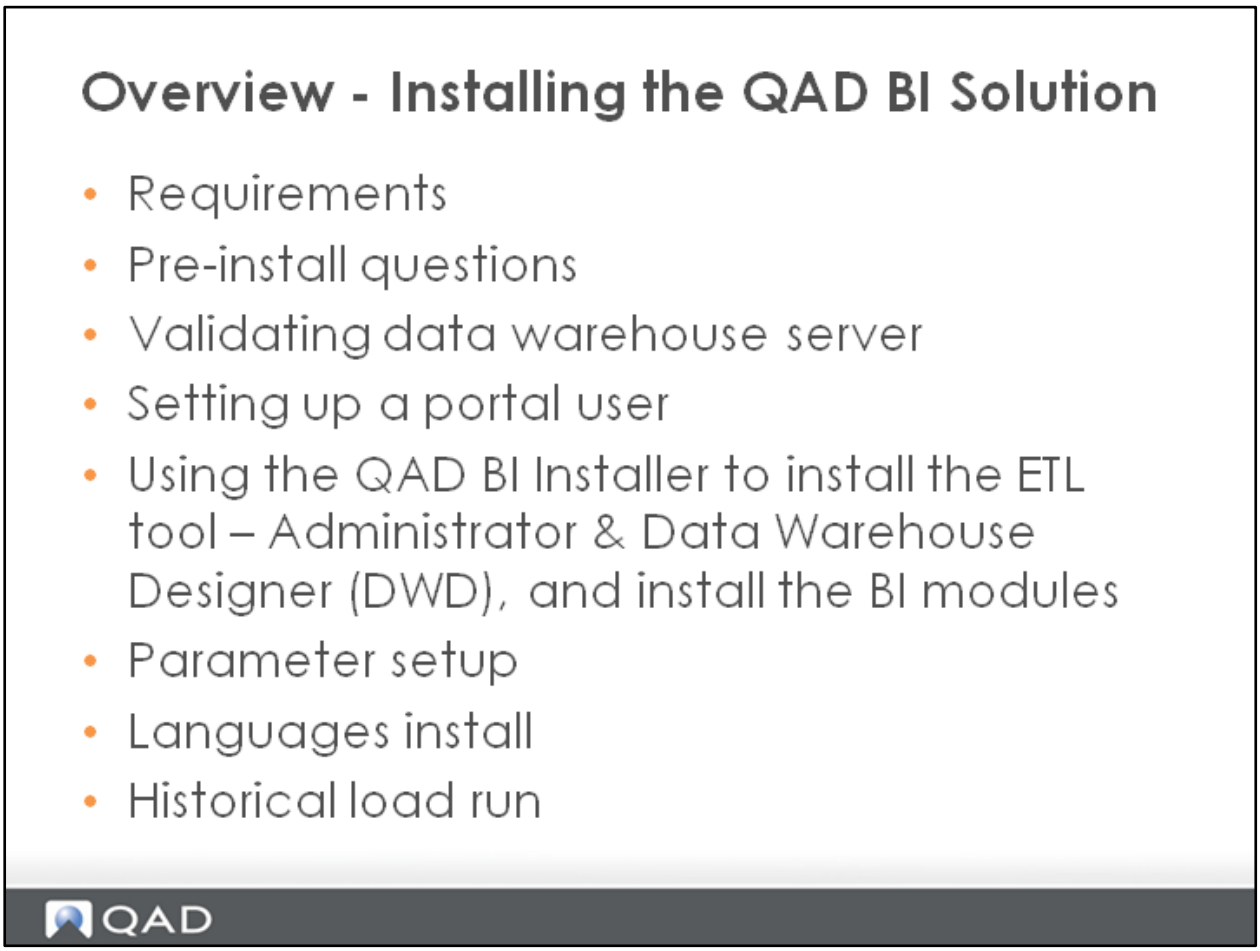
In Review – BI Overview



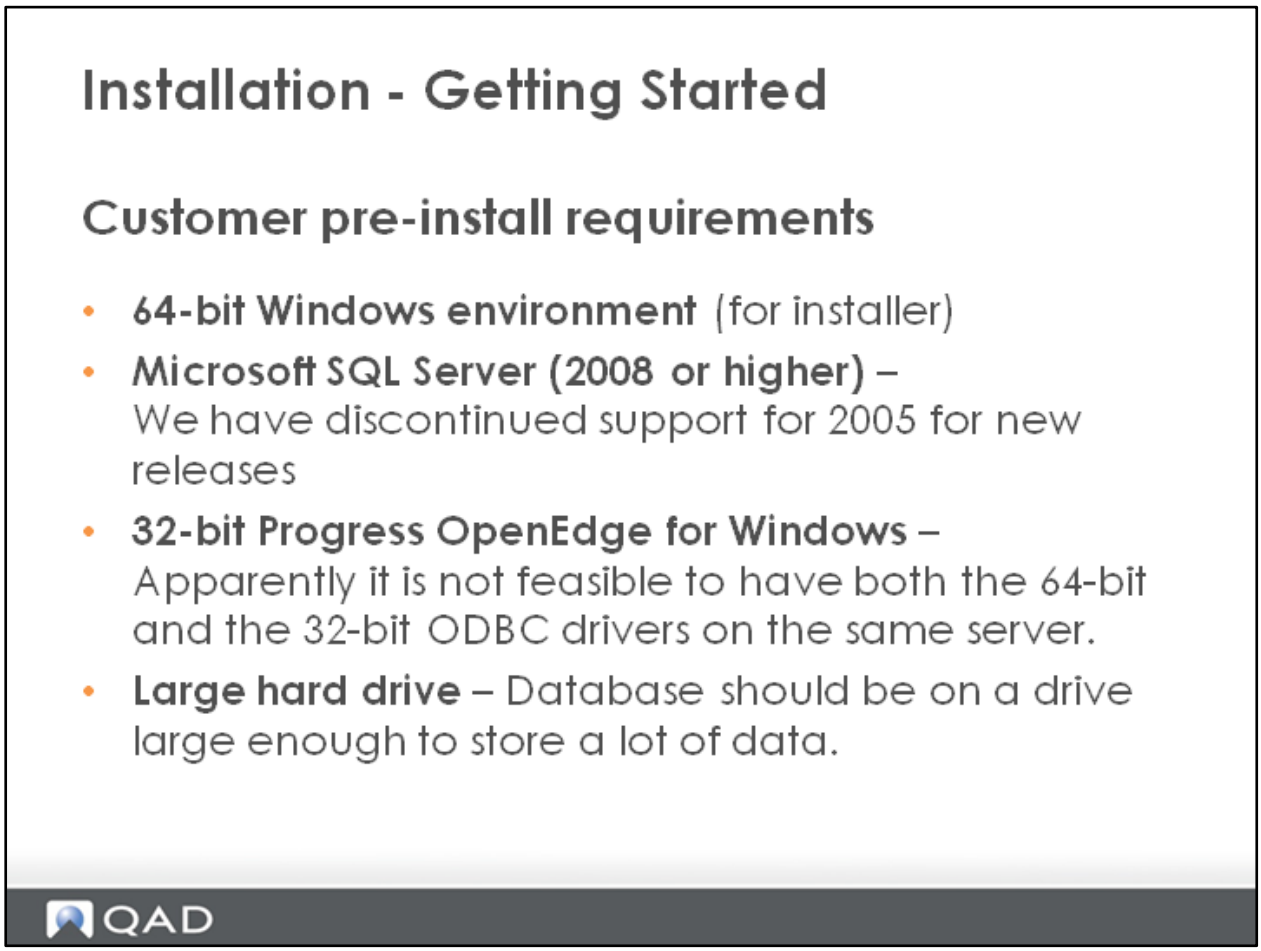
Installing the QAD BI Solution



Overview - Installing the QAD BI Solution



Installation - Getting Started



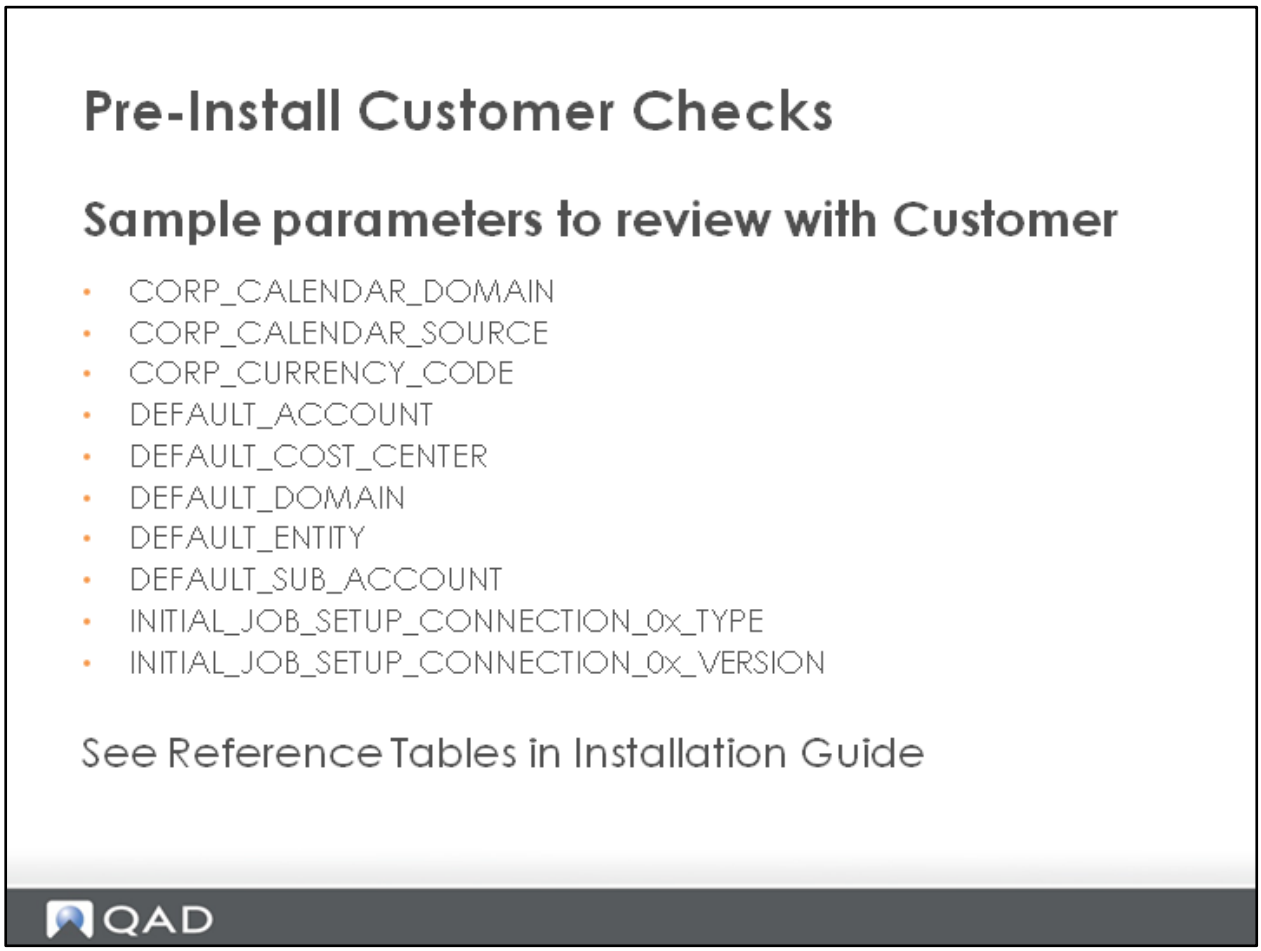
See sizing guidelines.

Keep in mind a table like tr_hist may have it's data spread across a perm table and many multiple fact tables.

So one table may be represented across 10 or more fact tables.

It's not uncommon to see a data warehouse that is 10 times as large as the ERP it's being sourced from.

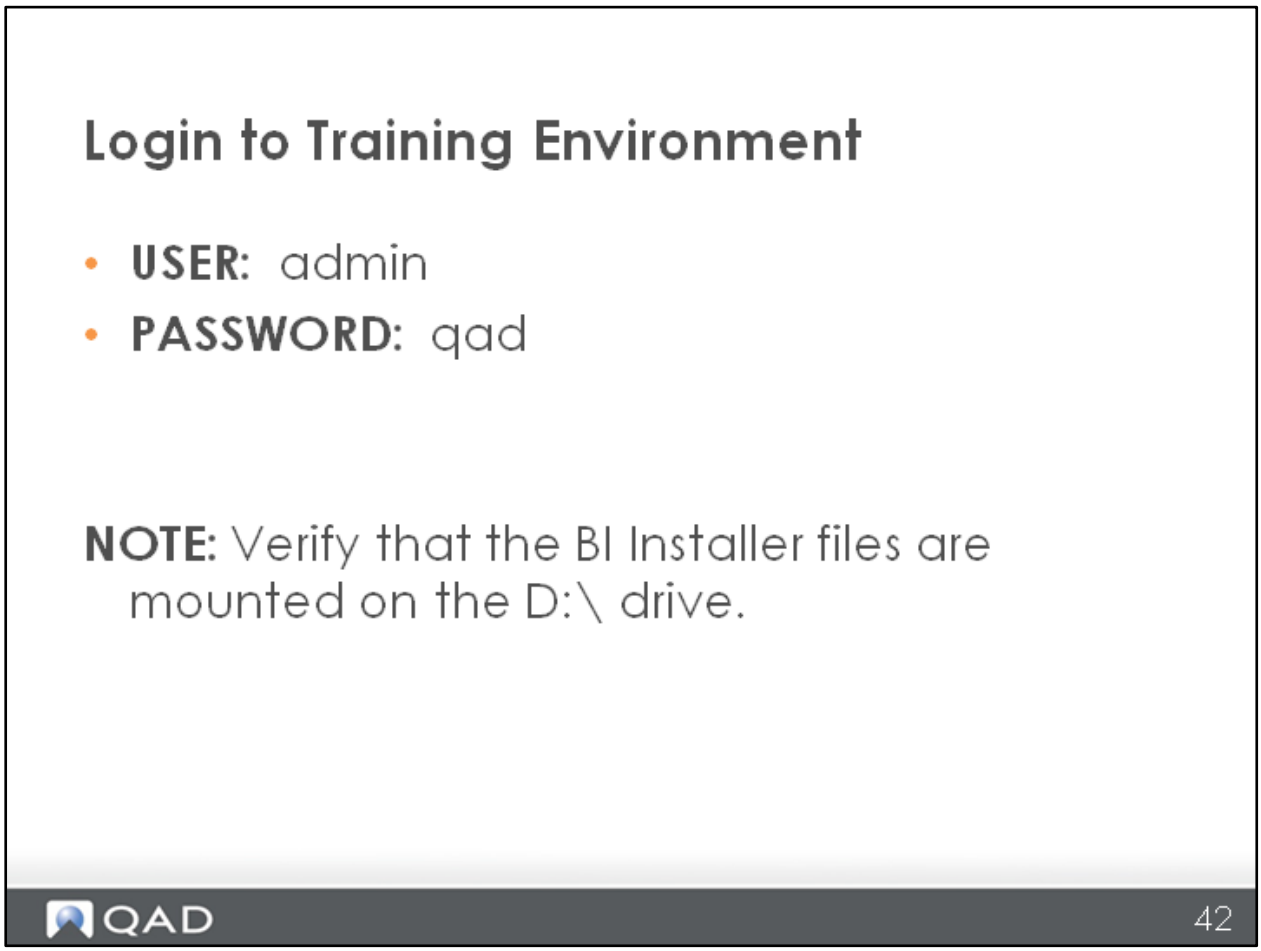
Pre-Install Customer Checks



The customer will need to clarify the values for these parameters for us to be able finish the installation.

- **Corporate Calendar Information** hinges on the source and domain. Ask the customer which source and domain they want their corporate calendar driven from. If they have multiple source and multiple domains, they are picking the master calendar by choosing whichever source and domain they choose.
- **Corporate Currency Code** is the currency that the customer wants to see consolidated results across all of their data sources into.
- **Default Accounting Parameters** are values assigned for unknown values, if there isn't available information to match to. Someone in accounting at the customer site needs to confirm that these values don't conflict with existing used codes for other accounting values.
- **INITIAL_JOB_SETUP_CONNECTION_0x_TYPE** is used to determine if the source of the data is an SE or EE installation.
- **INITIAL_JOB_SETUP_CONNECTION_0x_VERSION** is used to specify the EE release number (ex: 2013 for 2013.1).

Login to Training Environment

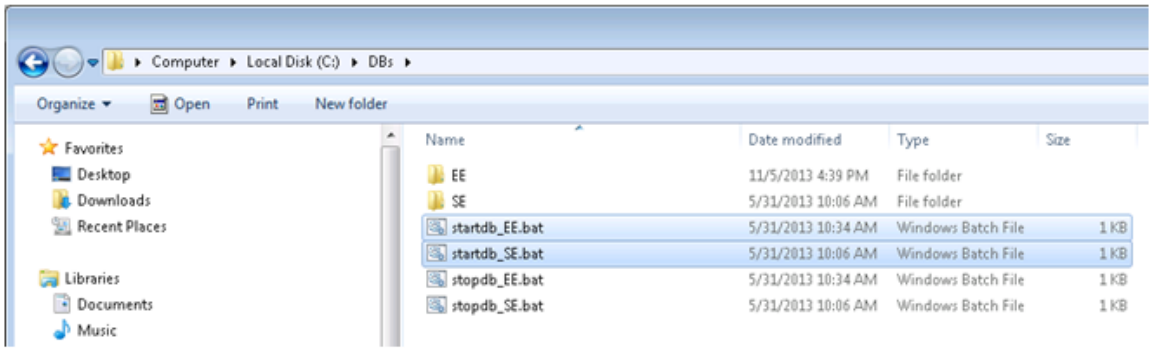


Prior to launching the training environment, it's critical to also attach the BI installer ISO image as part of the setup of that training environment. This may be already configured that way when the class is reserved.

Login to Training Environment

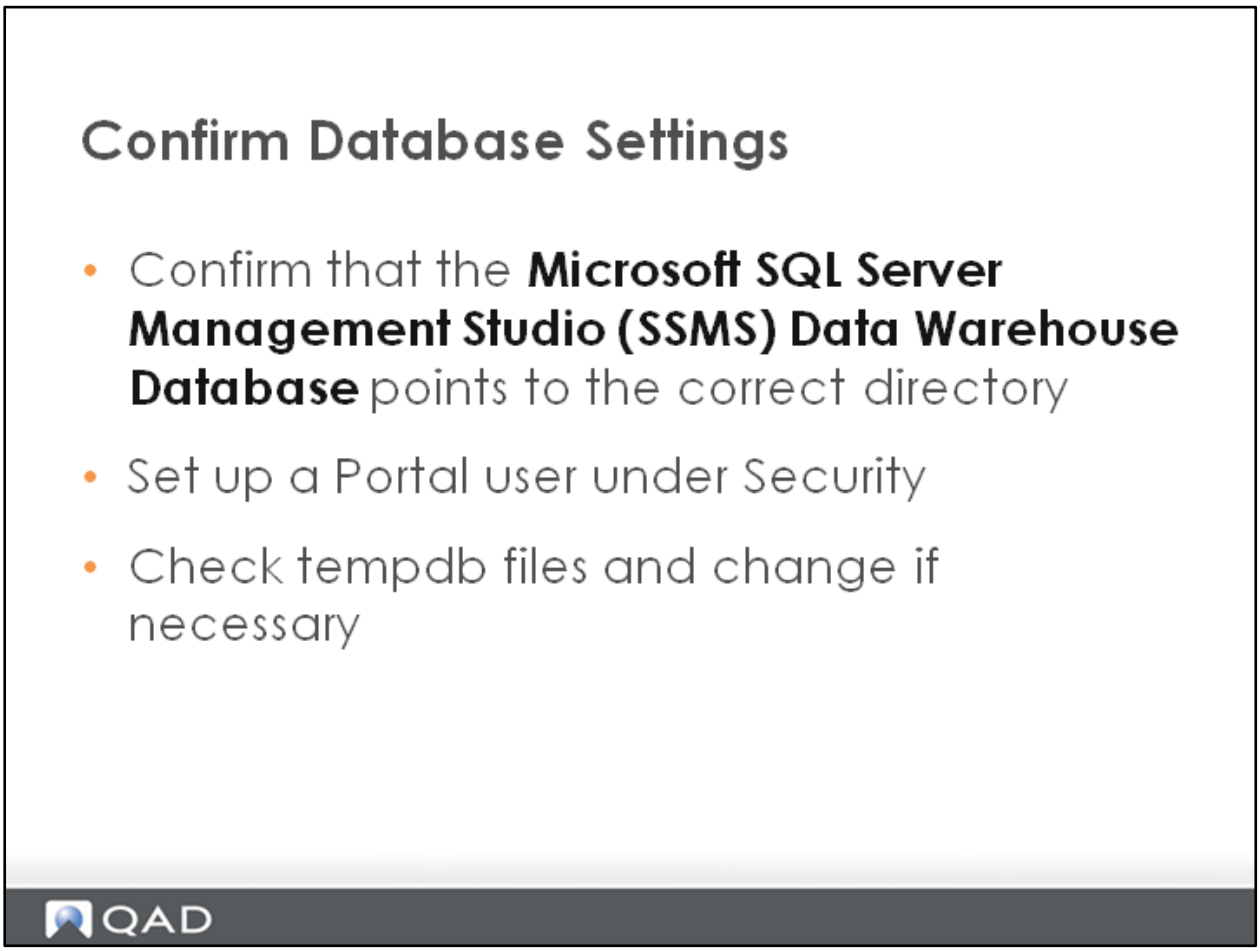
Login to Training Environment

- Start EE & SE Progress Databases
  - Double-click on C:\DBs\startdb_EE.bat
  - Double-click on C:\DBs\startdb_SE.bat



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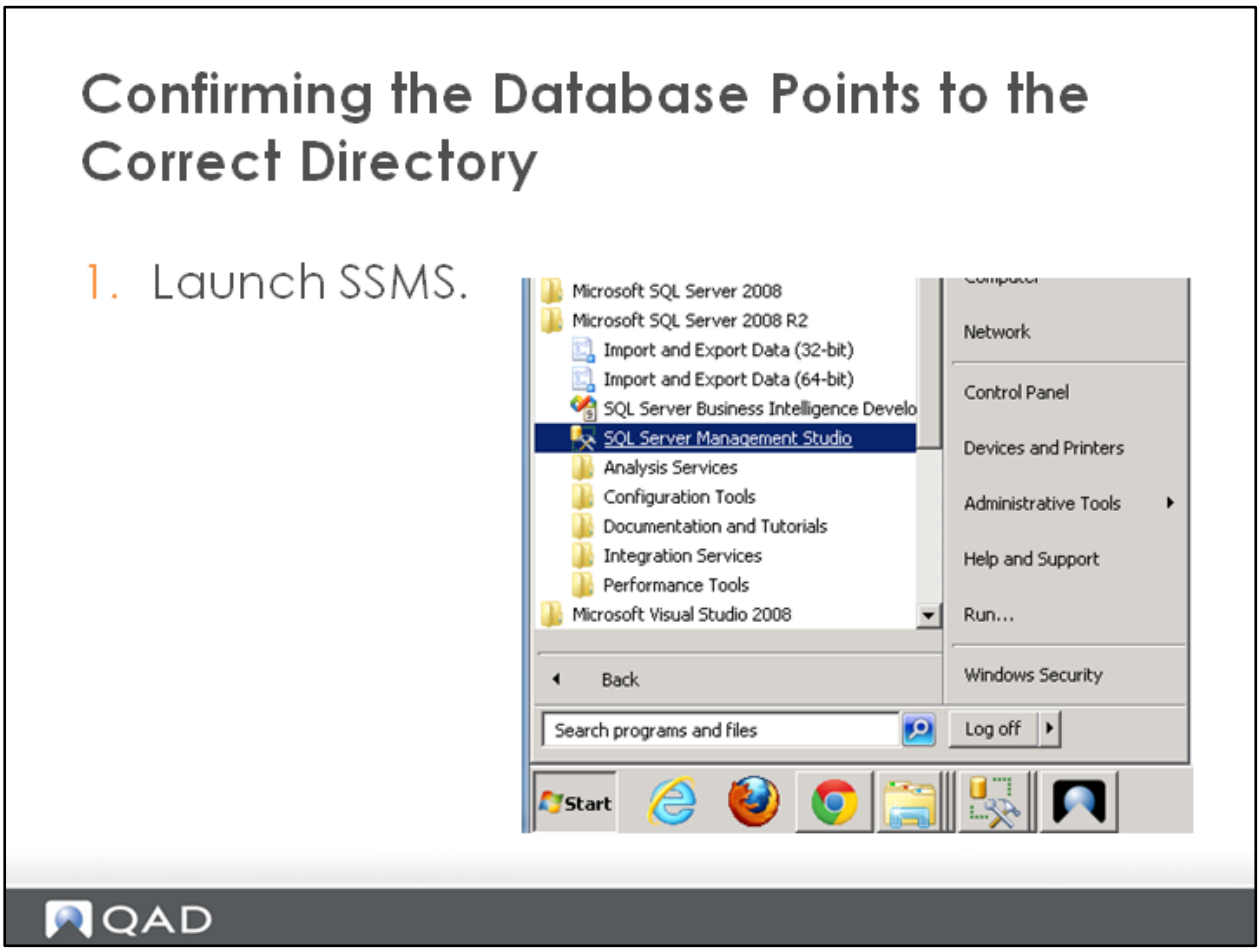
Confirm Database Settings



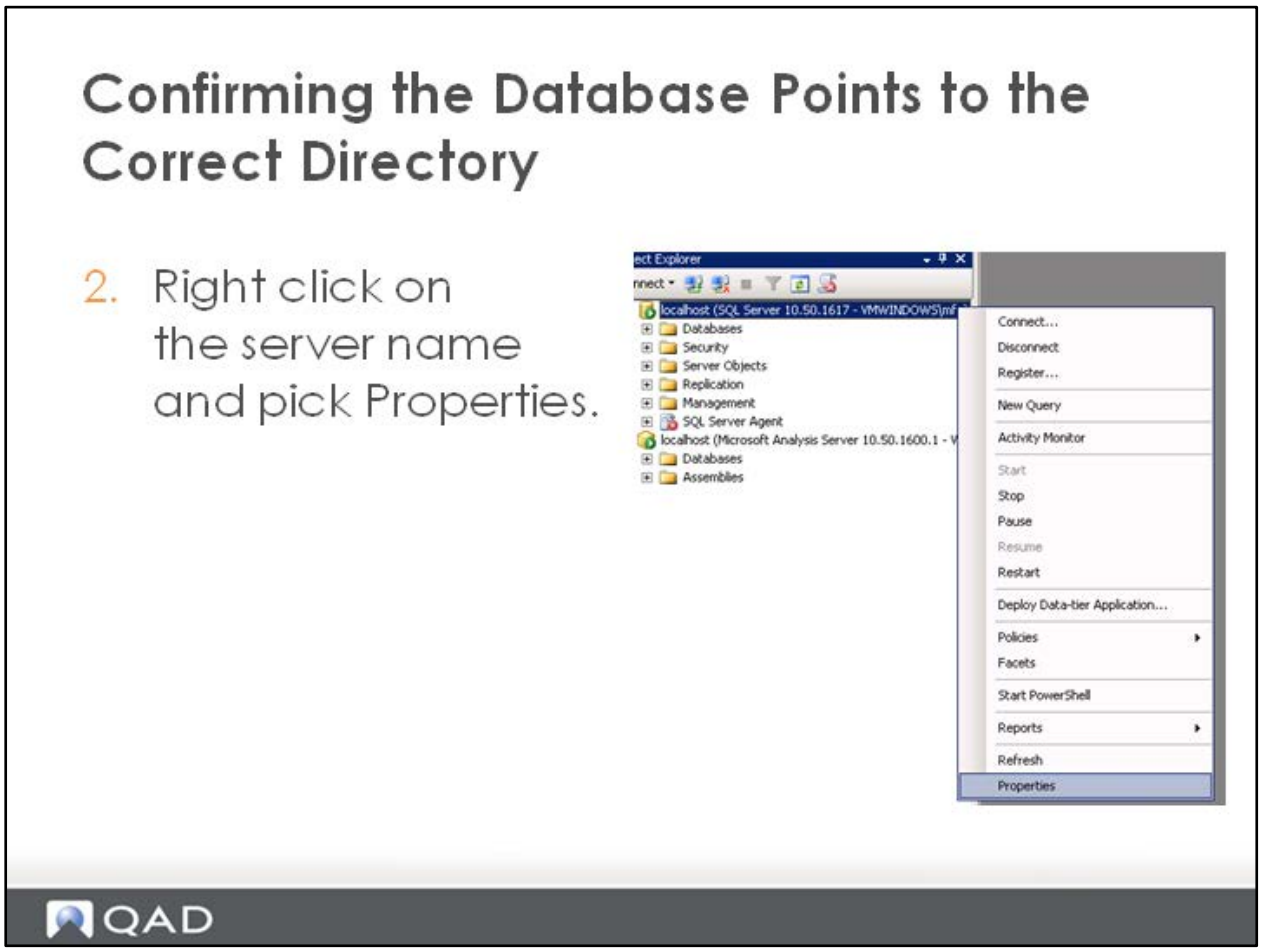
For the storage settings set up a directory in the E:\ drive.

E:\mssql\data

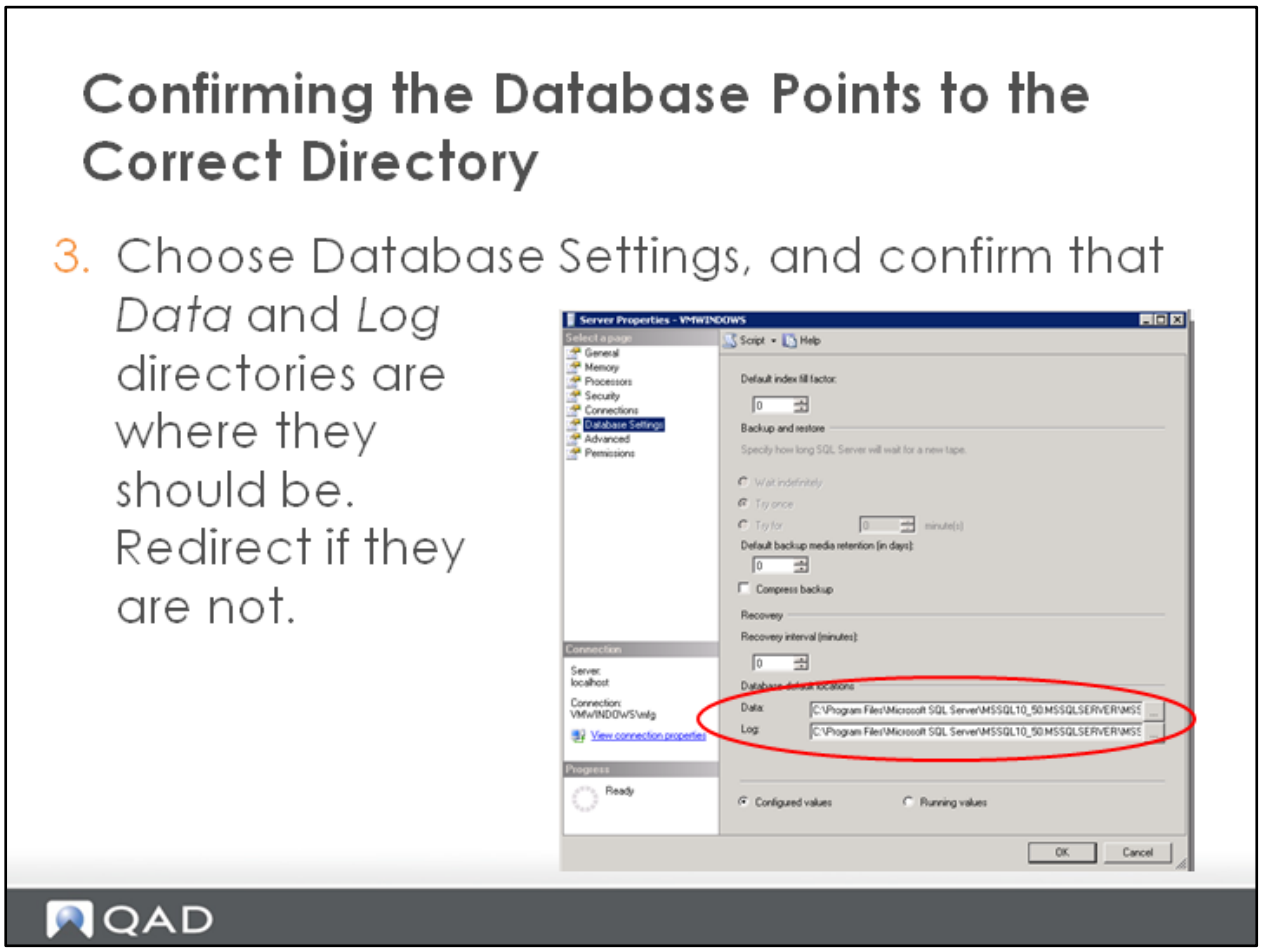
Confirming the Database Points to the Correct Directory



Confirming the Database Points to the Correct Directory



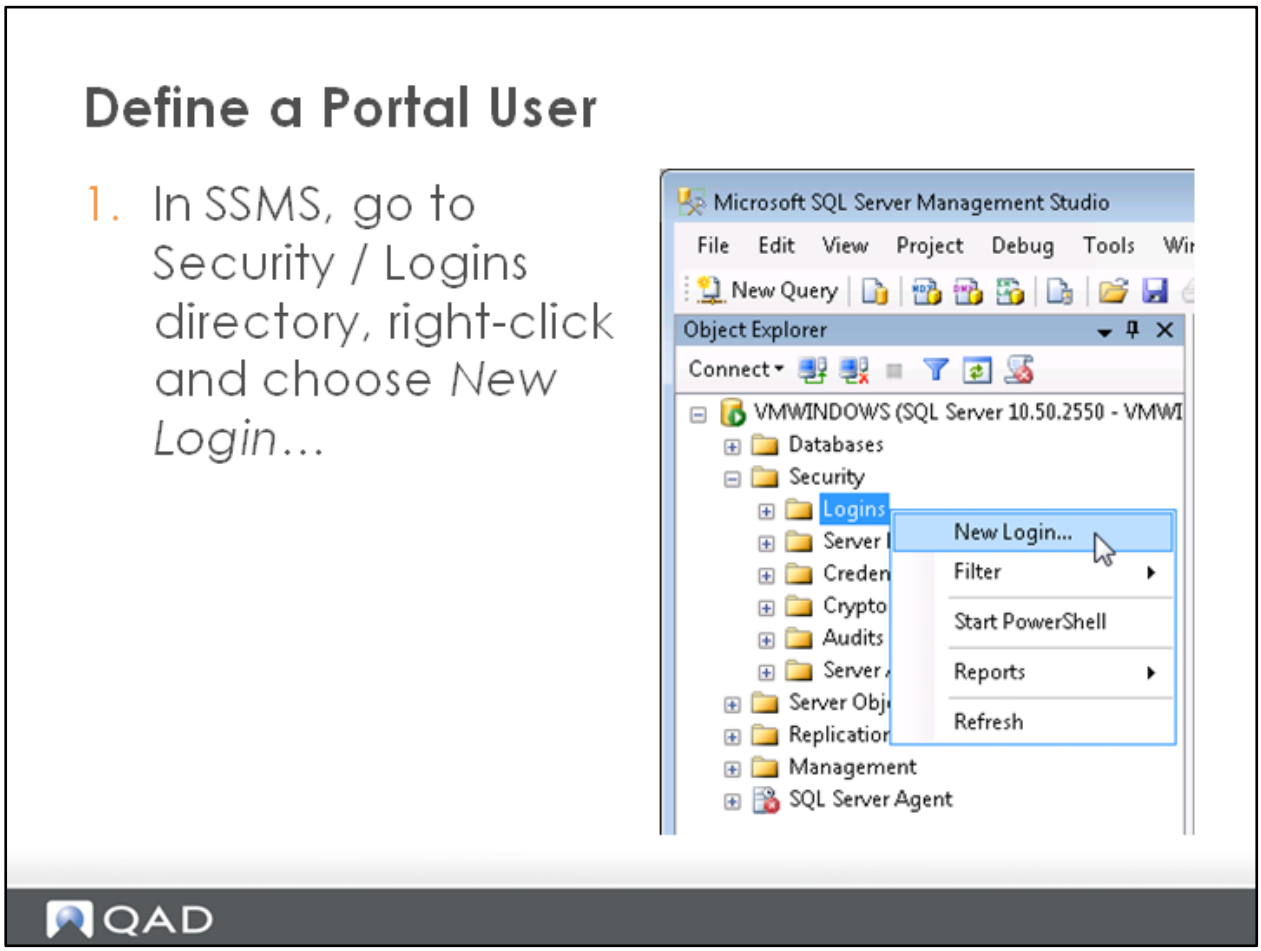
Confirming the Database Points to the Correct Directory



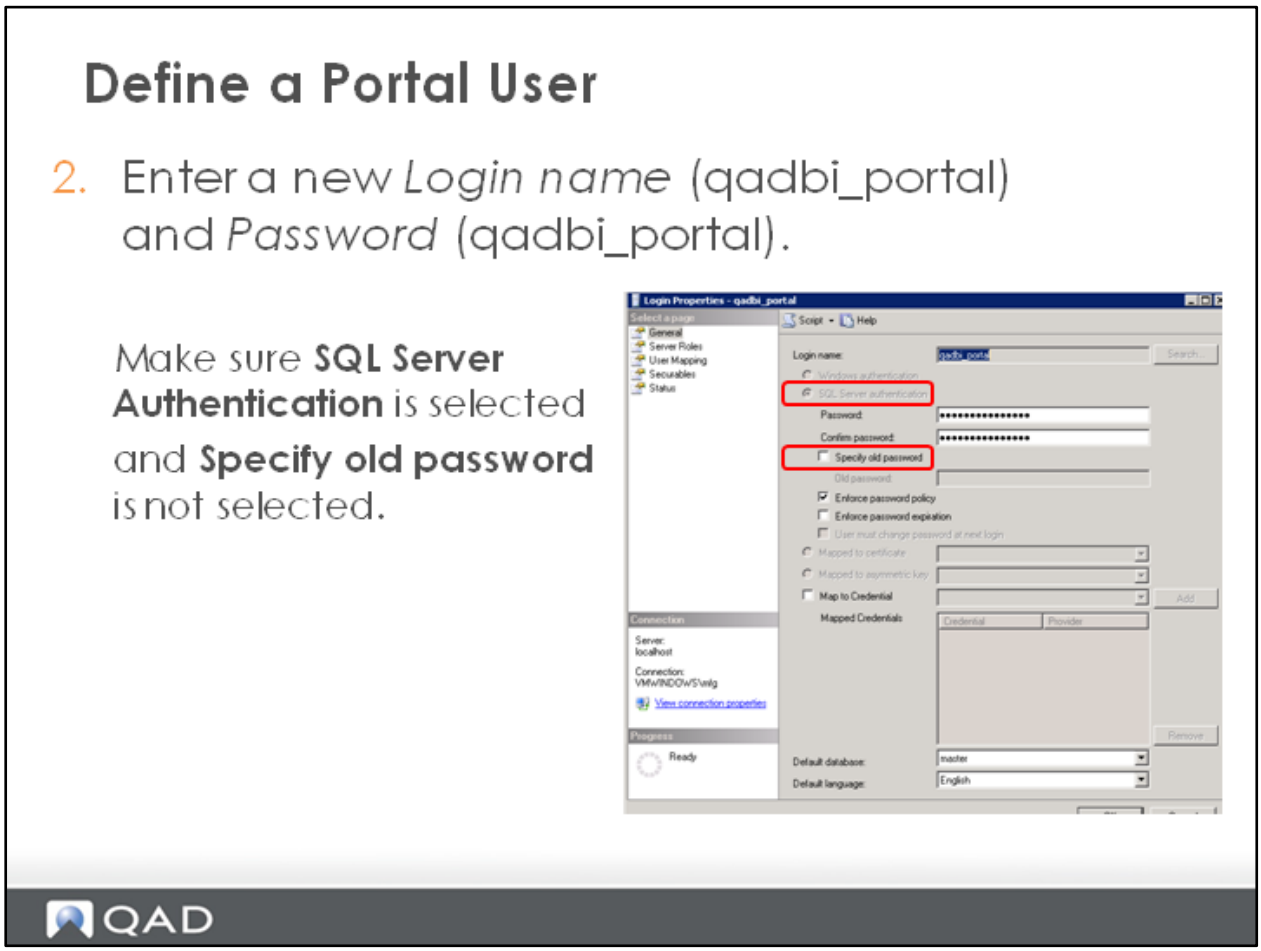
Usually, even if SQL Server is installed on the C drive, there is a large E (or some other labeled) drive available where the actual database and logs reside.

If for some reason the directories are pointing at the wrong server, remap those locations, otherwise you will quickly run out of room.

Define a Portal User

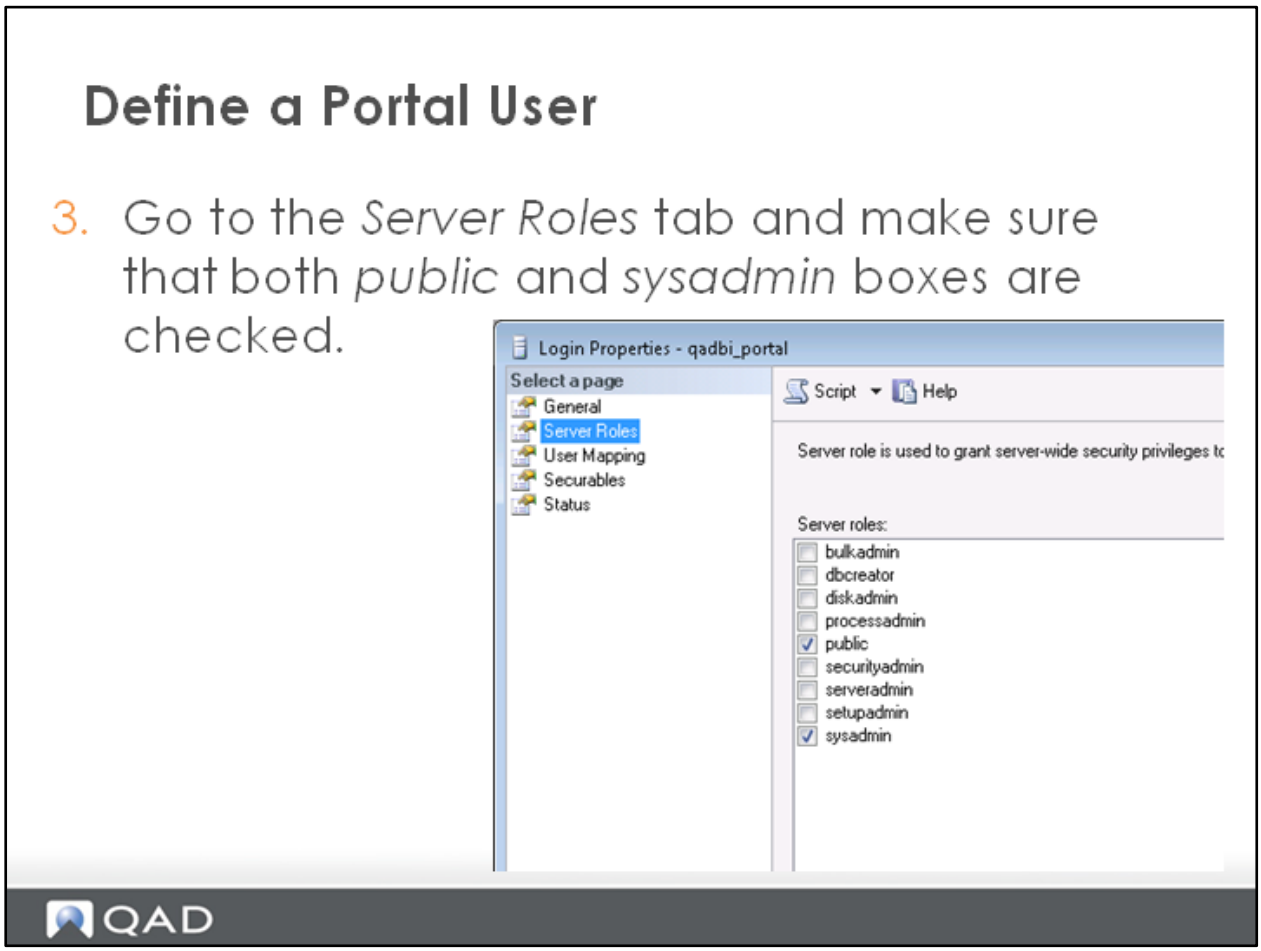


Define a Portal User



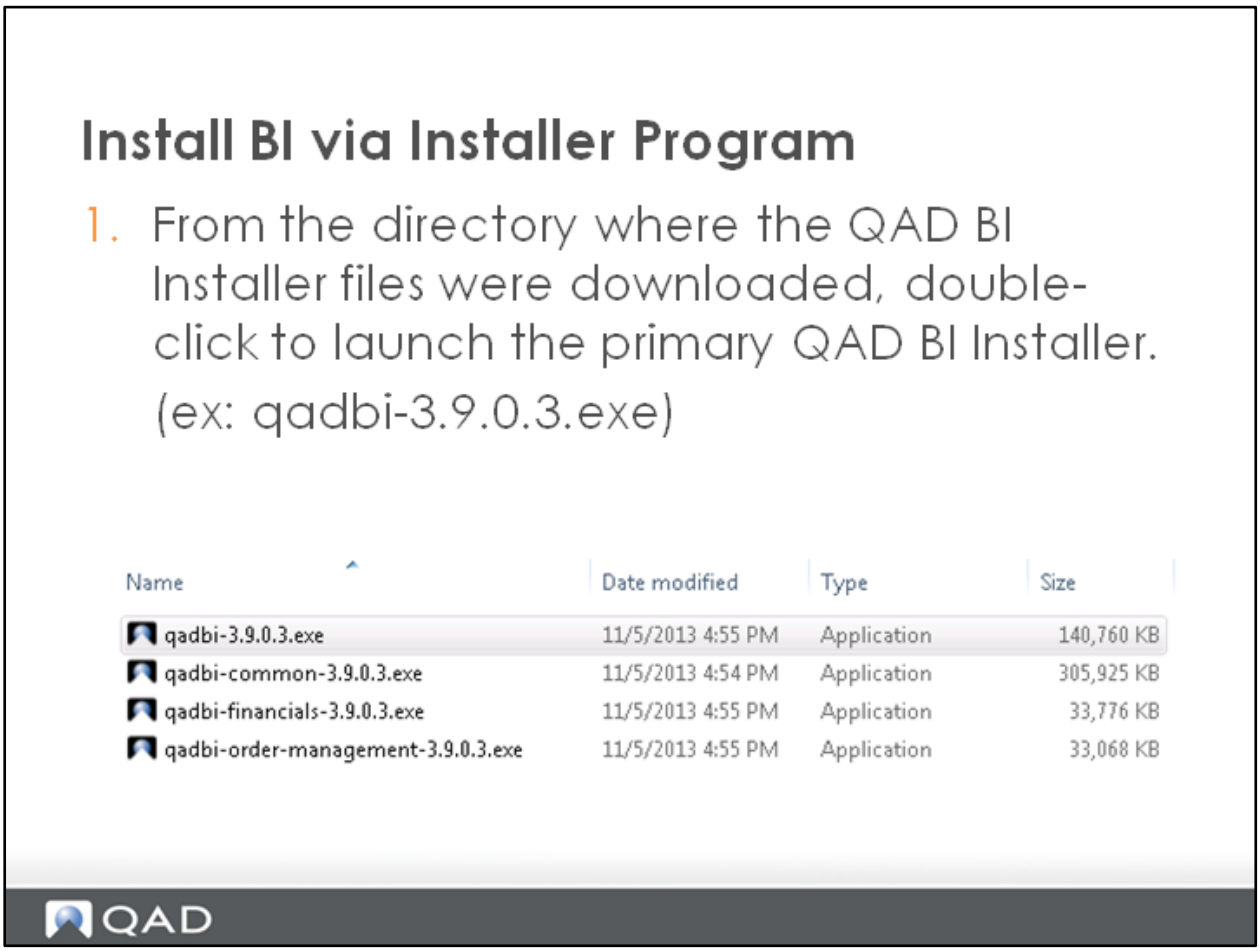
I usually also uncheck Enforce password expiration.

Define a Portal User

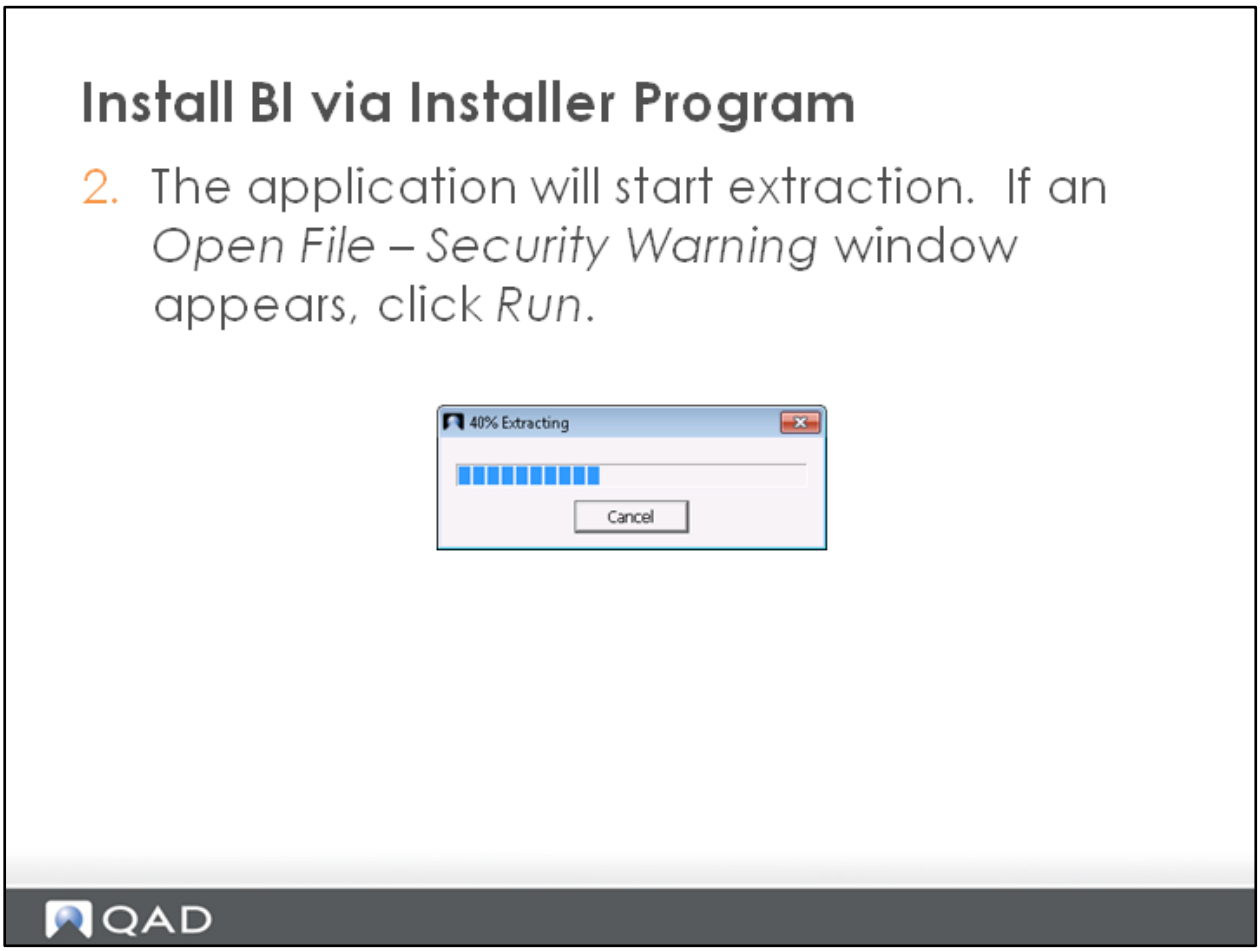


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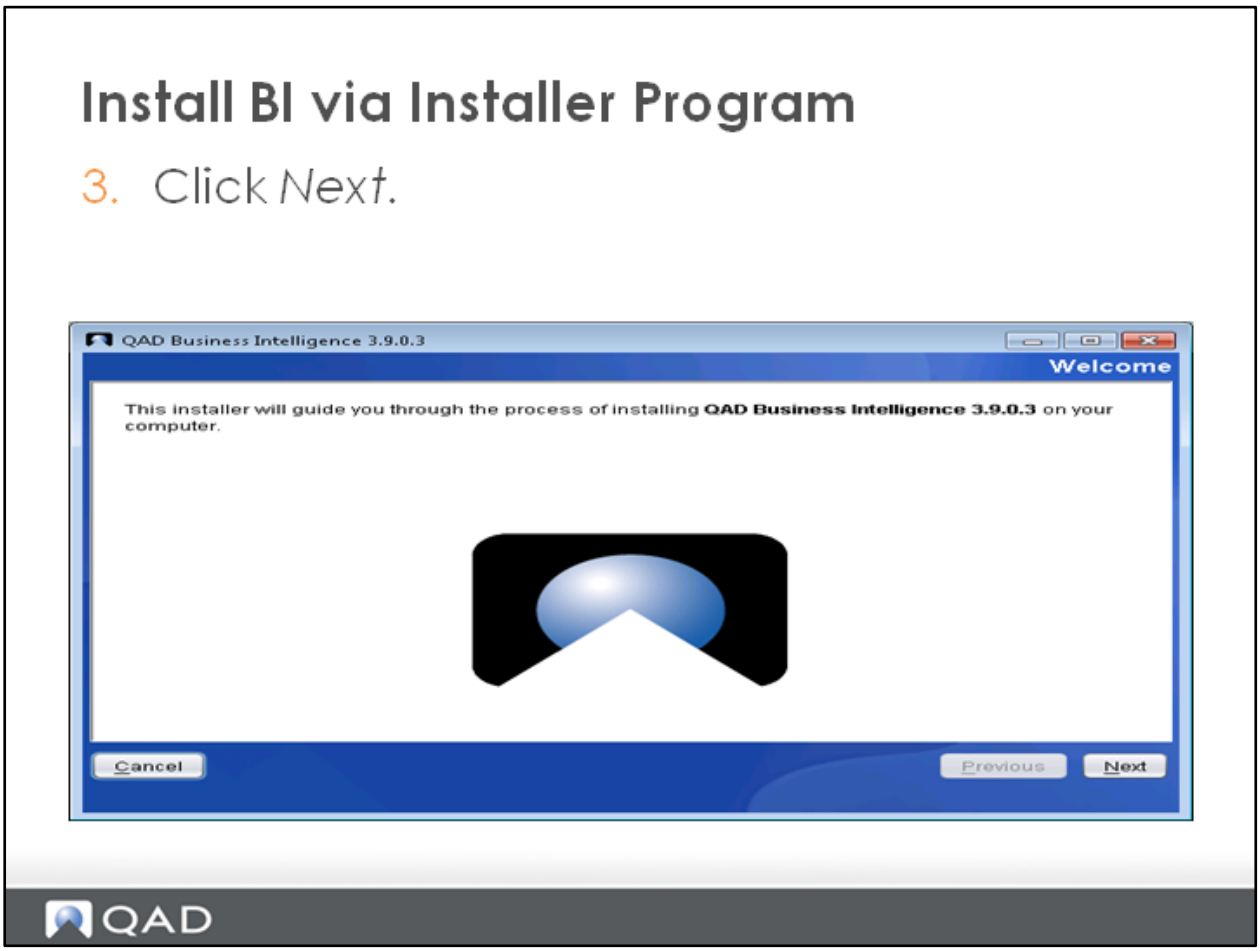
Install BI via Installer Program



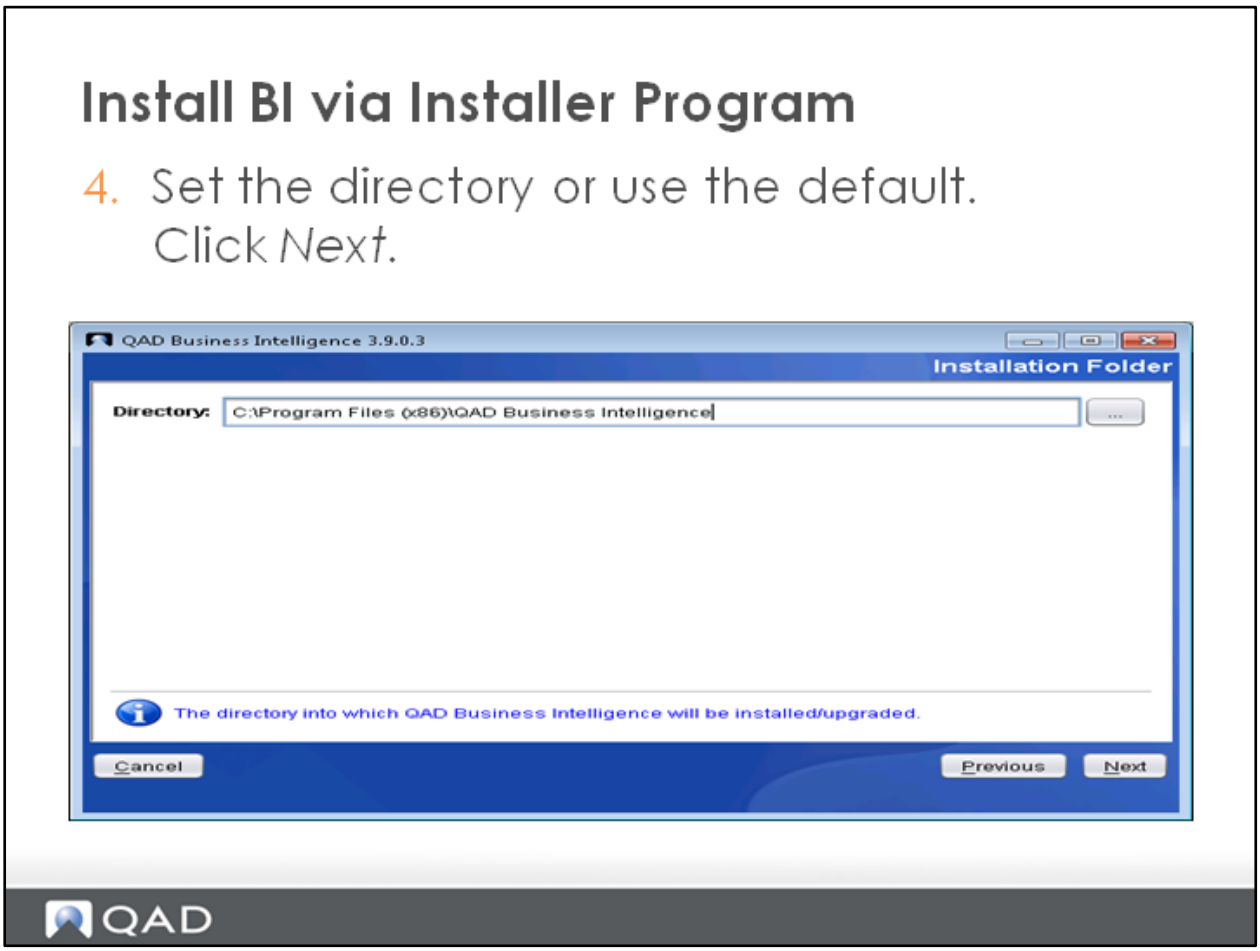
Install BI via Installer Program



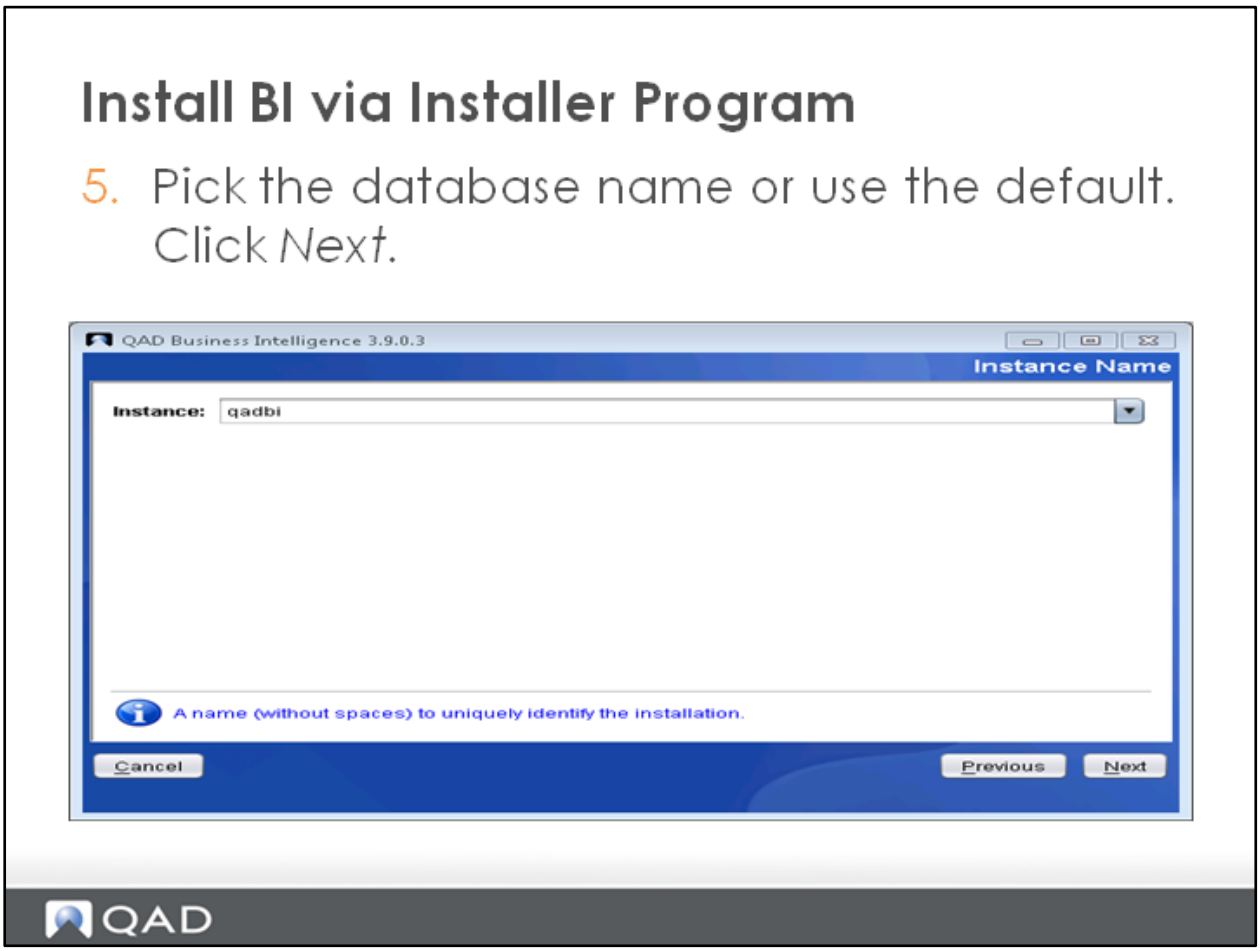
Install BI via Installer Program



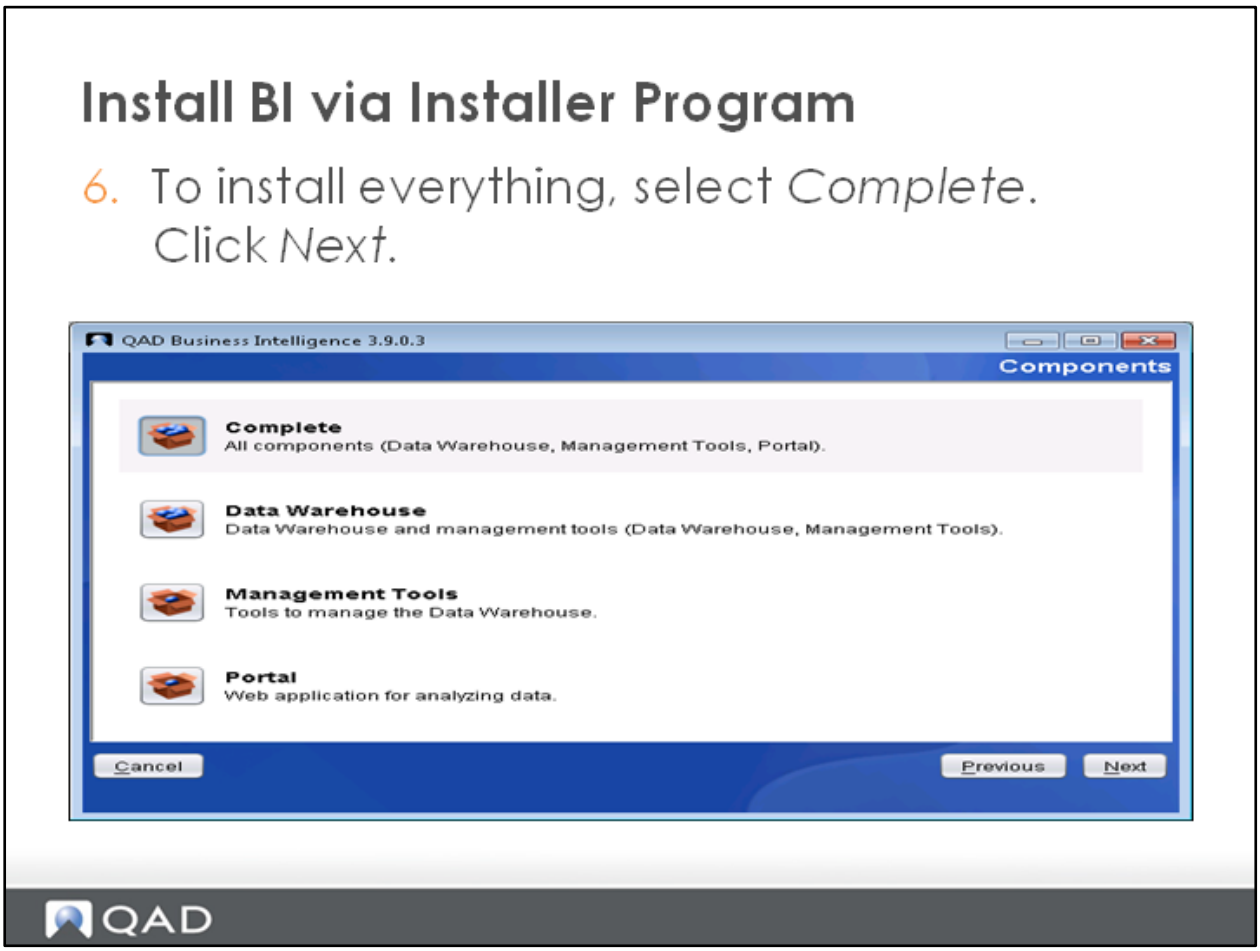
Install BI via Installer Program



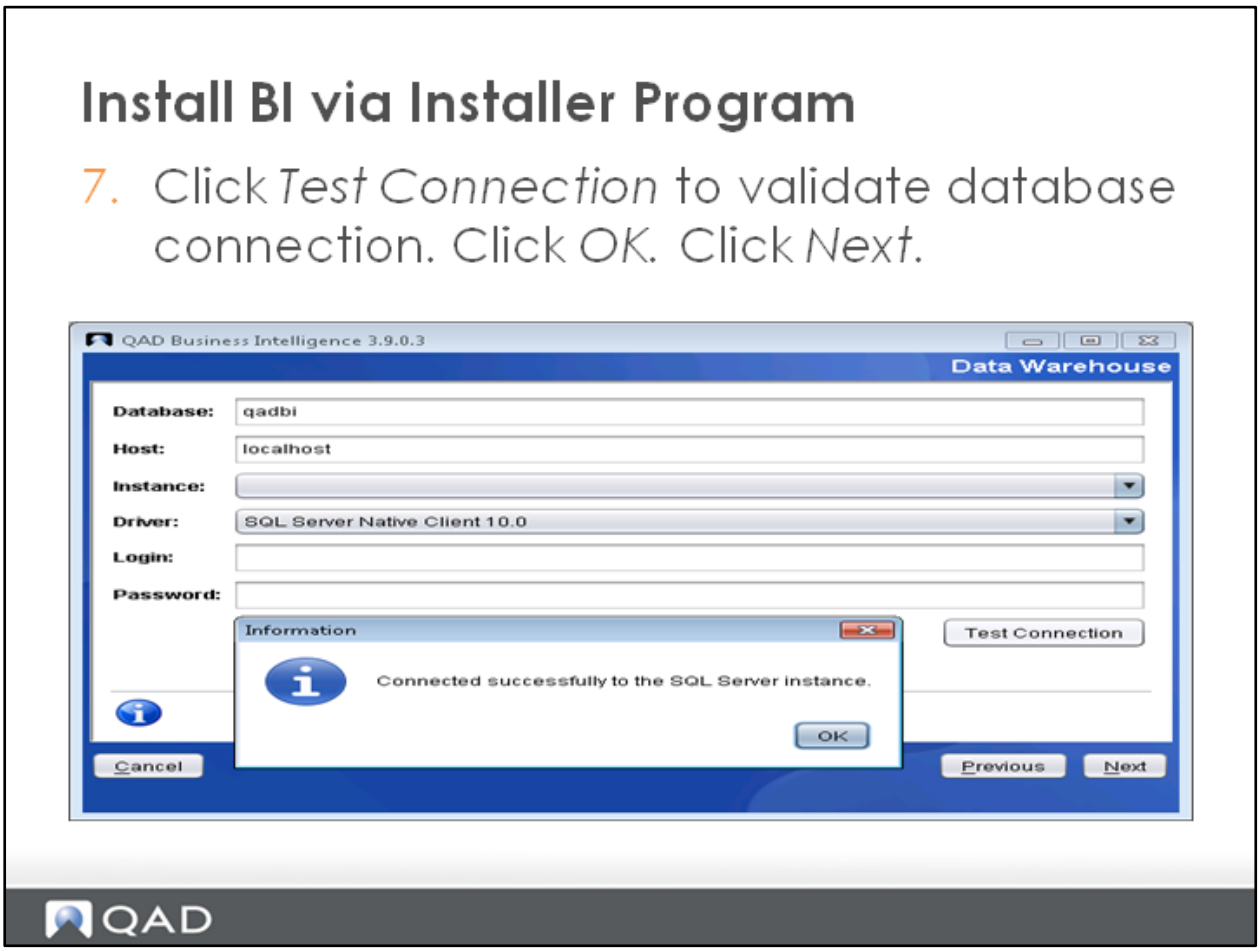
Install BI via Installer Program



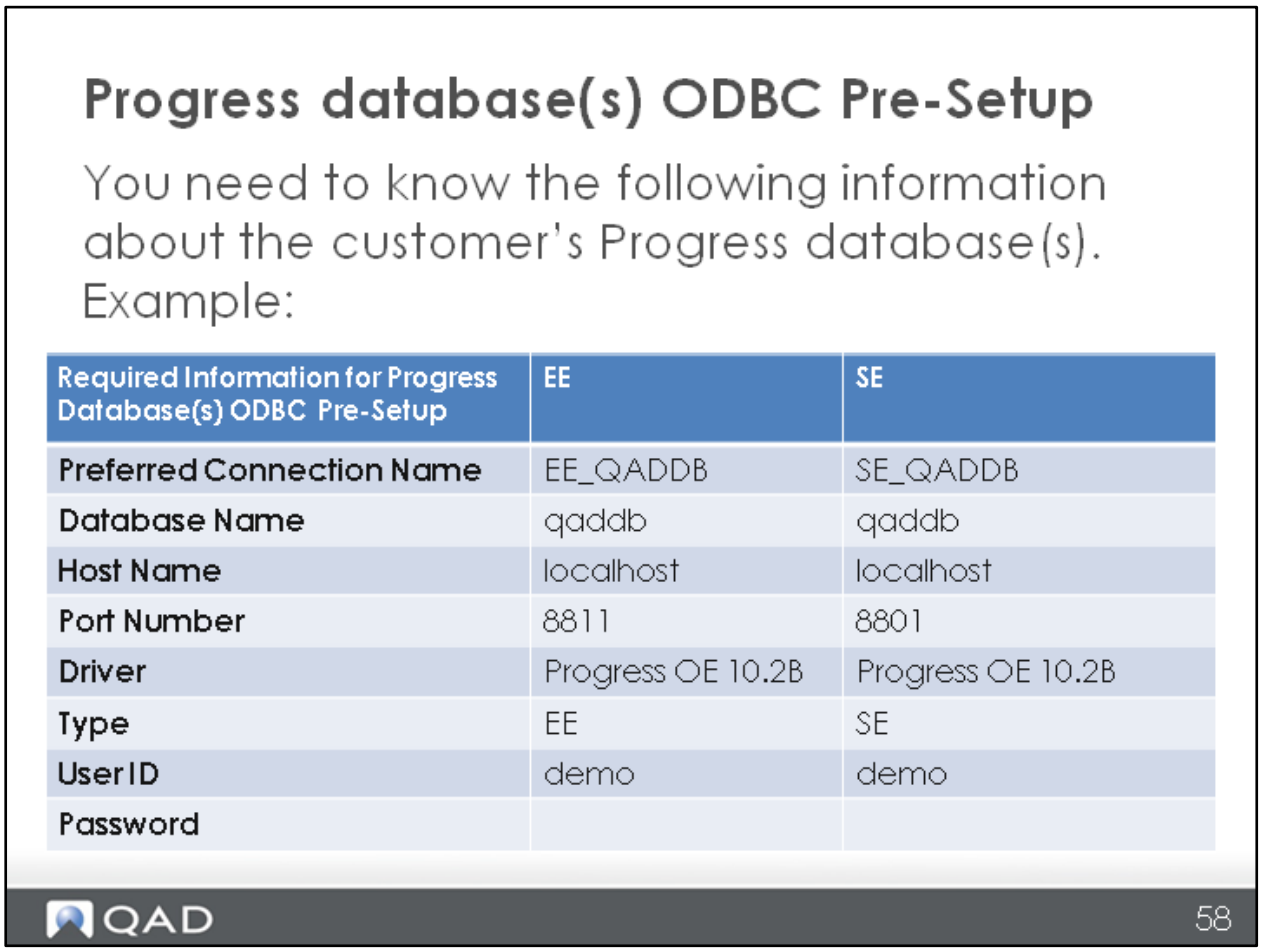
Install BI via Installer Program



Install BI via Installer Program



Progress database(s) ODBC Pre-Setup



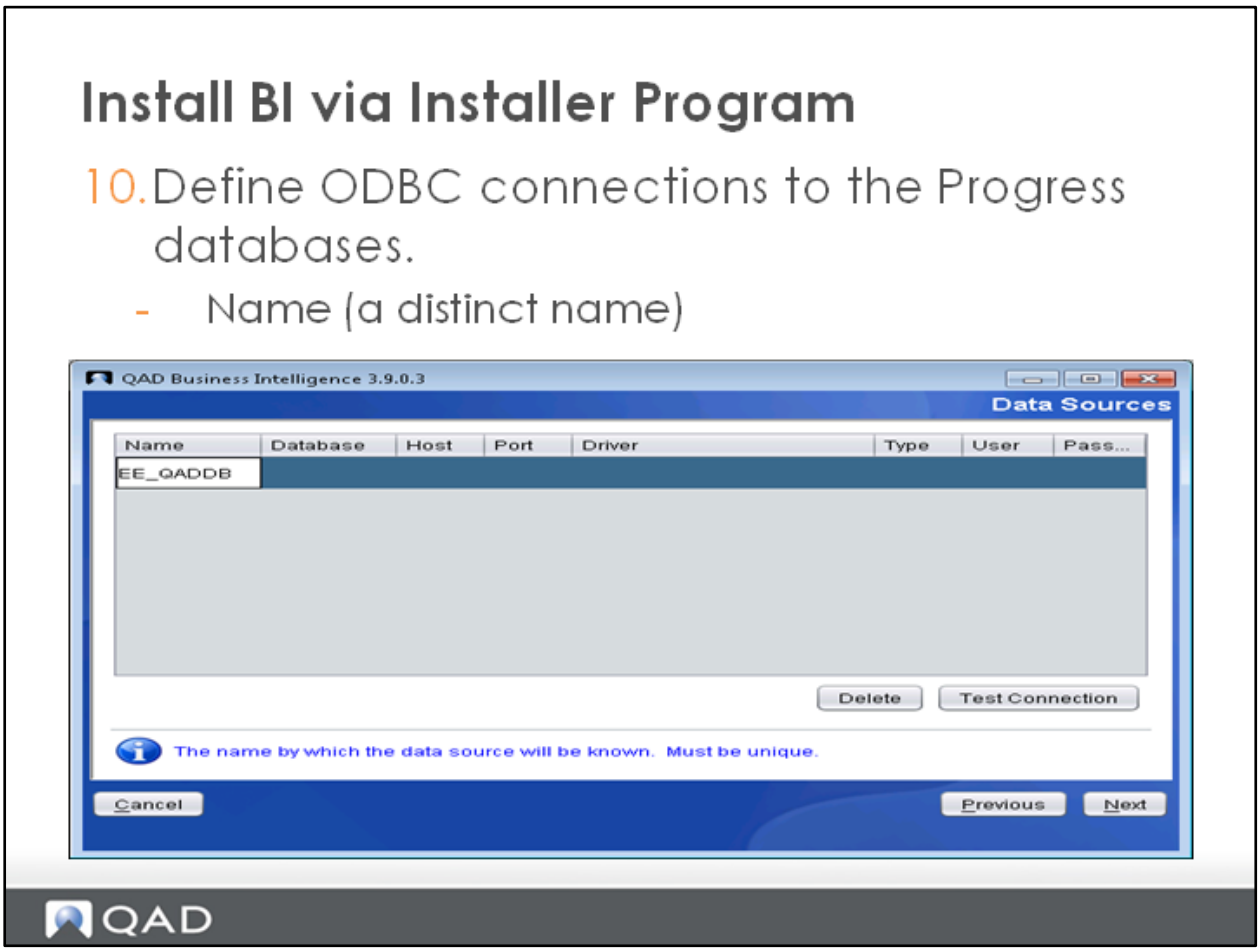
Progress database(s) ODBC Pre-Setup

You need to know the following information about the customer's Progress database(s). Example:

Required Information for Progress Database(s) ODBC Pre-Setup	EE	SE
Preferred Connection Name	EE_QADDB	SE_QADDB
Database Name	qaddb	qaddb
Host Name	localhost	localhost
Port Number	8811	8801
Driver	Progress OE 10.2B	Progress OE 10.2B
Type	EE	SE
User ID	demo	demo
Password		

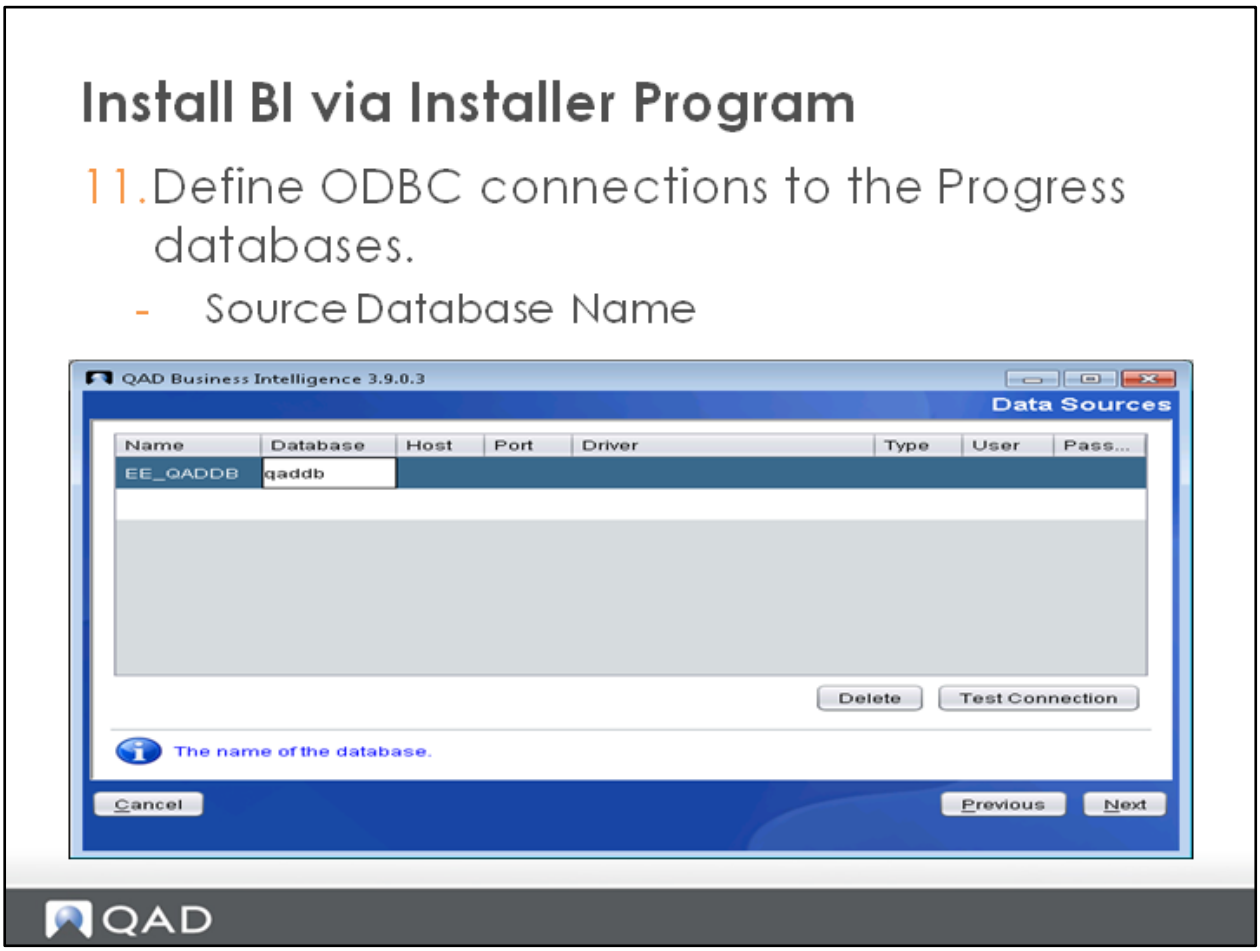
QAD 58

Install BI via Installer Program

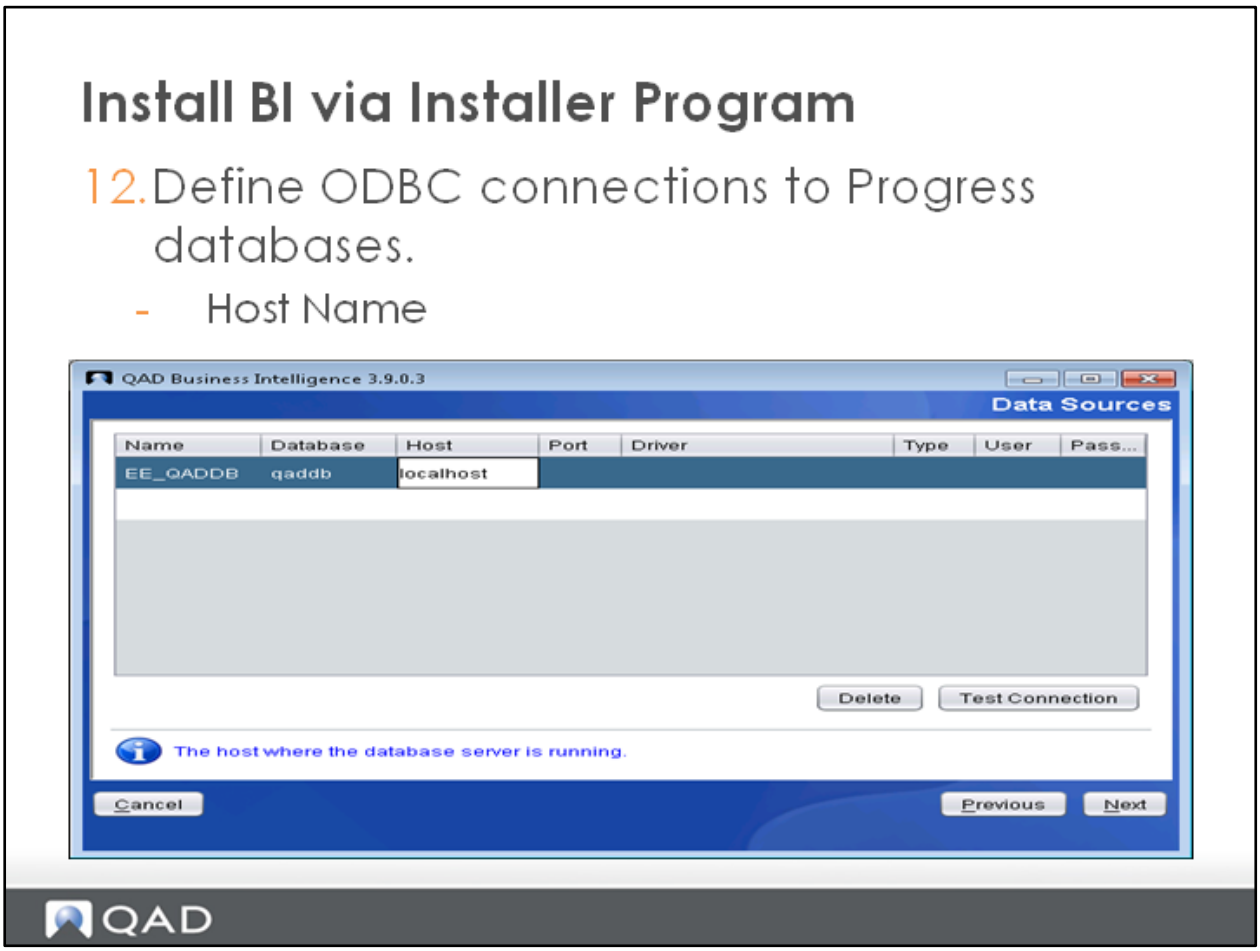


Name: Name of the ODBC connection (Note: If you are needing to set up multiple data warehouses that will source the same Progress databases, include a defining name extension for each ODBC Name such as SEDemoDev, SEDemoTest, SEDemoProd). The installer won't allow you to use the same ODBC connection NAME when multiple data warehouses are set up on the same server, even though the source may be exactly the same.

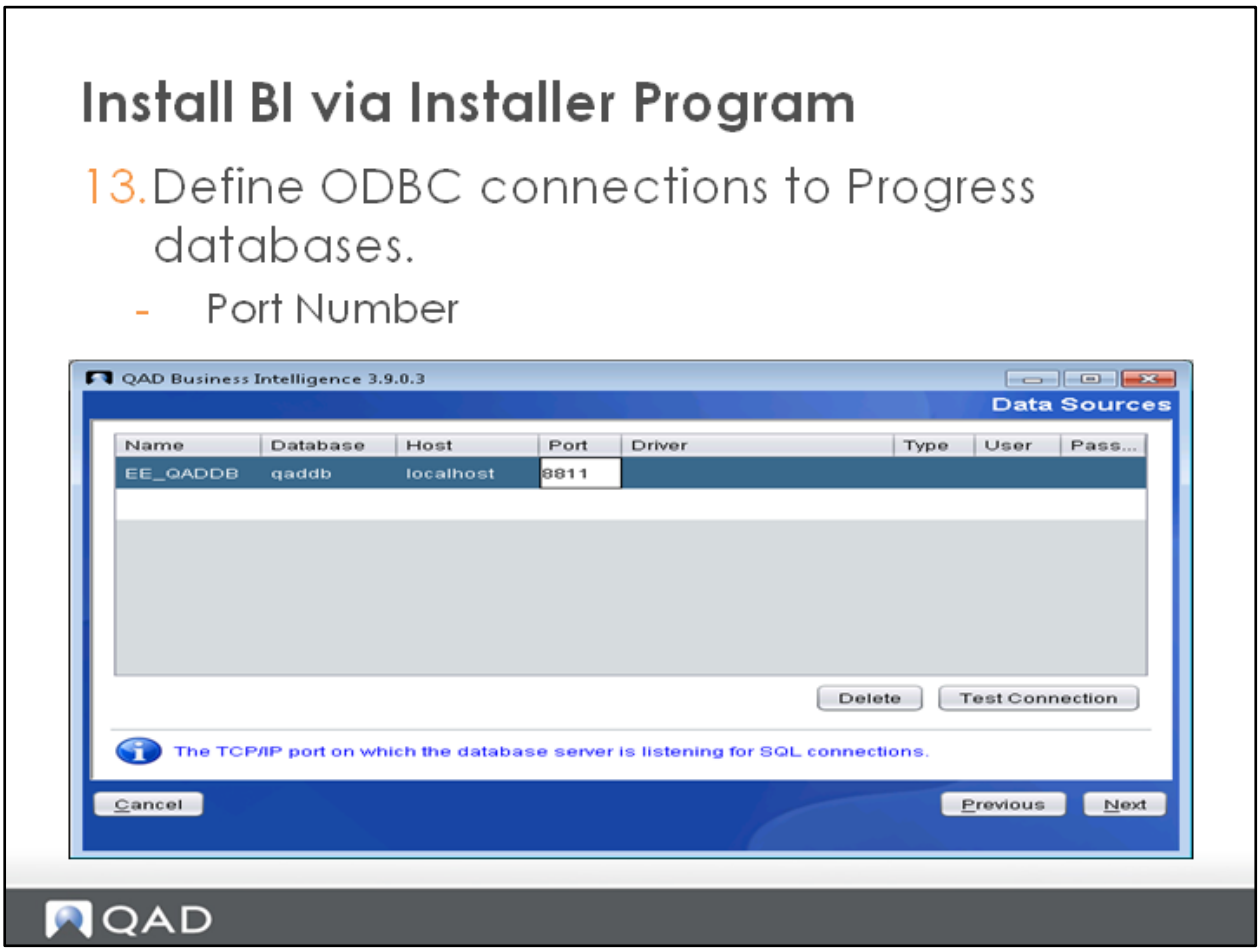
Install BI via Installer Program



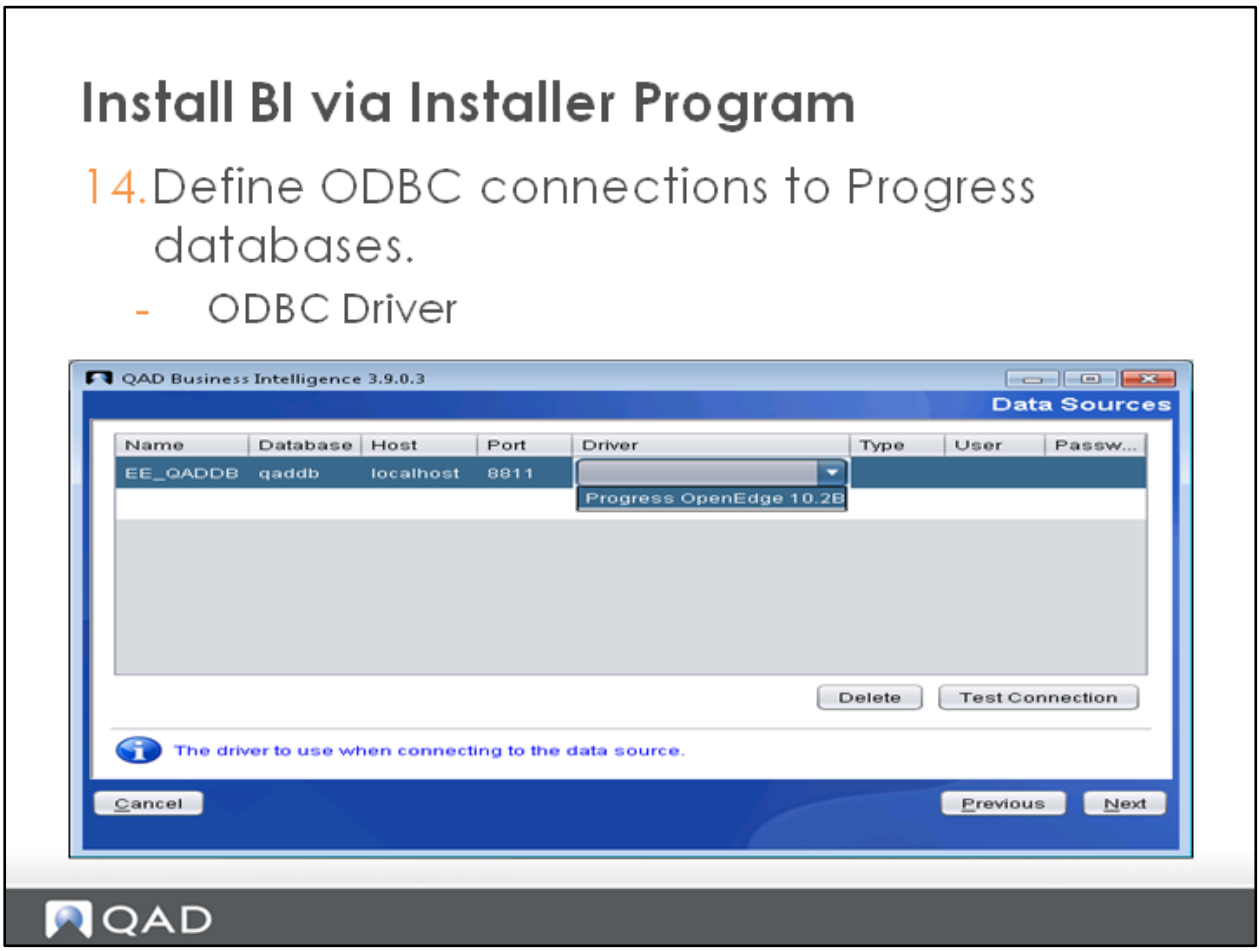
Install BI via Installer Program



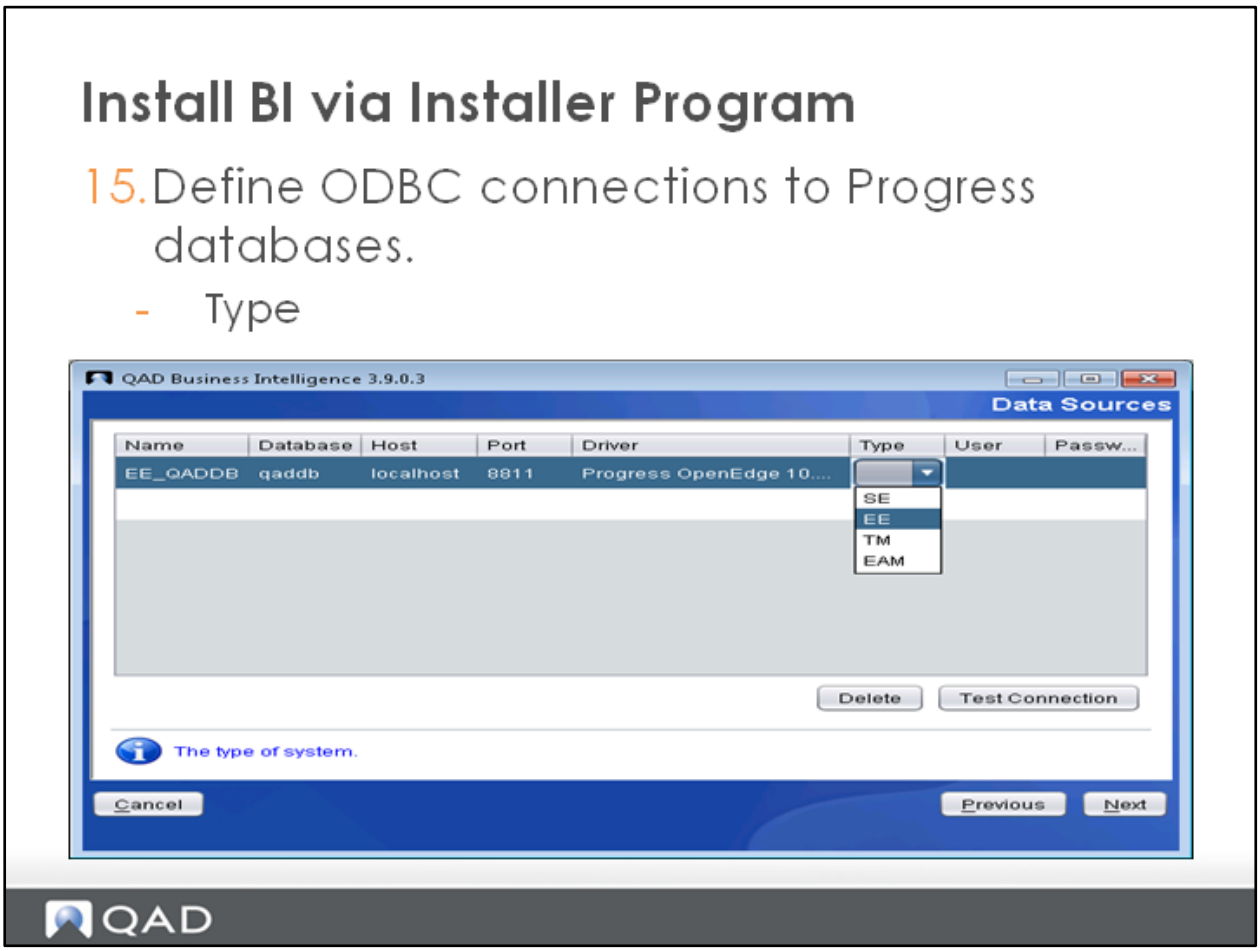
Install BI via Installer Program



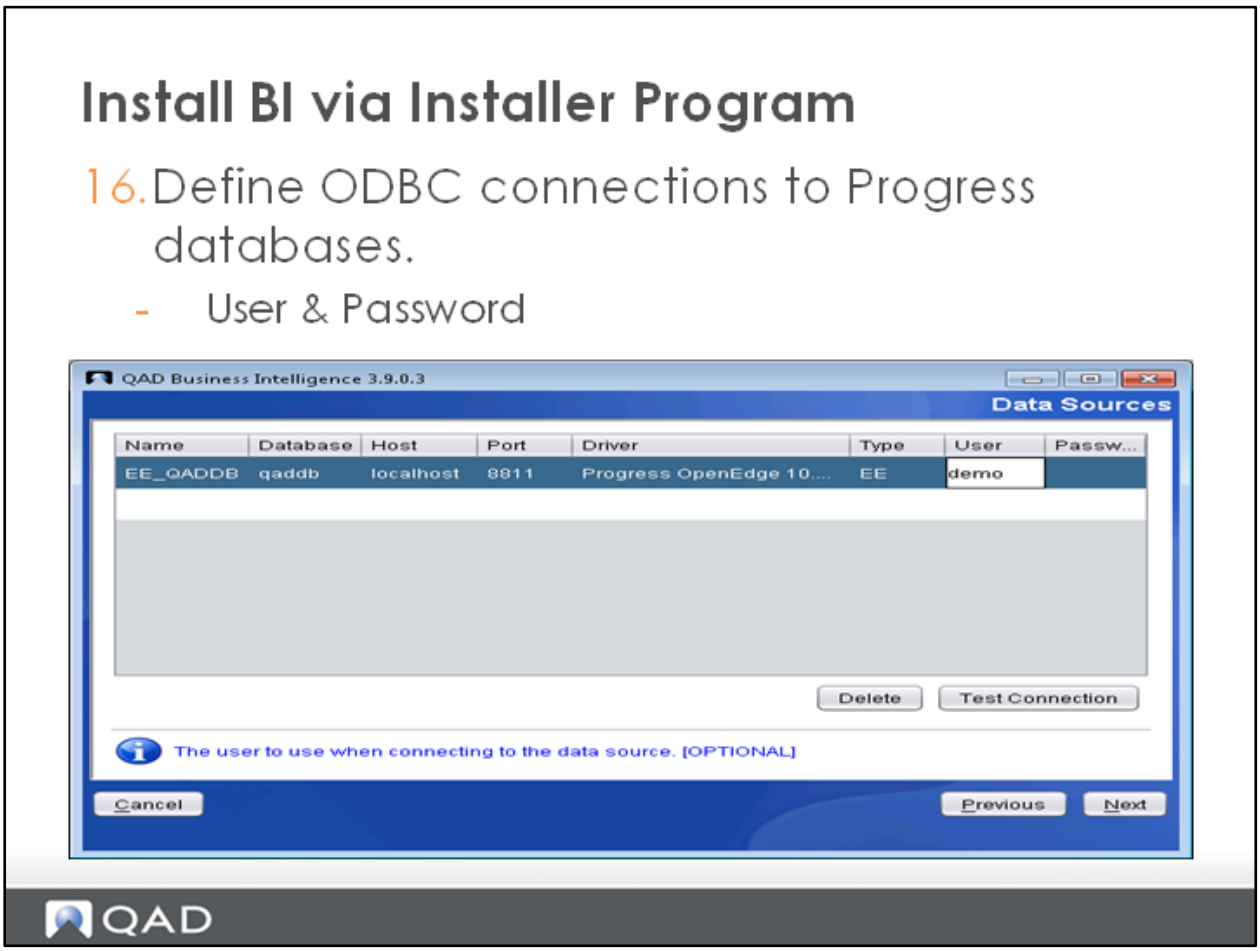
Install BI via Installer Program



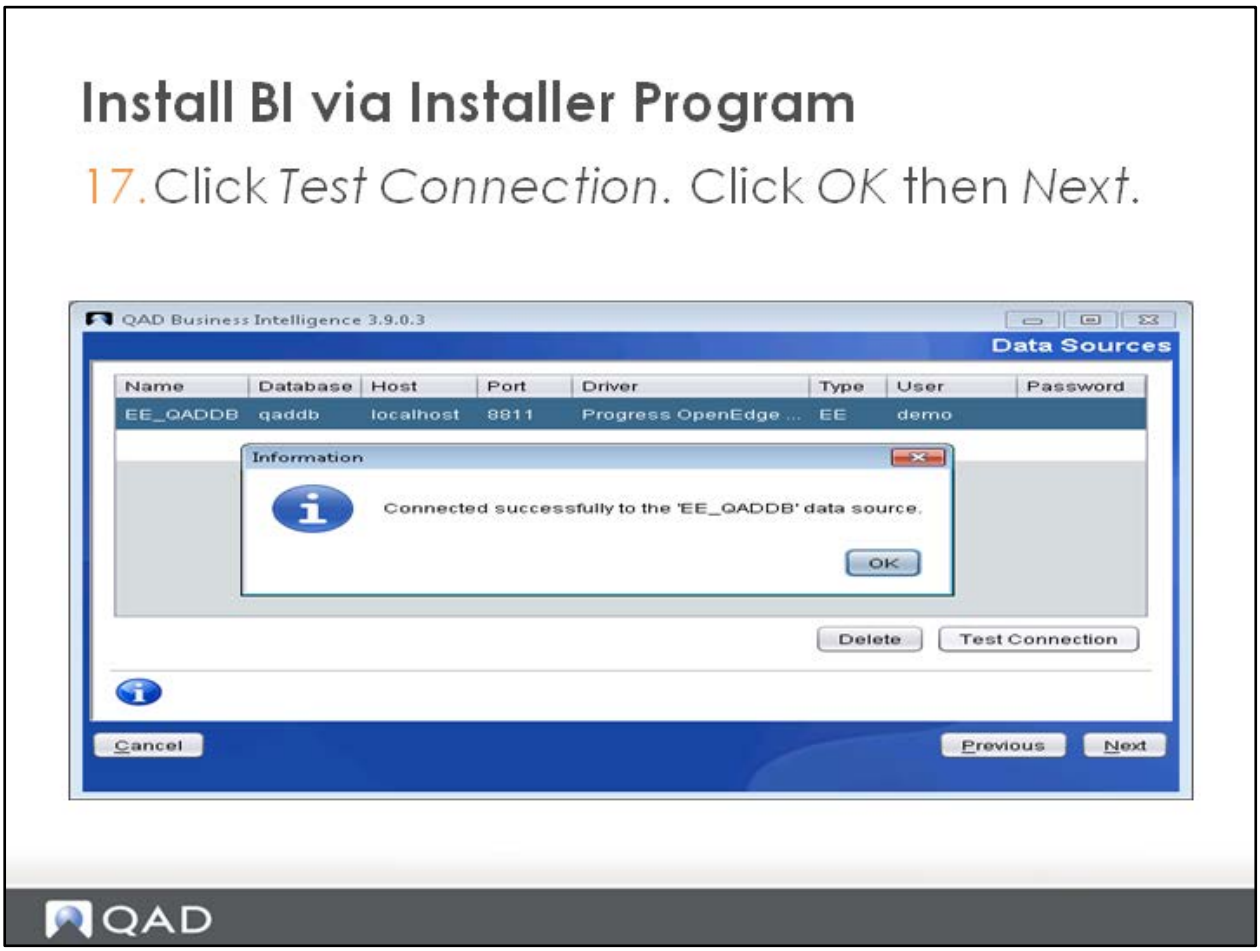
Install BI via Installer Program



Install BI via Installer Program

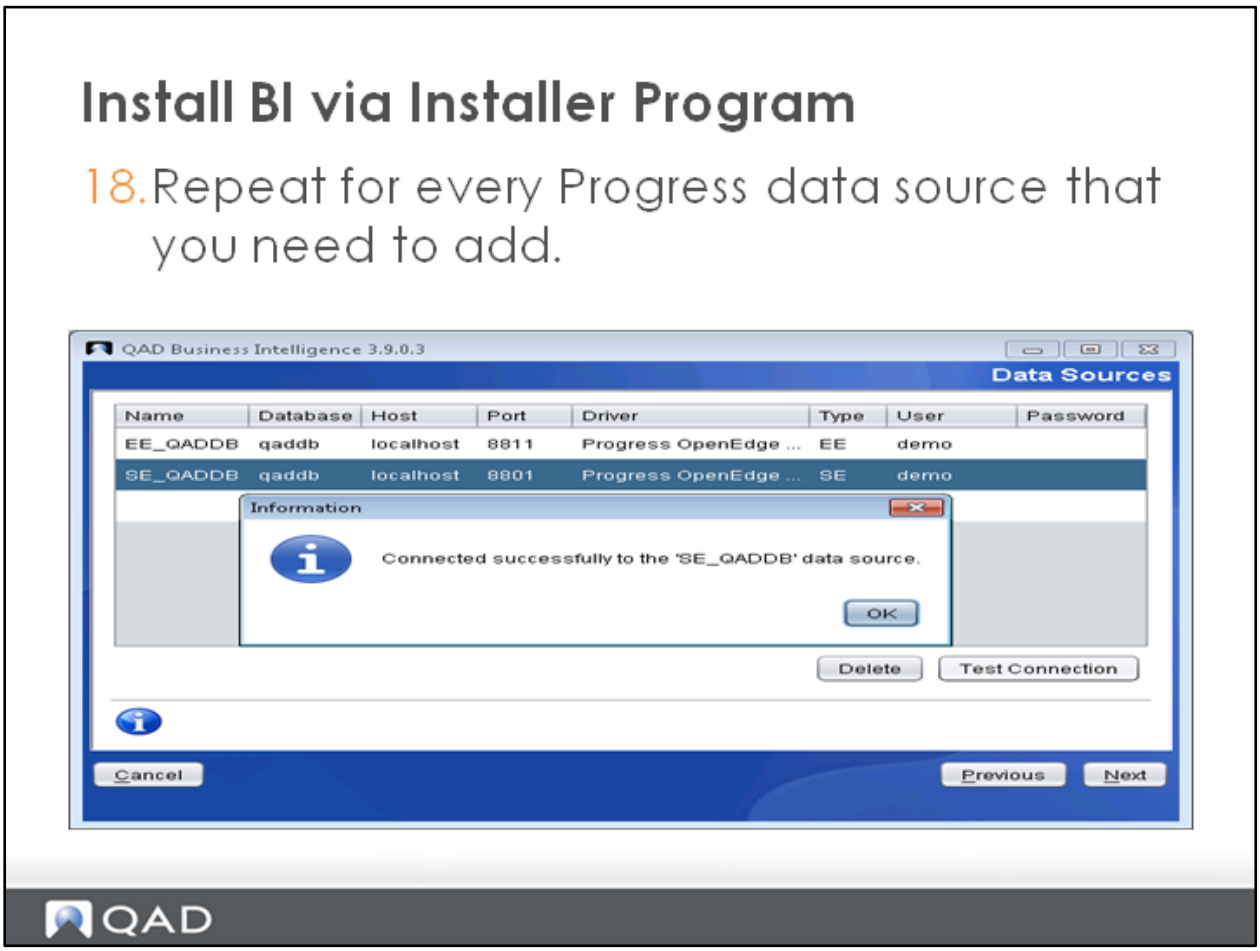


Install BI via Installer Program



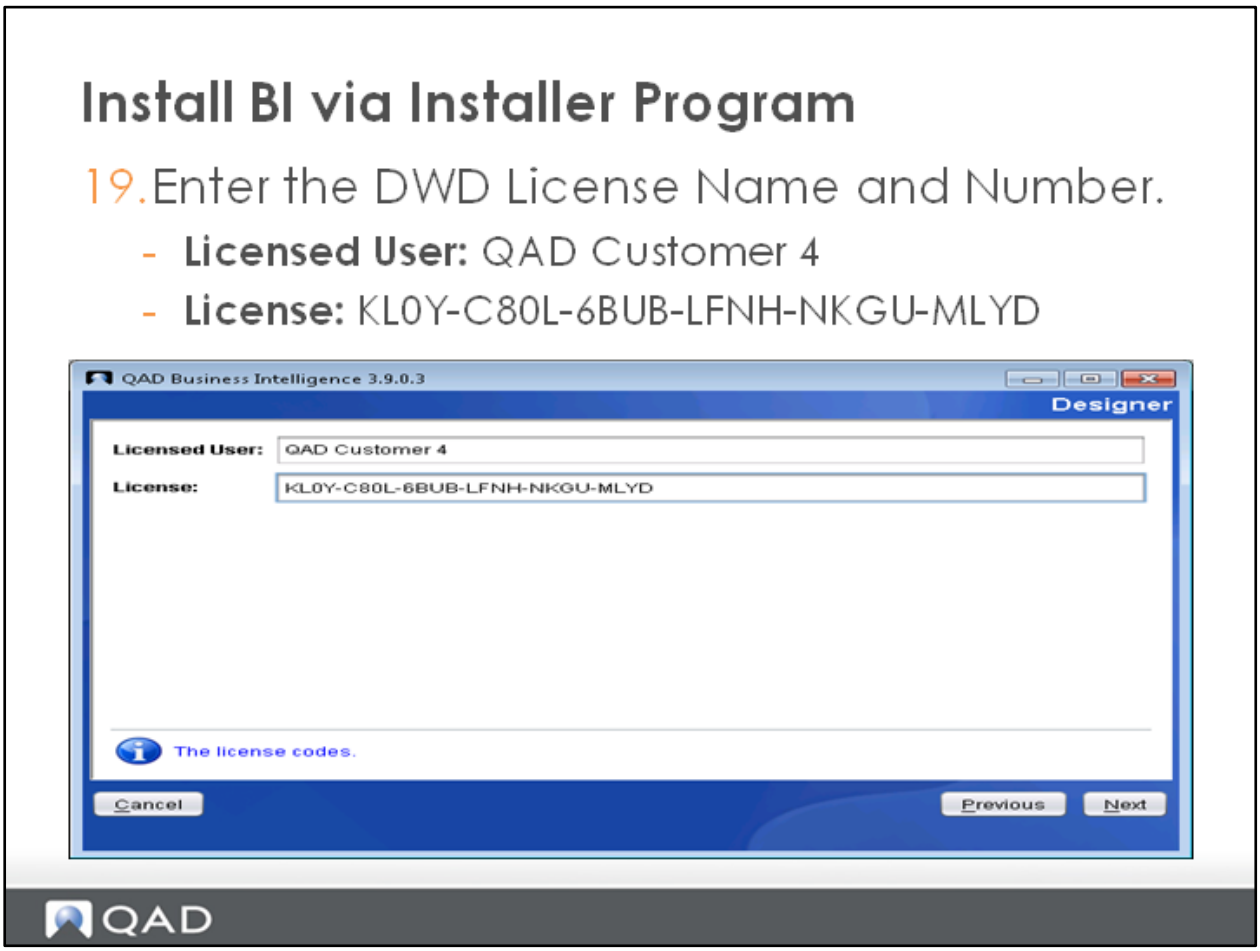
If test connection fails, confirm that the Progress database is running and entered values for database, host, port, user & password are correct.

Install BI via Installer Program



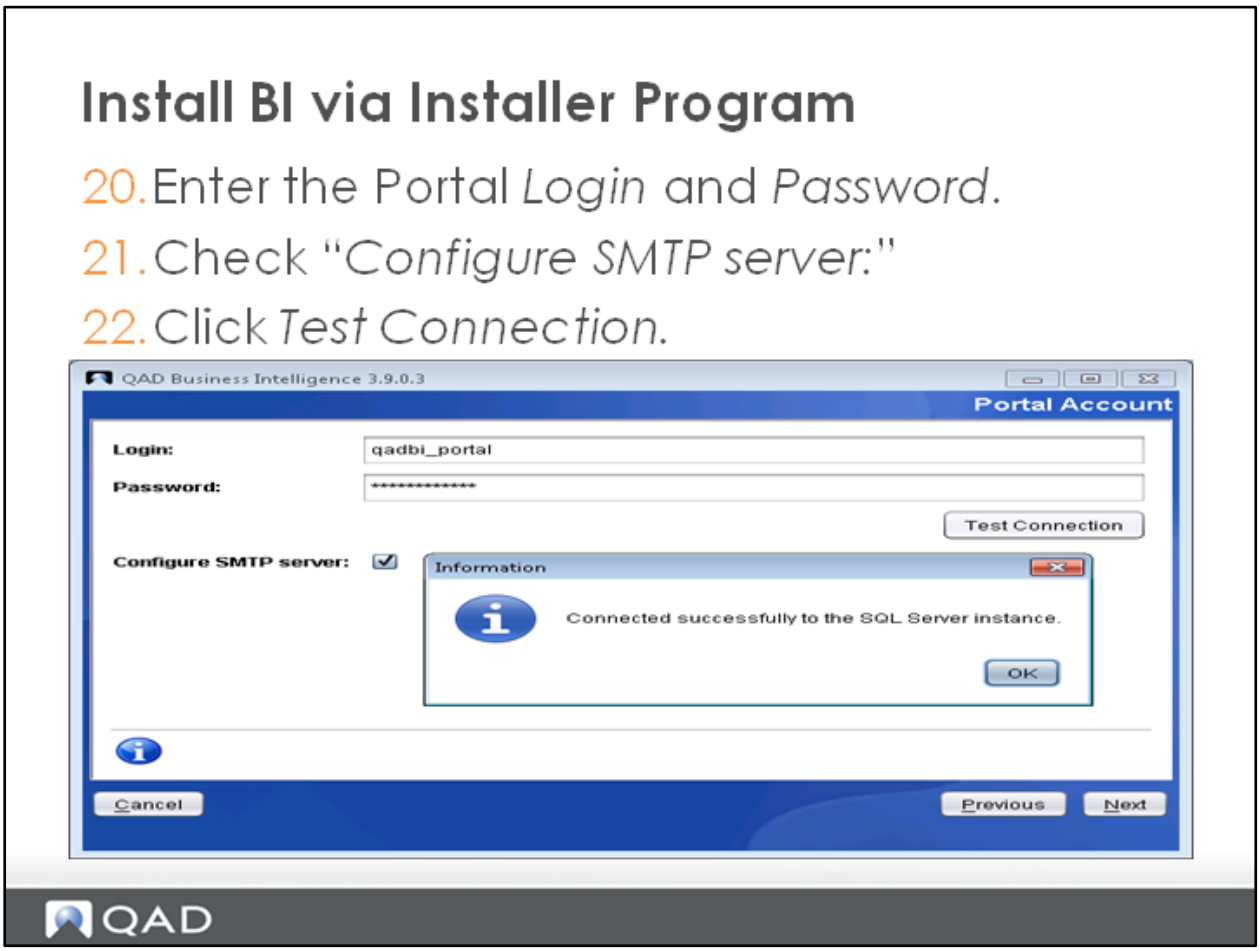
Extra non-Progress data sources can be added later via the DWD Admin tool.

Install BI via Installer Program



The license name number for a specific installation should be provided as part of the BI purchase. For the demo, we just use the values above.

Install BI via Installer Program

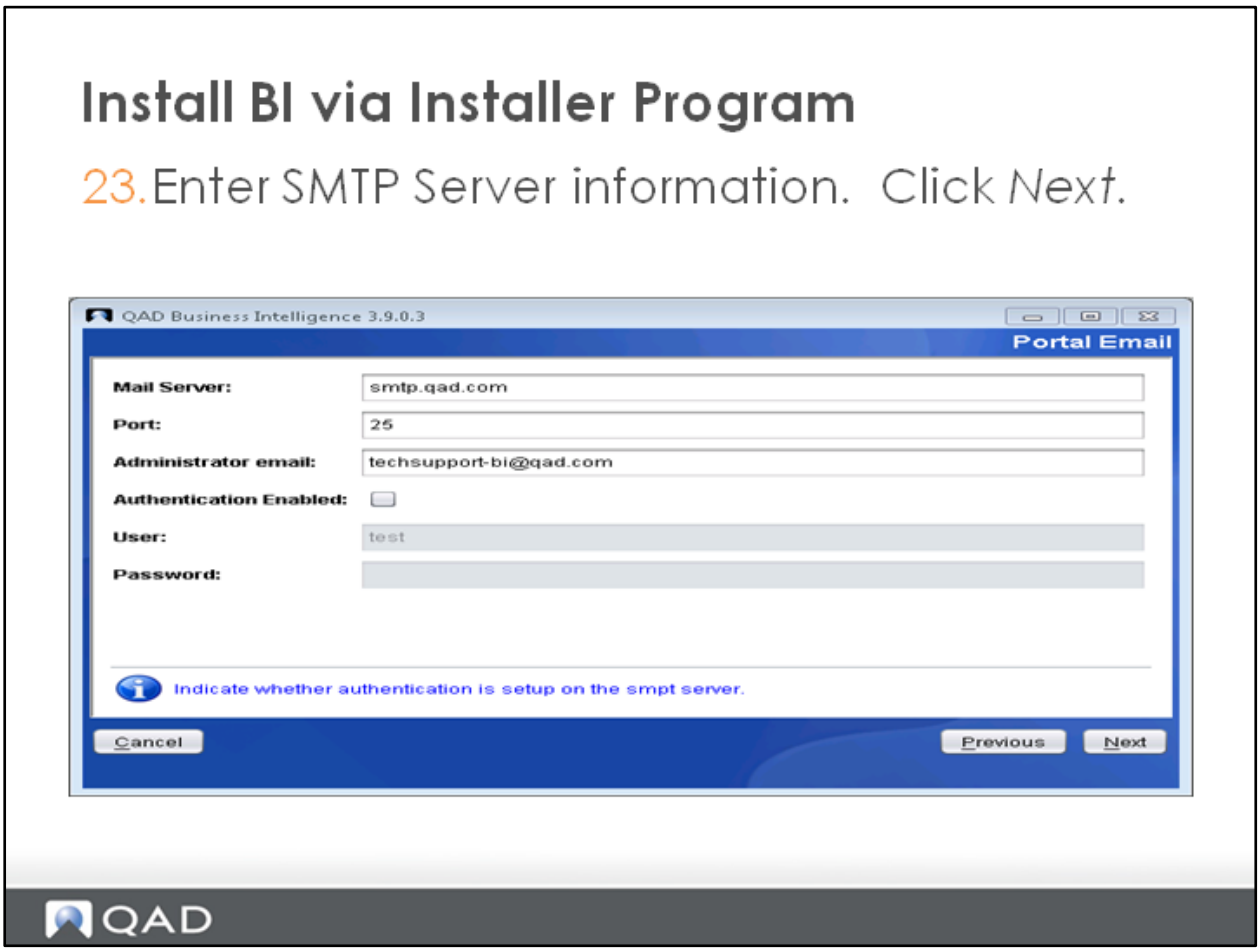


This is for the SQL Server login and setup earlier.

You can validate that the connection works.

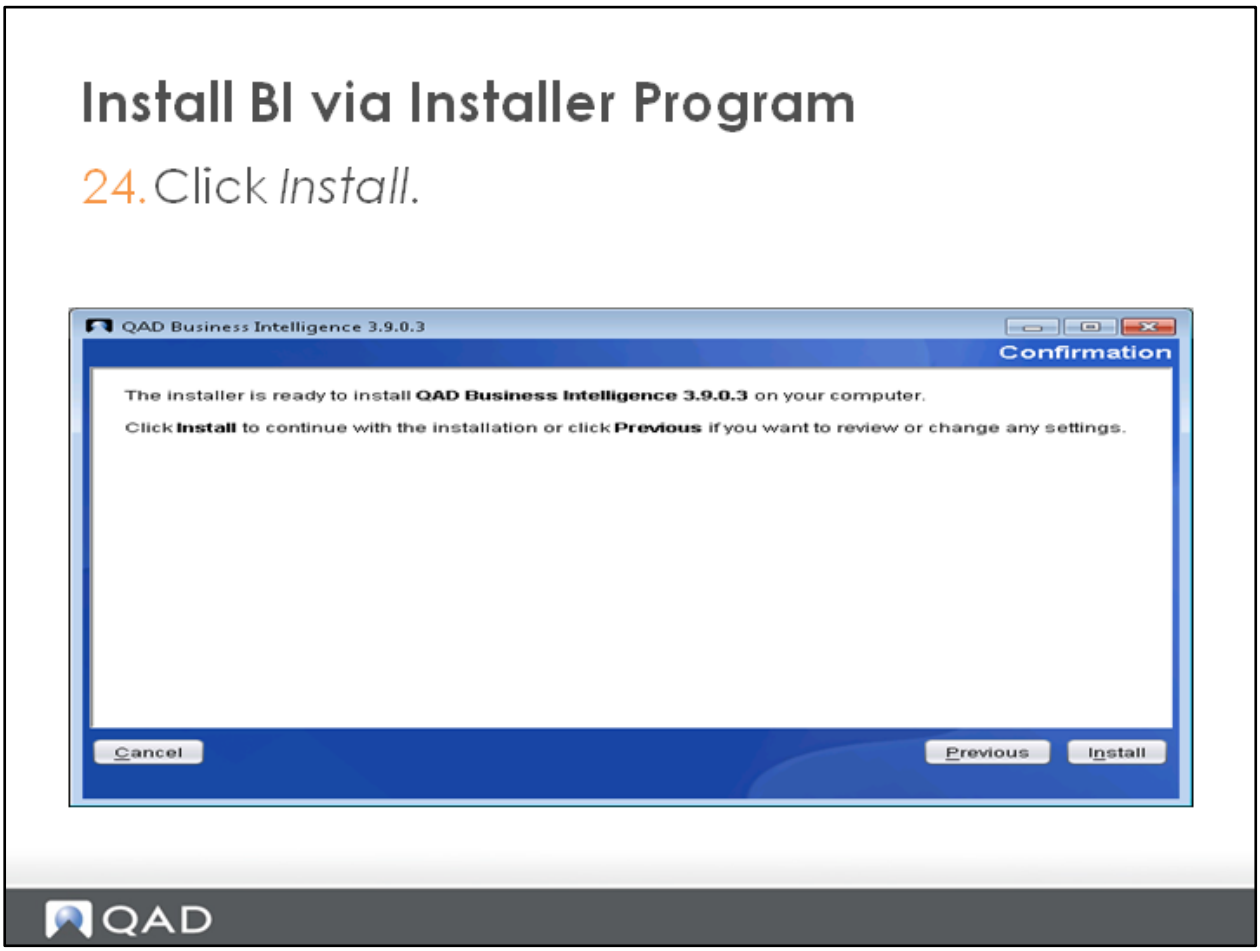
Be sure to check SMTP Server configuration box. This is to ensure emails can be sent from the Portal.

Install BI via Installer Program

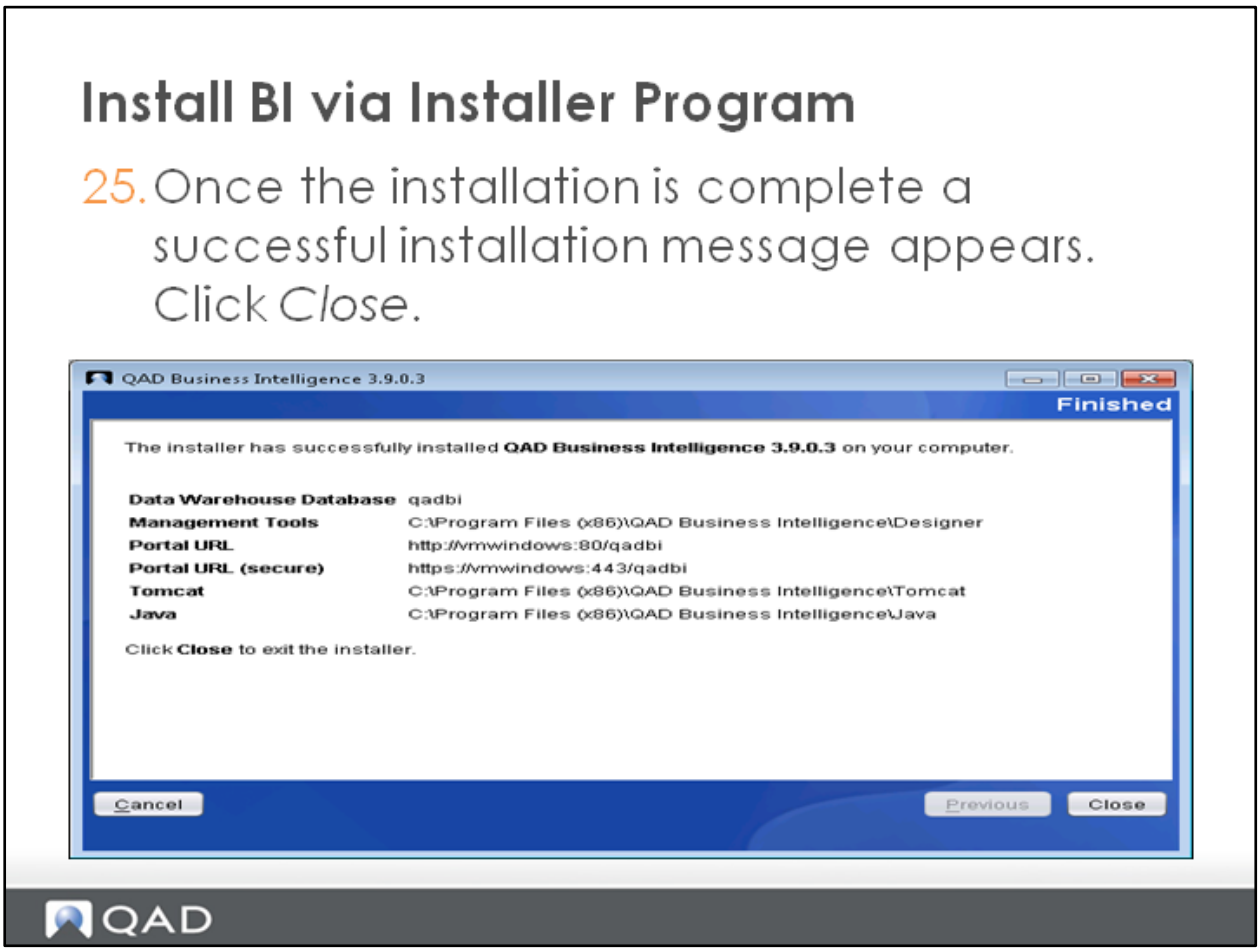


For the training environment, we don't use email authentication, but at some customer sites, it's necessary. Leave Authentication Enabled checkbox unchecked for this training.

Install BI via Installer Program

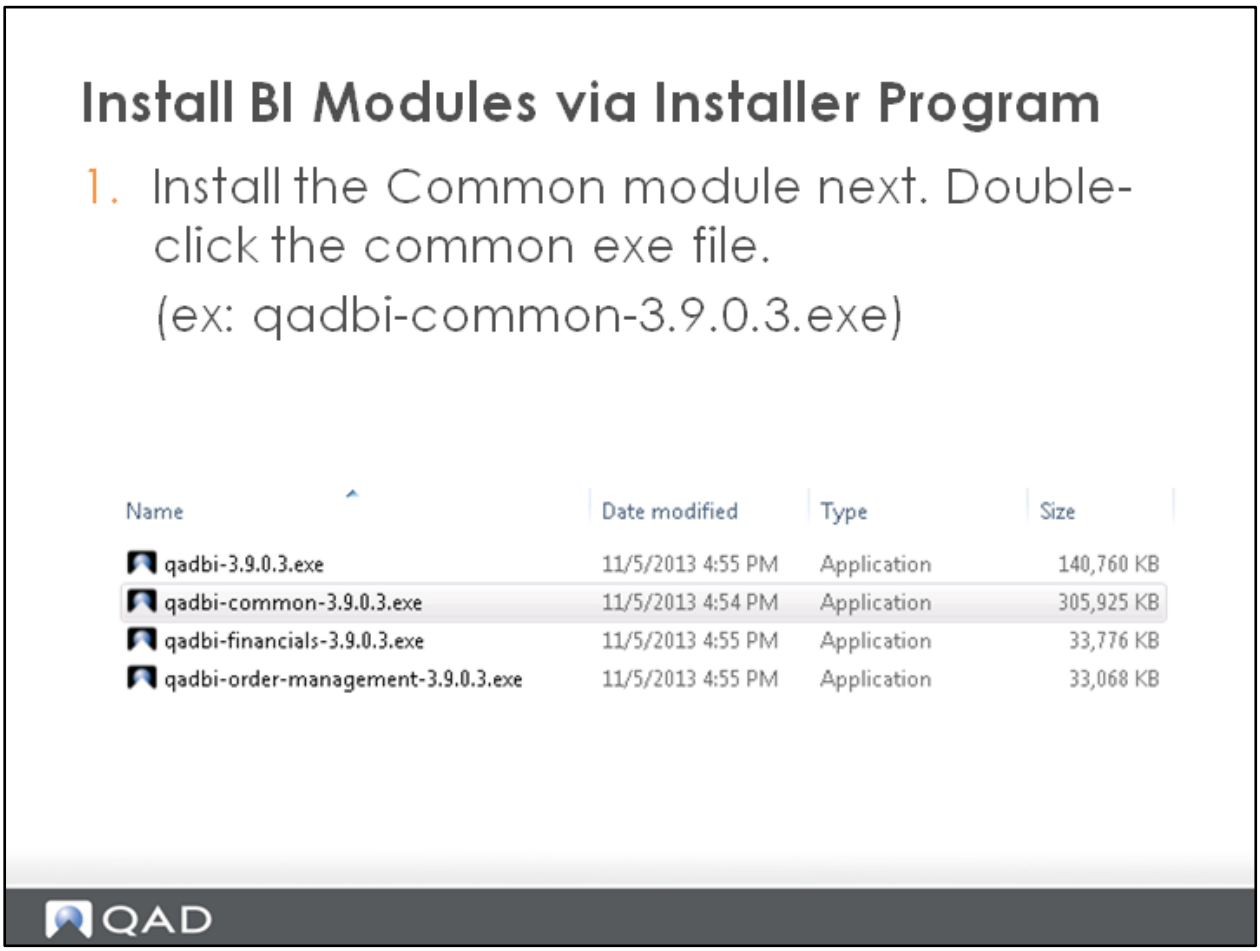


Install BI via Installer Program

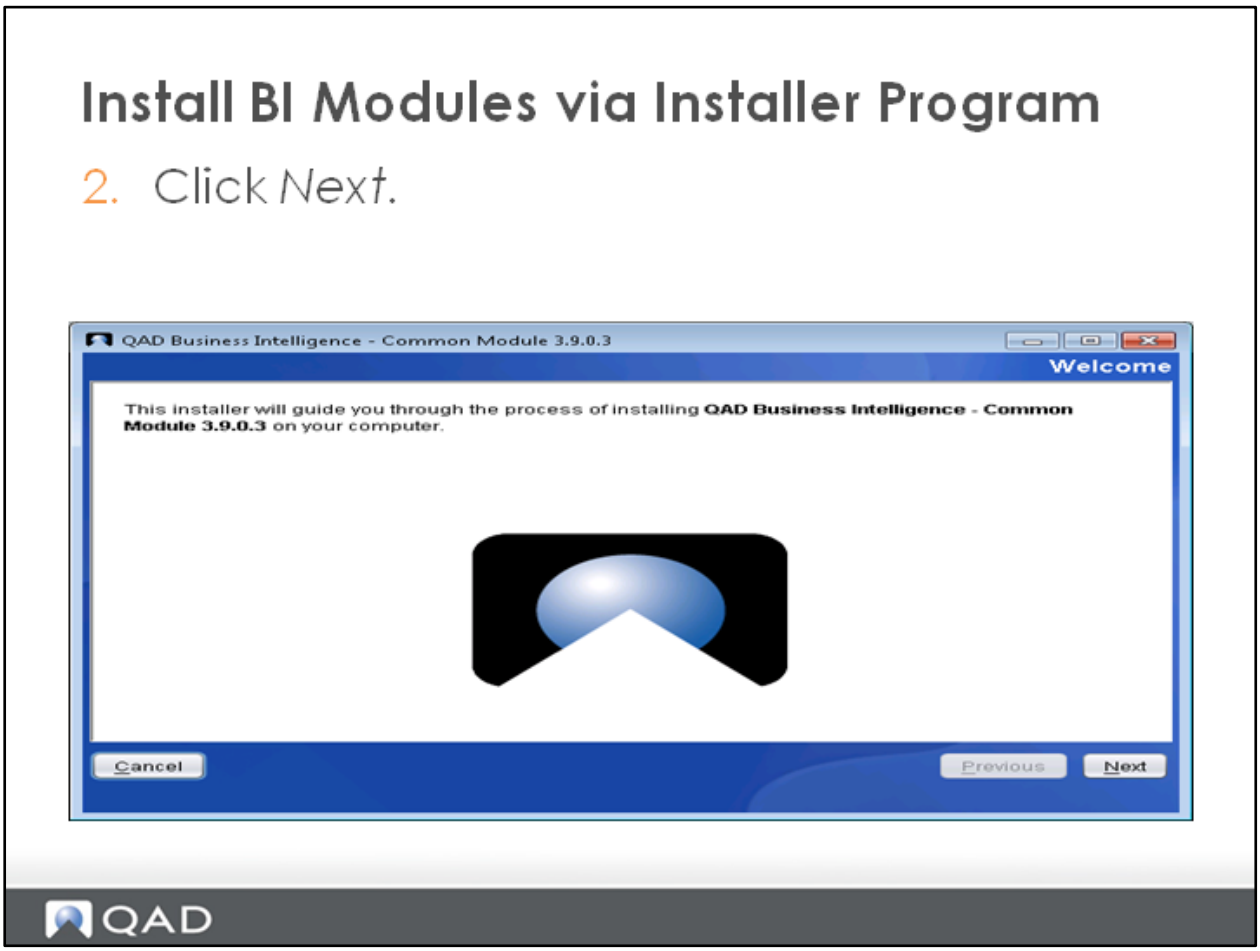


Note the portal URLs.

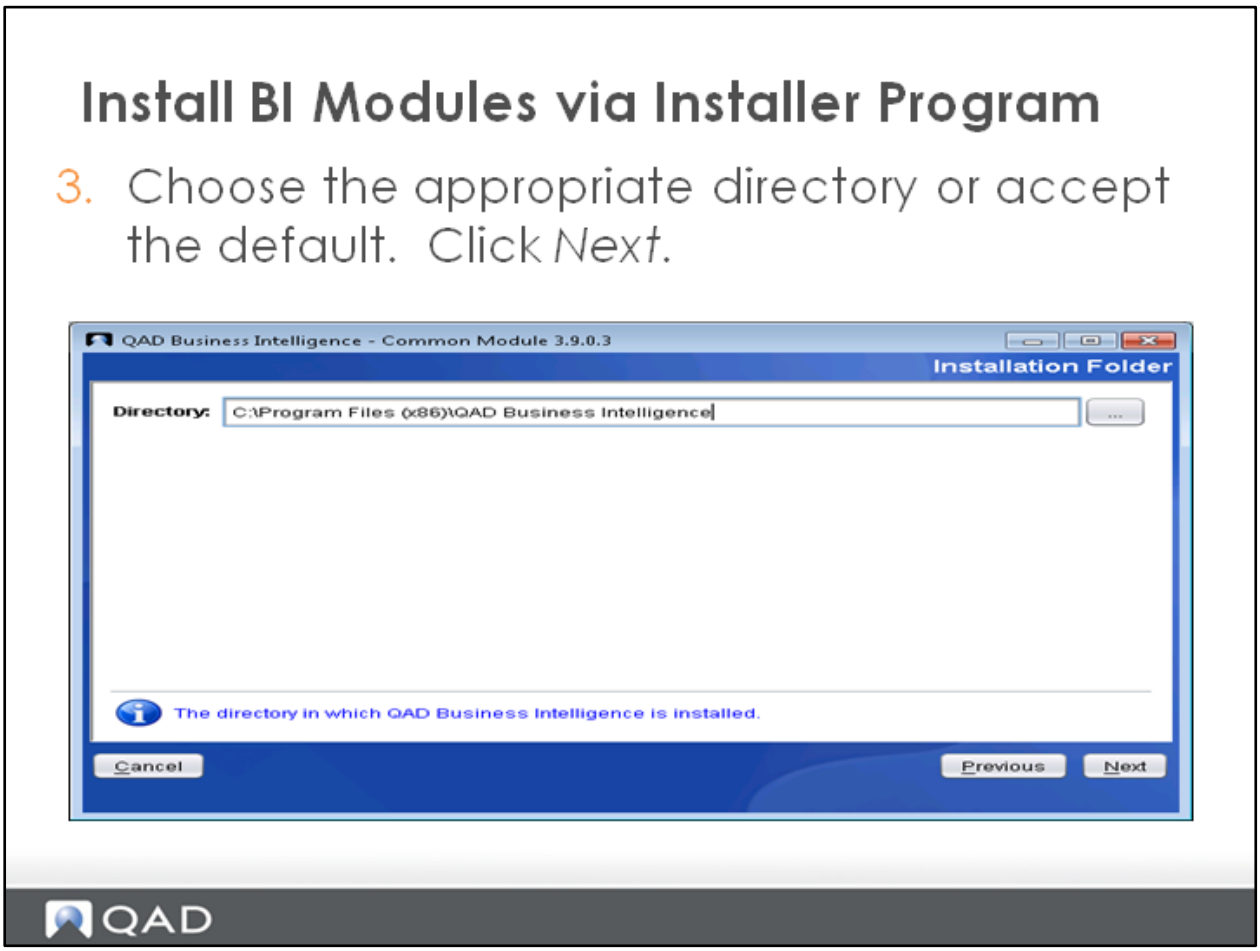
Install BI Modules via Installer Program



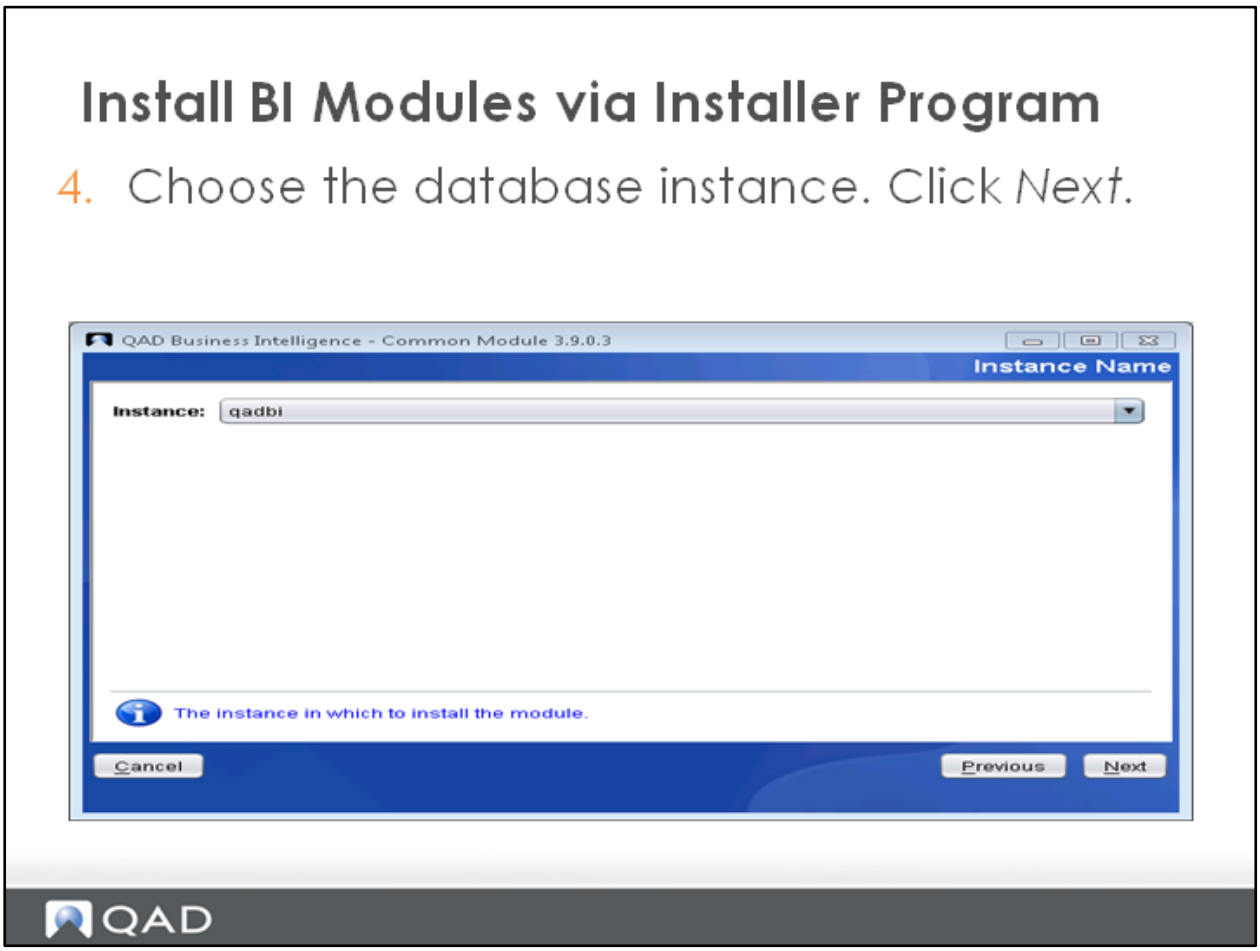
Install BI Modules via Installer Program



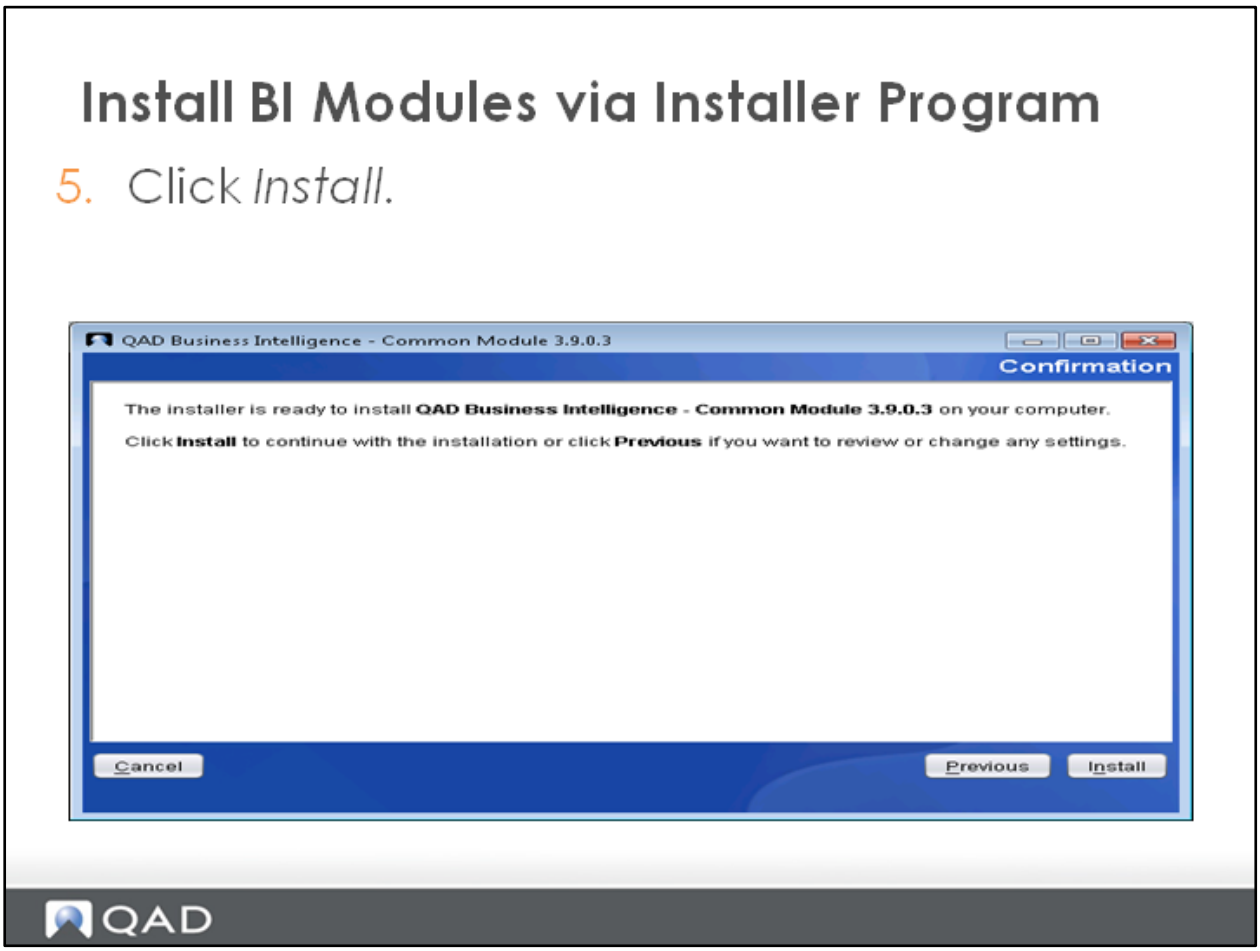
Install BI Modules via Installer Program



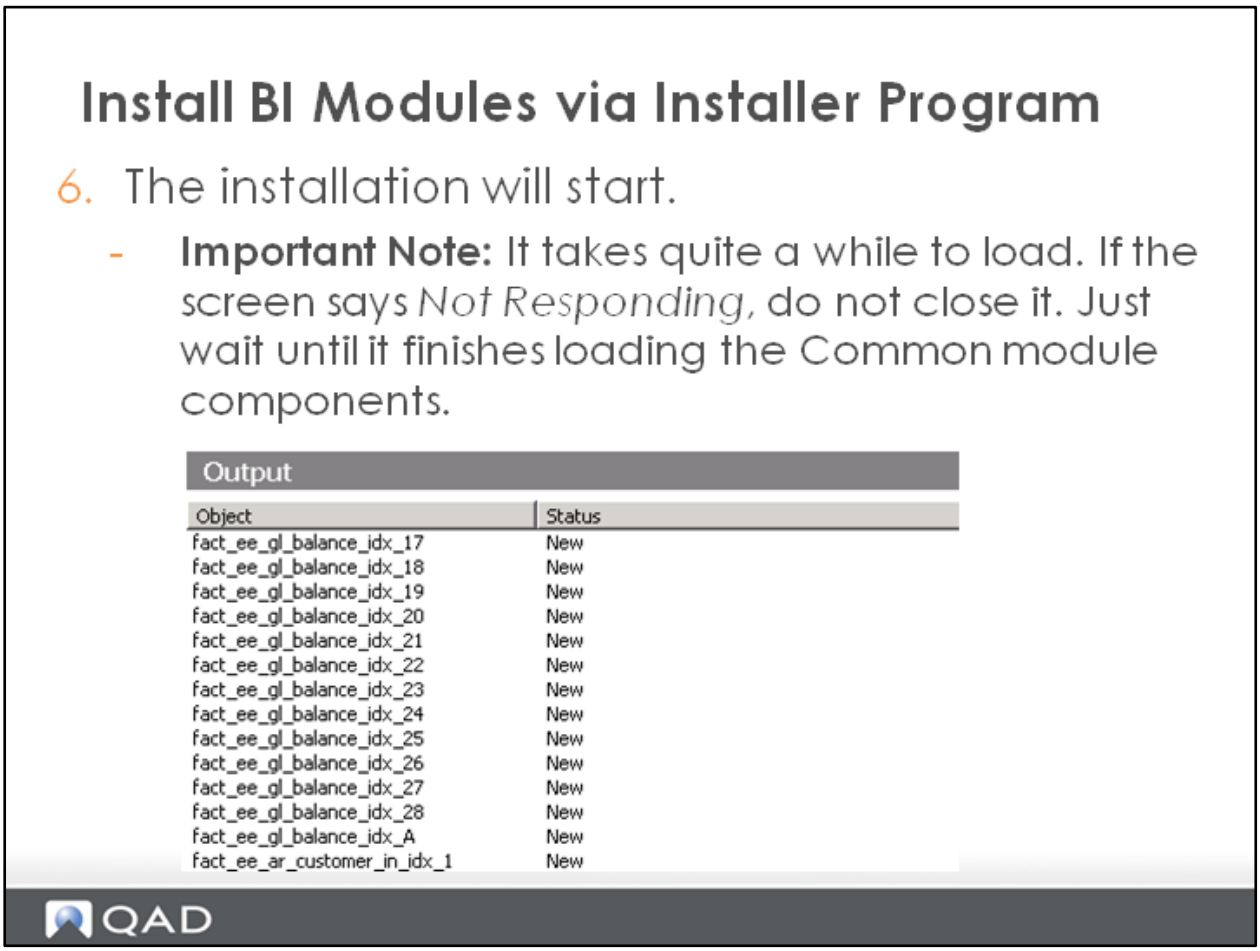
Install BI Modules via Installer Program



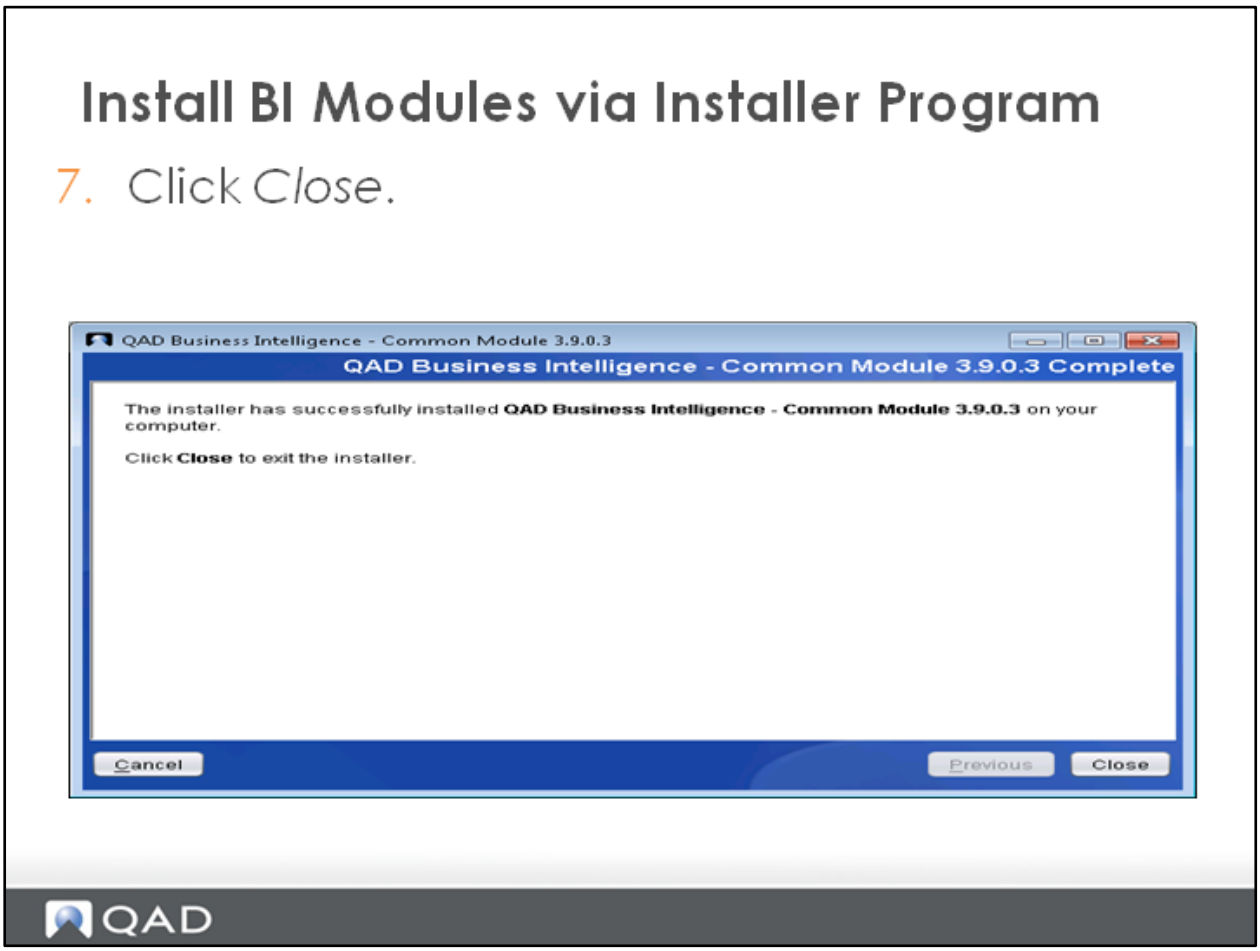
Install BI Modules via Installer Program



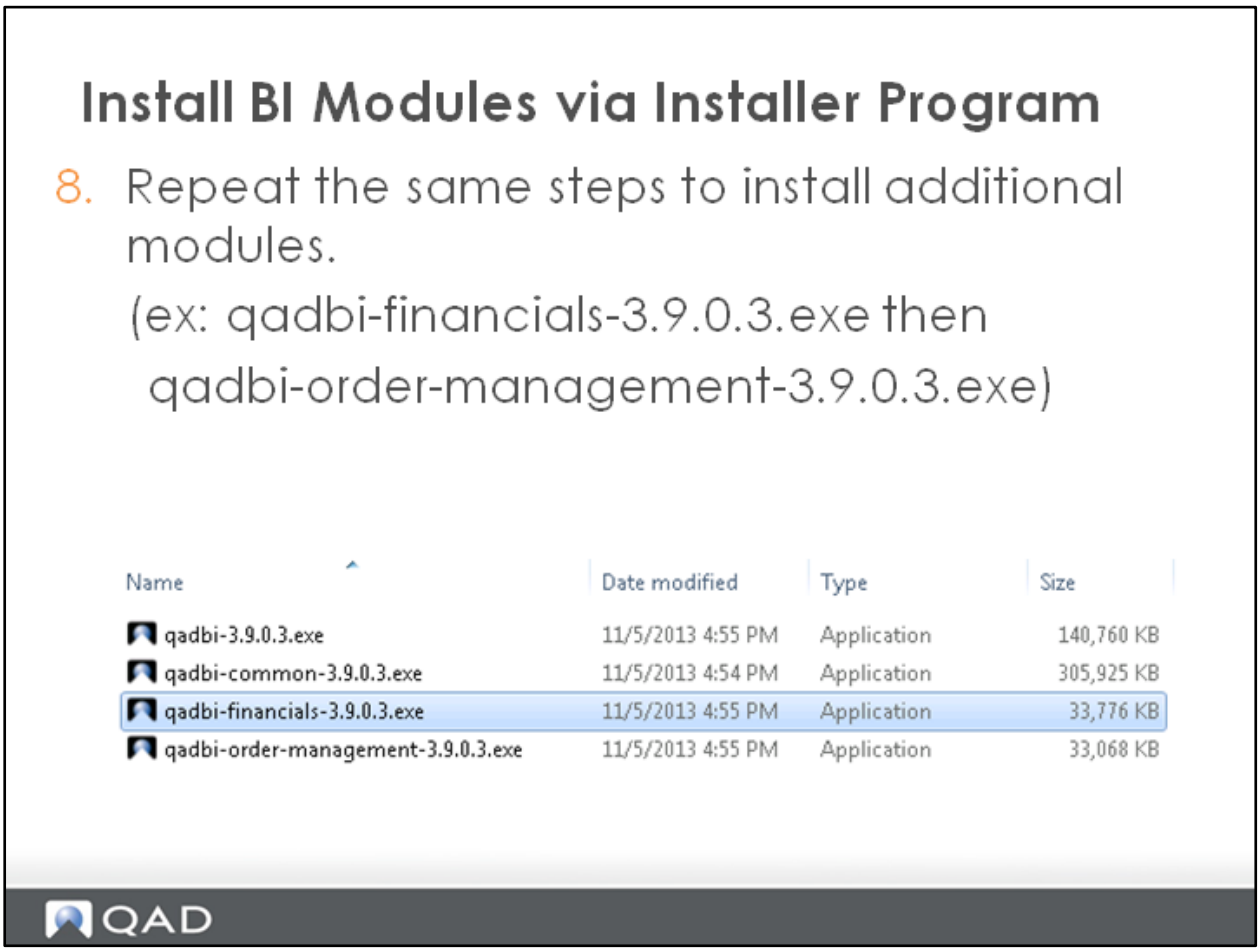
Install BI Modules via Installer Program



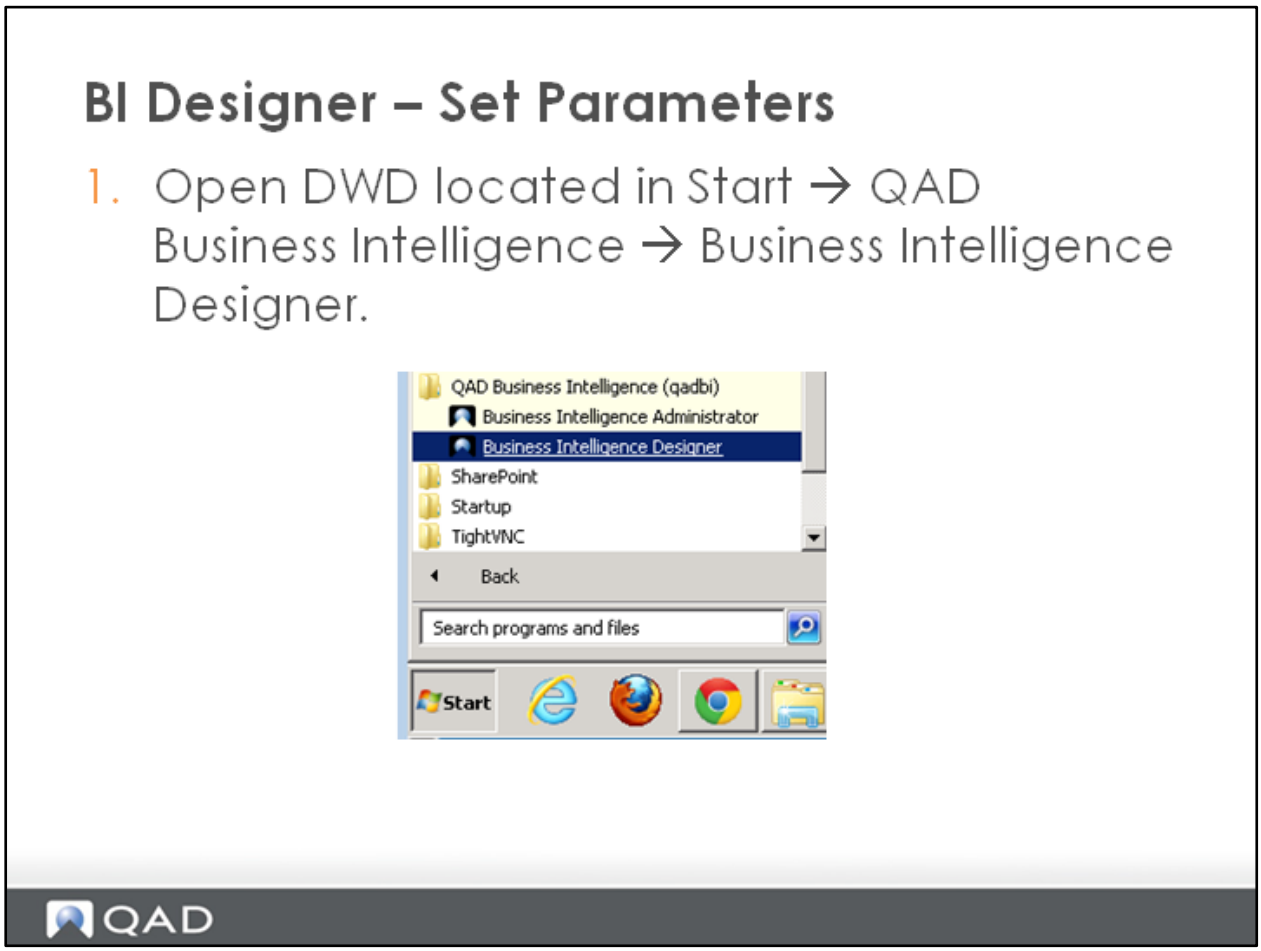
Install BI Modules via Installer Program



Install BI Modules via Installer Program



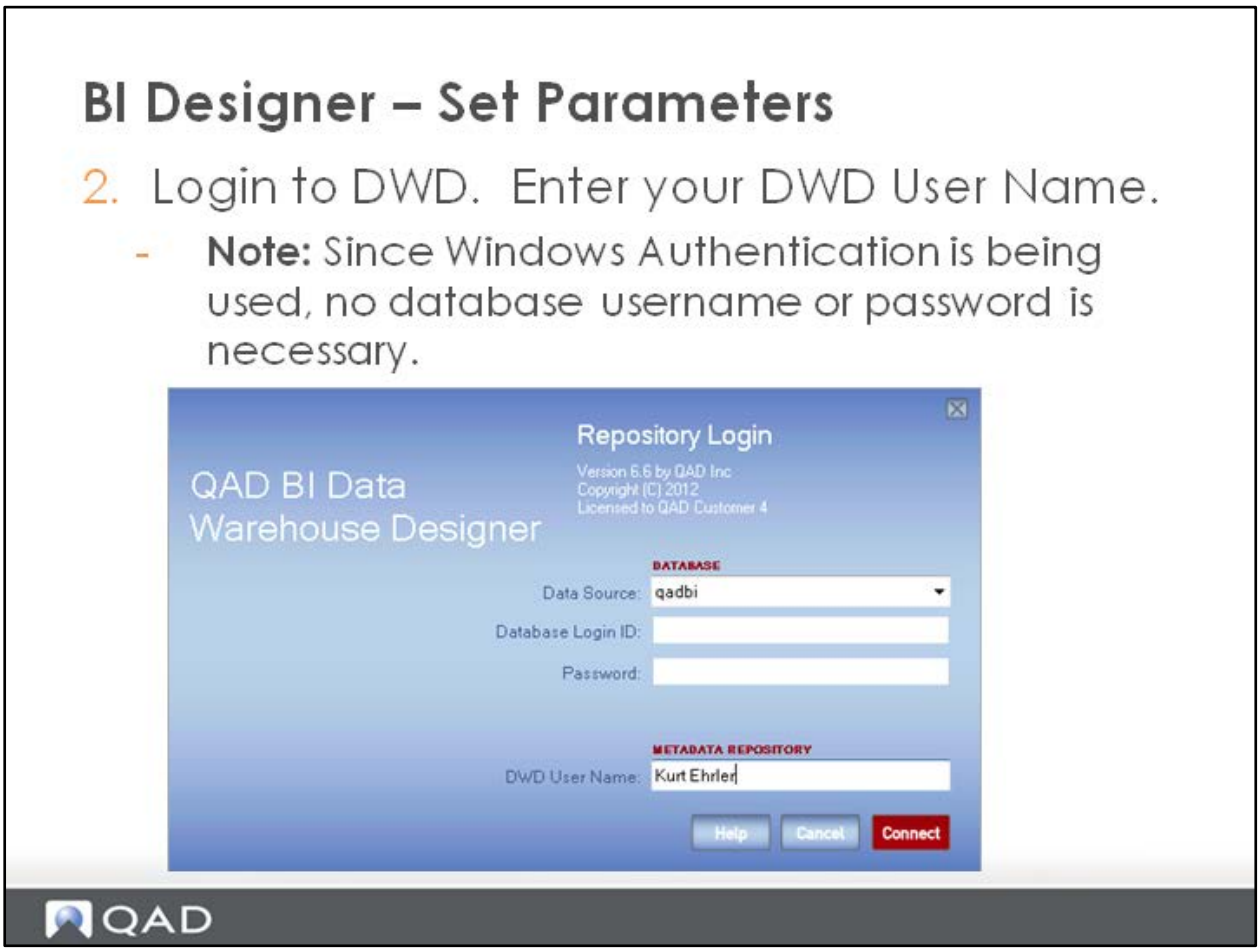
BI Designer – Set Parameters



While you wait for the modules to finish loading, work on the parameters.

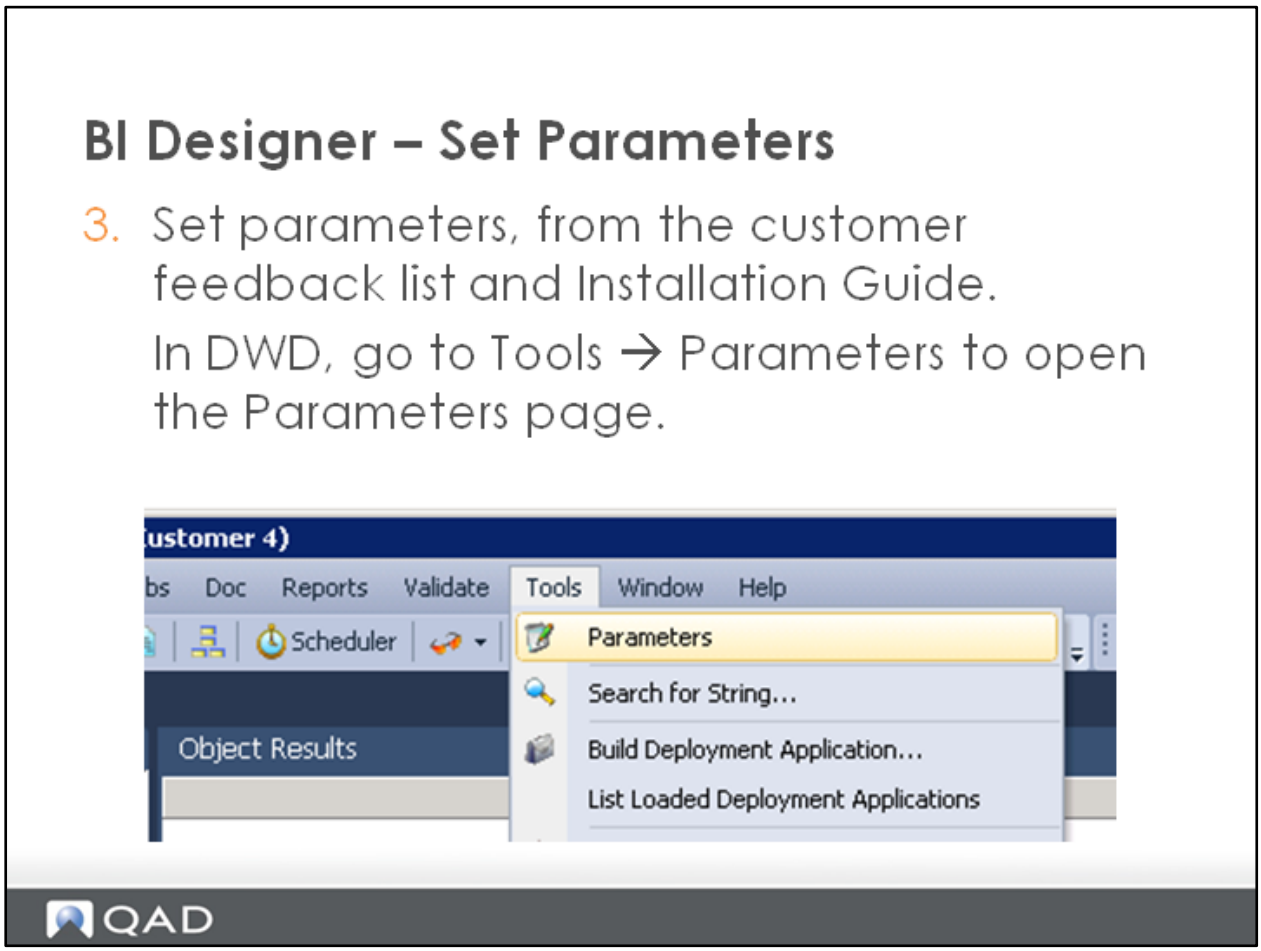
Double click to launch the program.

BI Designer – Set Parameters



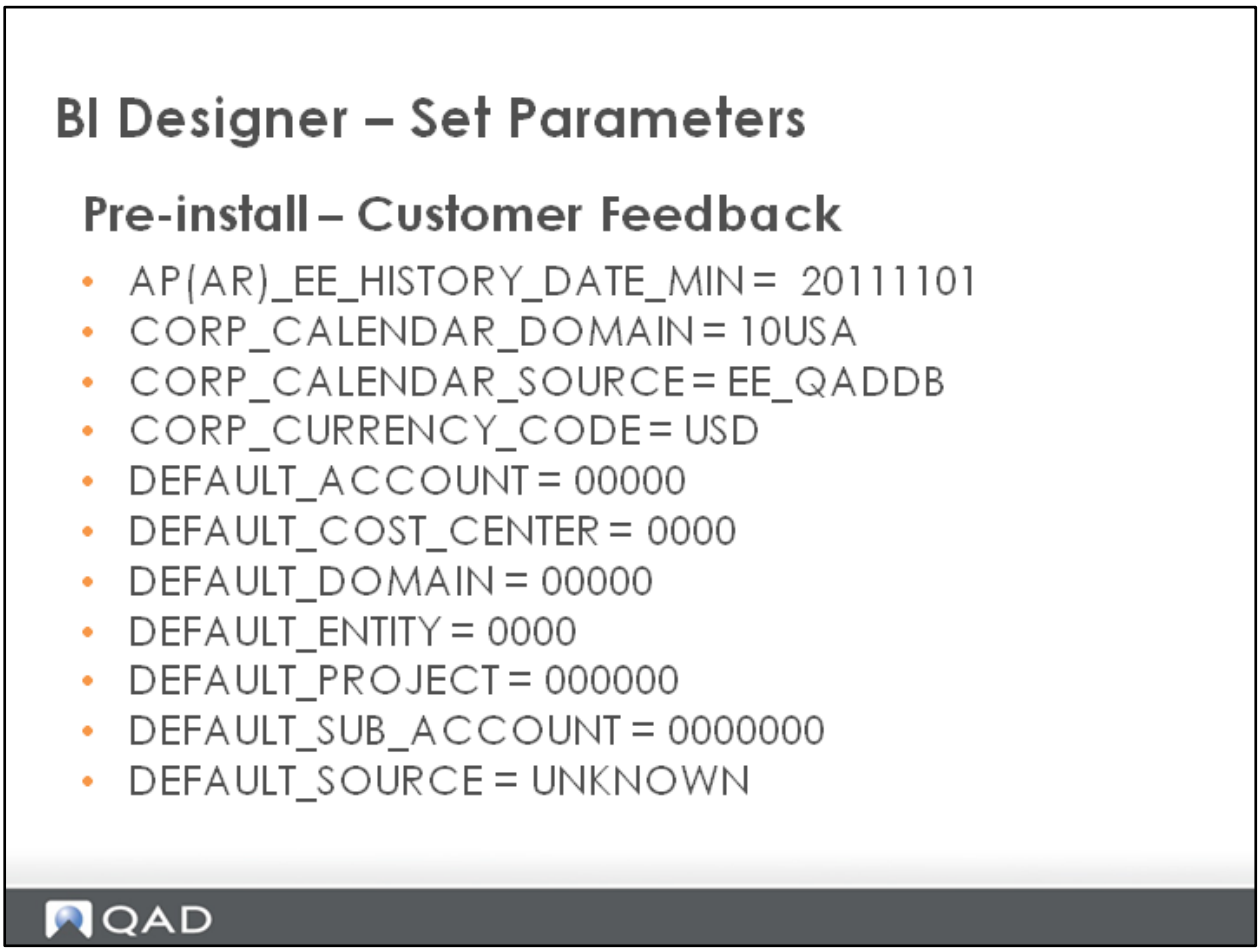
Data Source is the name of the defined database instance.

BI Designer – Set Parameters



Each customer may have different requirements that result in setting parameters differently for those customers.

BI Designer – Set Parameters

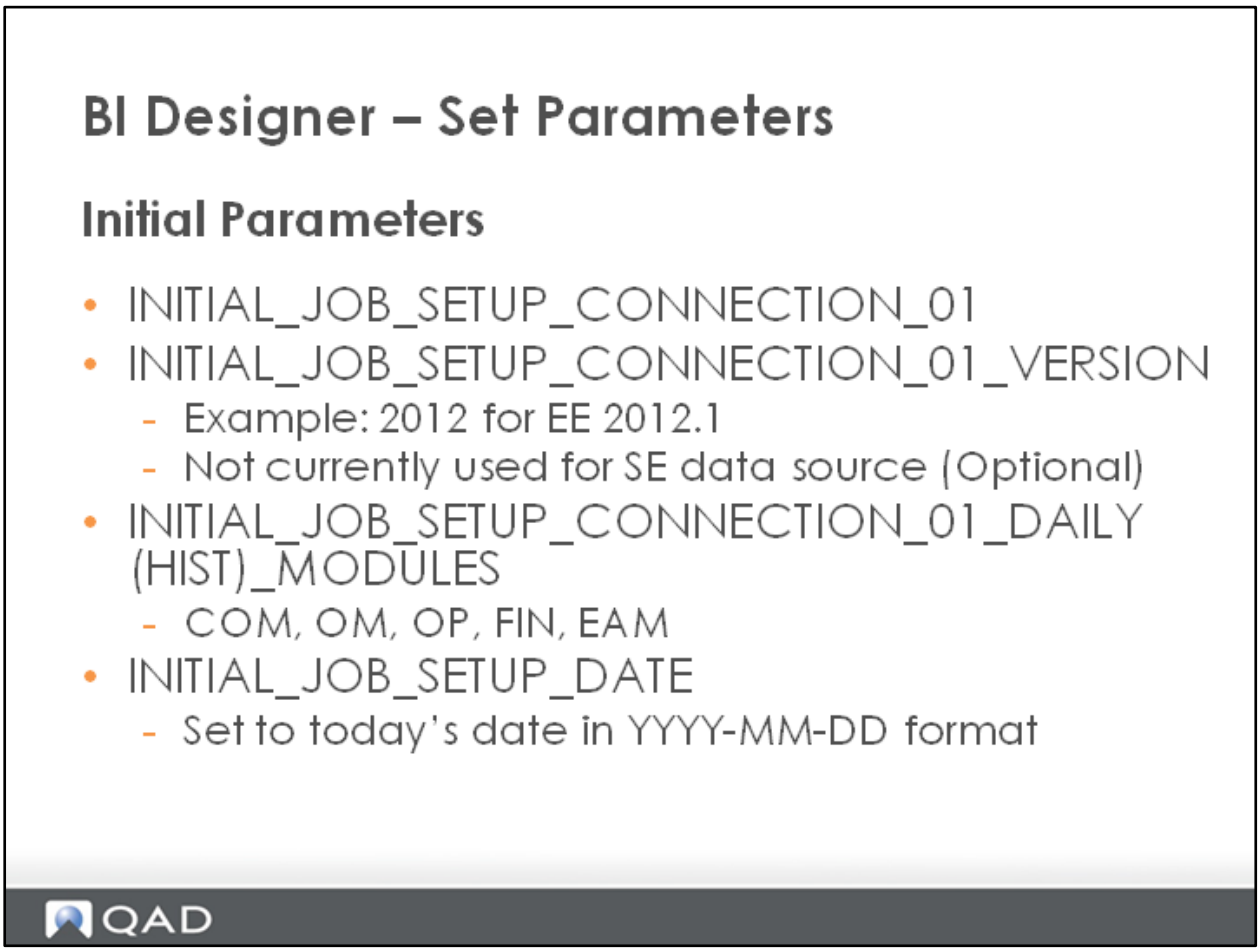


For EE financials, years back on AP/AR snapshot tables is dependent on the customer. Three years is typical, but snapshots take up a lot of space, so the customer may want to have less years. For the purpose of the class, we'll just do 2 years.

CORP values are the common denominator calendar and currency that will be used across all sources.

For the DEFAULT_ GL accounts values, check with the customer what values they want in the event that there are unknown or null values for the GL account fields. Sometimes they have already allocated our default values as valid numbers, so it's important to confirm these values are ok, or change them to whatever value they would prefer.

BI Designer – Set Parameters

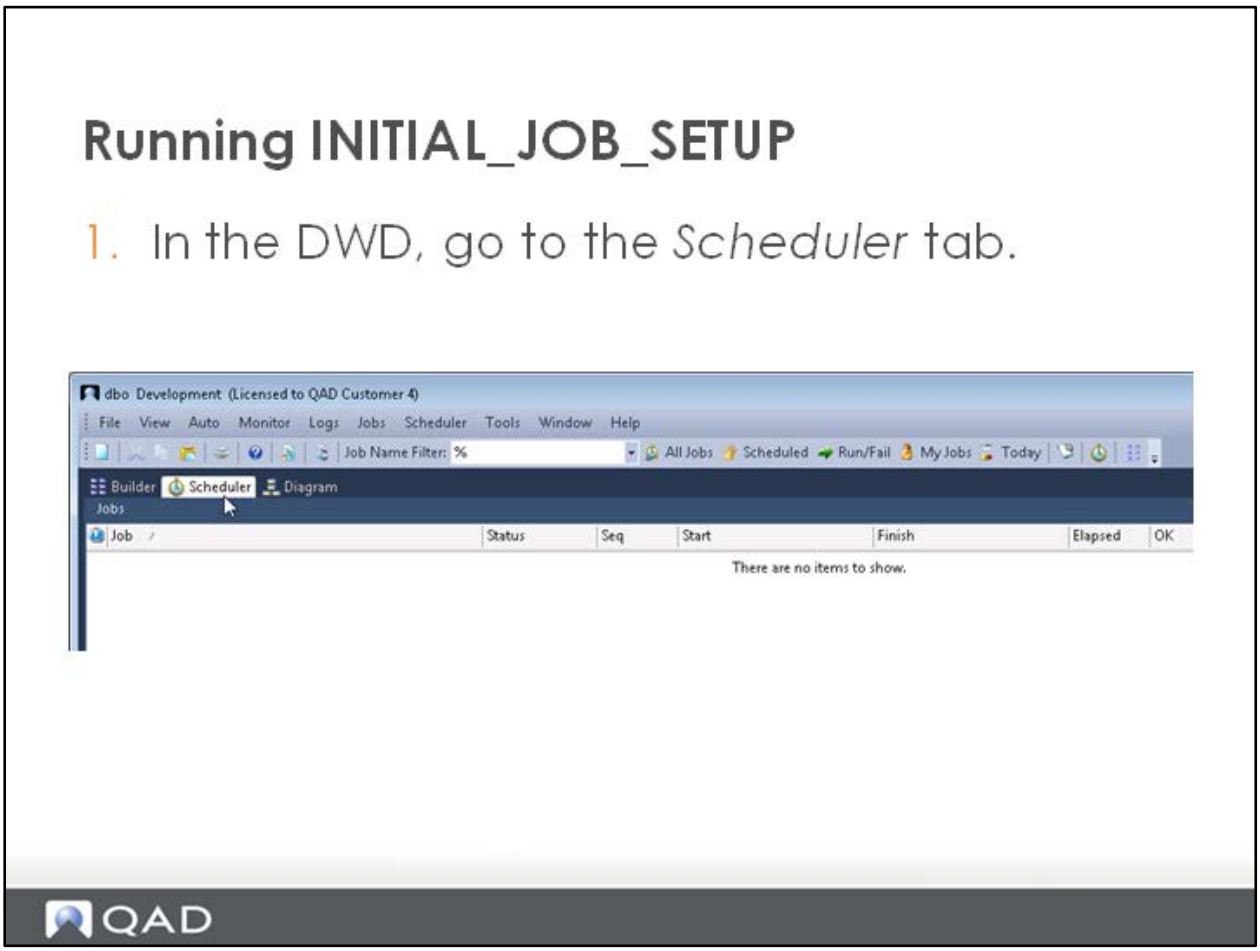


For INITIAL_JOB_SETUP_CONNECTION there are the following:

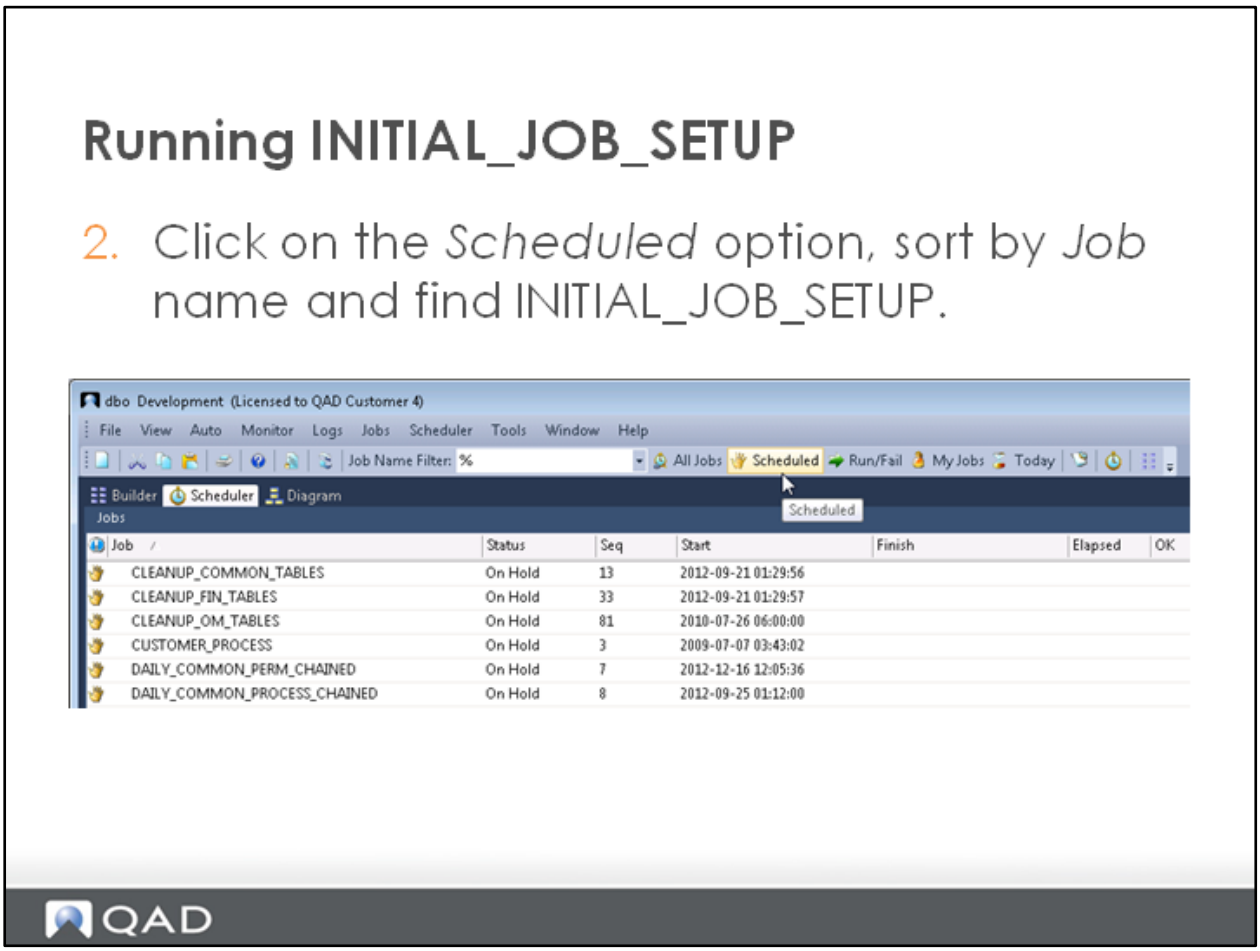
- INITIAL_JOB_SETUP_CONNECTION_xx – The connection name.
- INITIAL_JOB_SETUP_CONNECTION_xx_DAILY_MODULES – The modules being installed that should be run daily. By default, all module options (except TM) are added by the Installer. If for some reason, a module is installed for one source, but shouldn't be used for another source, remove the module from it's related source. It's ok if modules are listed that are not installed, the startup program just ignores them.
- INITIAL_JOB_SETUP_CONNECTION_xx_HIST_MODULES – The modules being installed that should run for historical load. This part gives you an option in the future to install additional modules that hadn't been loaded before. For the initial installation, DAILY and HIST should be the same. By default, all module options (except TM) are added by the Installer. If for some reason, a module is installed for one source, but shouldn't be used for another source, remove the module from it's related source. It's ok if modules are listed that are not installed, the startup program just ignores them.
- INITIAL_JOB_SETUP_CONNECTION_xx_RUN – Defaults to N. Becomes Y after the installation is complete. Can be set back to N to rerun installation process if necessary.

- INITIAL_JOB_SETUP_CONNECTION_xx_TYPE – Pick whether this is an SE or EE data source. This is set via the installer.
- INITIAL_JOB_SETUP_CONNECTION_xx_VERSION – Pick which version of EE the code is for (2010,2011, 2012). It's only the EE source data that requires this parameter to be filled. For SE it doesn't matter what you put here.
- INITIAL_JOB_SETUP_DATE – Today's date in the format requested. This sets the current date for many of the parameters once the INITIAL_JOB_SETUP is run. It's also set by the Installer.

Running INITIAL_JOB_SETUP



Running INITIAL_JOB_SETUP

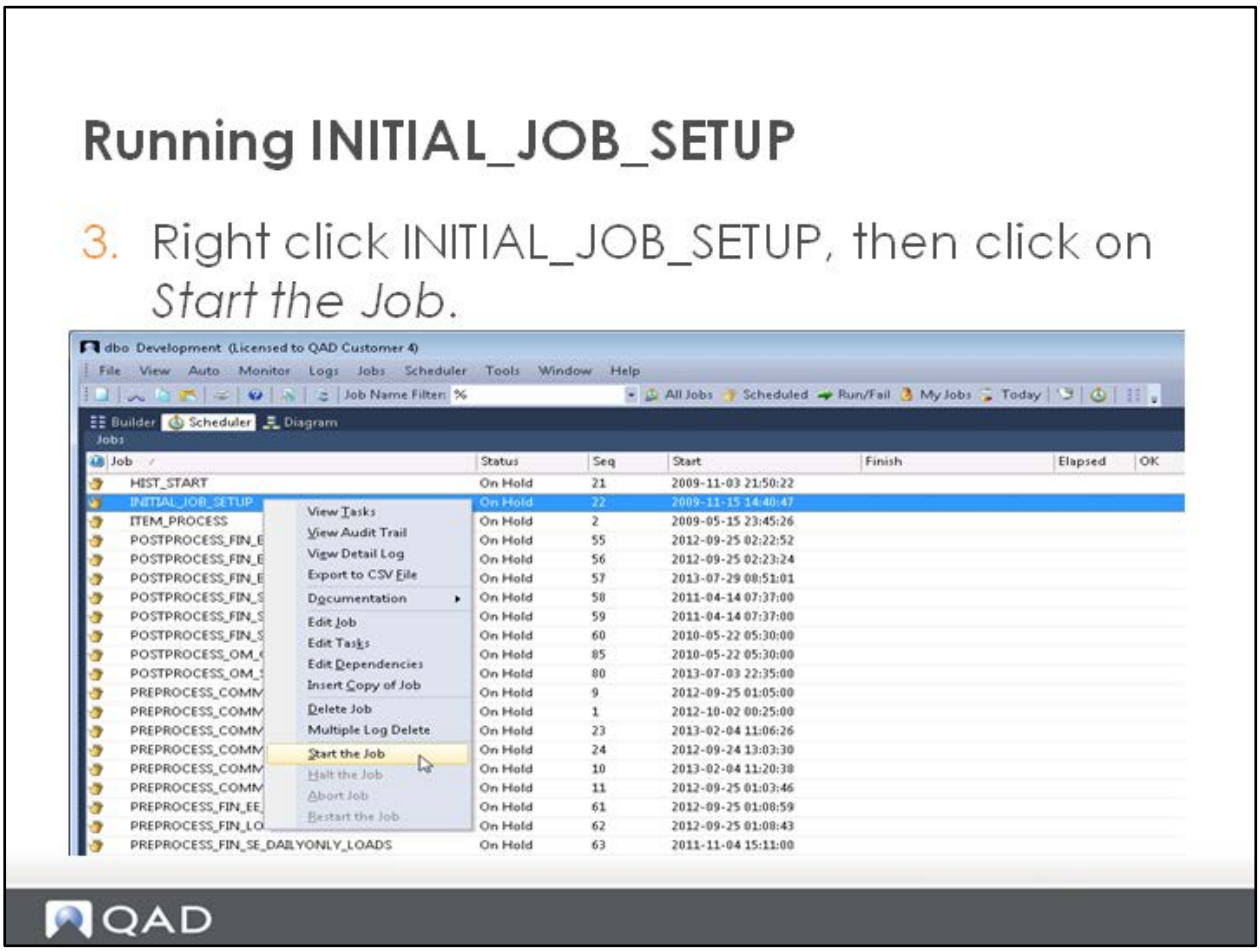


The Scheduled tab is between All Jobs and Run Fail.

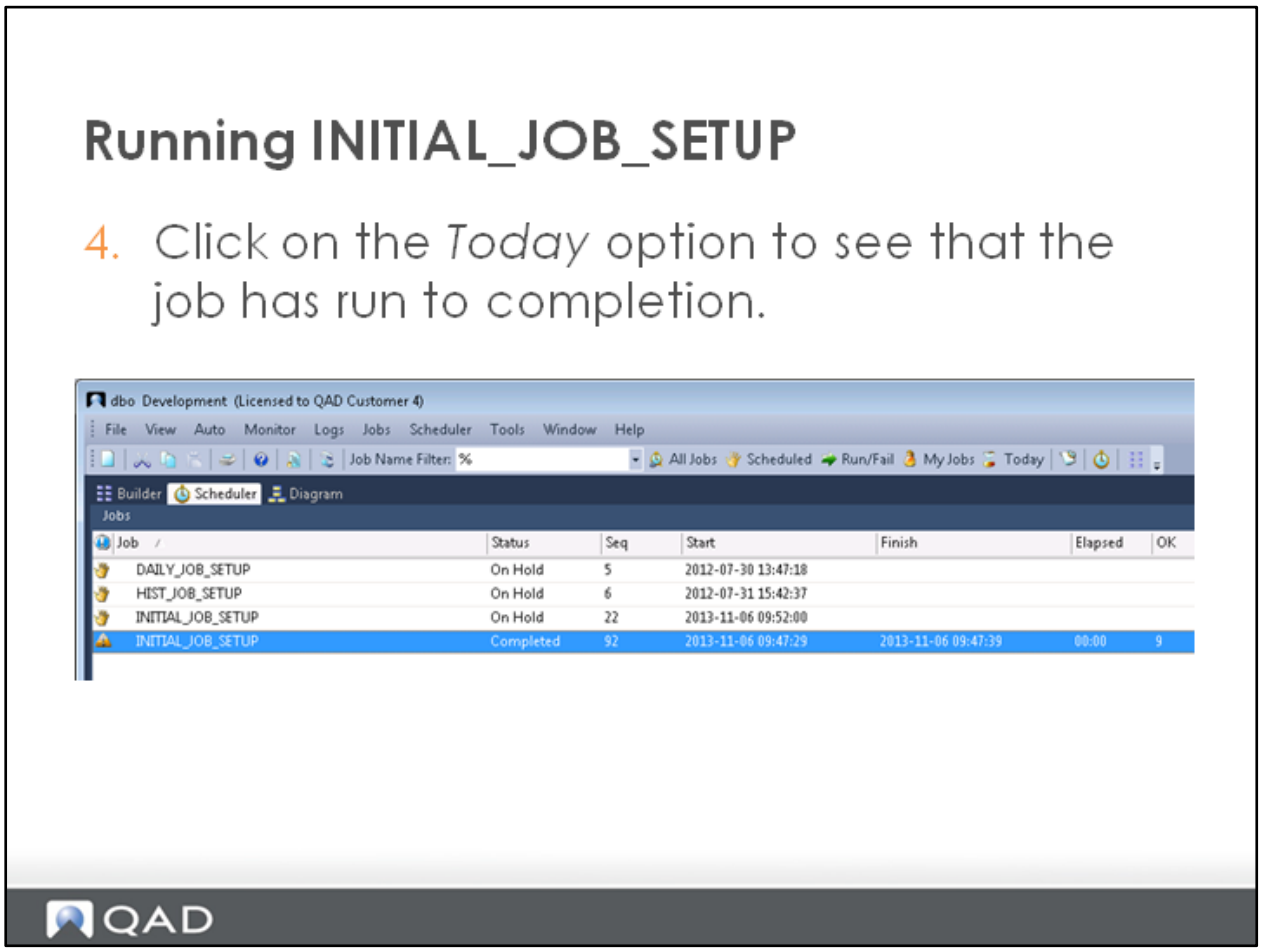
Then click on the tab called Job over the list of job names.

Then find the job INITIAL_JOB_SETUP.

Running INITIAL_JOB_SETUP

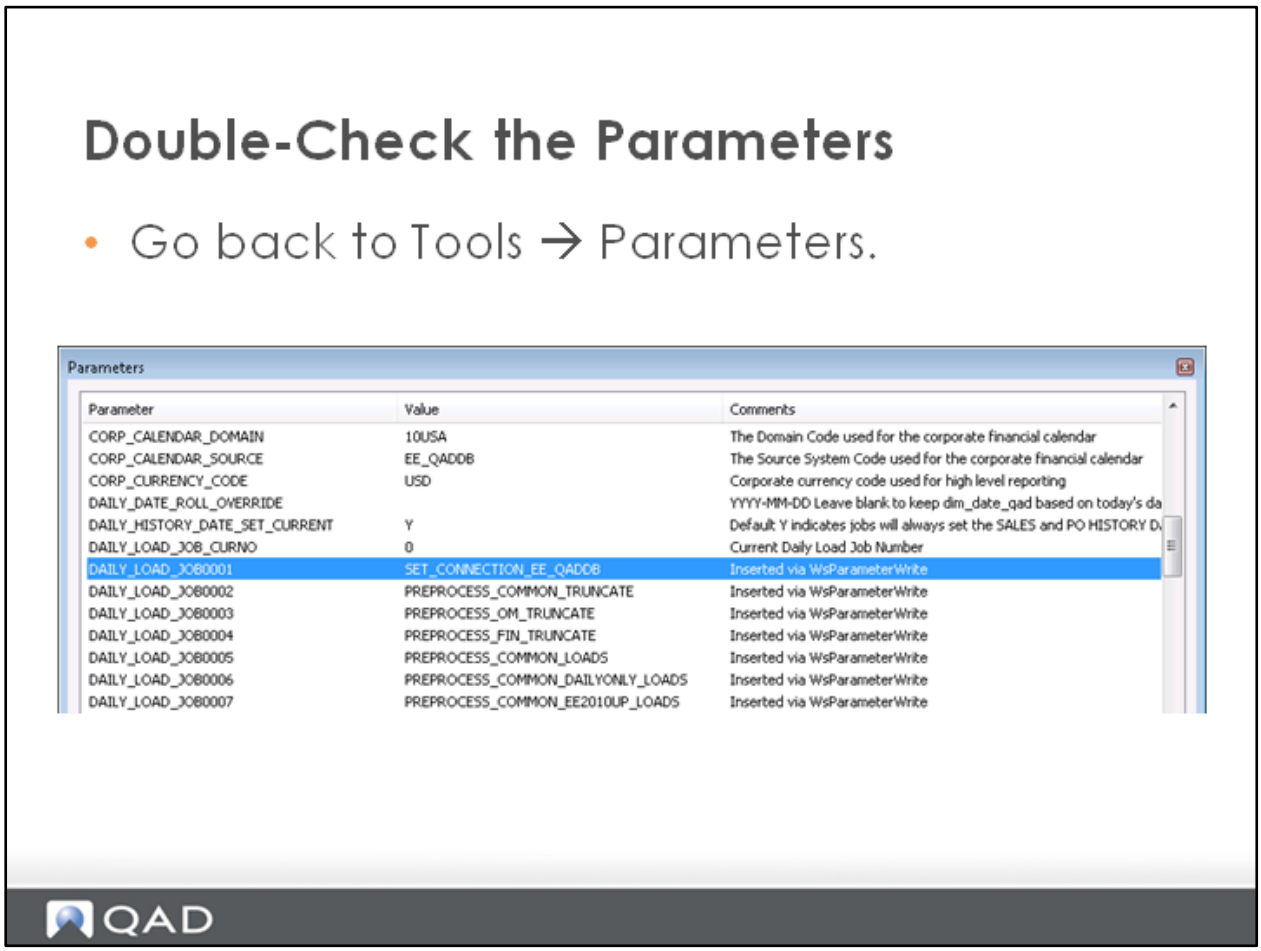


Running INITIAL_JOB_SETUP



This job runs very quickly.

Double-Check the Parameters



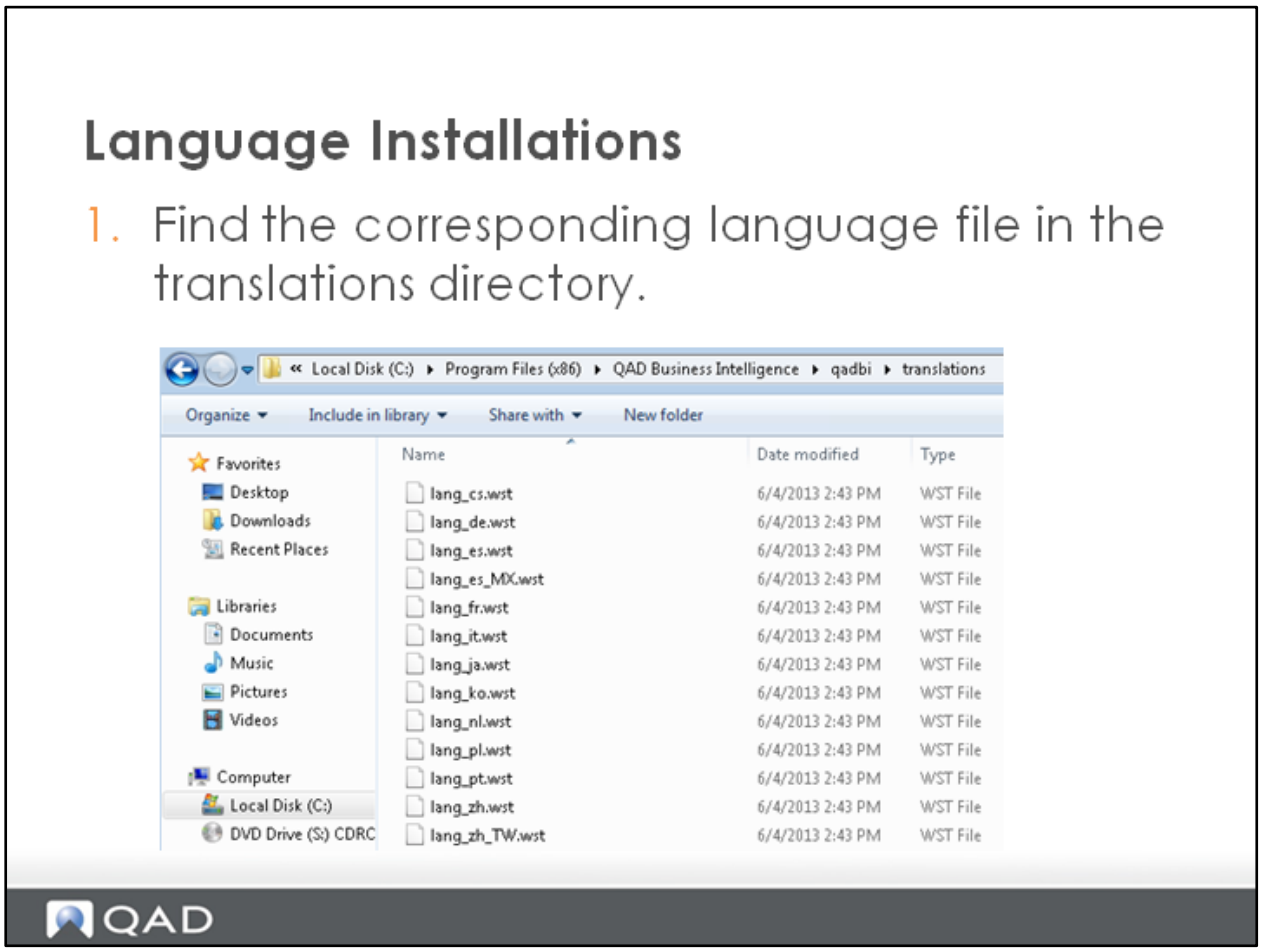
After the INITIAL_JOB_SETUP job runs, the DAILY_LOAD_JOB_ and HIST_LOAD_JOB_ lists will have a list of all the jobs that will run to populate all the various tables.

If this is not the case something went wrong with the INITIAL_JOB_SETUP.

Also make sure that there are no date parameters with <> brackets around them. Easiest way to check this is to confirm that the AP_SE_HISTORY_PROCESS_DATE and INITIAL_JOB_SETUP_DATE have actual dates in them.

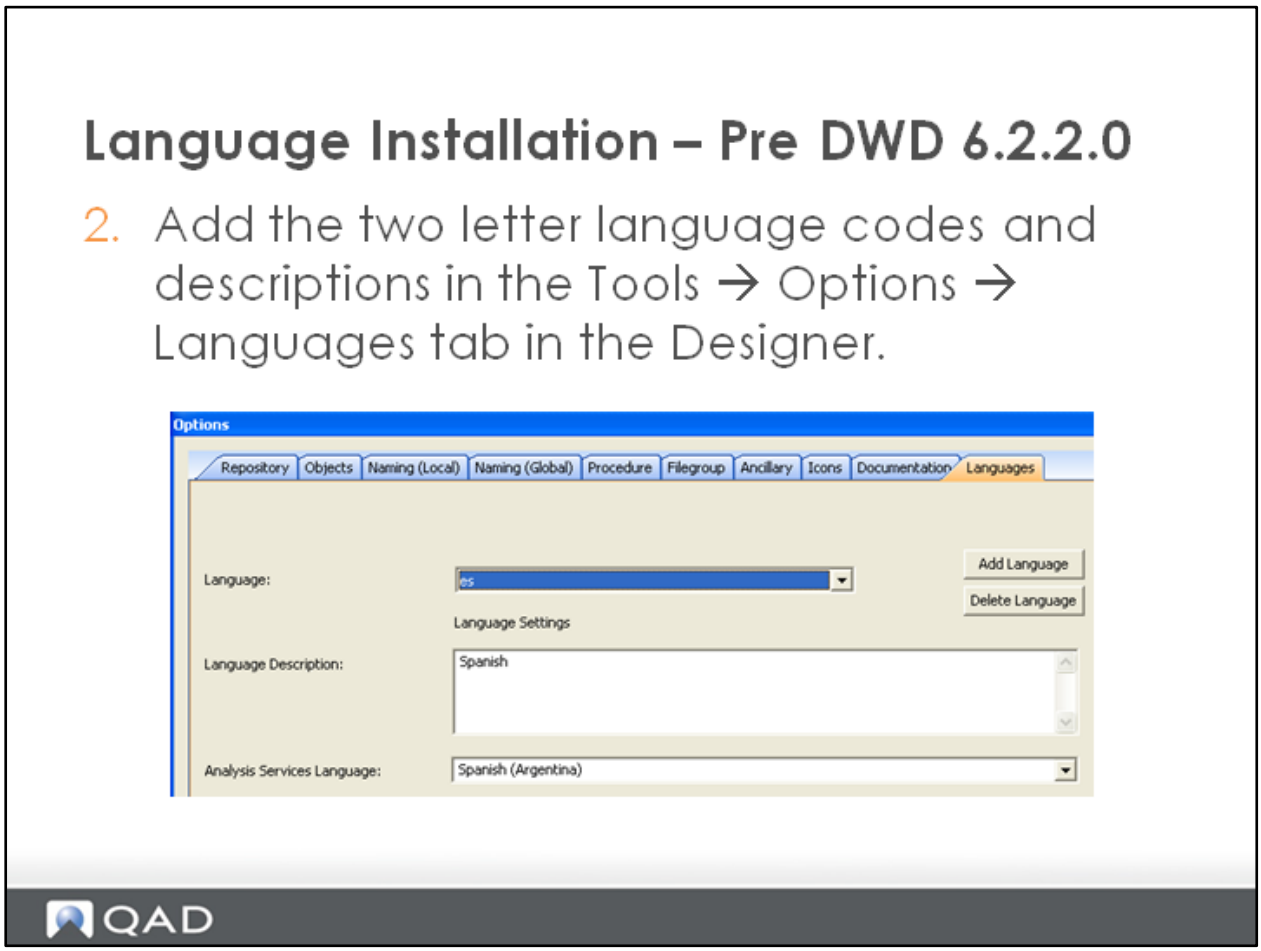
If there are any problems, correct them and run INITIAL_JOB_SETUP again.

Language Installations



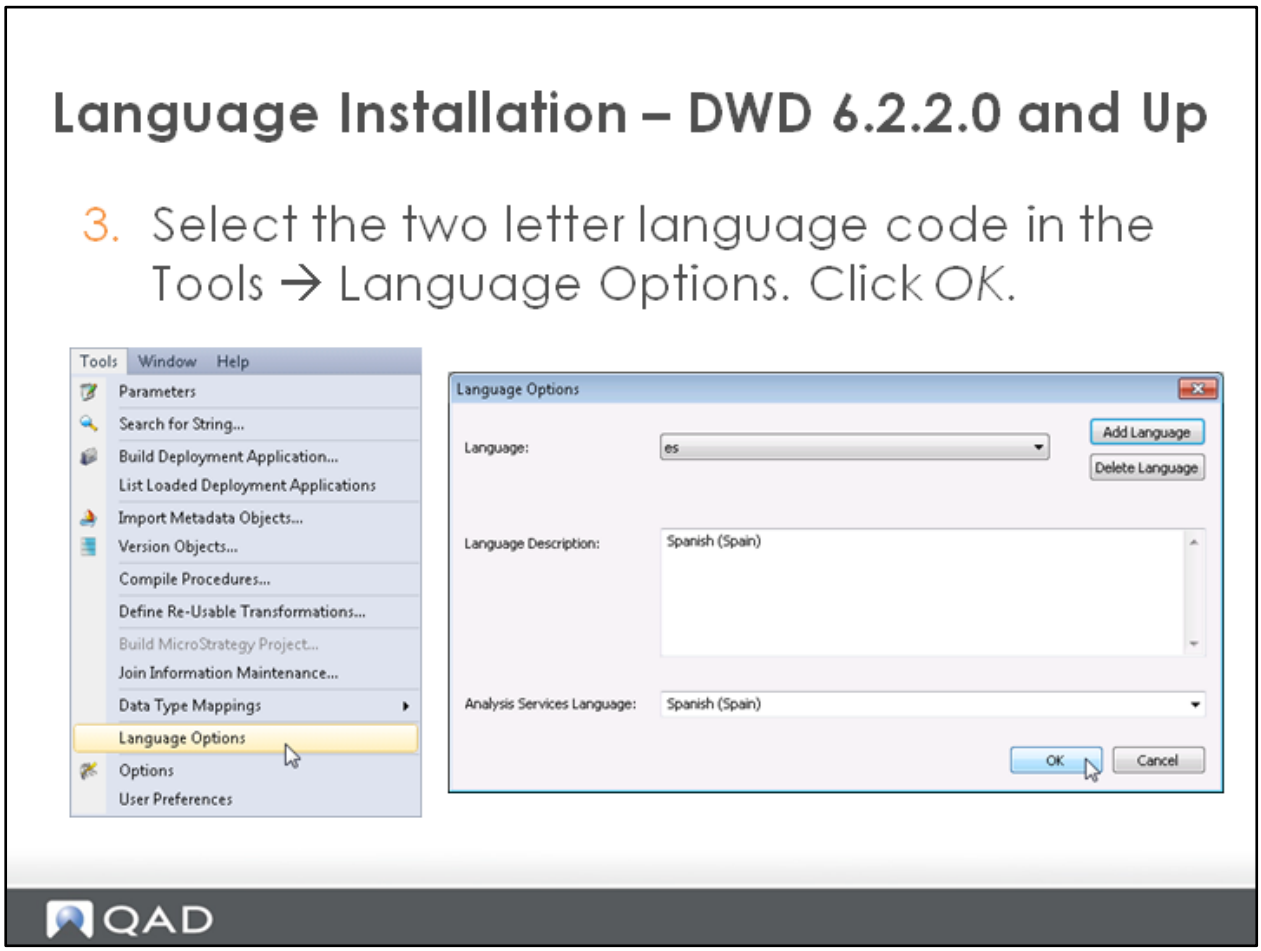
Look for this under the contents of the zipped file under C:\Program Files (x86)\QAD Business Intelligence\qadbi\translations

Language Installation – Pre DWD 6.2.2.0



In QAD BI DWD (Data Warehouse Designer) tool, choose Tools/Options. Click on the Languages tab and add the codes for the language files you want to install. (E.g., ‘es’ for Spanish, ‘fr’ for French, ‘zh’ for simplified Chinese, ‘zh_TW’ for traditional Chinese. The complete set of files will be in the metadata package, under C:\Program Files (x86)\QAD Business Intelligence\qadbi\translations; the file names are in the format lang_ then the code then .wst - for example, lang_zh_TW.wst for traditional Chinese). The interface can be a little misleading here. It requires that you click the Add Language button, then type in a language or abbreviation in the Language drop down menu. What you type will help you find language options in the Analysis Services Languages list, but doesn’t have to in any way match or limit what is in that list. What you type for the Language is simply used for reference purposes in later steps. If you type ES, the ISO abbreviation for Spanish, the Analysis Services Language drop down will display Estonian. You can just click on the drop down and scroll down to which Spanish option you want to select at that time.

Language Installation – DWD 6.2.2.0 and Up

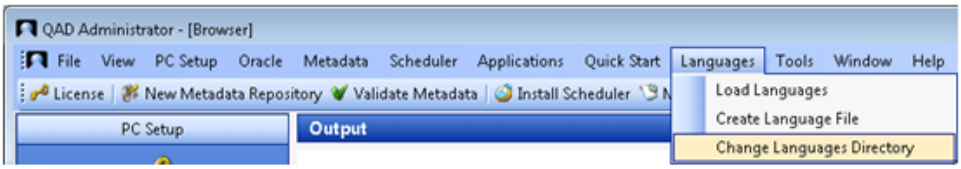


In QAD BI DWD (Data Warehouse Designer) tool, choose Tools -> Language Options. Click on the Add Language button to add the codes for the language files you want to install. (E.g., ‘es’ for Spanish, ‘fr’ for French, ‘zh’ for simplified Chinese, ‘zh_TW’ for traditional Chinese (or is it Taiwanese?). The complete set of files will be in the metadata package, under metadata/translations; the file names are in the format lang_ then the code then .wst - for example, lang_zh_TW.wst for traditional Chinese). The interface can be a little misleading here. It requires that you click the Add Language button, then type in a language or abbreviation in the Language drop down menu. What you type will help you find language options in the Analysis Services Languages list, but doesn’t have to in any way match or limit what is in that list. What you type for the Language is simply used for reference purposes in later steps. If you type ES, the iso abbreviation for Spanish, the Analysis Services Language drop down will display Estonian. You can just click on the drop down and scroll down to which Spanish option you want to select at that time.

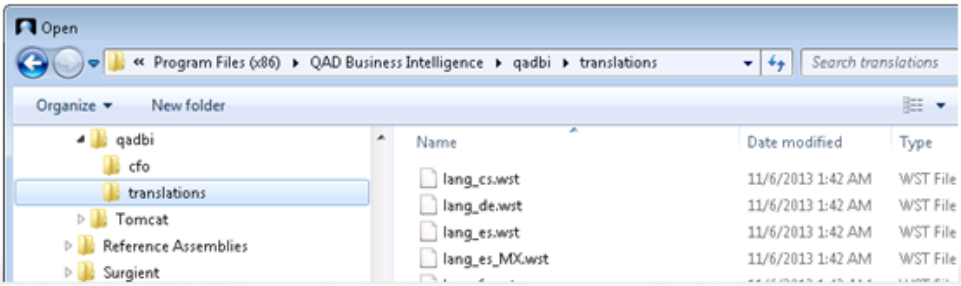
Language Installation

Language Installation

4. Launch QAD BI Administrator and select Languages → Change Languages Directory.

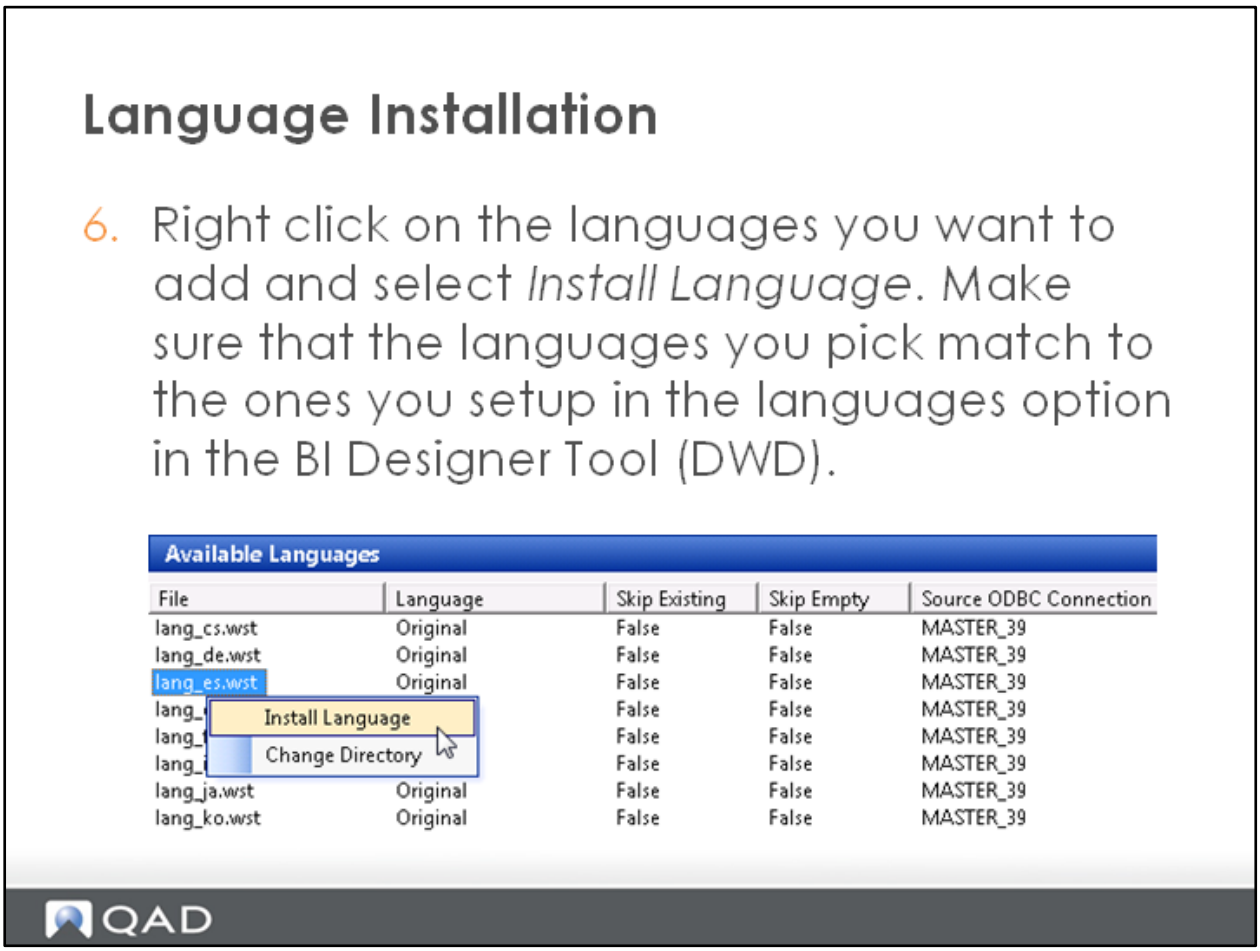


5. Select the translations directory

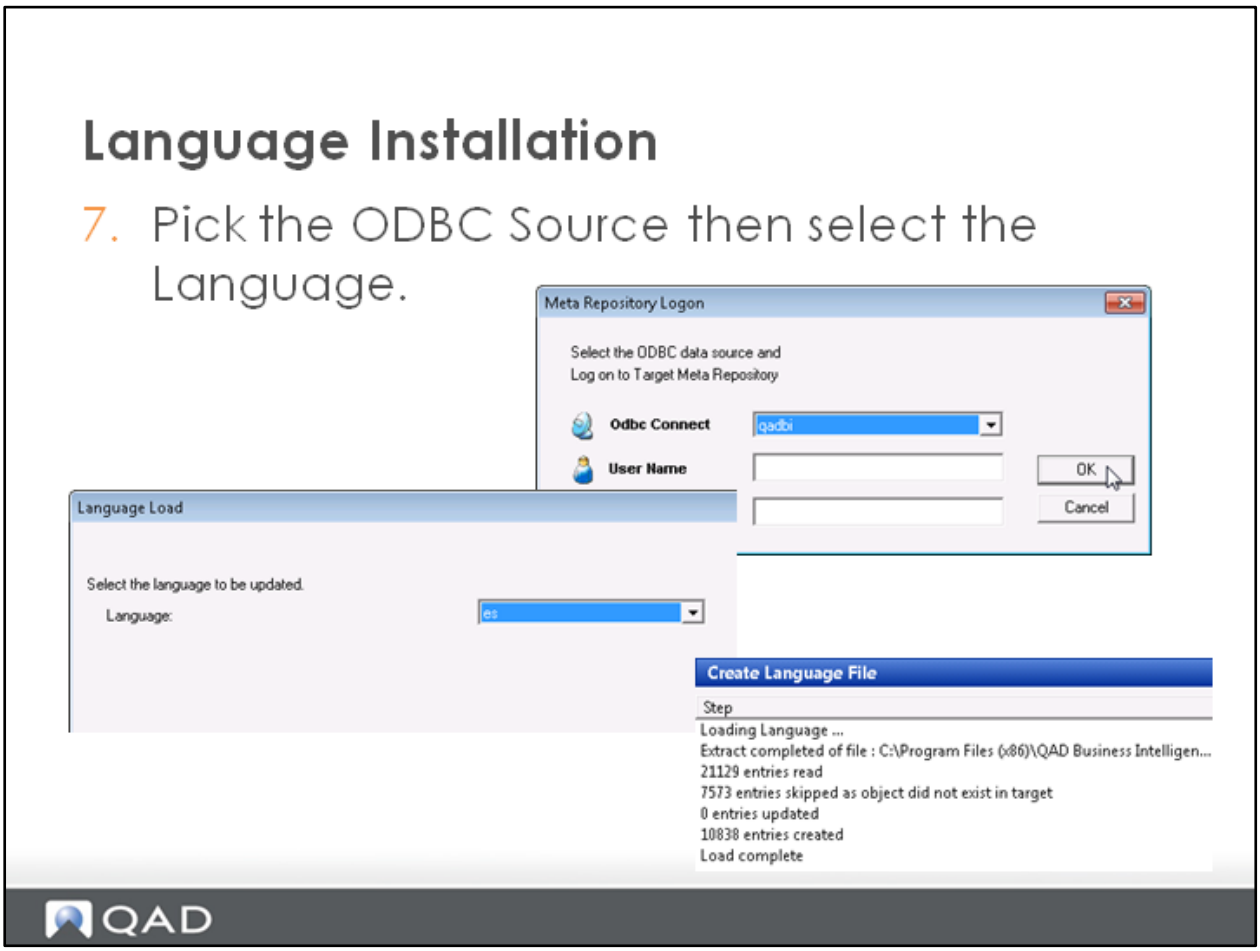


QAD

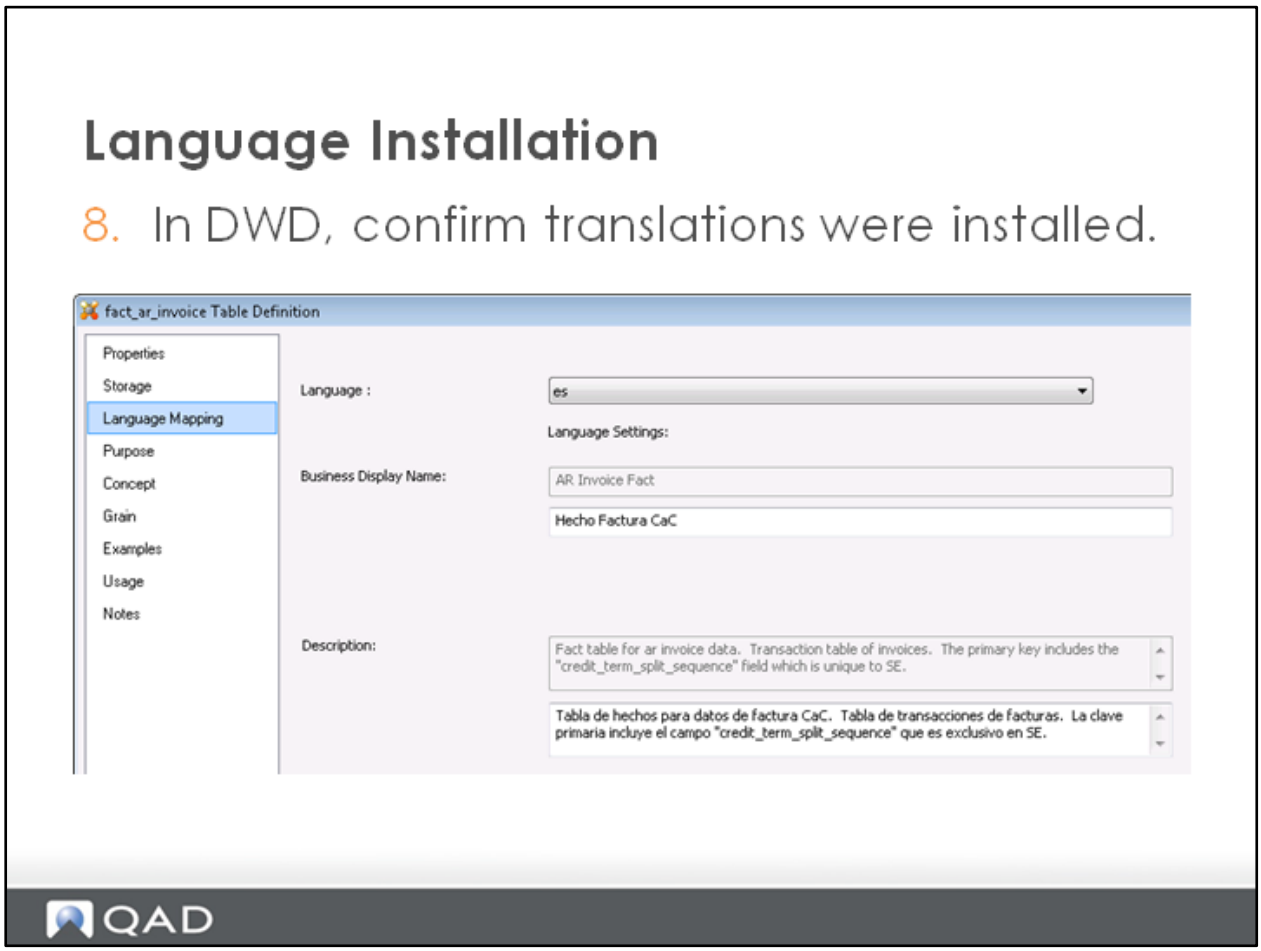
Language Installation



Language Installation

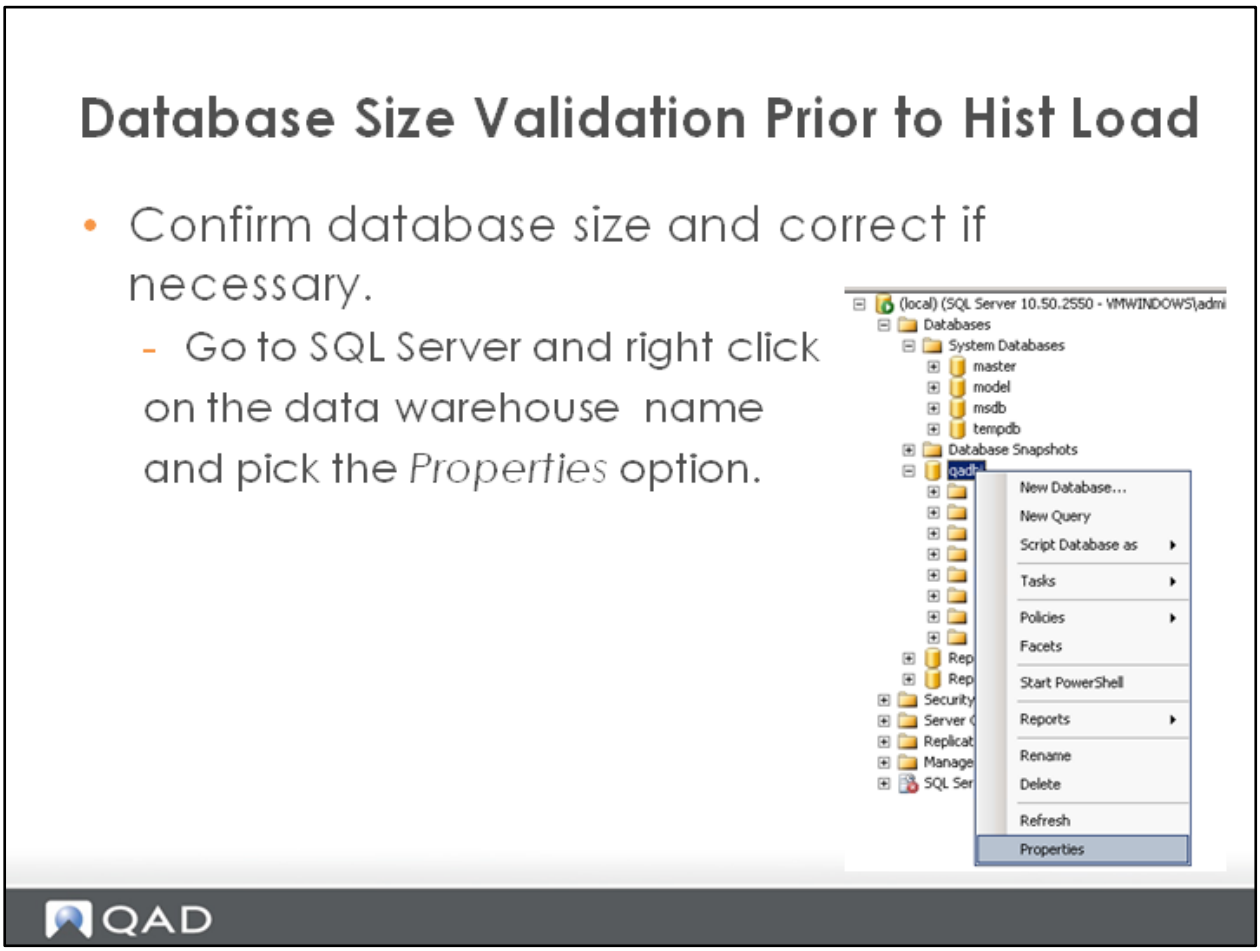


Language Installation

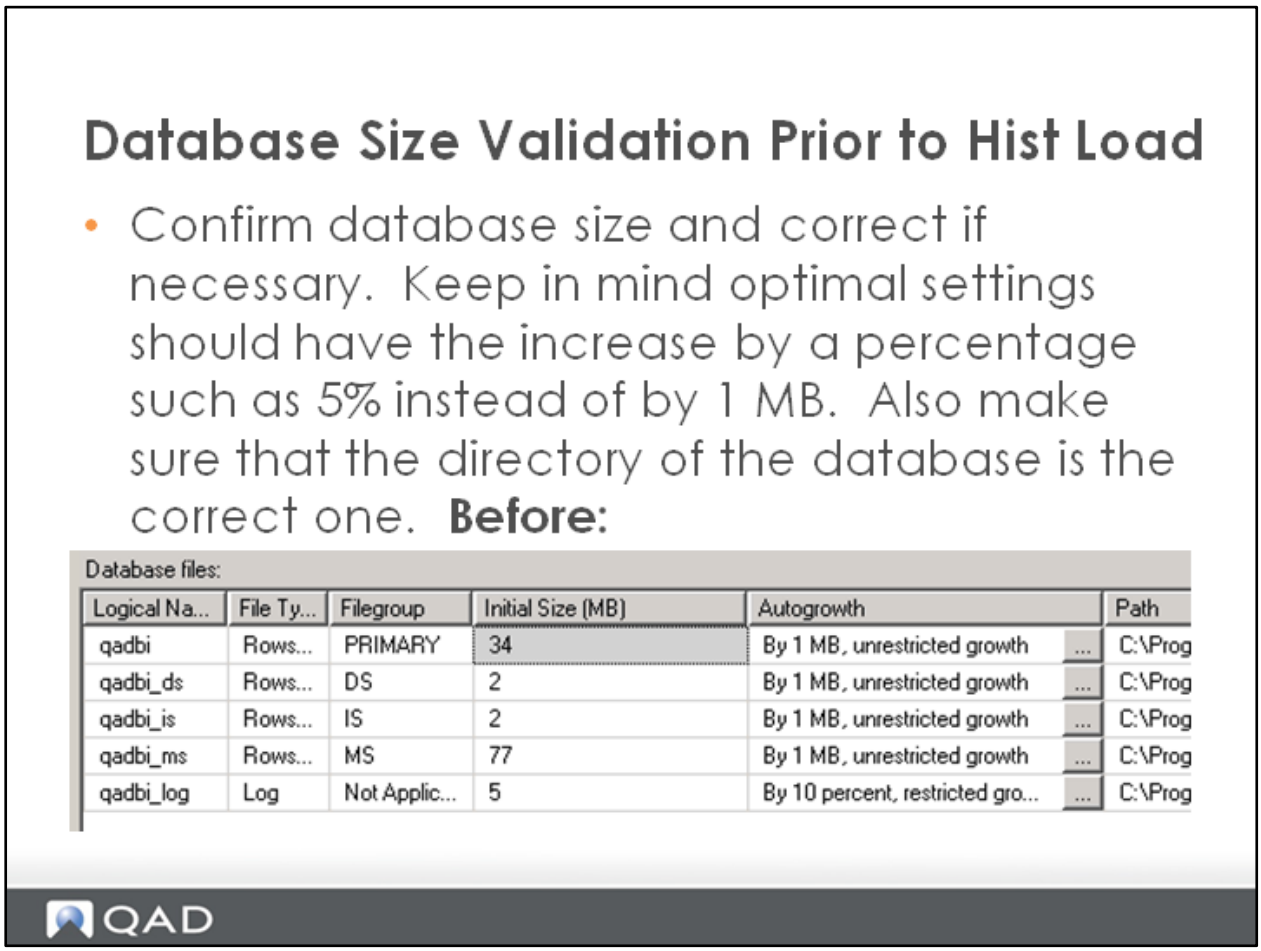


Double click on a fact table selected from the Browser tab. Pick the Language Mapping tab. Pick a language other than English. The Description should provide a translation below.

Database Size Validation Prior to Hist Load

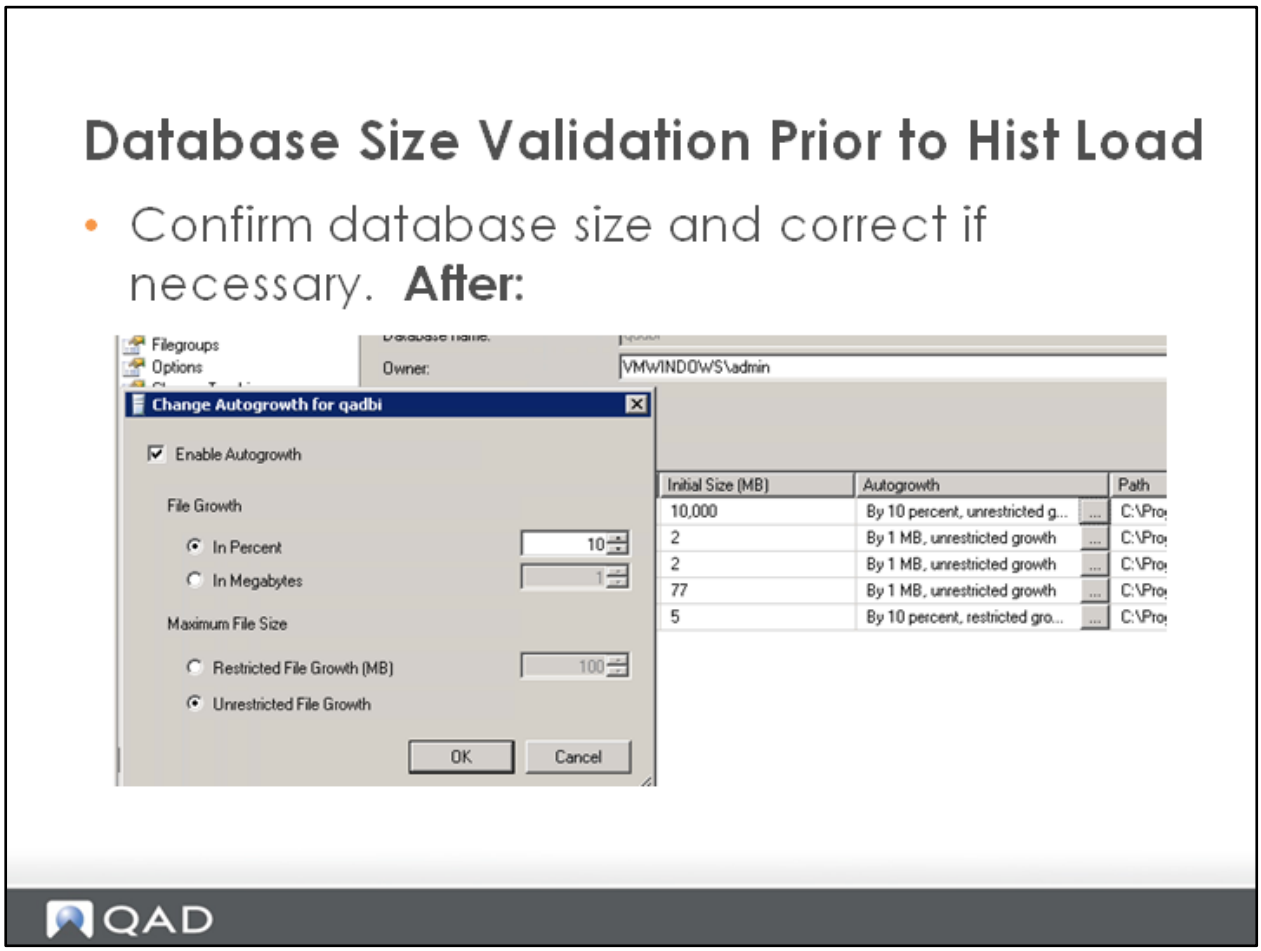


Database Size Validation Prior to Hist Load



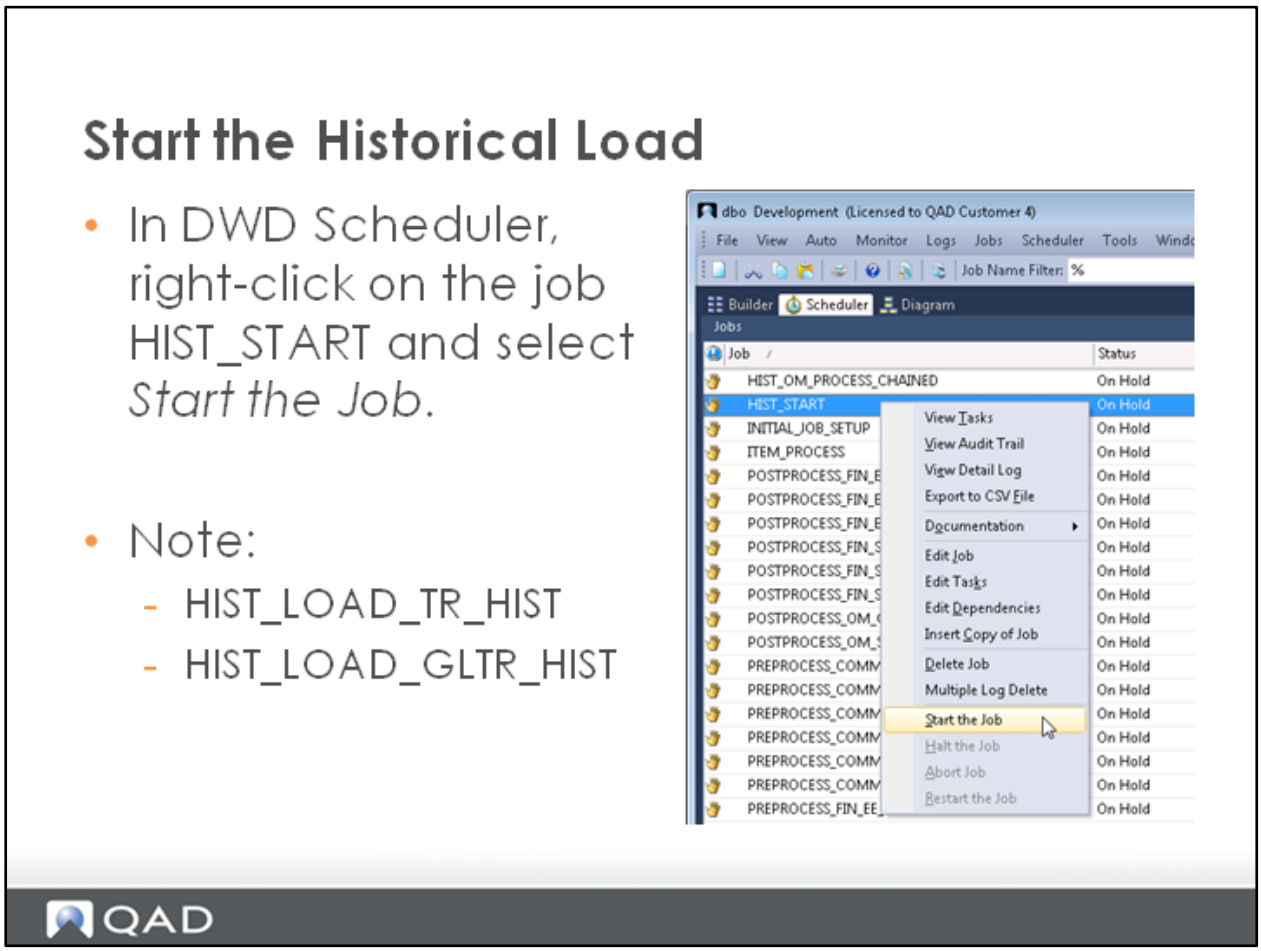
Refer to Sizing Guidelines in the QAD BI Installation Guide.

Database Size Validation Prior to Hist Load



Here we've changed the initial database size to 10 GB (still relatively small for a data warehouse) and Autogrowth set to 10%.

Start the Historical Load



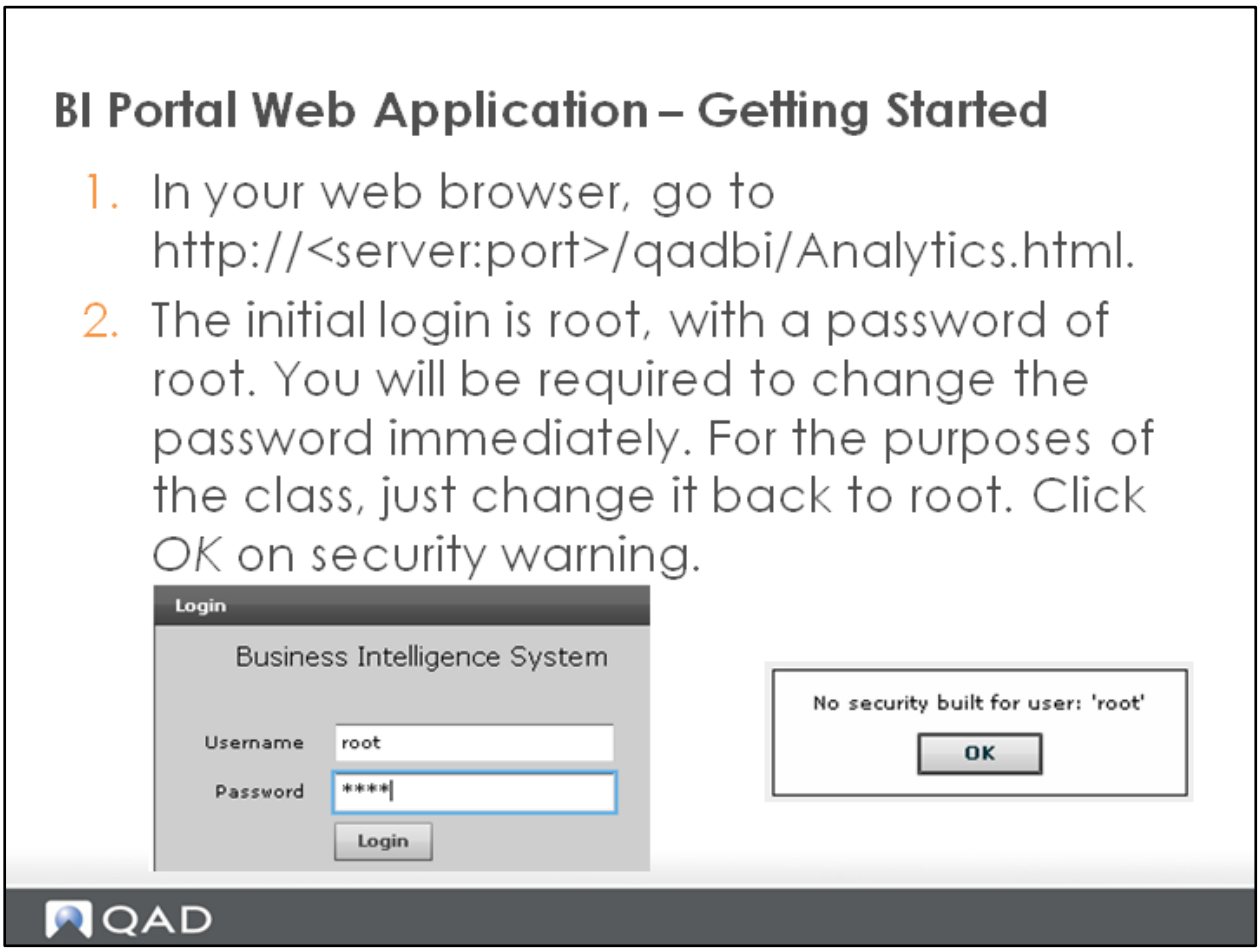
Click the Run/Fail button to confirm that the job is running.

The Refresh button can be clicked to have the page keep refreshing to show the progress of the load.

Later in the run, explain what's going on with TR_HIST and GLTR_HIST repeatedly being displayed.

Also correlate the jobs that have run to the HIST_LOAD_JOB parameter list to explain job chaining.

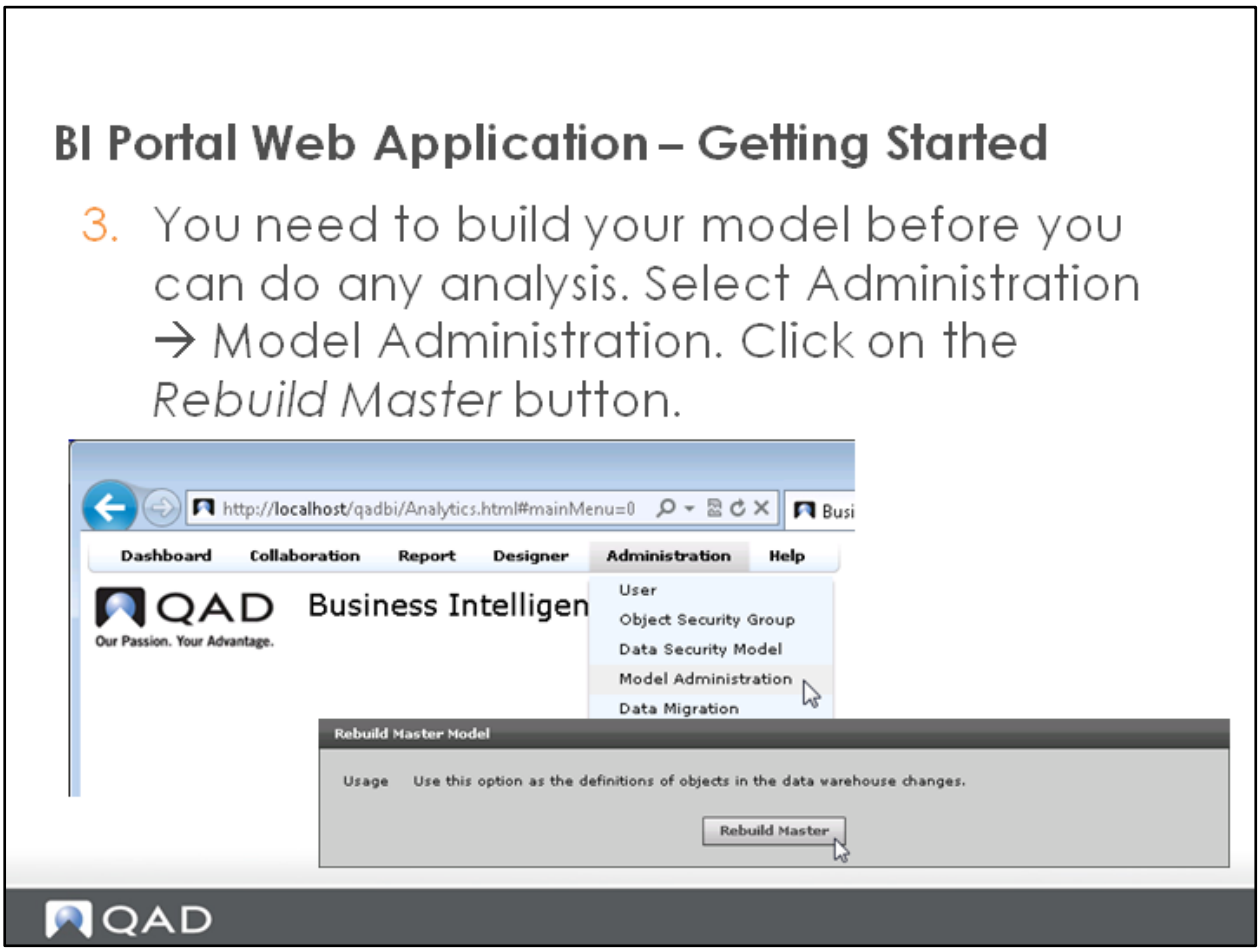
BI Portal Web Application – Getting Started



The root user has no security, just click OK through that message.

http://localhost/qadbi/Analytics.html

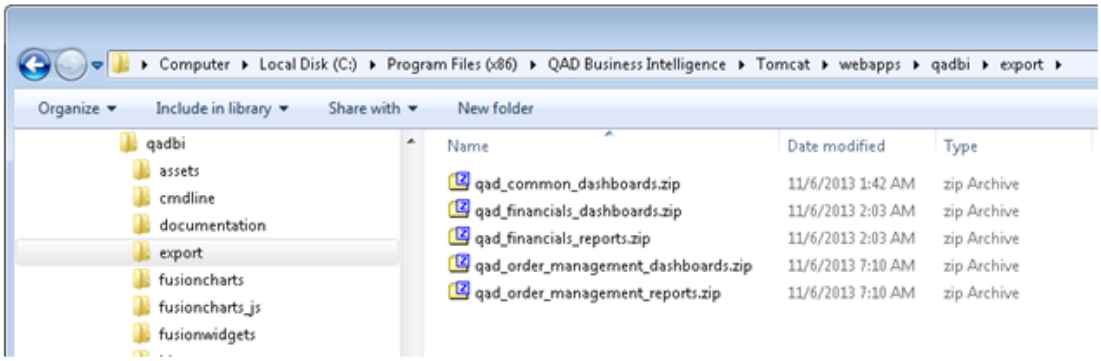
BI Portal Web Application – Getting Started



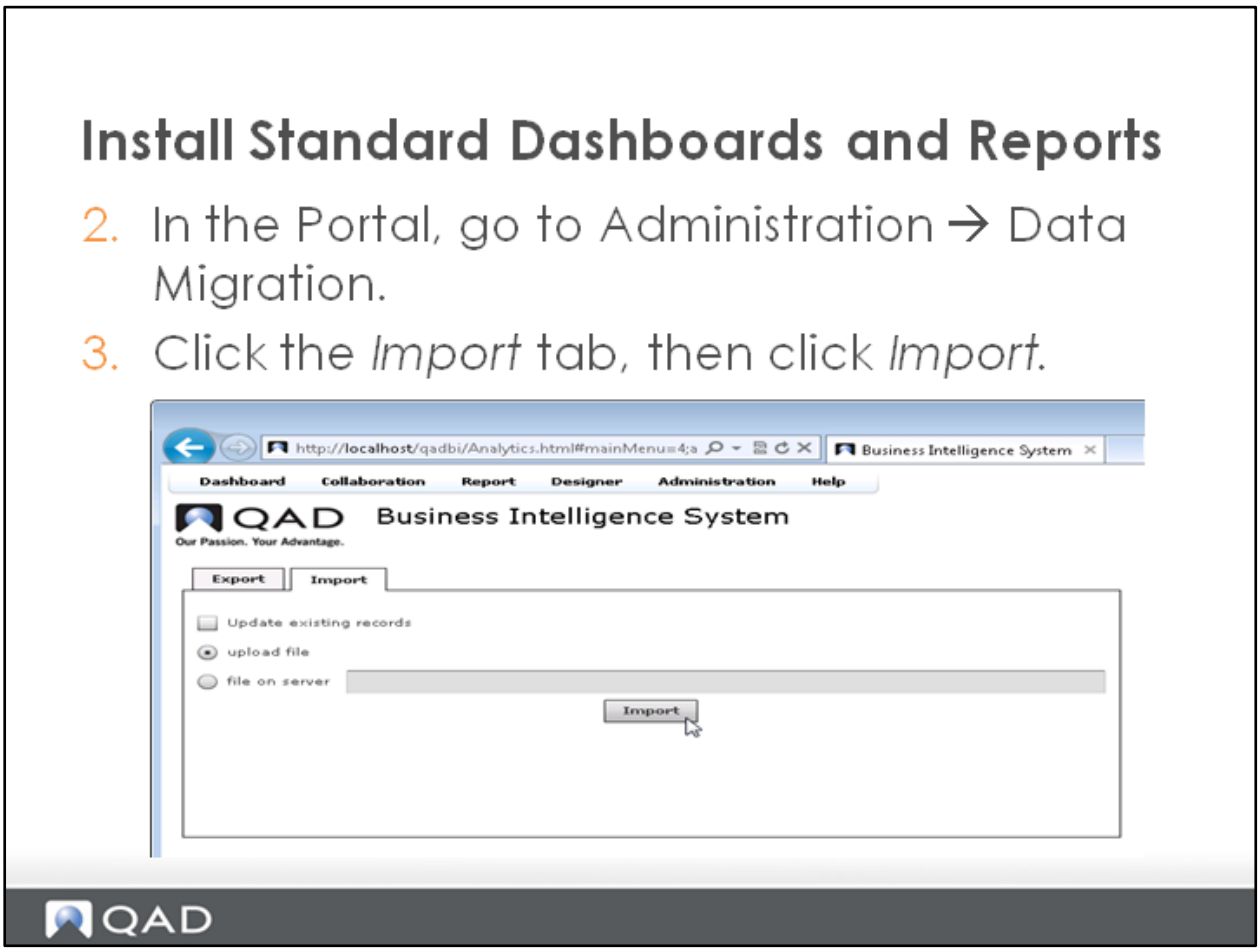
Install Standard Dashboards and Reports

Install Standard Dashboards and Reports

1. Find the various portal .zip files in the export directory (like C:\Program Files (x86)\QAD Business Intelligence\Tomcat\webapps\qadbi\export).

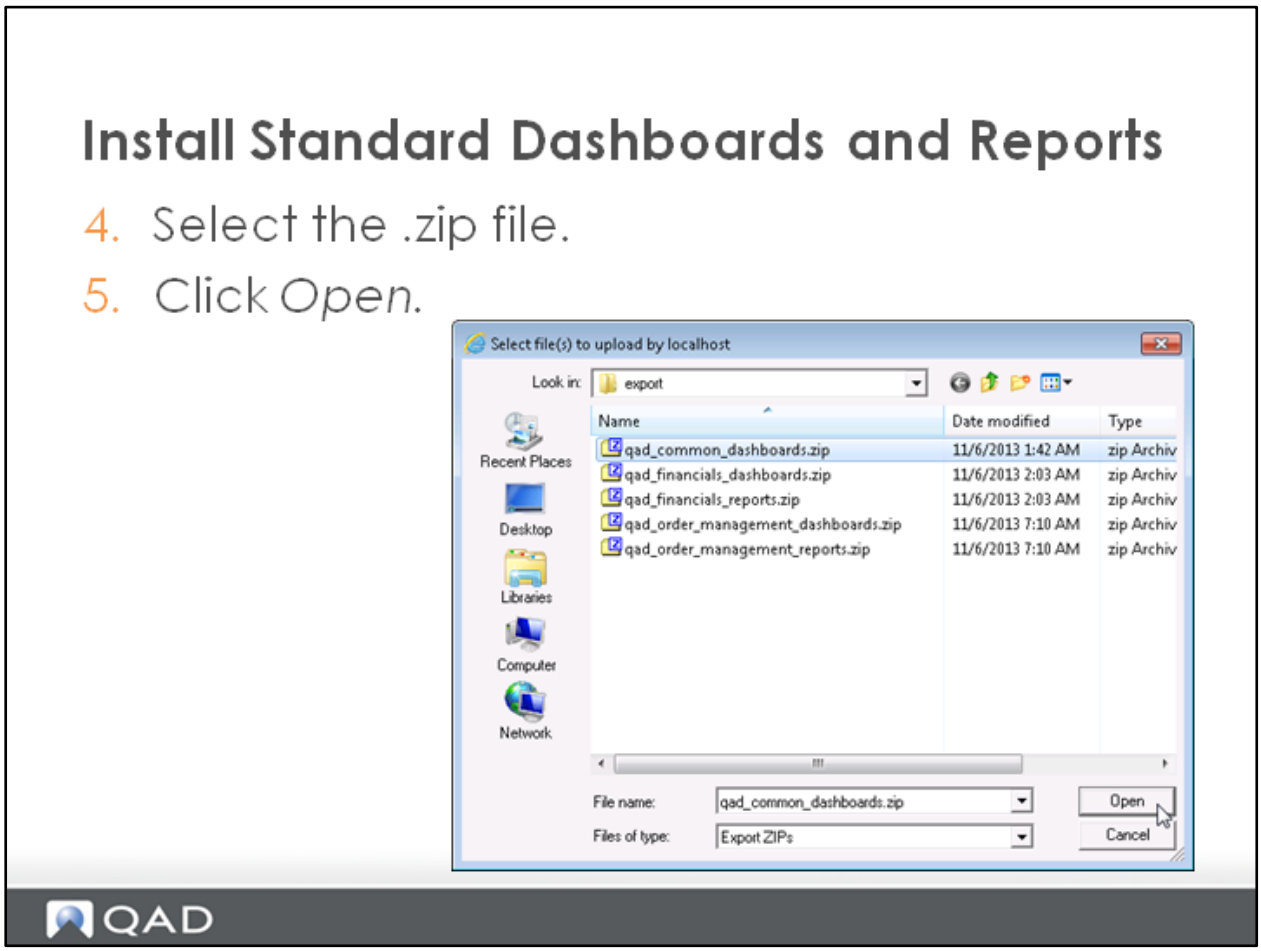


Install Standard Dashboards and Reports



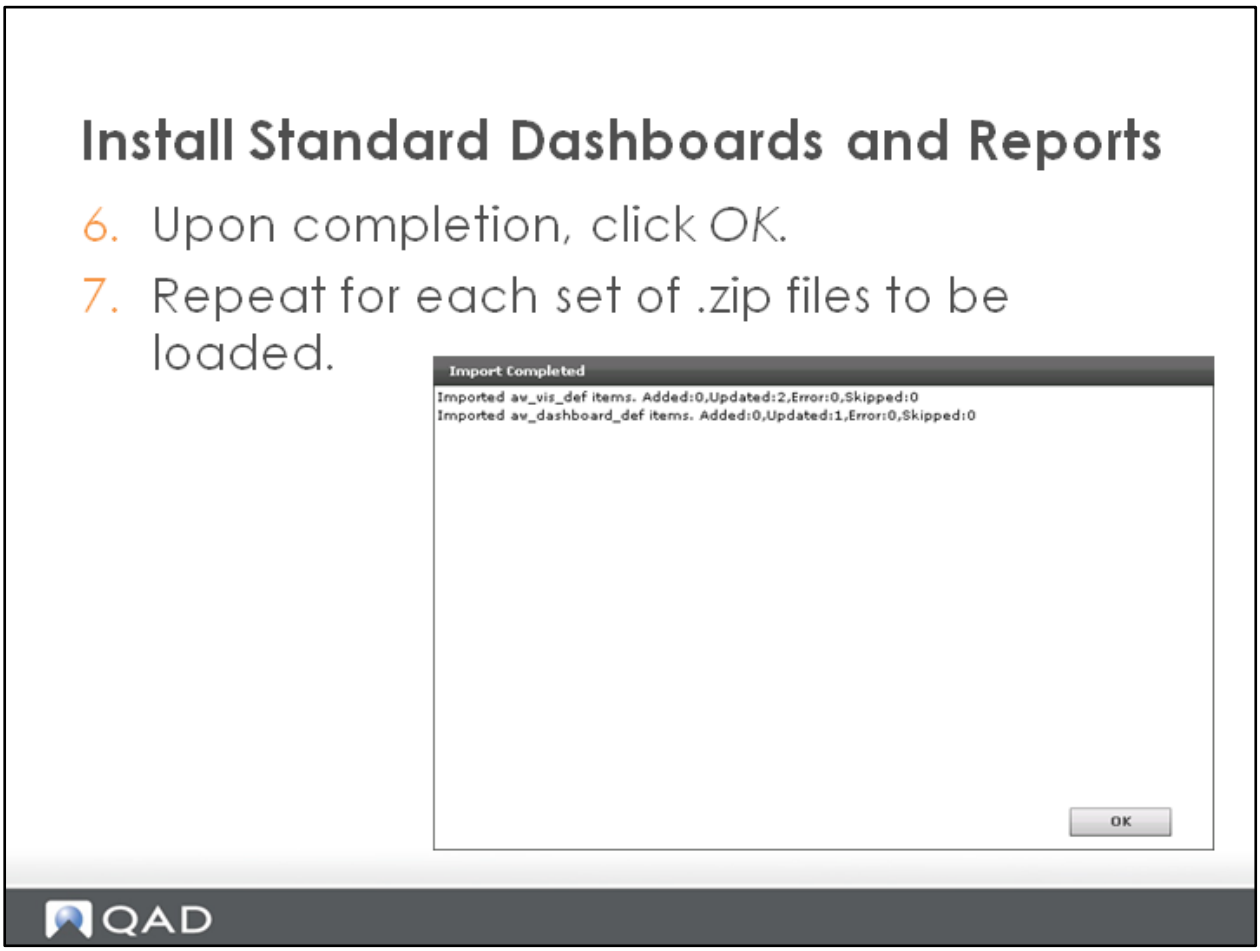
Load each module's reports or dashboards that are installed.

Install Standard Dashboards and Reports



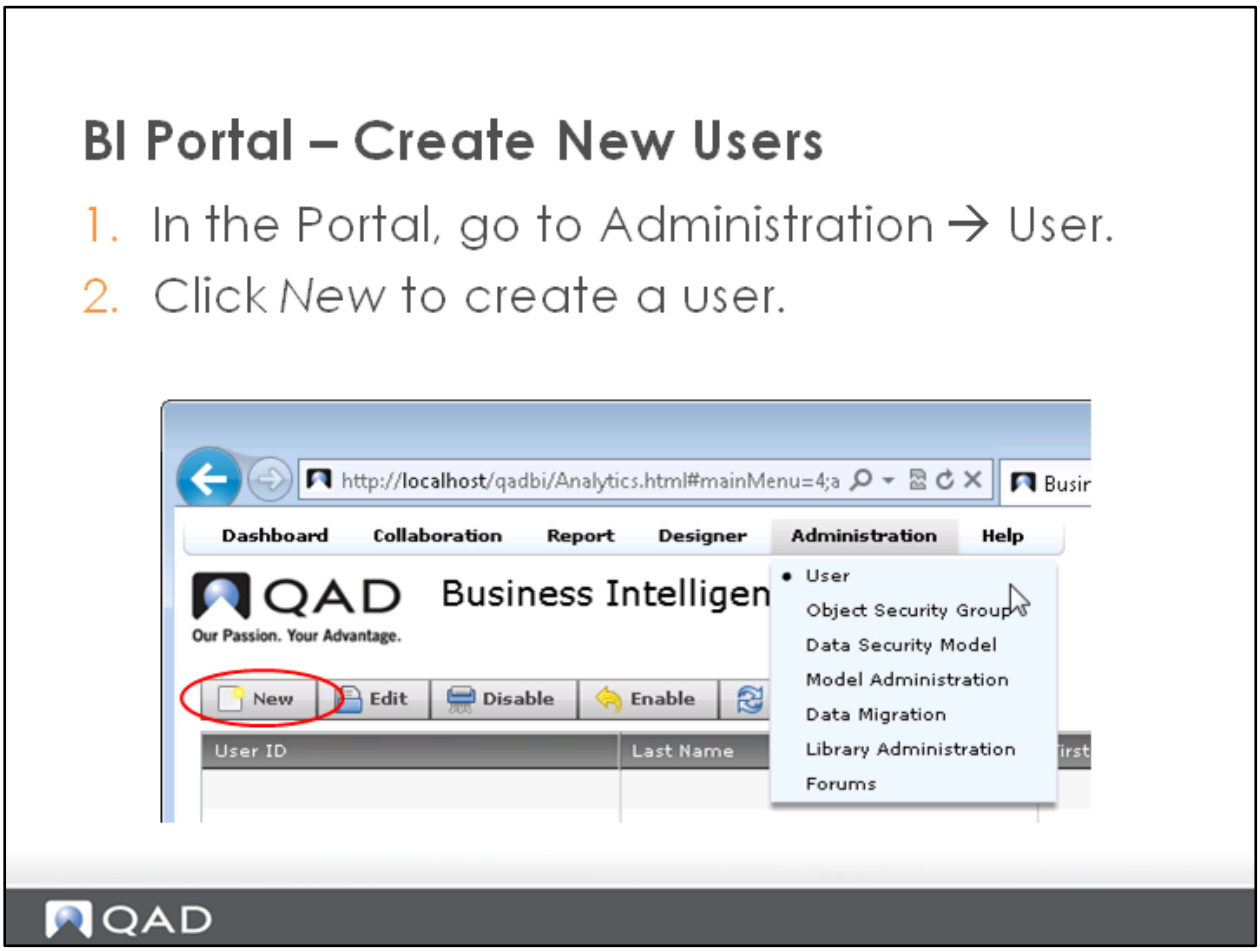
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Install Standard Dashboards and Reports



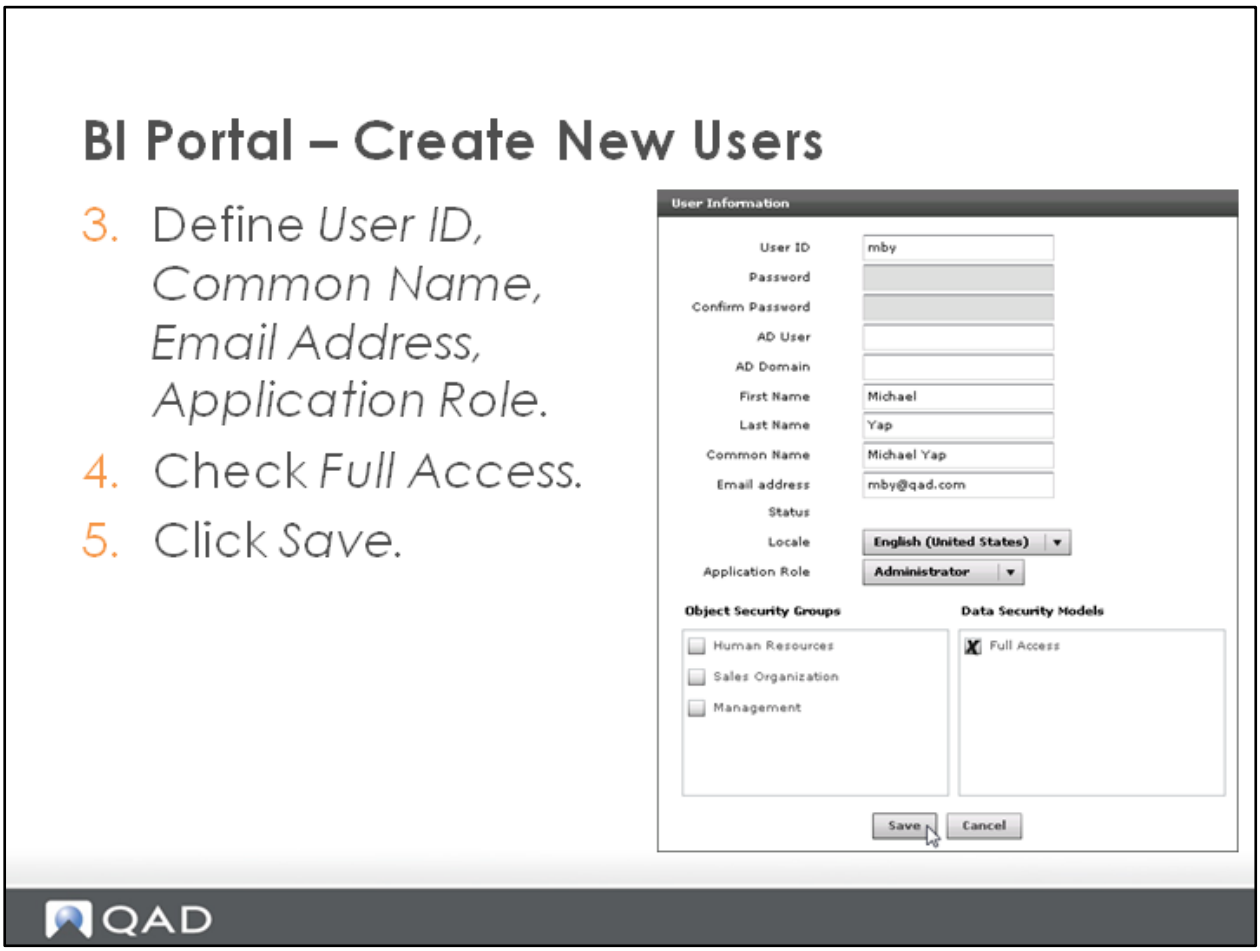
Load each module's reports or dashboards that are installed.

BI Portal – Create New Users

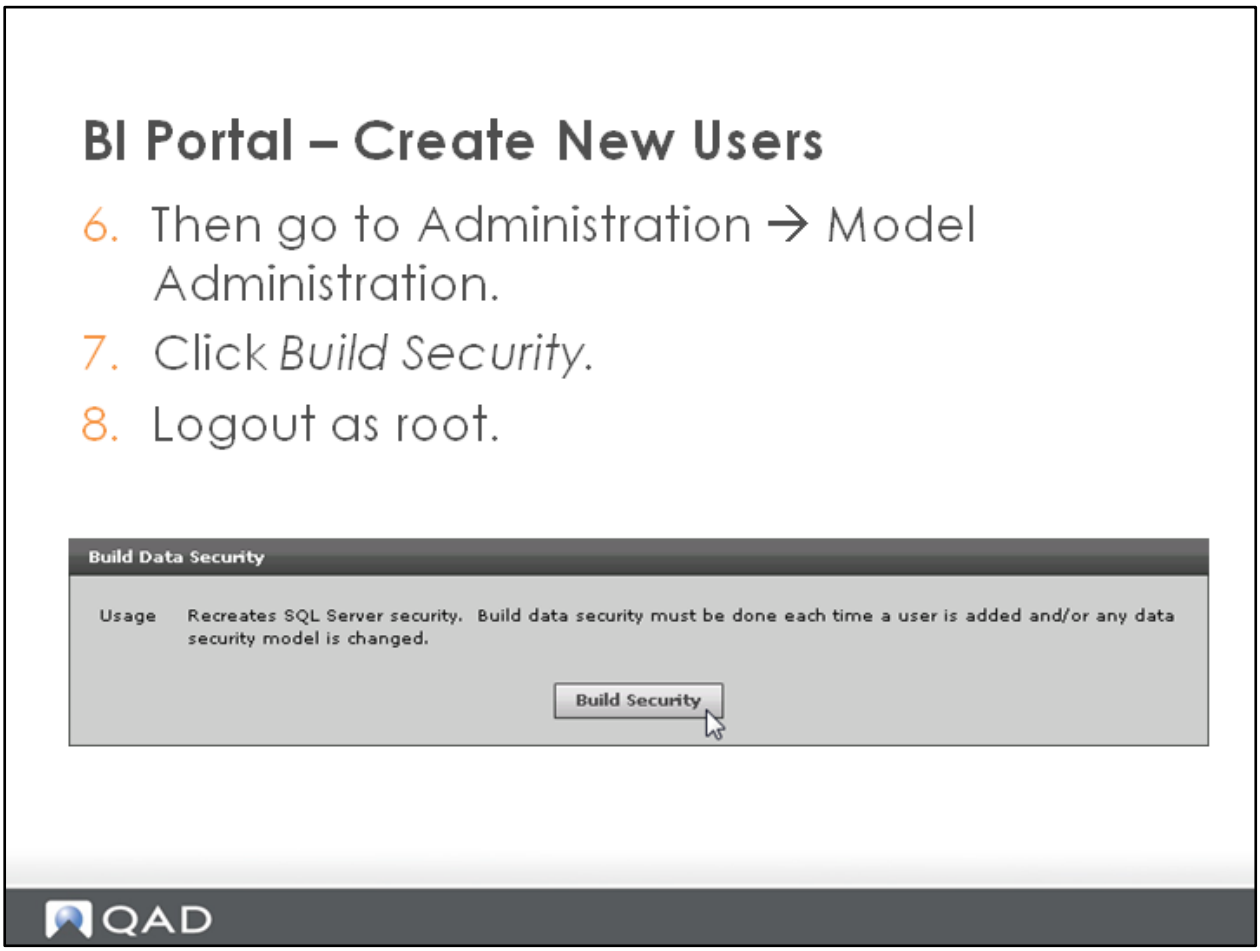


By default, root has no data access

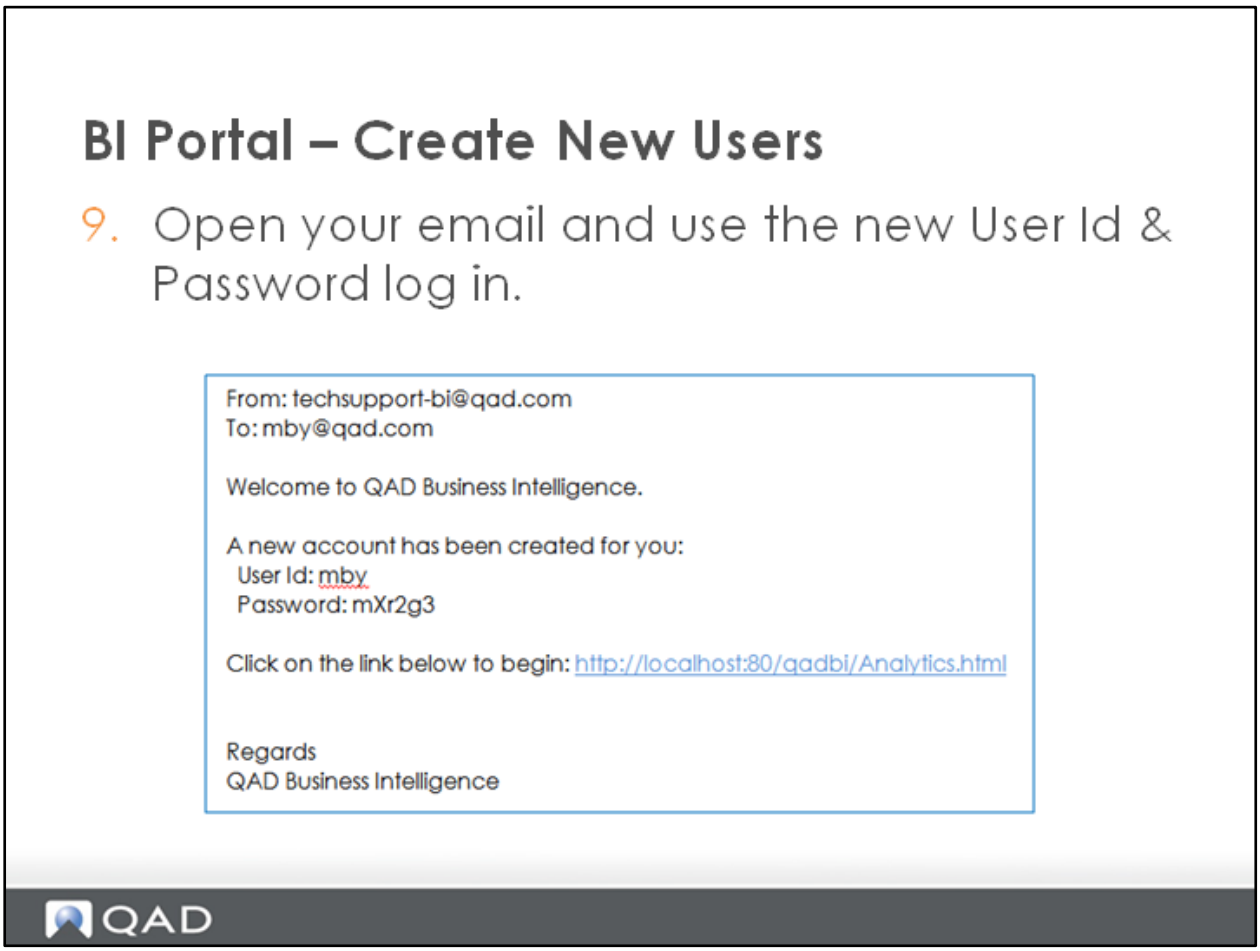
BI Portal – Create New Users



BI Portal – Create New Users



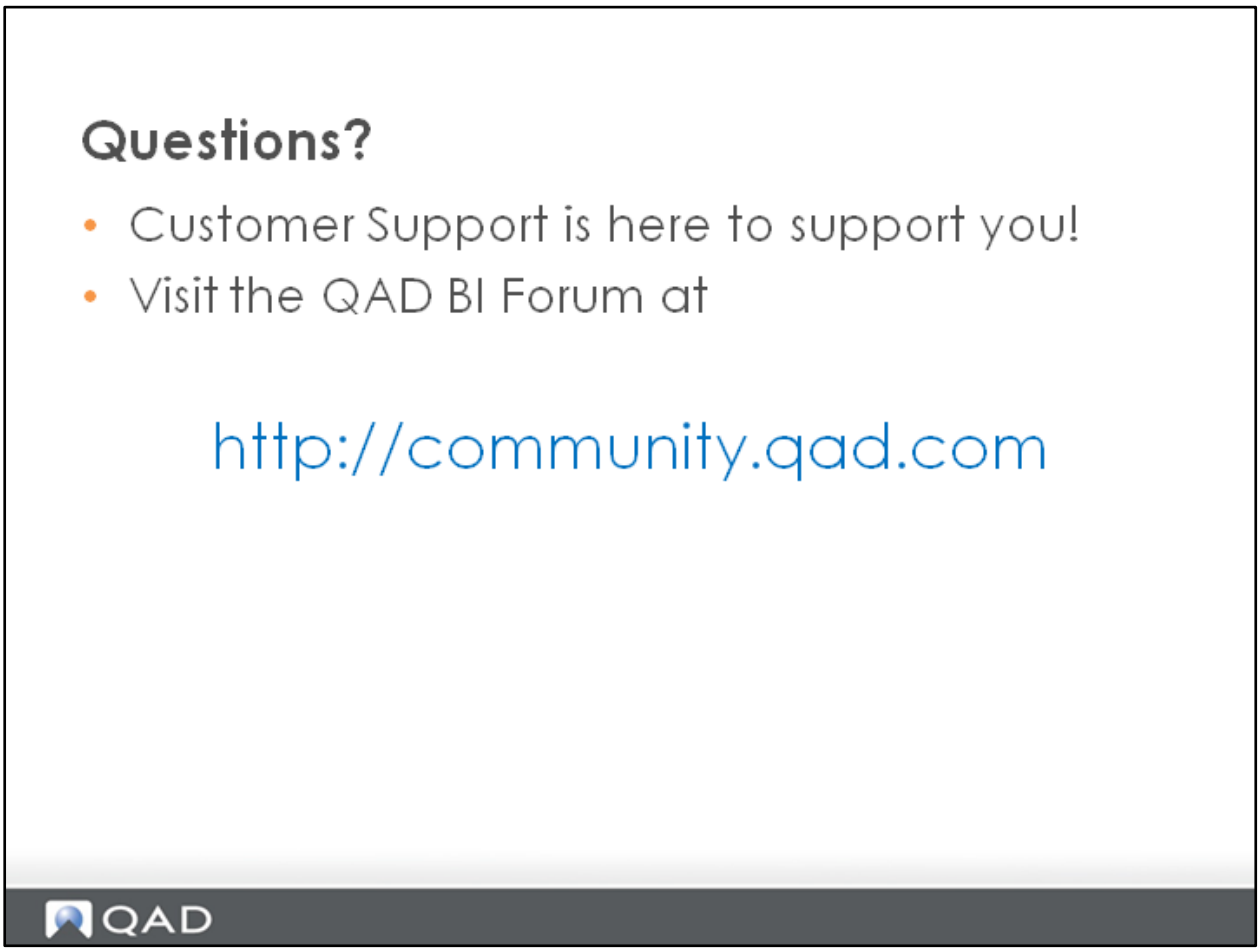
BI Portal – Create New Users



Day 1: In Review



Questions?


Questions?
Customer Support is here to support you!
Visit the QAD BI Forum at
http://community.qad.com
QAD


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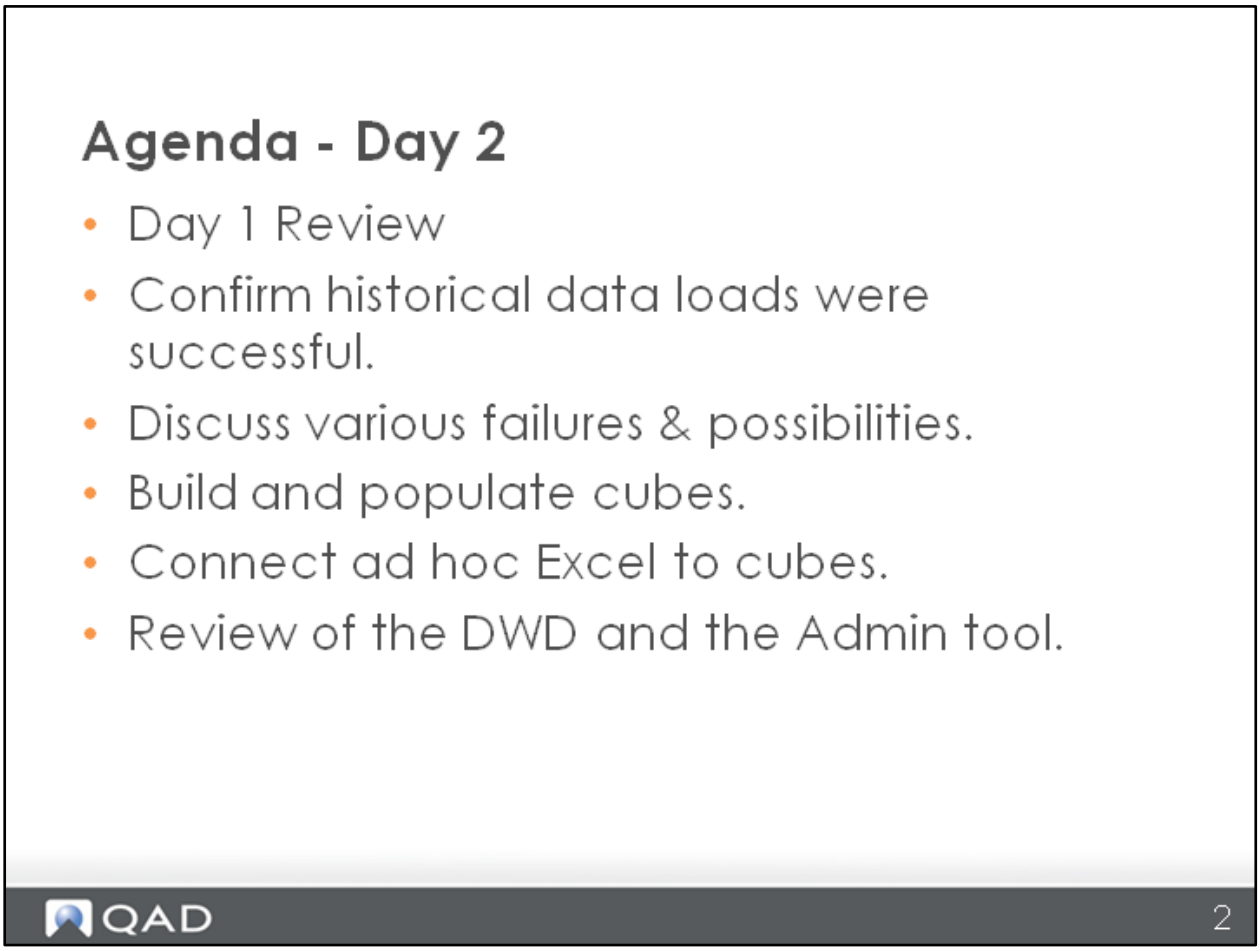
CHAPTER 2

QAD BI Technical Level 1 Certification – Part 2

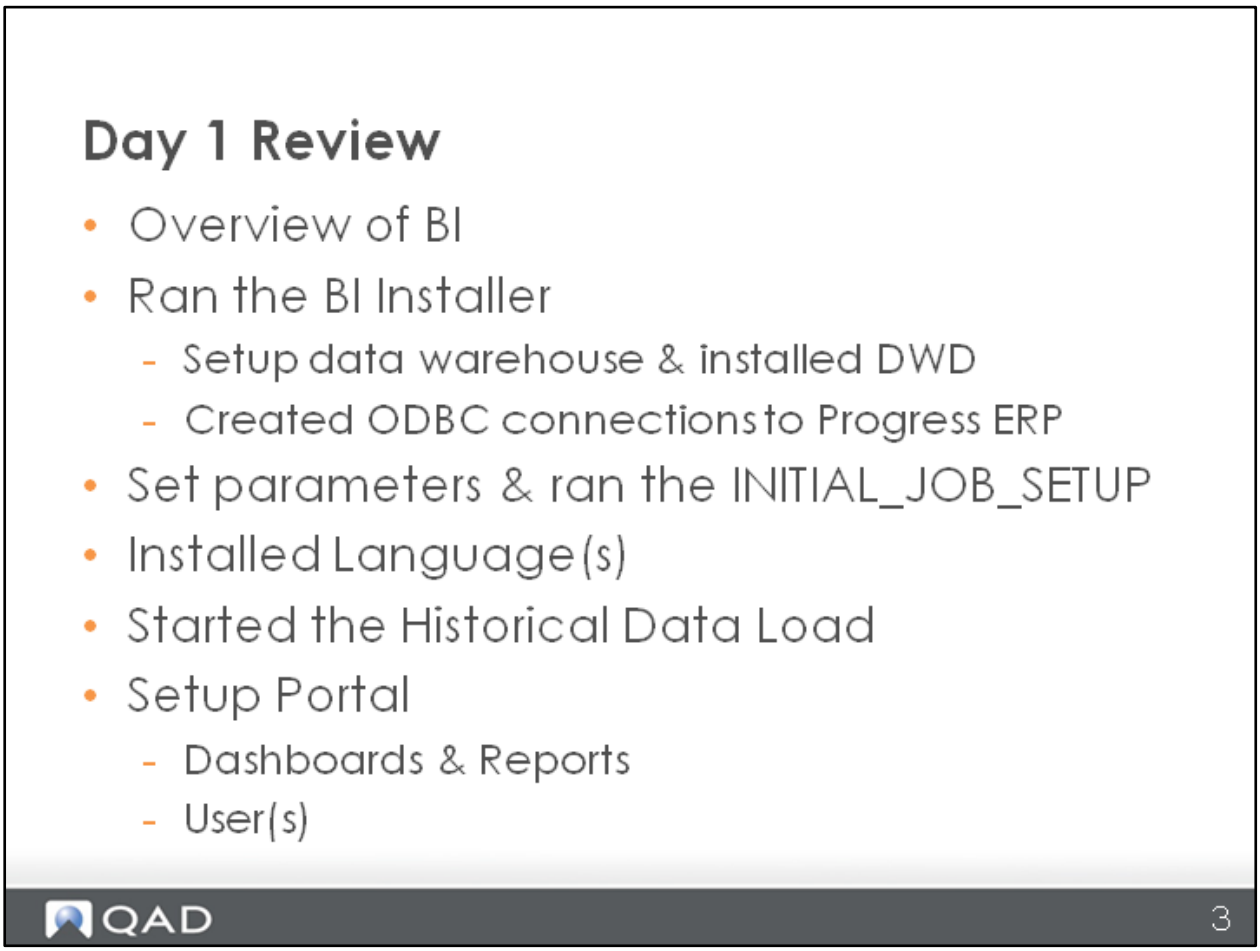
QAD BI v3 - Technical Level 1 Certification - Part 2



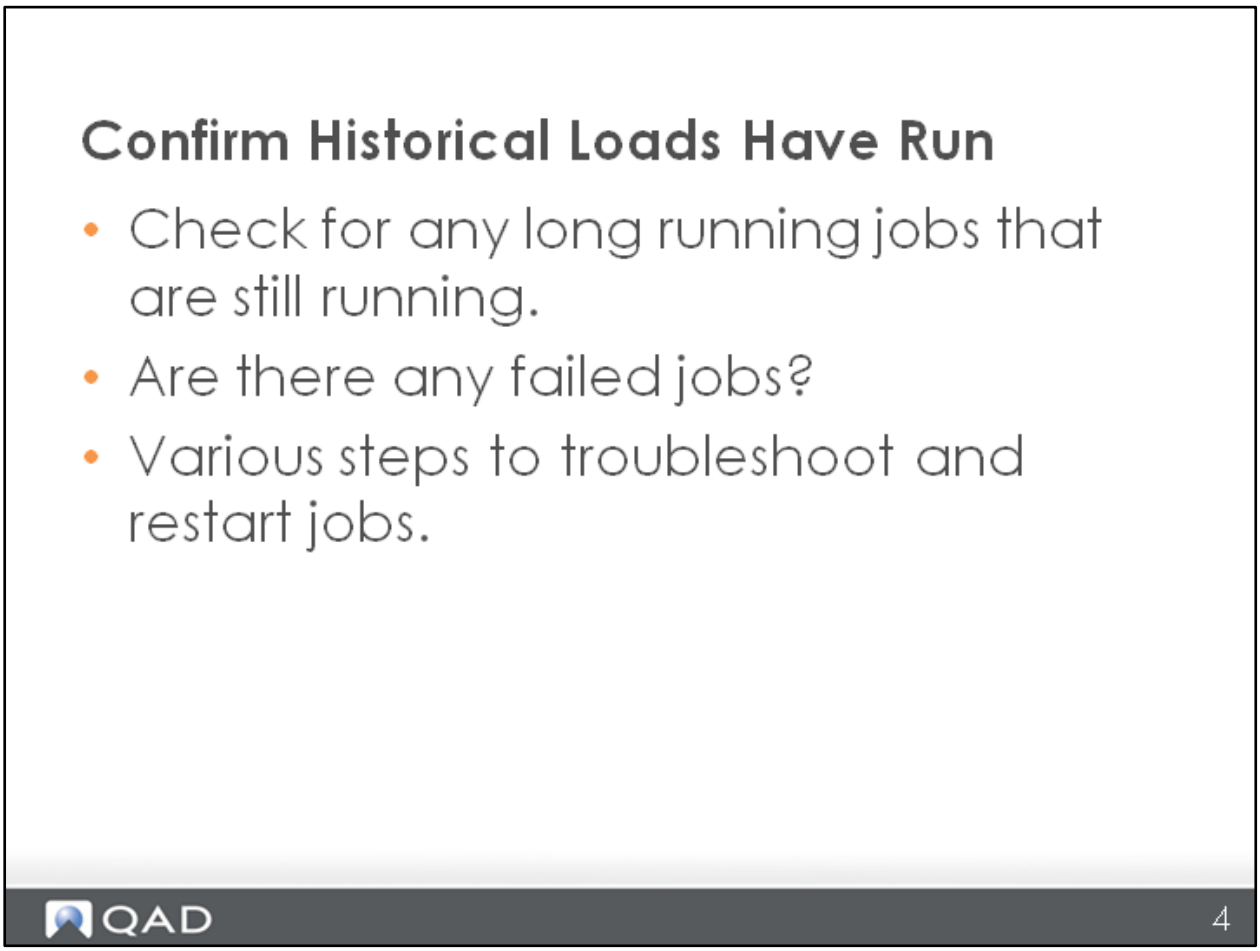
Agenda - Day 2


Agenda - Day 2
Day 1 Review
Confirm historical data loads were successful.
Discuss various failures & possibilities.
Build and populate cubes.
Connect ad hoc Excel to cubes.
Review of the DWD and the Admin tool.
QAD
2

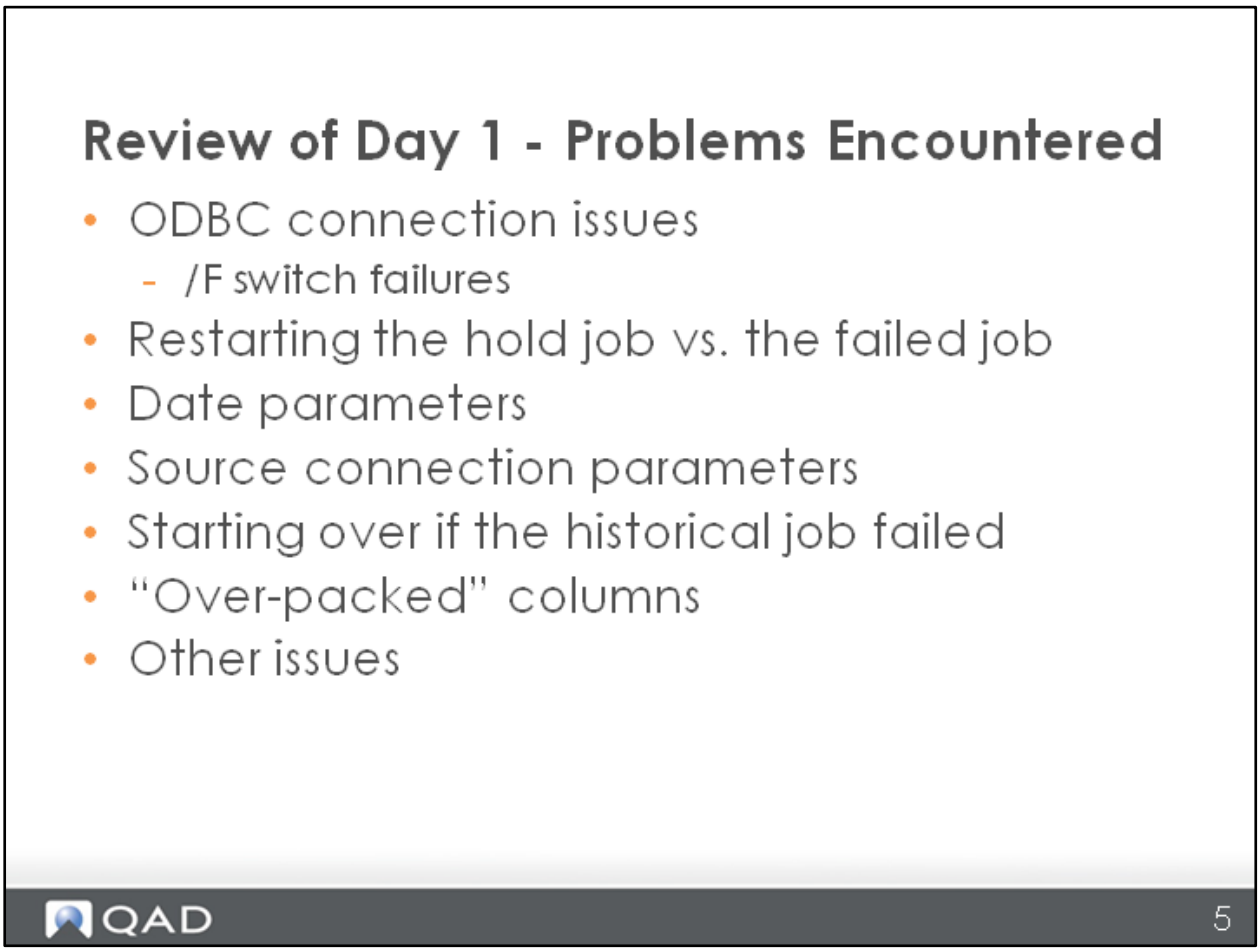
Day 1 Review


Day 1 Review
Overview of BI
Ran the BI Installer
Setup data warehouse & installed DWD
Created ODBC connections to Progress ERP
Set parameters & ran the INITIAL_JOB_SETUP
Installed Language(s)
Started the Historical Data Load
Setup Portal
Dashboards & Reports
User(s)
QAD
3

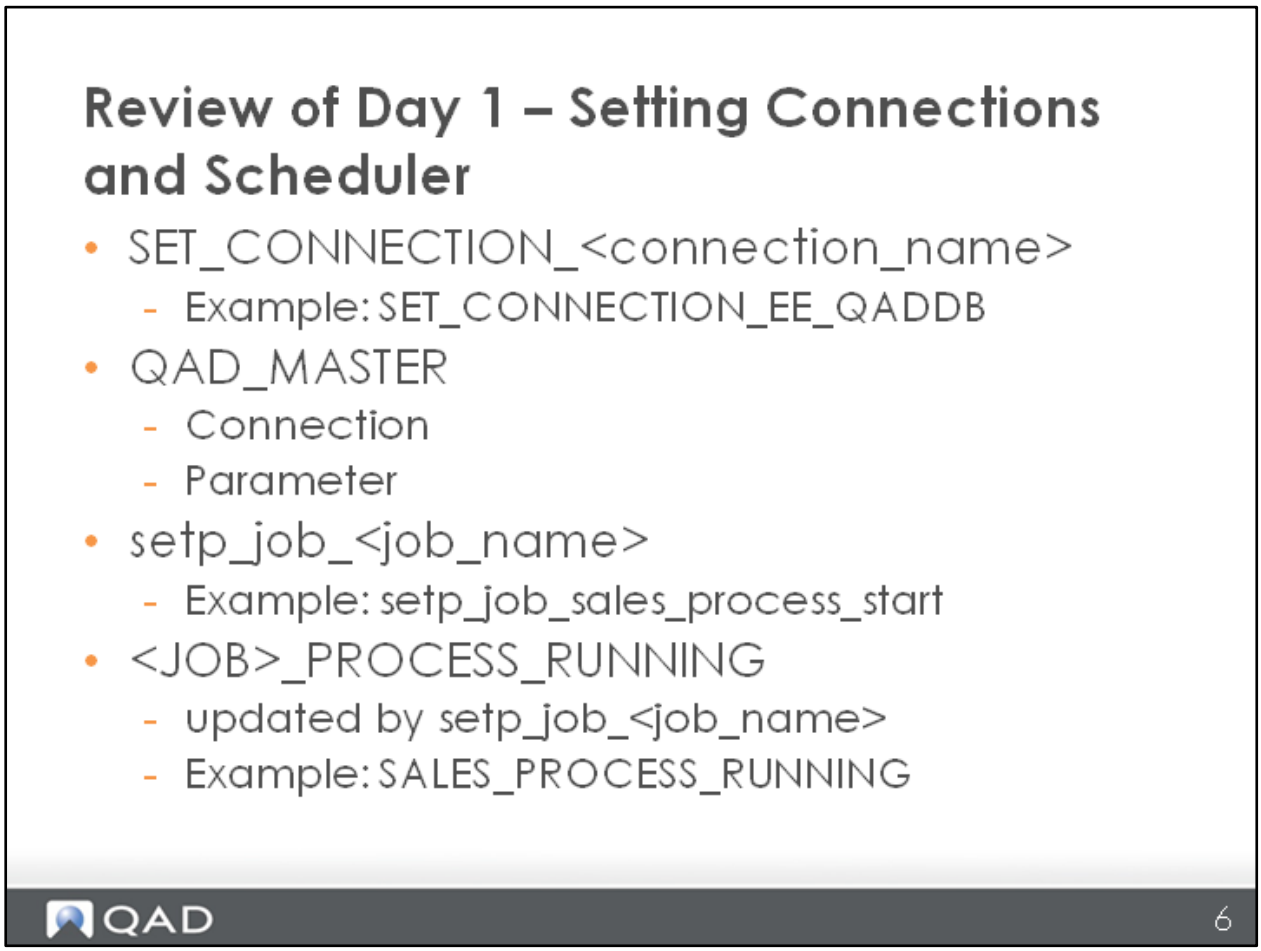
Confirm Historical Loads Have Run



Review of Day 1 - Problems Encountered

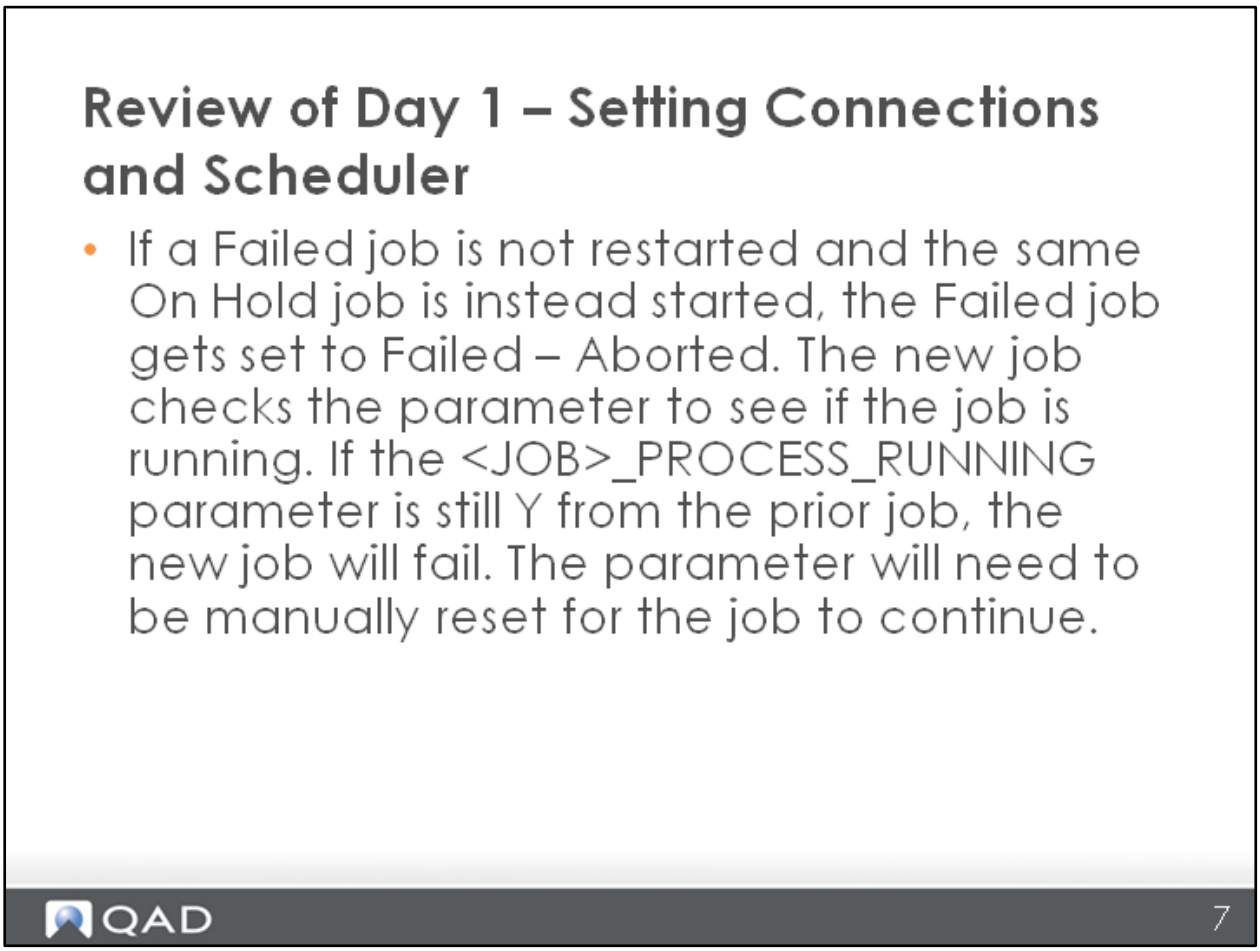


Review of Day 1 – Setting Connections and Scheduler

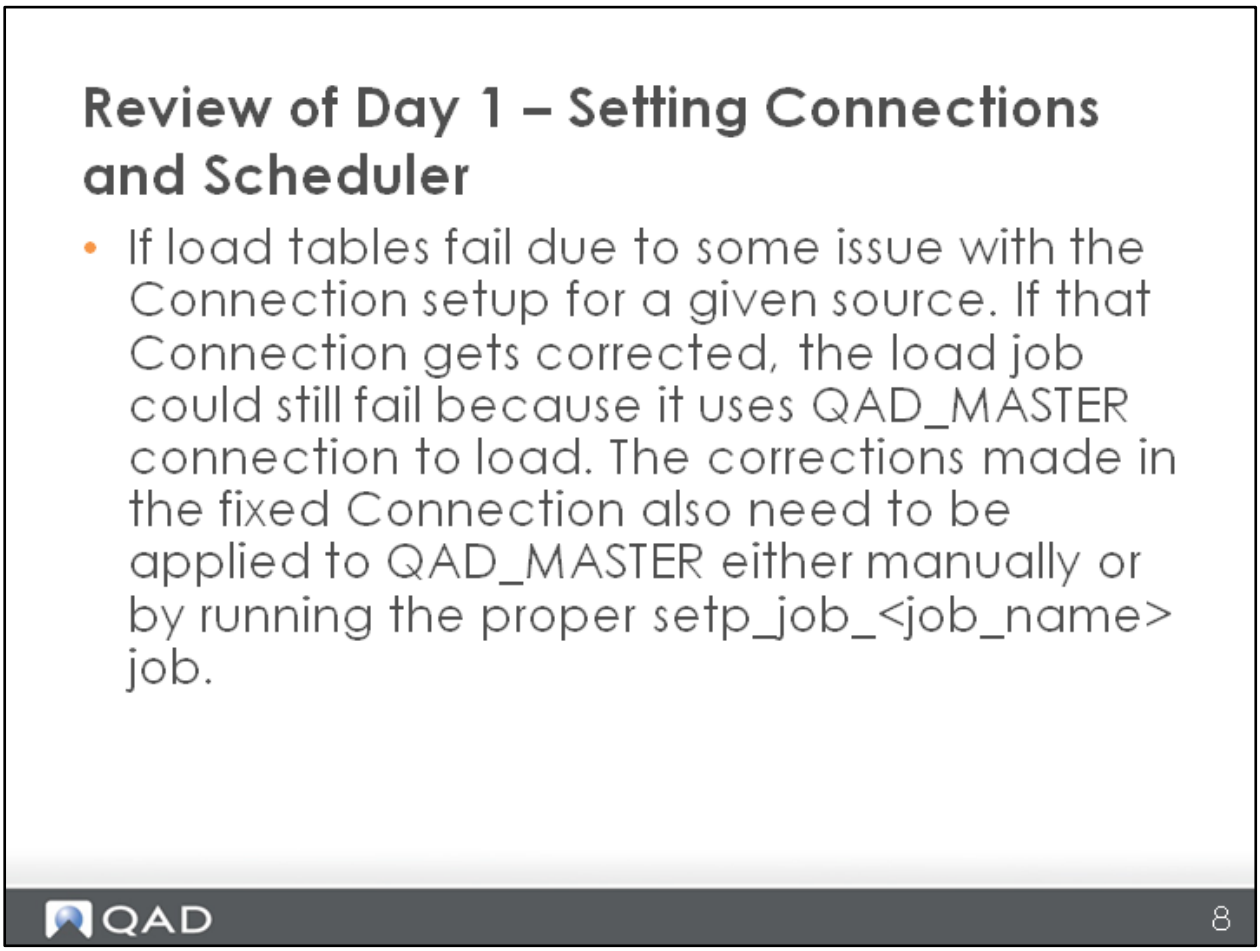


setp_job_<job_name> sets a <JOB>_PROCESS_RUNNING parameter to Y, which will be set back to N at the end of the job. If another job starts that checks the parameter, it will fail as it believes there is already a running version of the job.

Review of Day 1 – Setting Connections and Scheduler



Review of Day 1 – Setting Connections and Scheduler



DWD Scheduler



Scheduling the DAILY Job Run



Scheduler – Jobs Inside Jobs



A job can run inside a job, but there are some important things to know.

- Jobs that run as children of other jobs will only be able to have its Tasks run consecutively. This is why our jobs are set up to be run via the Job Parameter list.

  The following are examples of jobs that run inside jobs:

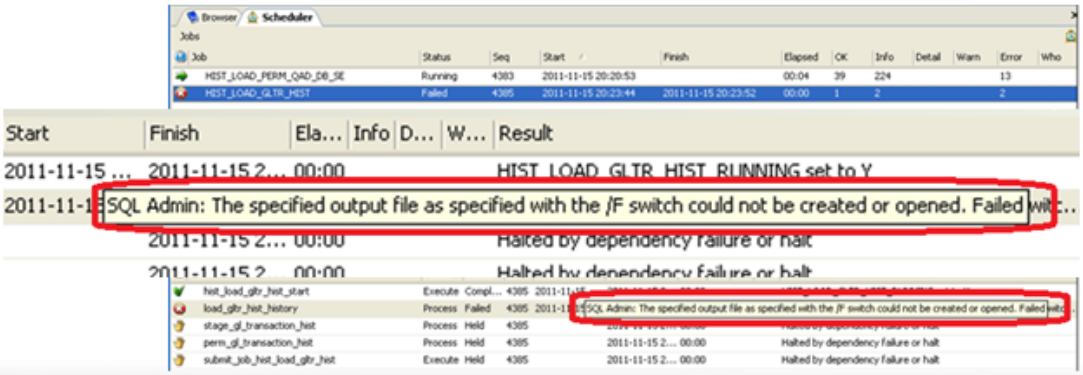
  - ITEM_PROCESS
  - ADDRESS_PROCESS
  - CUSTOMER_PROCESS
  - DAILY_xx_PERM_EXTRACT

- Jobs run from another job do not update their Start Date in the Scheduler. They will look like they haven't run for a long time.

Scheduler – /F Switch Failure

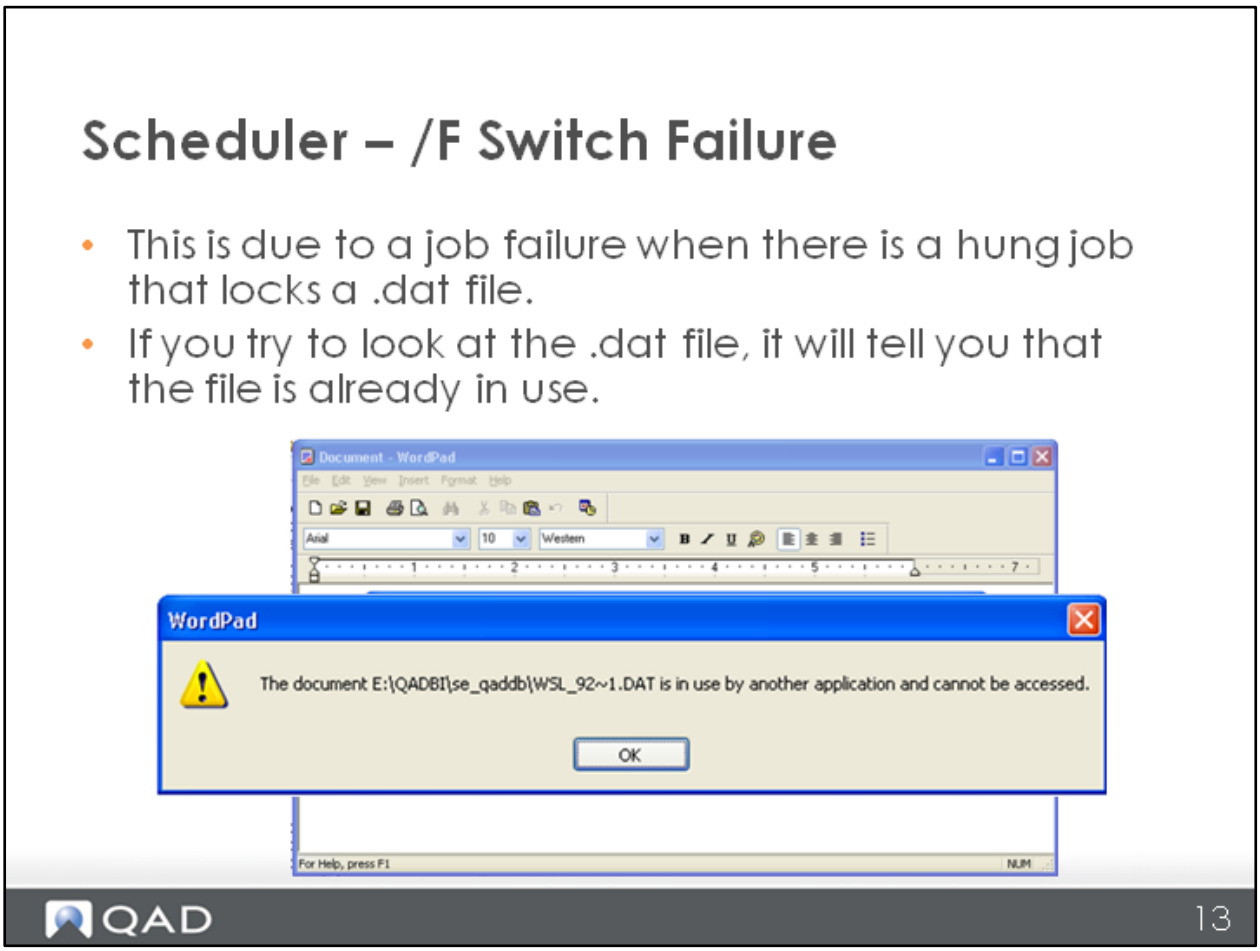
Scheduler – /F Switch Failure

- Sometimes a job fails with a mysterious /F switch error message
- SQL Admin: The specified output file as specified with the /F switch could not be created or opened



QAD 12

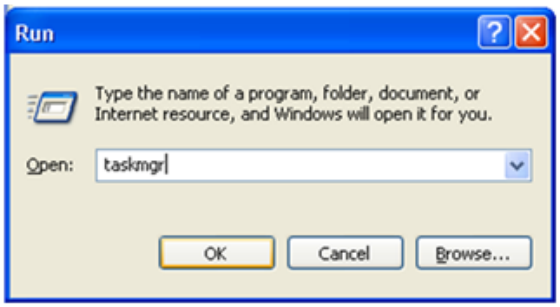
Scheduler – /F Switch Failure



Scheduler – /F Switch Failure

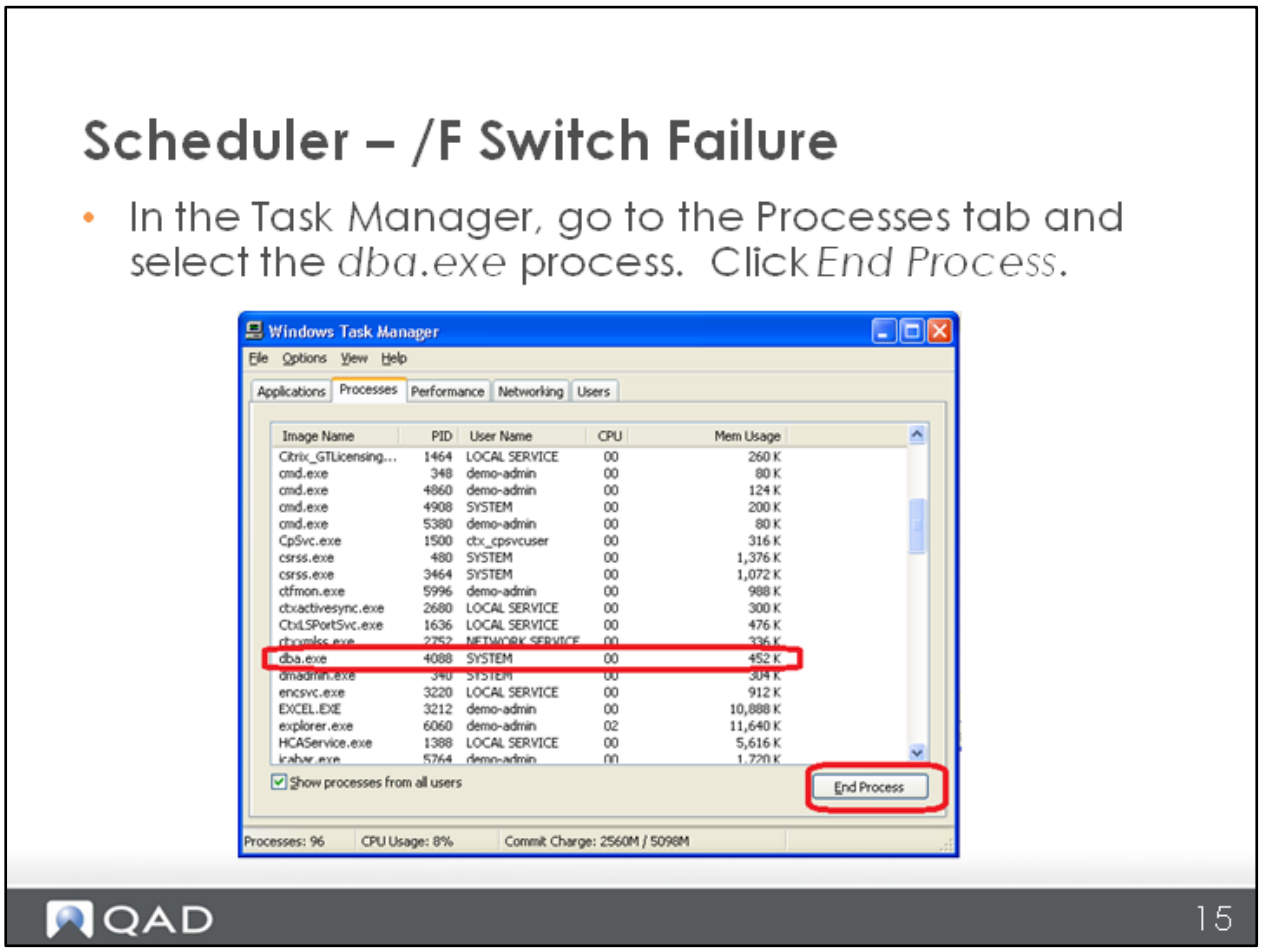
Scheduler – /F Switch Failure

- To unlock the .dat file, terminate the *dba.exe* process.
- Launch the Windows Task Manager.



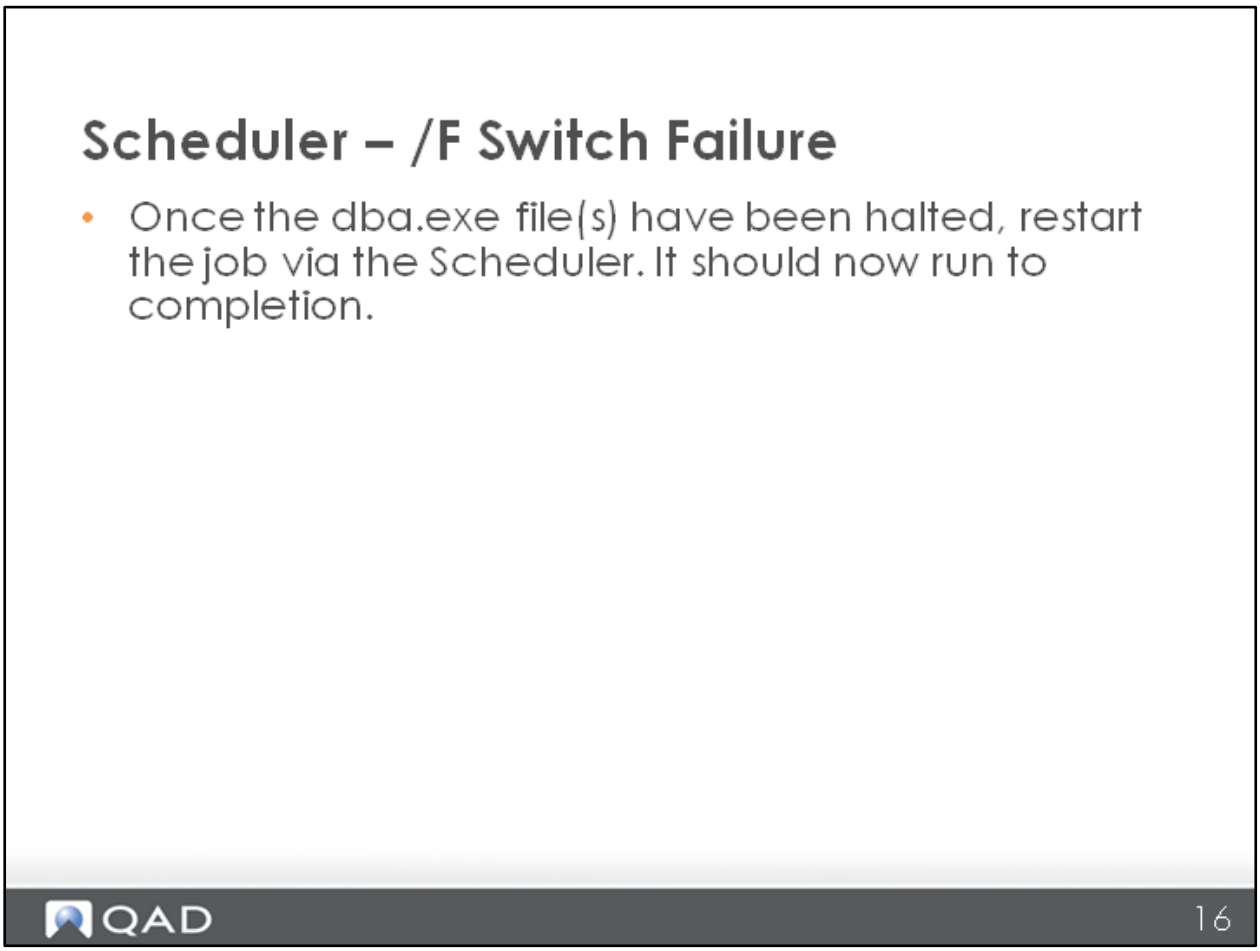
QAD 14

Scheduler – /F Switch Failure

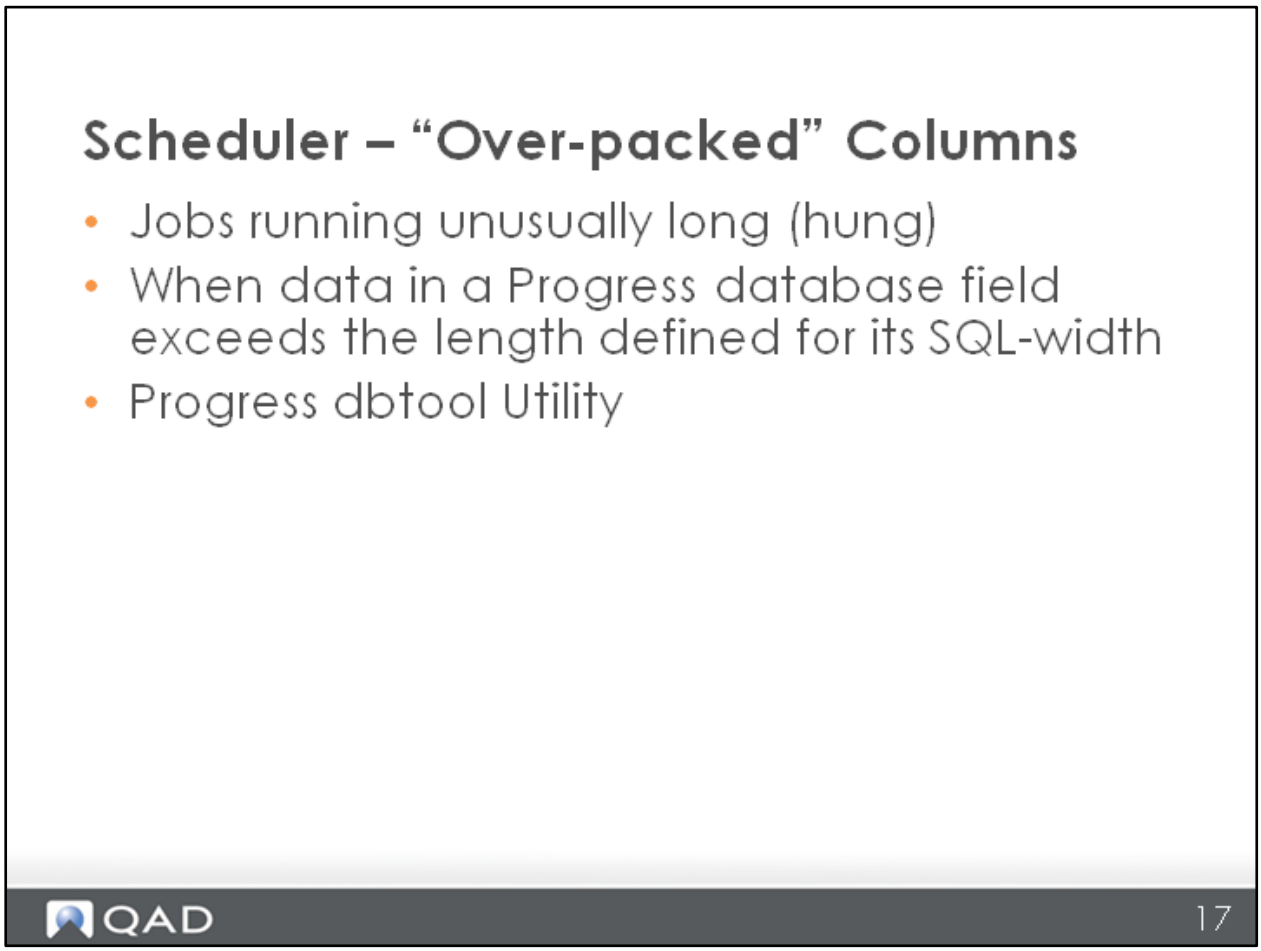


Click on Image Name to sort by name. Look for a job called dba.exe. It's possible there may be multiple running (if there are, make sure that other load tables aren't actually loading before proceeding). This is the job that is holding the file. Click on the dba.exe, then click End Process.

Scheduler – /F Switch Failure



Scheduler – “Over-packed” Columns



When the ODBC connection, which the DWD uses to connect from SQL Server to Progress, tried to pull data from a table with an over-packed column, the load table job hangs, with no error message. A job can sit there for days or even months with nothing happening. To fix this issue, the over-packed column in the Progress table needs to be fixed by a Progress DBA. After the fix occurs, restart the aborted job.

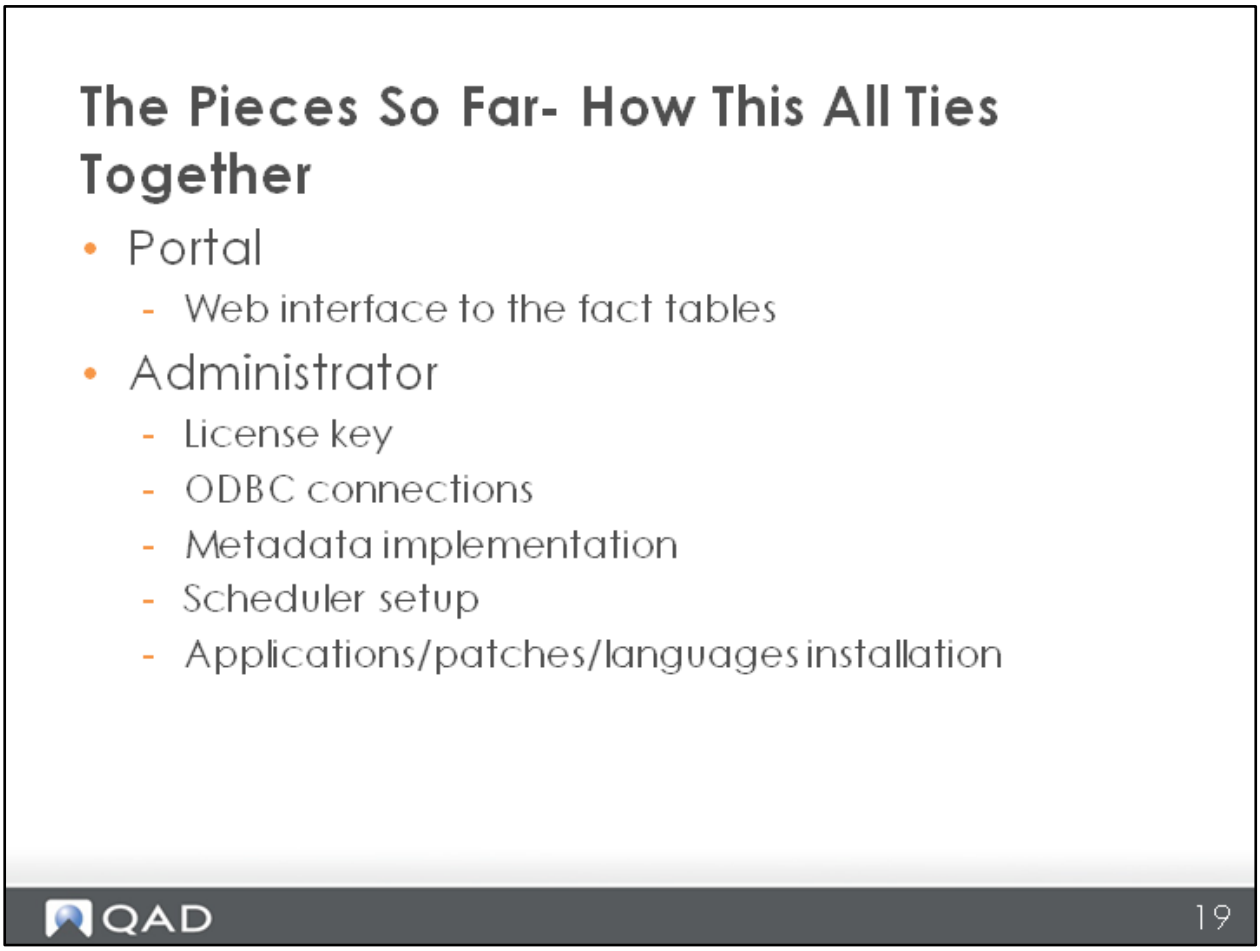
The program provided in Progress for fixing issues like this is called dbtool. Even if the over-packed column is redefined, if there is more characters in a column than the load table’s mapped column, it may require a modification to the load table column by either using a substring command or by making the column wider (although if the latter is chosen it will require that subsequent staging tables also be changed to accommodate the wider column).

More information on the Progress dbtool Utility within Extras PowerPoint slides or BI Site Prep Guide.

The Pieces So Far- How This All Ties Together



The Pieces So Far- How This All Ties Together



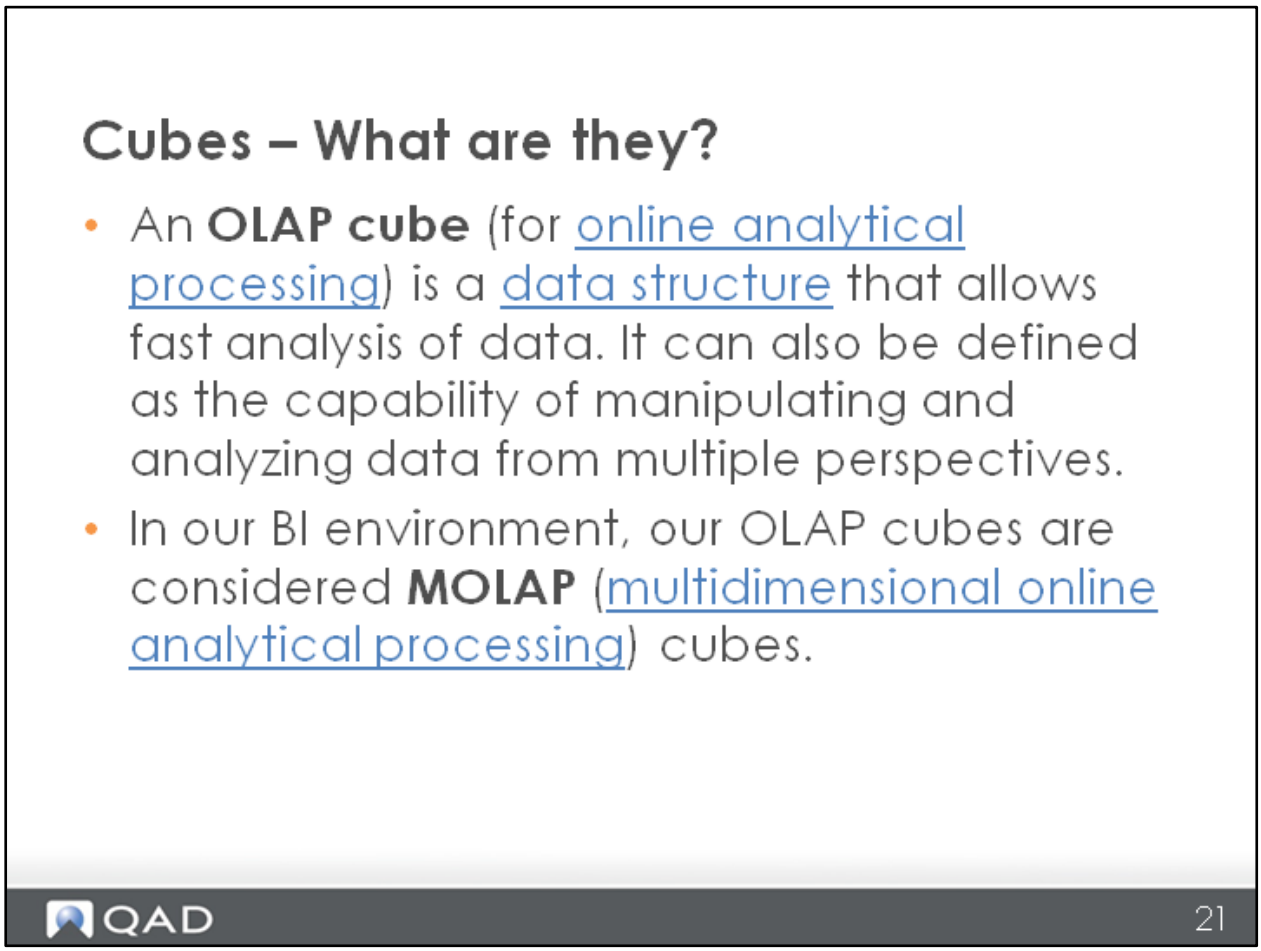
The Installer should be used to control any standard changes to the data in the Admin tool, but it will be needed for some other things.

We'll review the Admin and DWD further shortly.

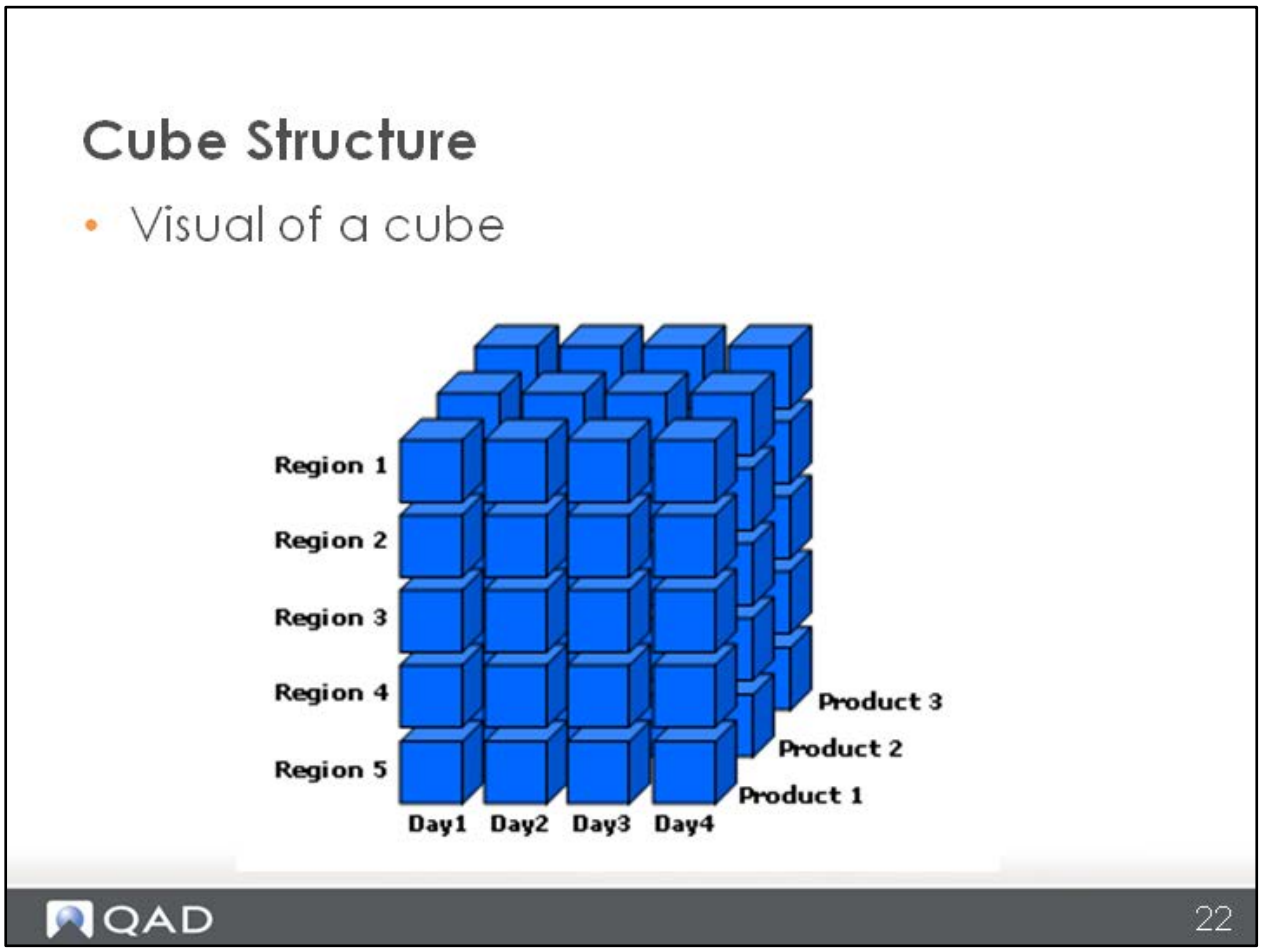
Cubes



Cubes – What are they?

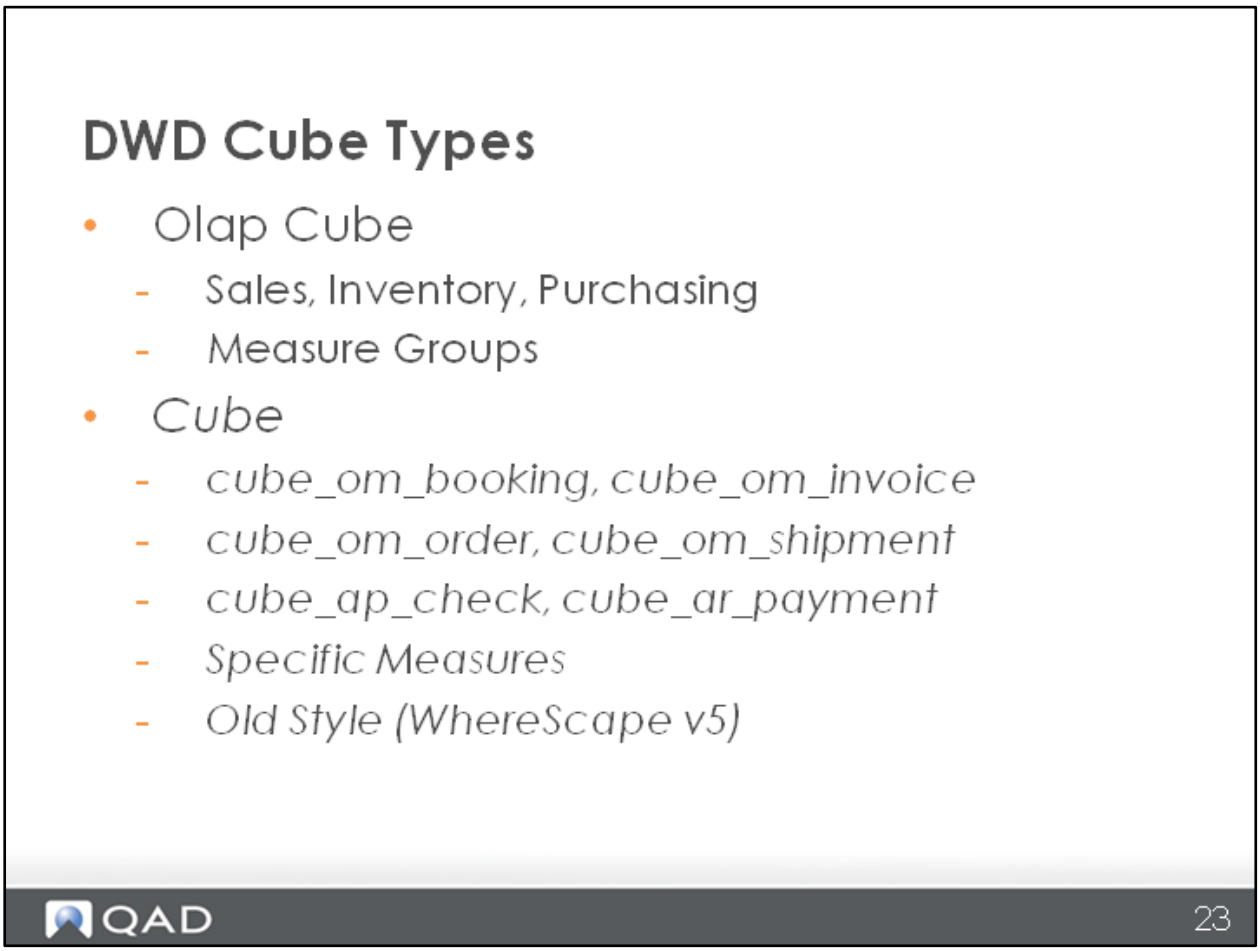


Cube Structure



In this example, the cube is three dimensional, but cubes can be many more dimensions than just three. It's just very difficult to display them graphically.

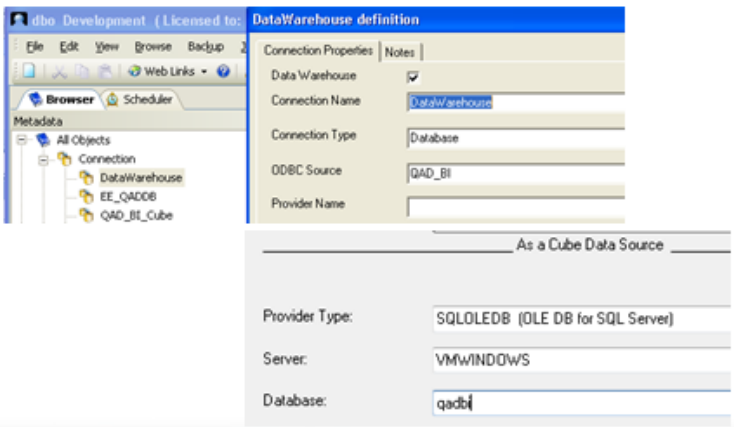
DWD Cube Types



Cubes Setup – Set Connections

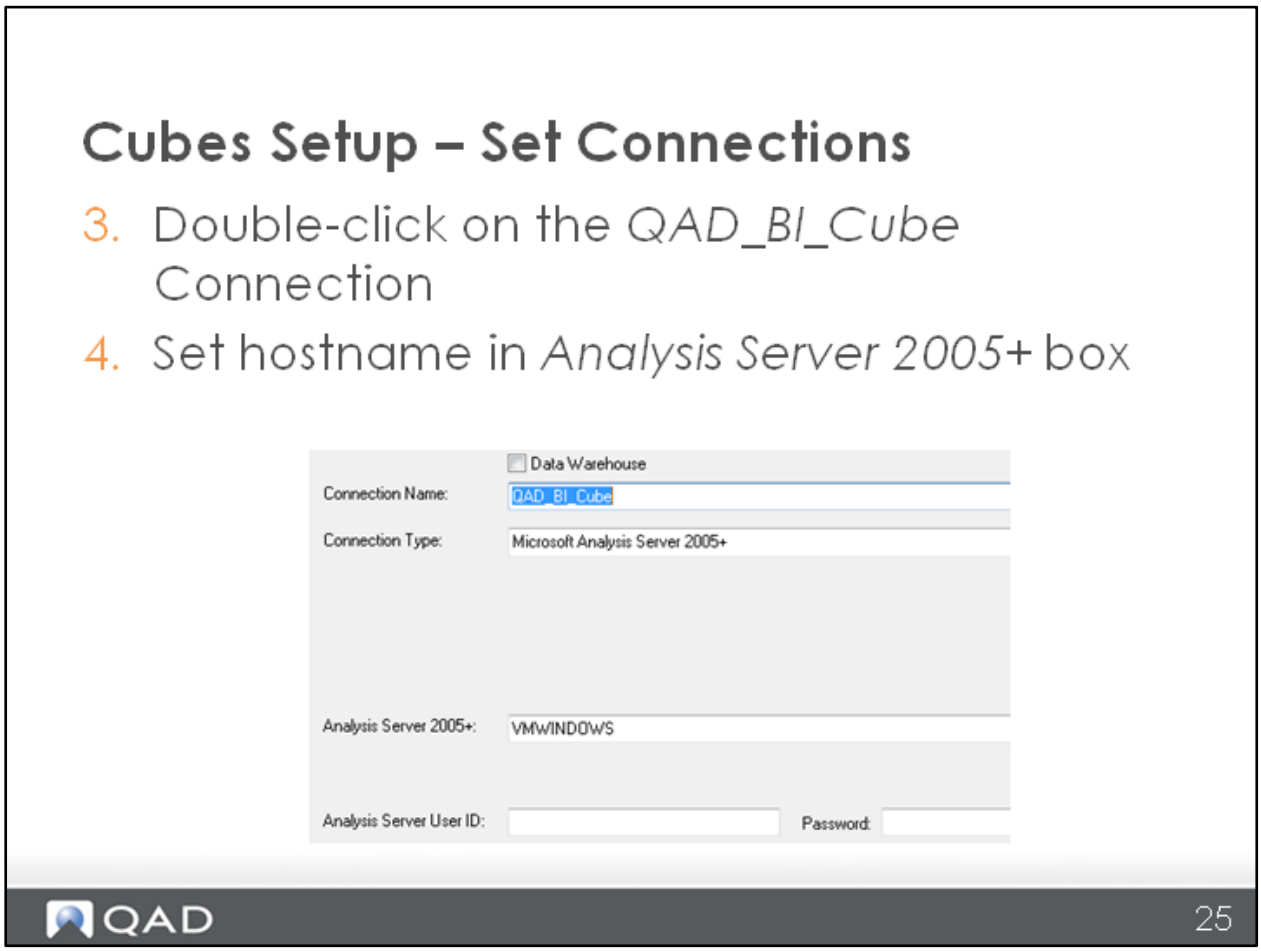
Cubes Setup – Set Connections

1. In DWD, double-click on the *DataWarehouse* Connection
2. Set the *Provider Type, Server & Database*



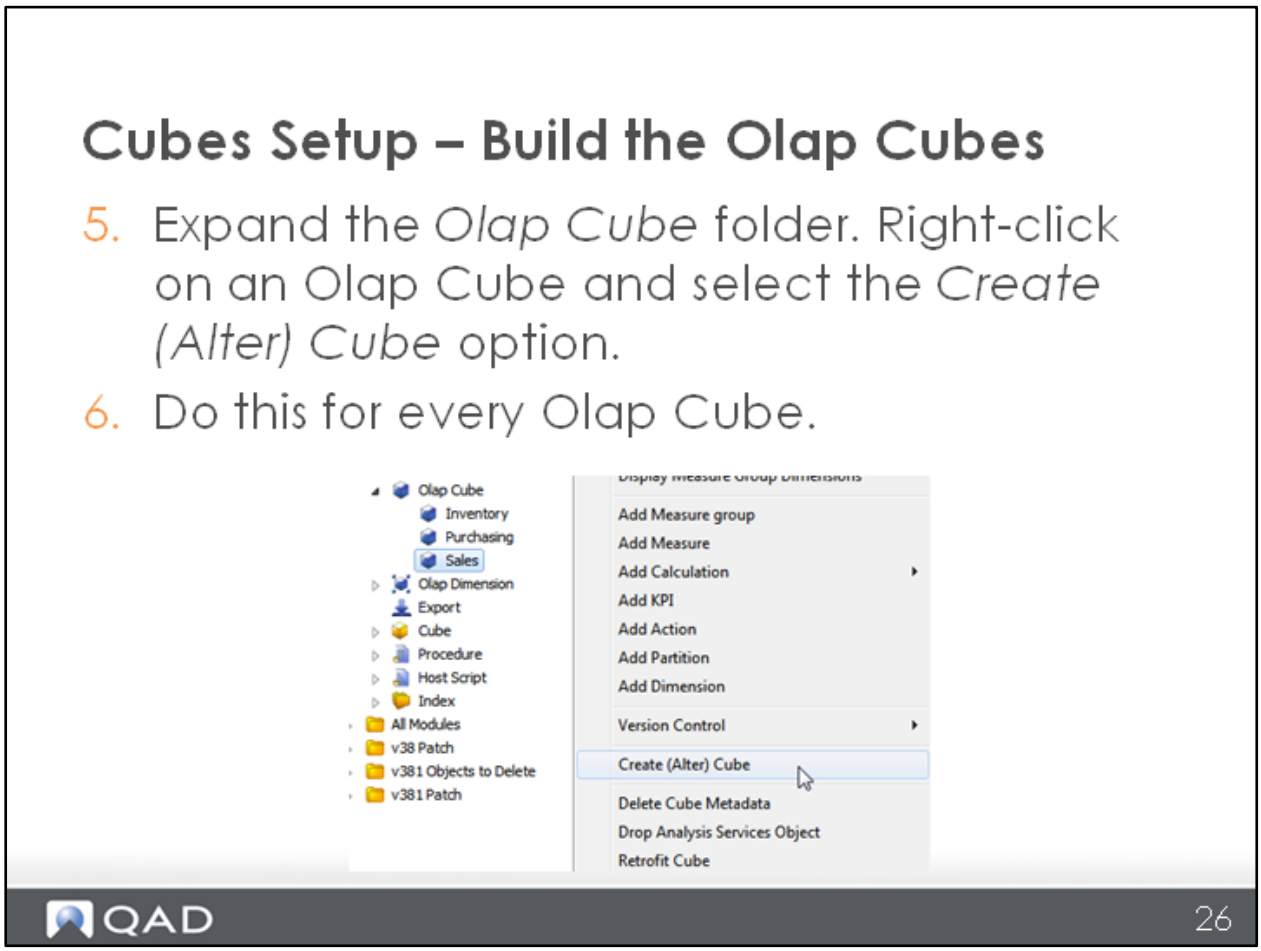
QAD 24

Cubes Setup – Set Connections

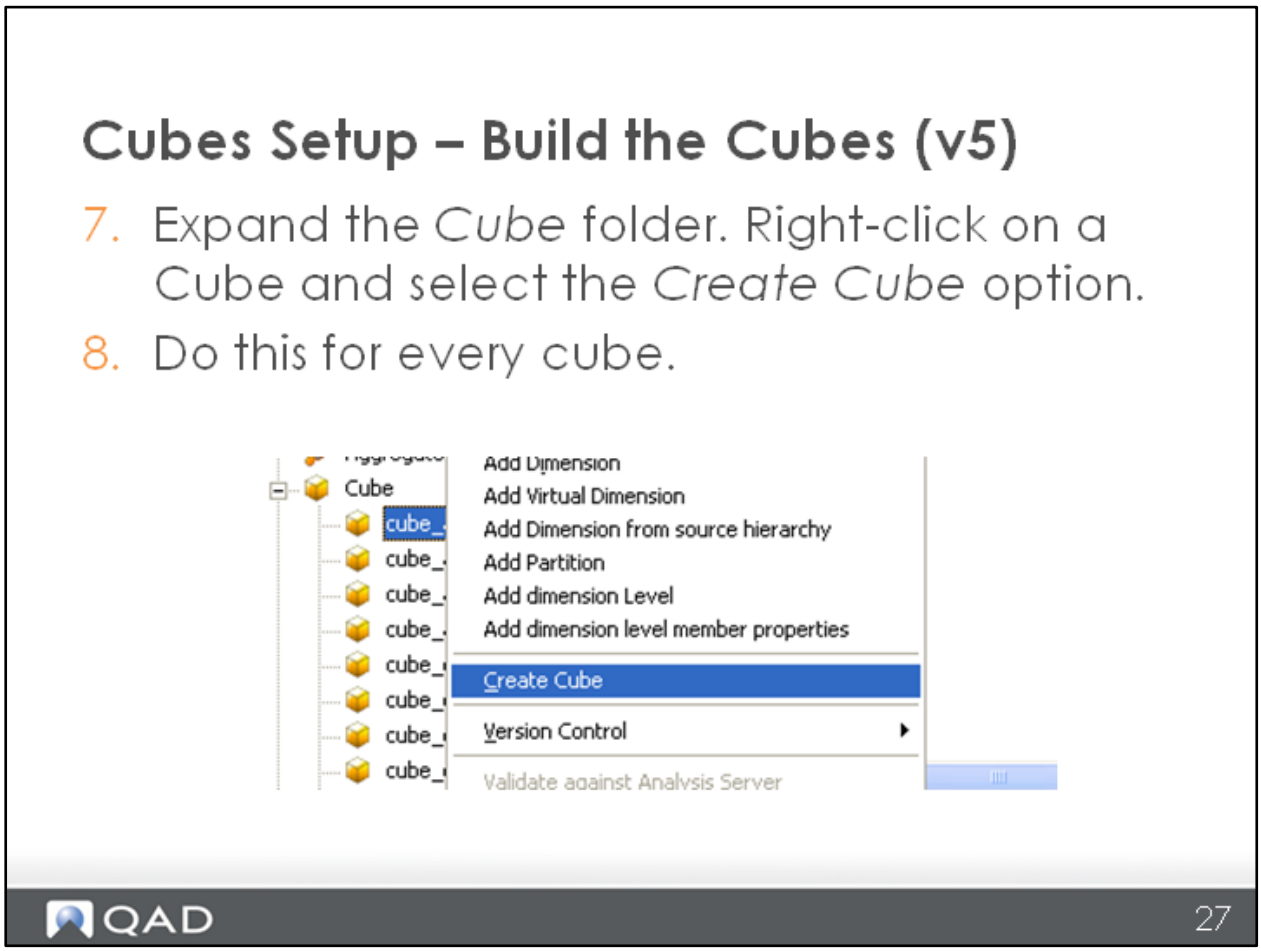


Localhost works if the server is on the same machine as the DWD. It's typically better to use the actual host name.

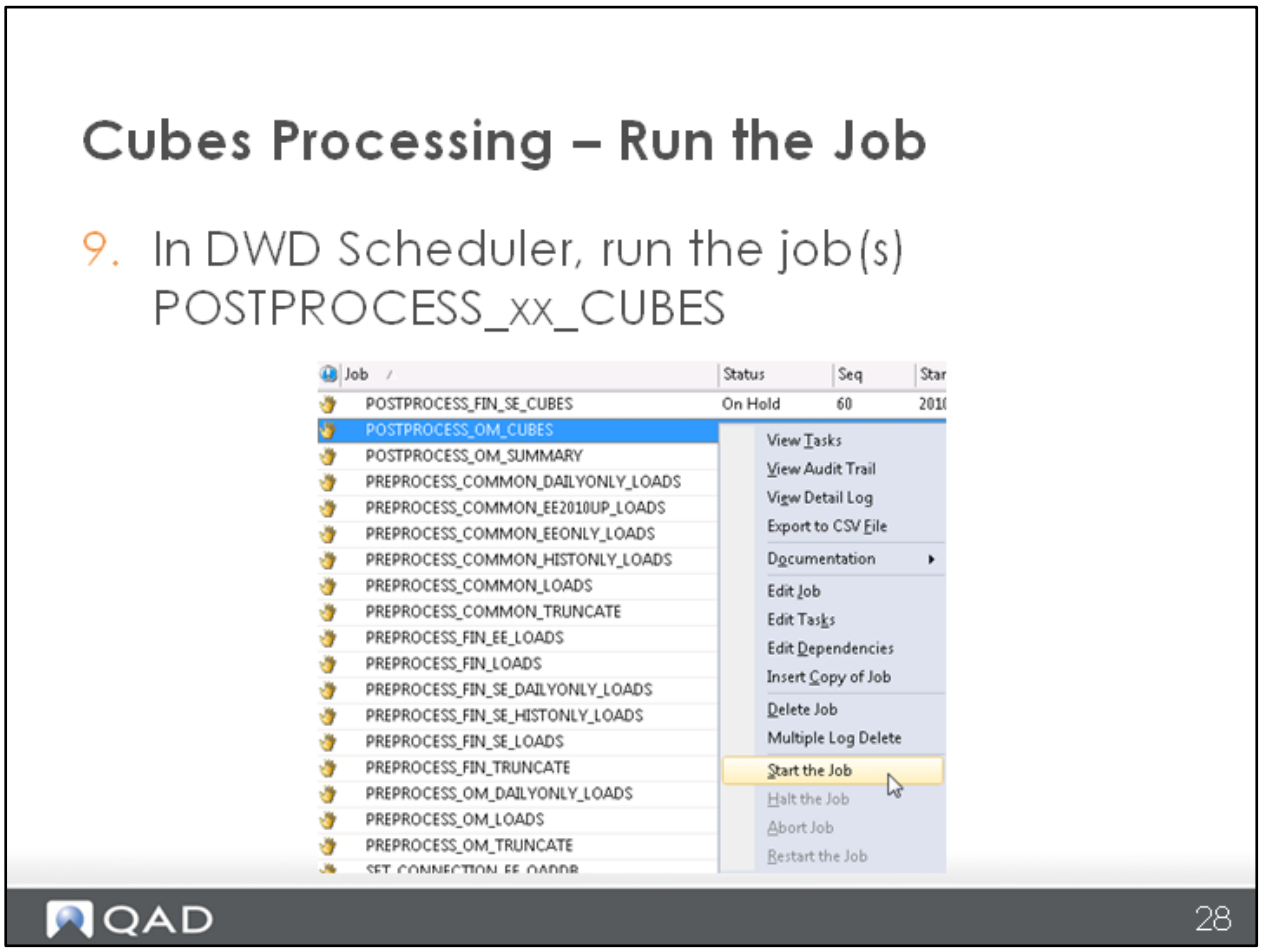
Cubes Setup – Build the Olap Cubes



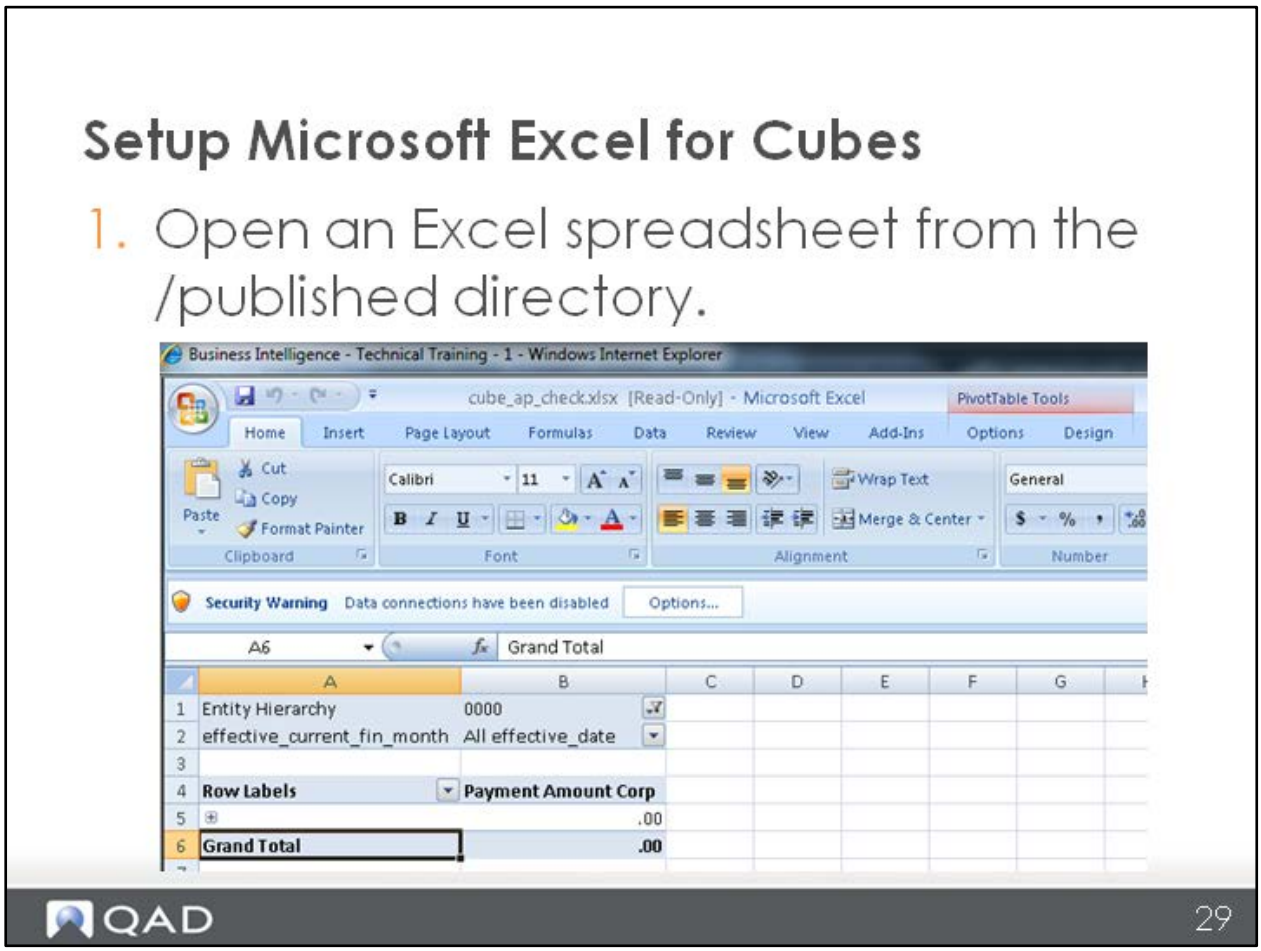
Cubes Setup – Build the Cubes (v5)



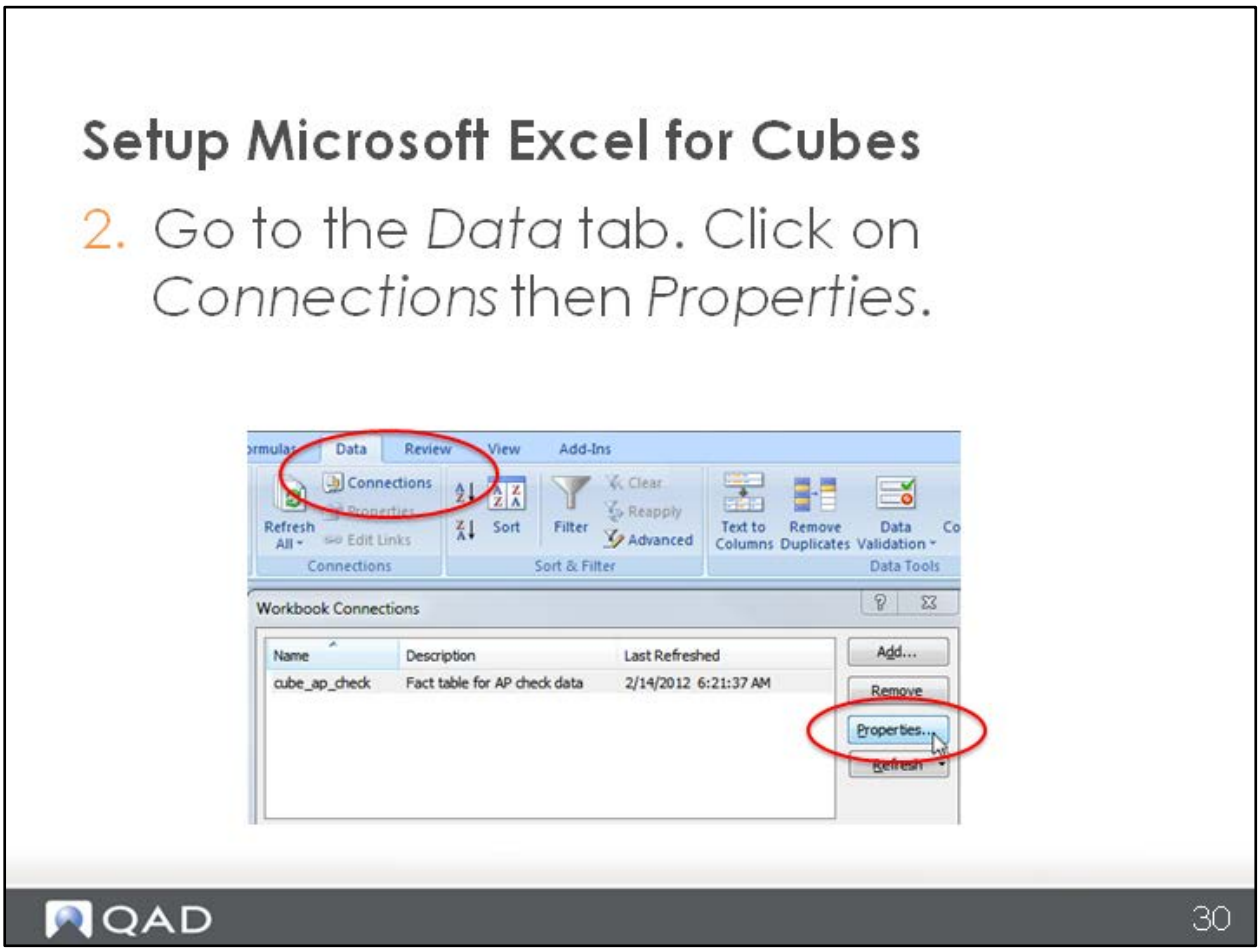
Cubes Processing – Run the Job



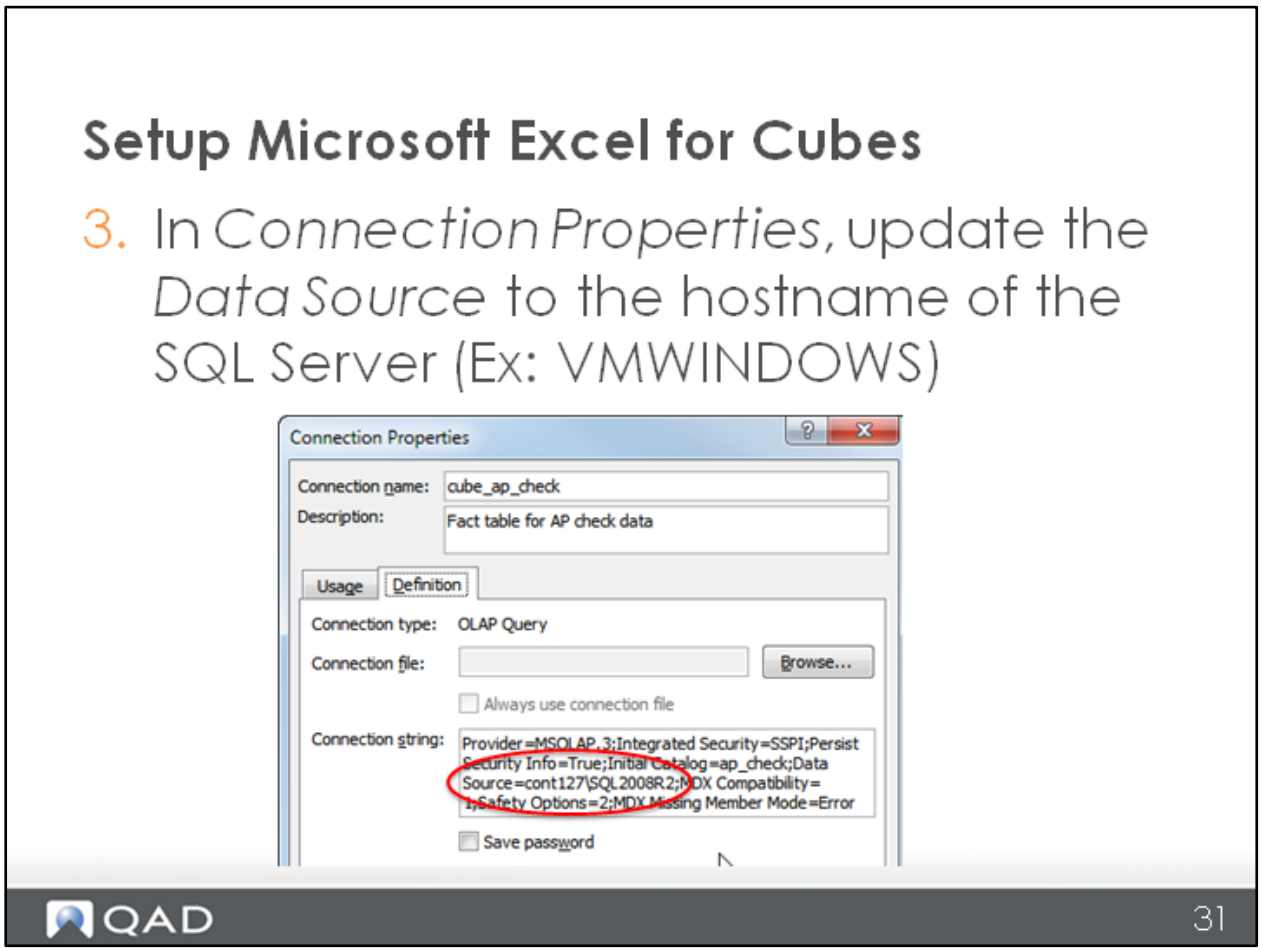
Setup Microsoft Excel for Cubes



Setup Microsoft Excel for Cubes



Setup Microsoft Excel for Cubes

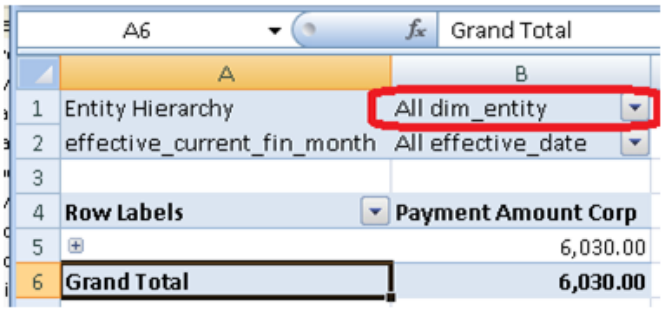


Setup Microsoft Excel for Cubes

Setup Microsoft Excel for Cubes

4. The pivot table can now be refreshed to retrieve new data.

Note: change filter values to produce results

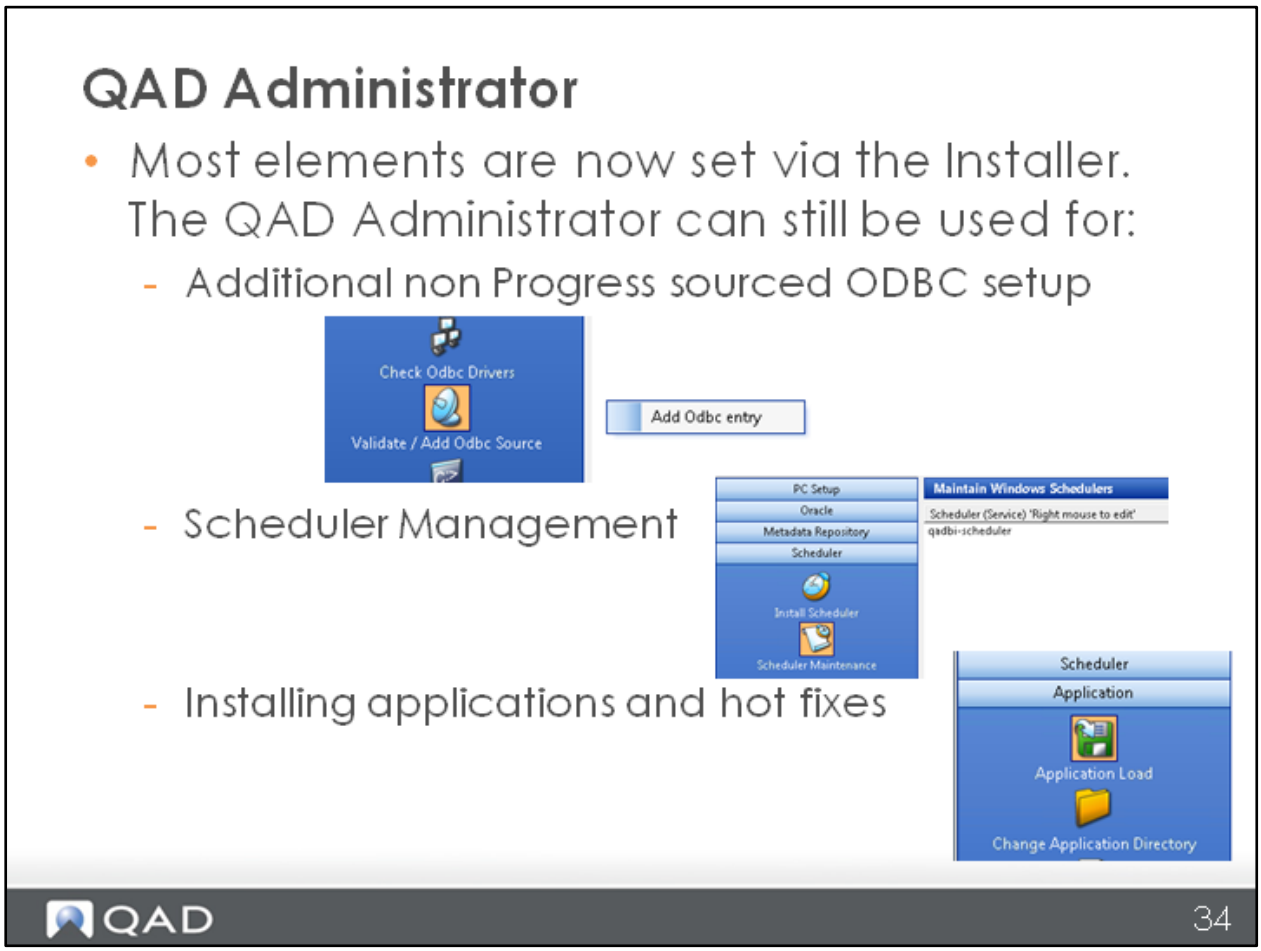


QAD 32

A Complete Review of the DWD Tool



QAD Administrator

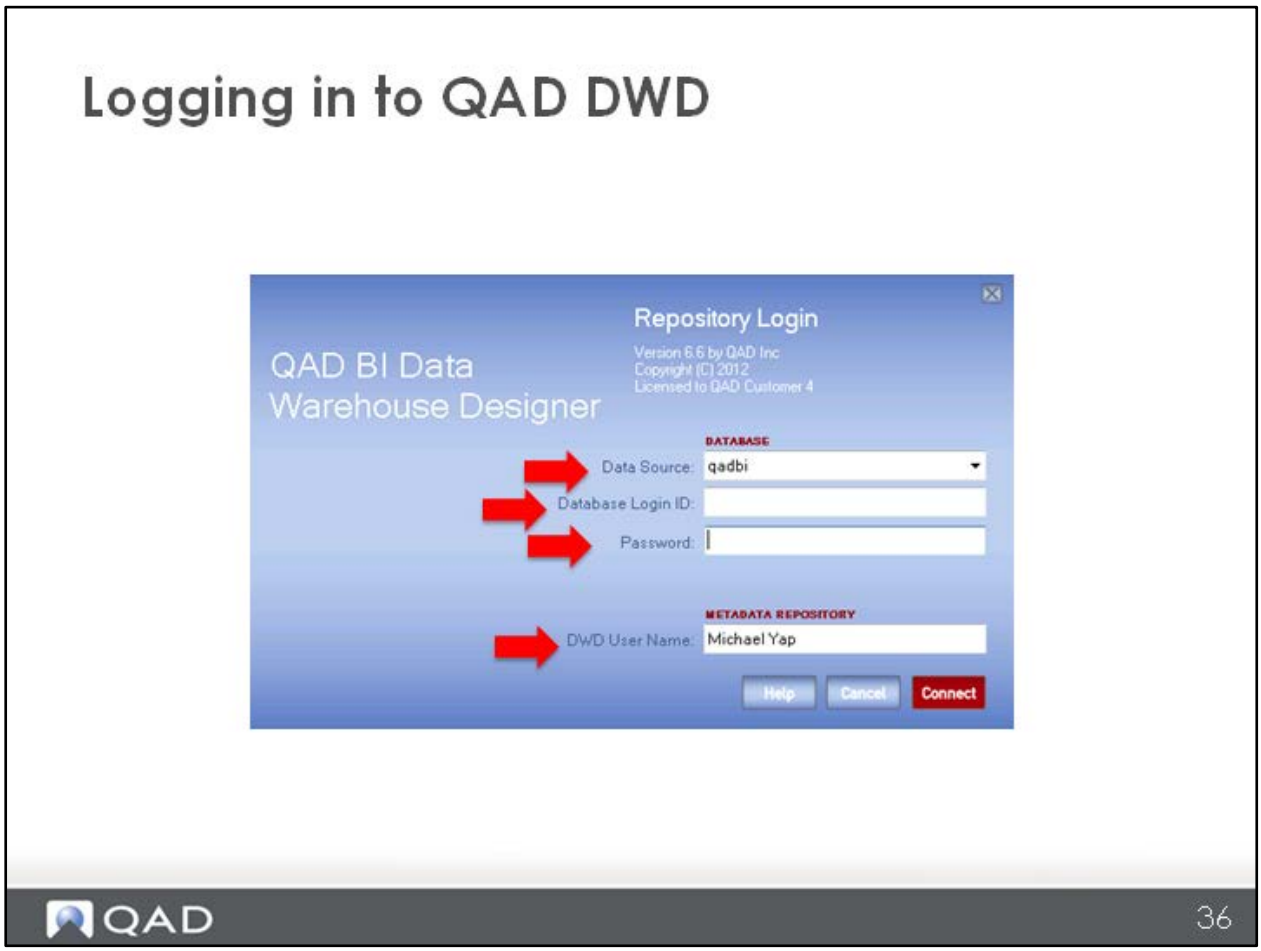


ODBC - If flat file sources or other non-Progress system sources need to be set up, this can be done here.

DWD Interface



Logging in to QAD DWD



Data Warehouse Repository includes both the Data IN the Data Warehouse and the Metadata.

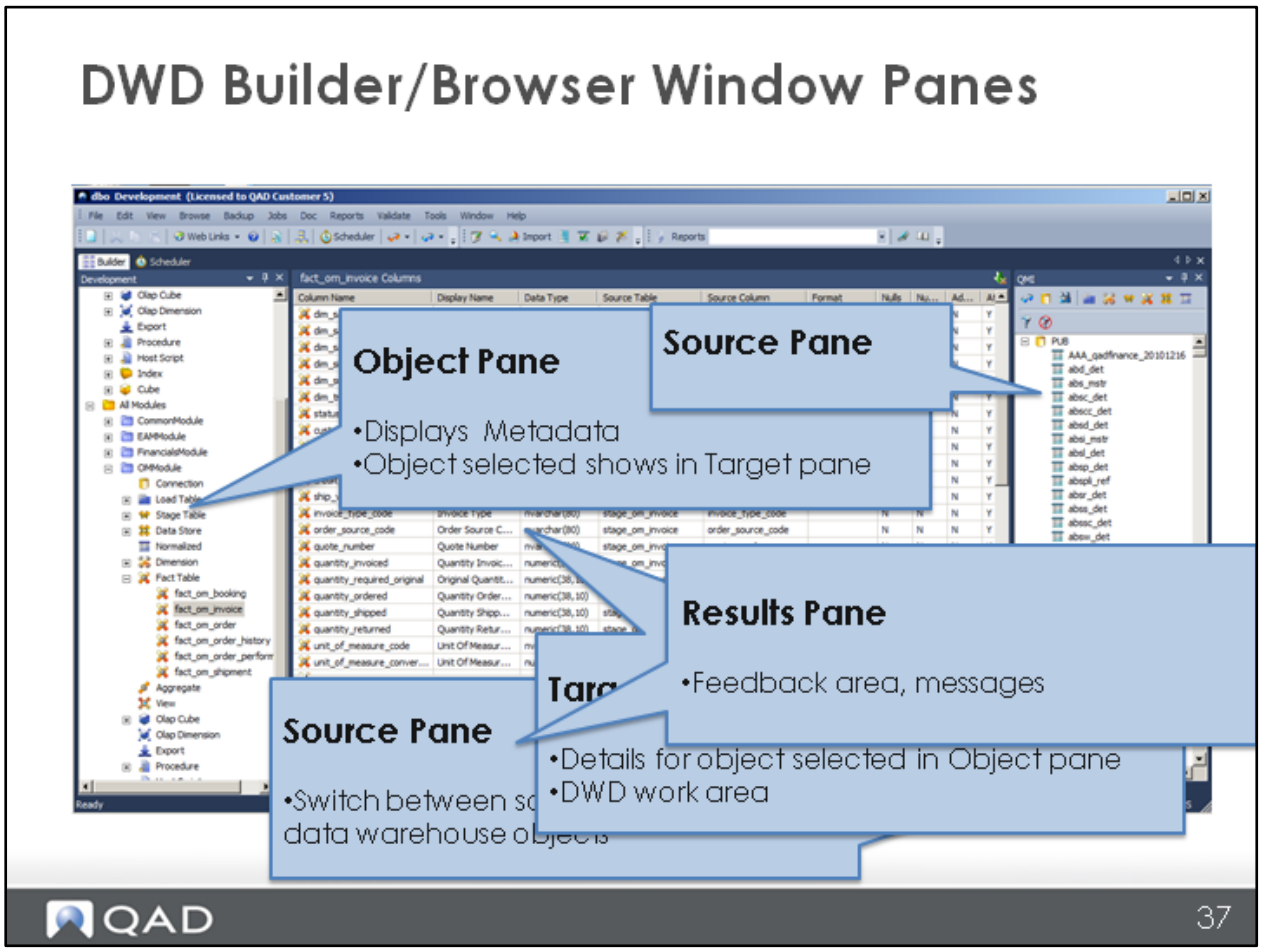
Metadata is the information that describes the data. That is, the data about the Data.

The Repository is a SQL Server database and Is accessed via an ODBC connection.

To login to the DWD:

1. Select the *Data Source* or ODBC connection to your Data Warehouse from the drop down list. If the environment includes multiple data warehouses, this field will default to the last data warehouse you accessed using the DWD.
2. Enter a valid Database Login ID and password.
3. The Full User Name is the name that will be associated to any procedures, tables, etc. and scheduled jobs that are created from within the DWD. Normally, you should enter your first and last name.

DWD Builder/Browser Window Panes



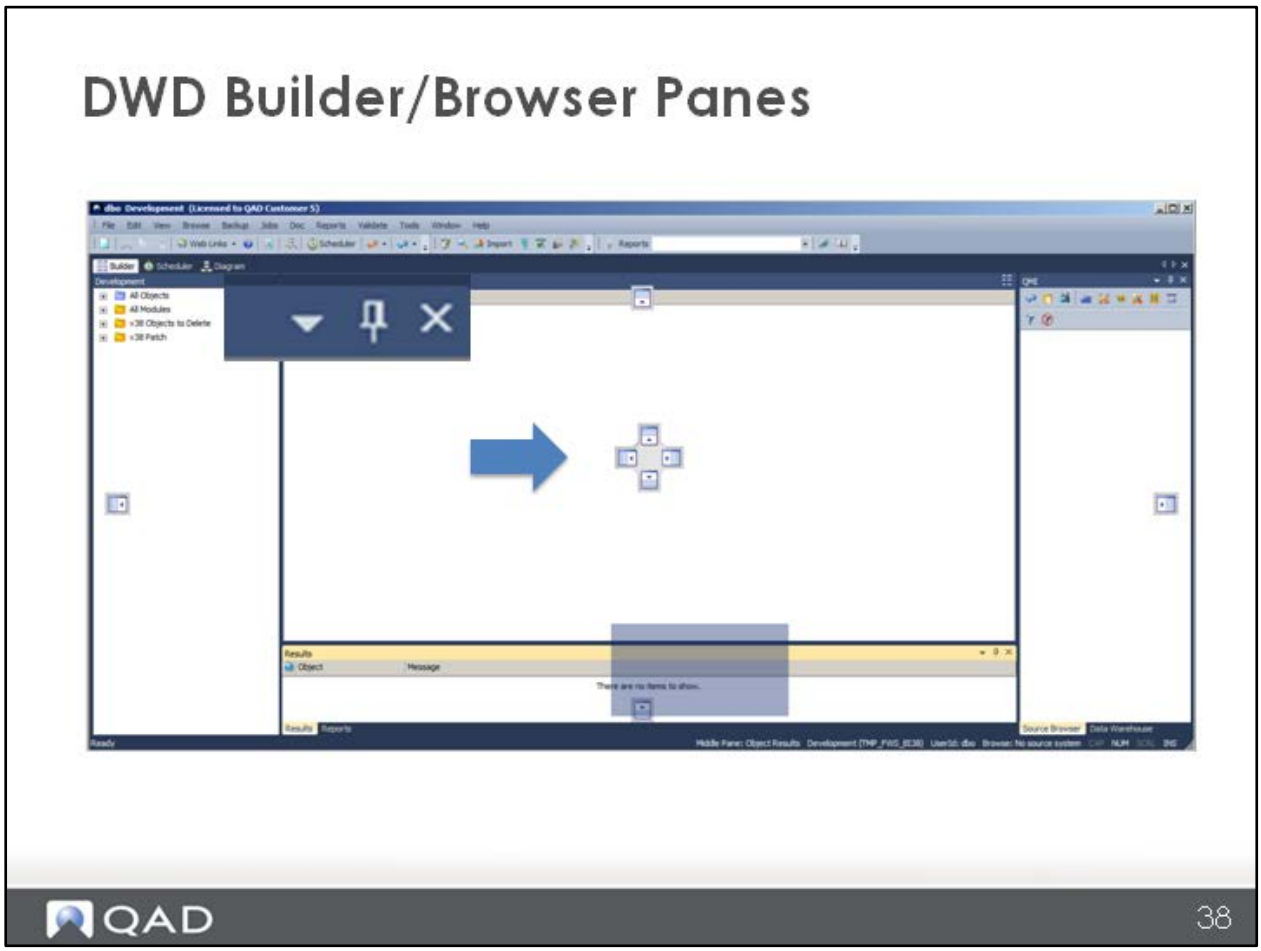
There are 4 main window panes in the DWD:

- Builder (formerly Browser)
- Scheduler
- Diagram
- Procedure Editor

Within each window, there may be multiple panes. In the Builder/Browser Window, there are 4 panes.

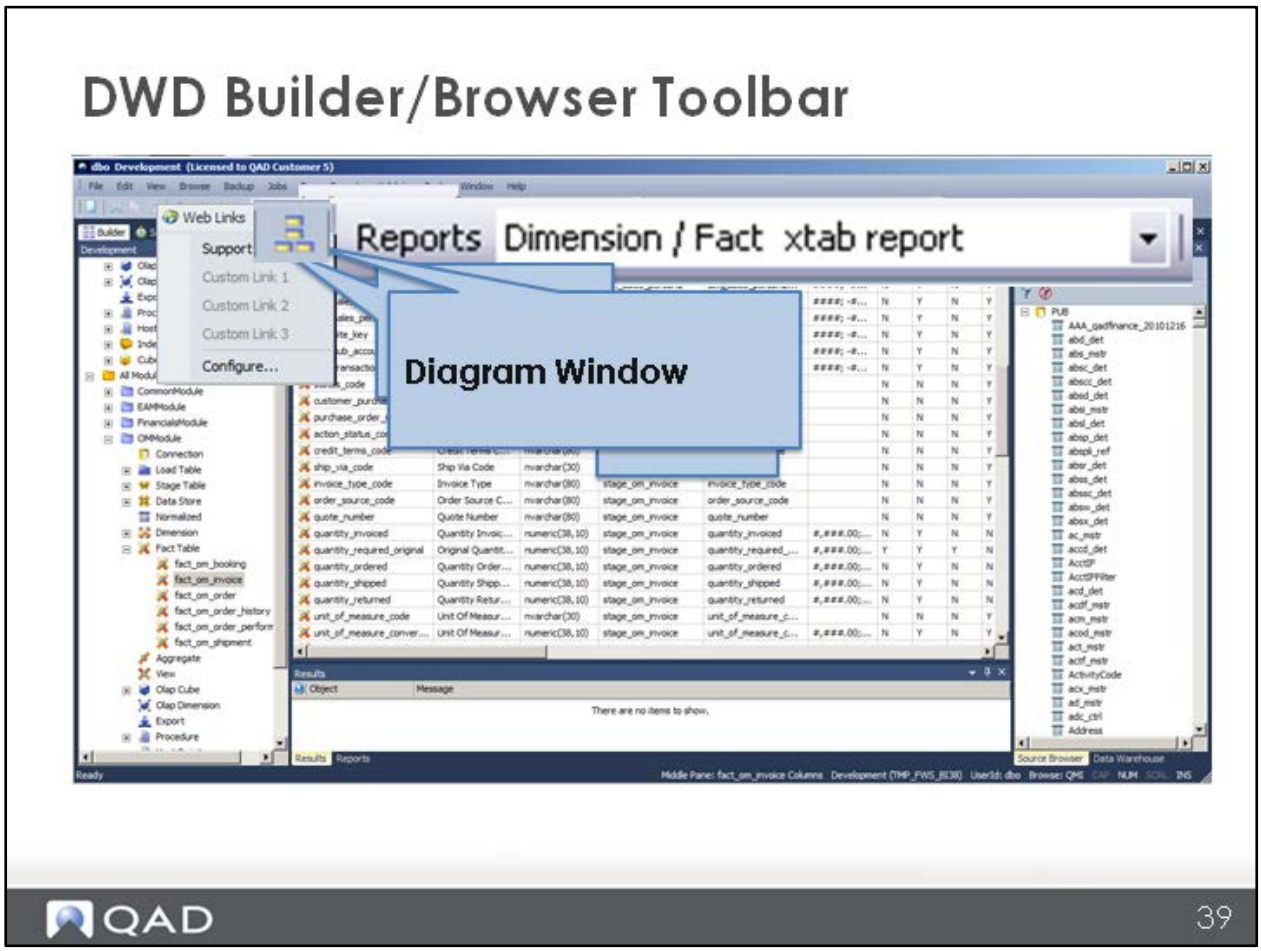
- **Object pane.** Displays the metadata
- **Target pane.** Item selected in the object pane has detailed information shown in the target pane
- **Results pane.** Feedback area
- **Source pane.** Two tabs – Source system and Data Warehouse

DWD Builder/Browser Panes



In the Builder (Browser) the individual panes can be moved, resized and hidden. To move the pane back to the original position, double click on the pane title bar.

DWD Builder/Browser Toolbar



The Builder (Browser) menu bar provides access to the following:

- QAD Support
- Diagram Window
- Scheduler Window
- Reports

WhereScape RED©

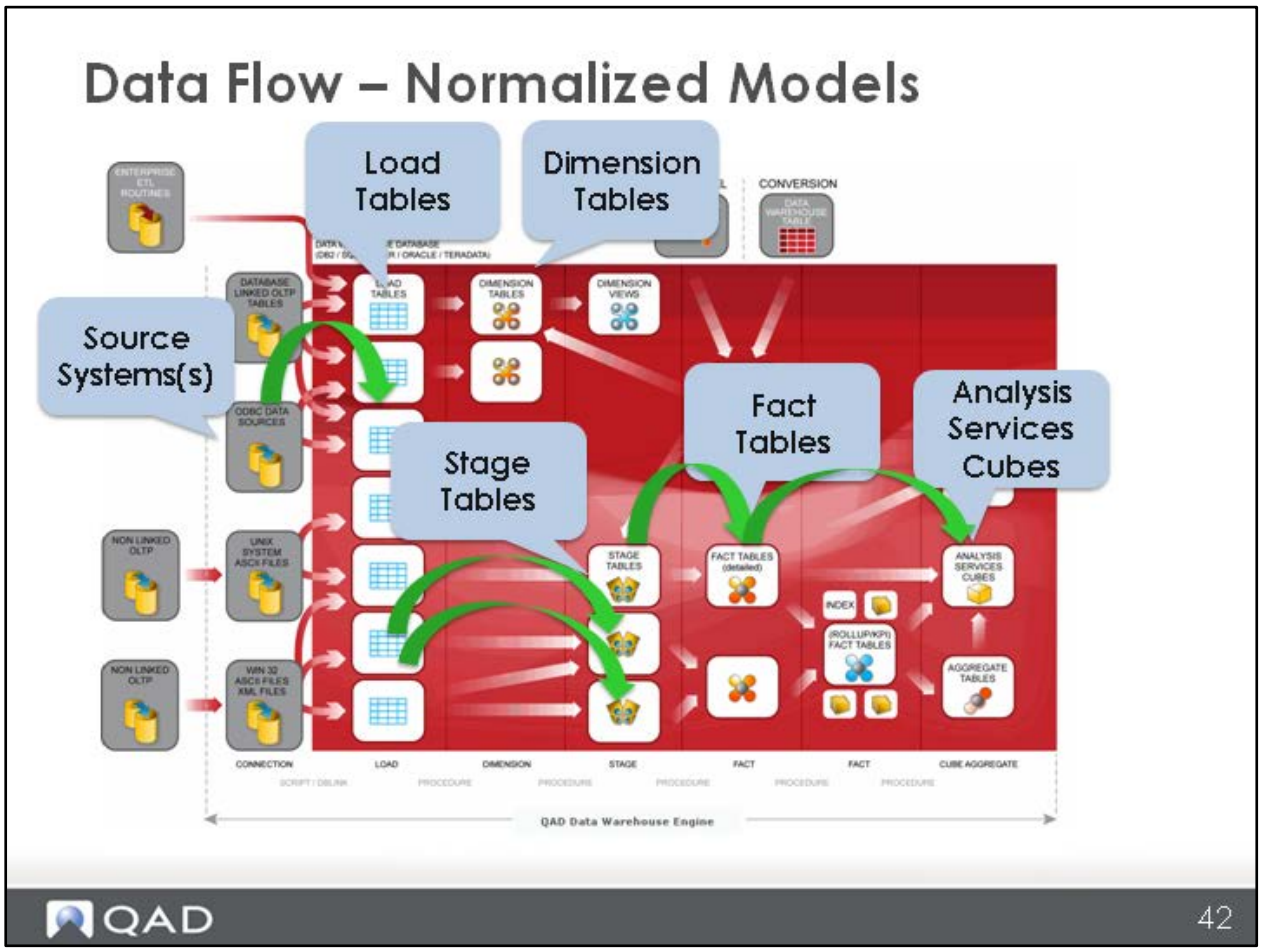


The QAD DWD is a rebranded version of a product from WhereScape Inc. named “Red”.

DWD Concepts



Data Flow – Normalized Models



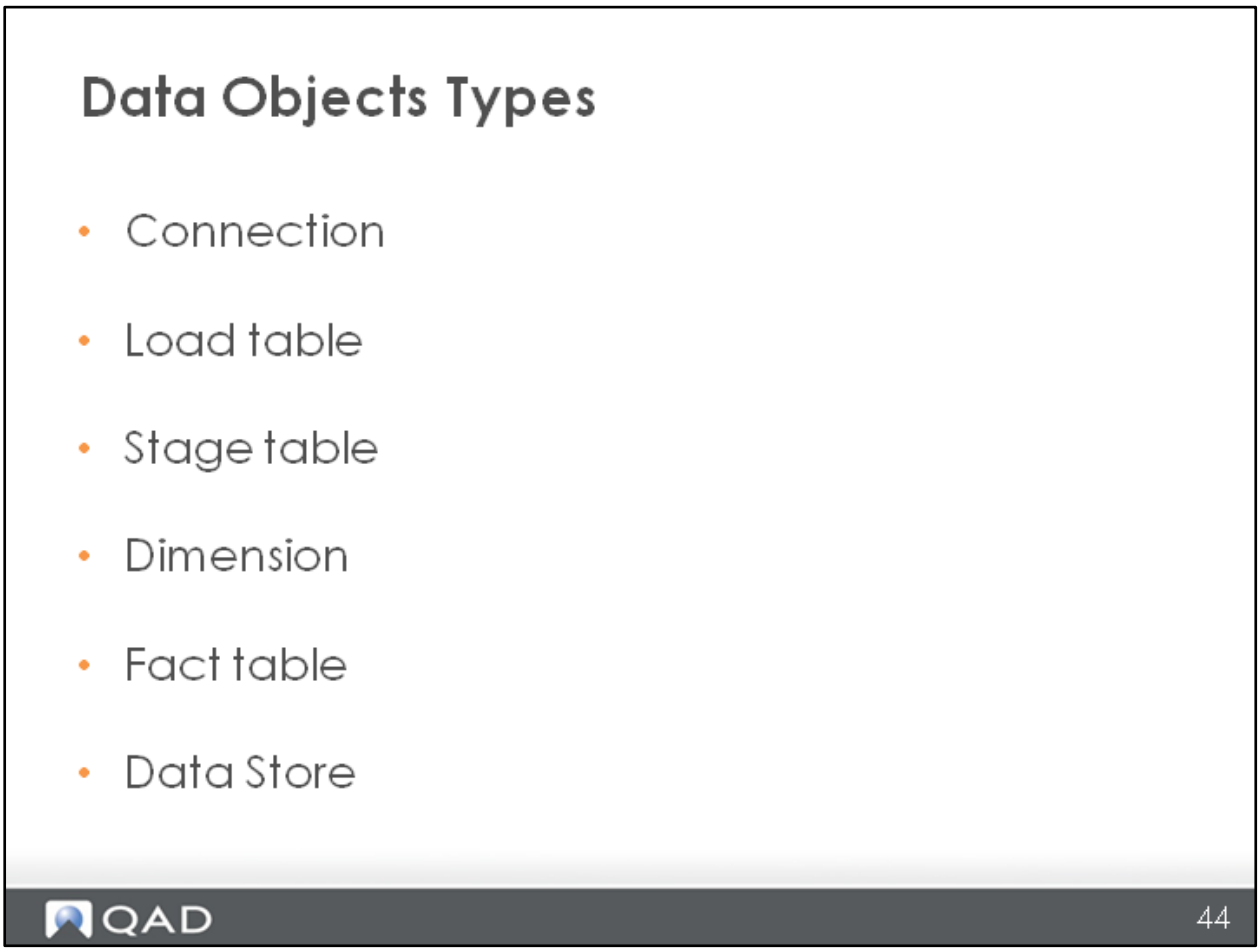
The expected flow of data is as follows:

- Source systems (ERP, EAM, TMS)
- Load tables
- Stage tables
- Dimension & Fact tables
- Microsoft Analysis Services Cubes

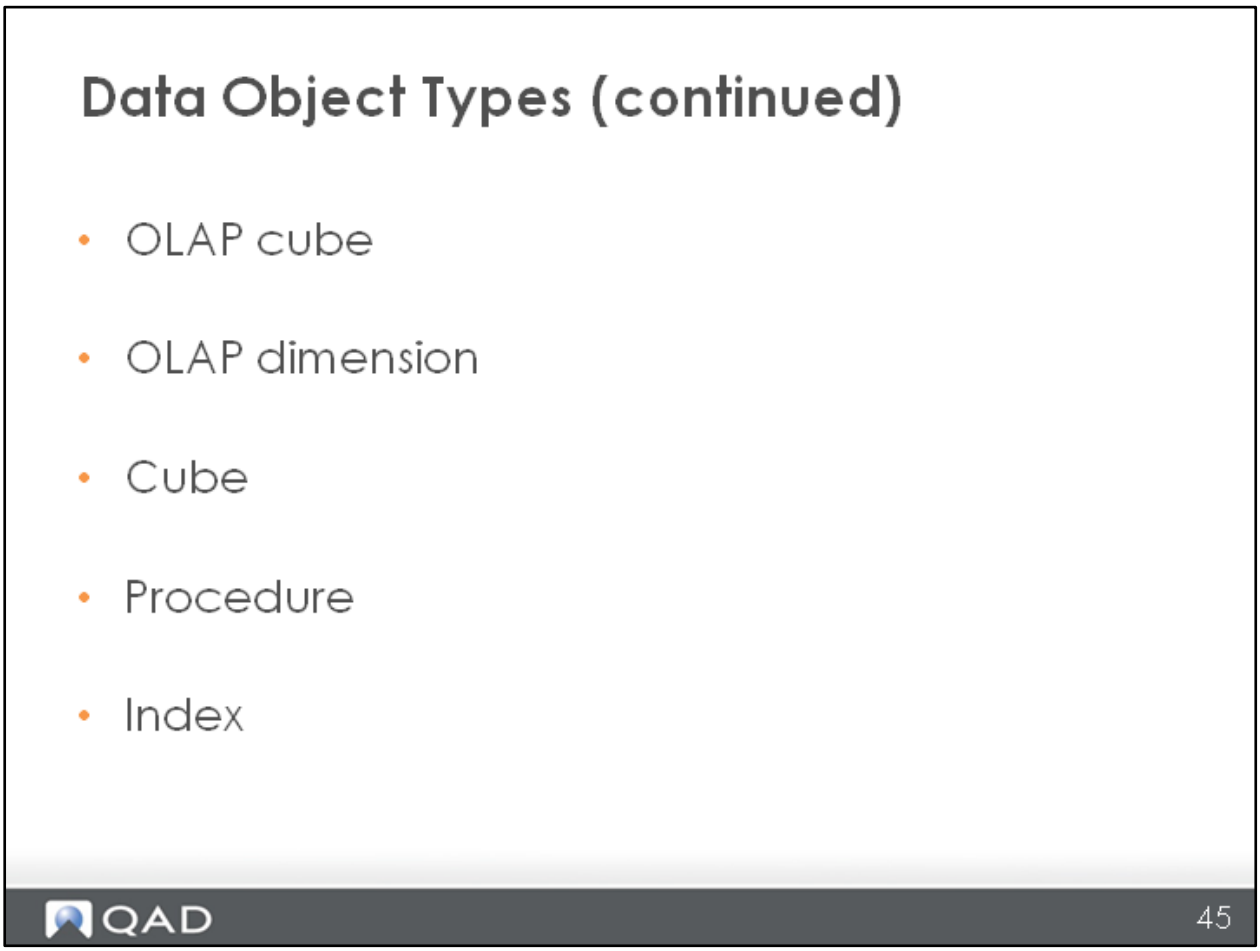
DWD Objects



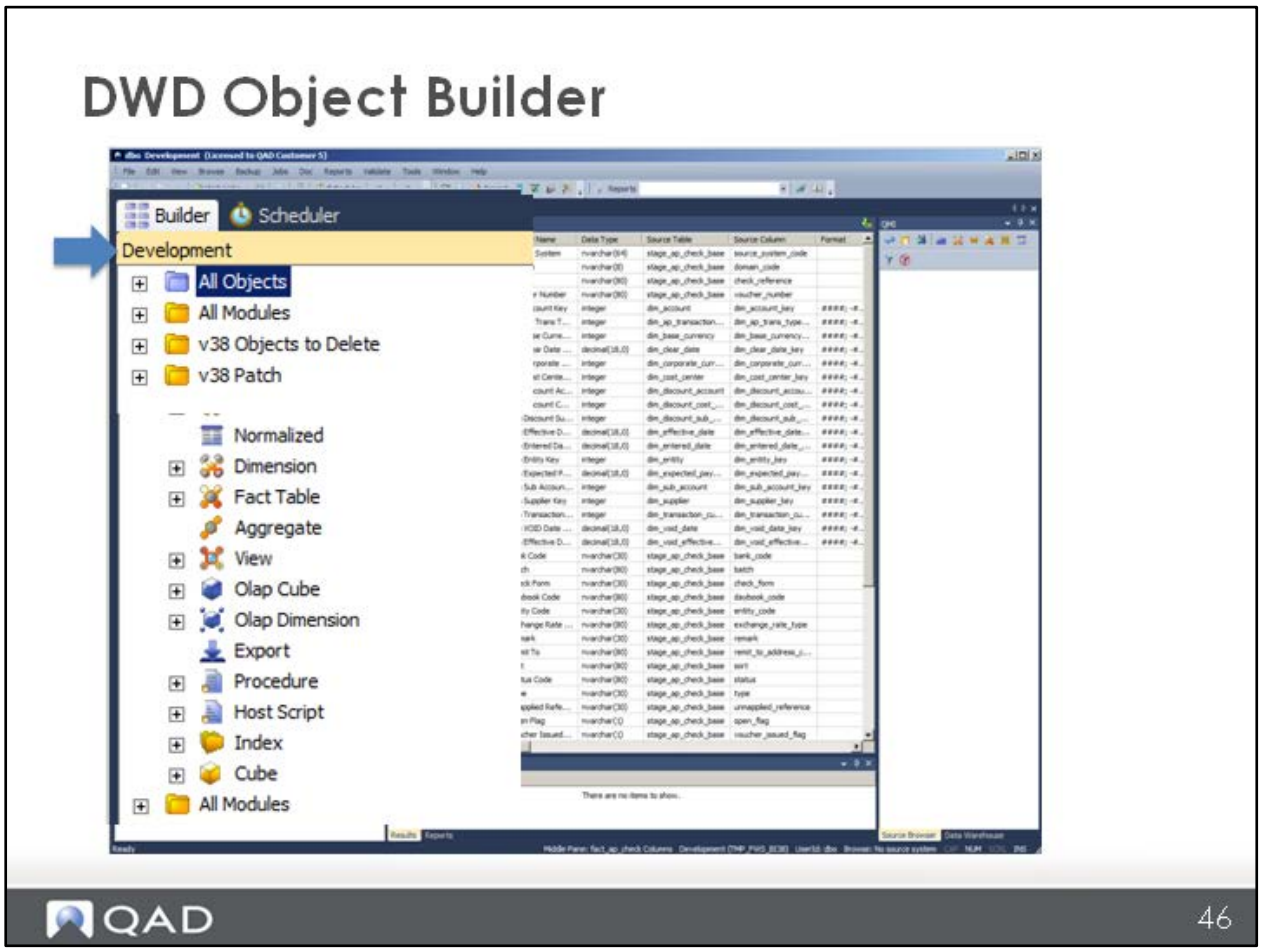
Data Objects Types



Data Object Types (continued)



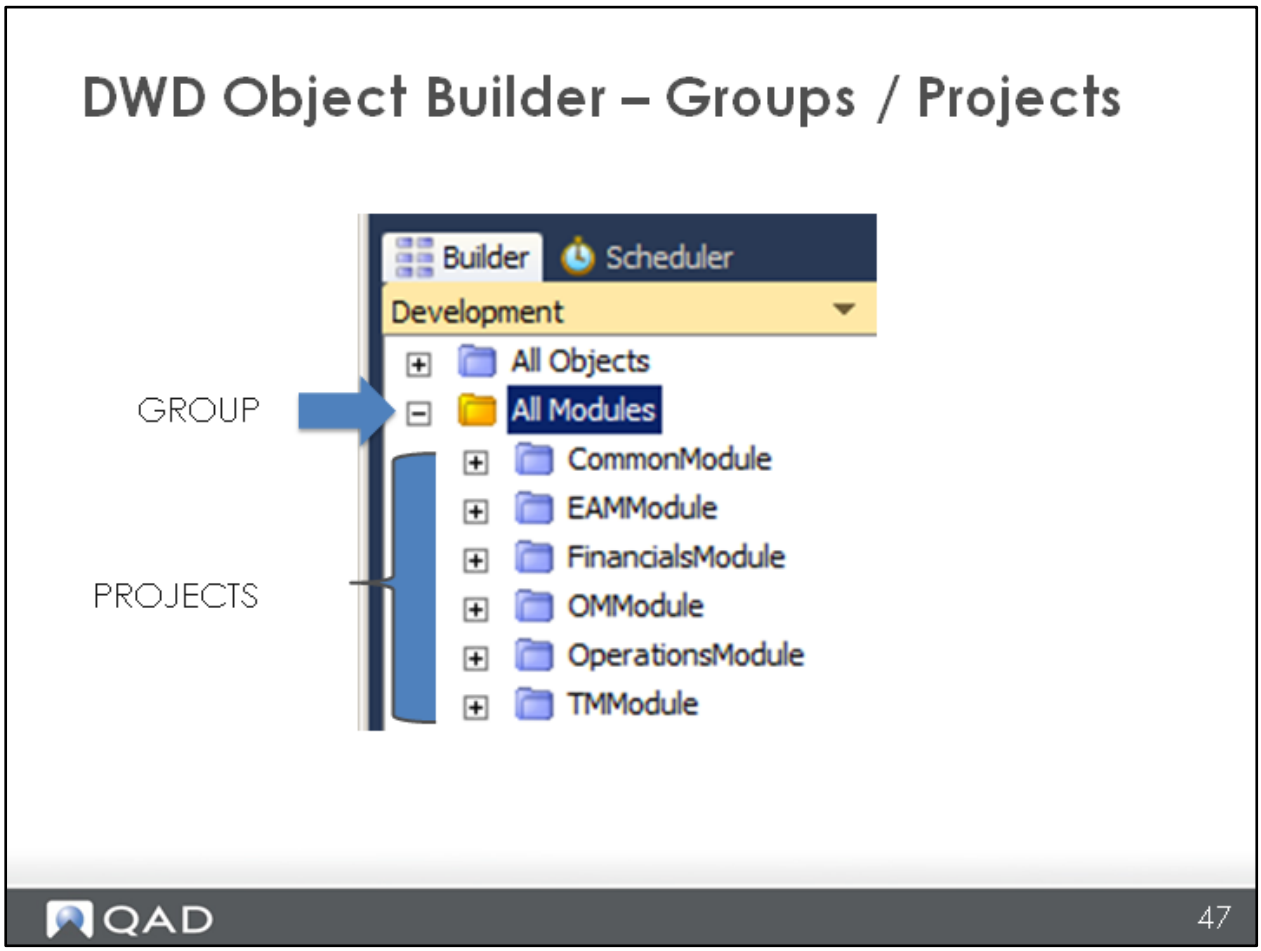
DWD Object Builder



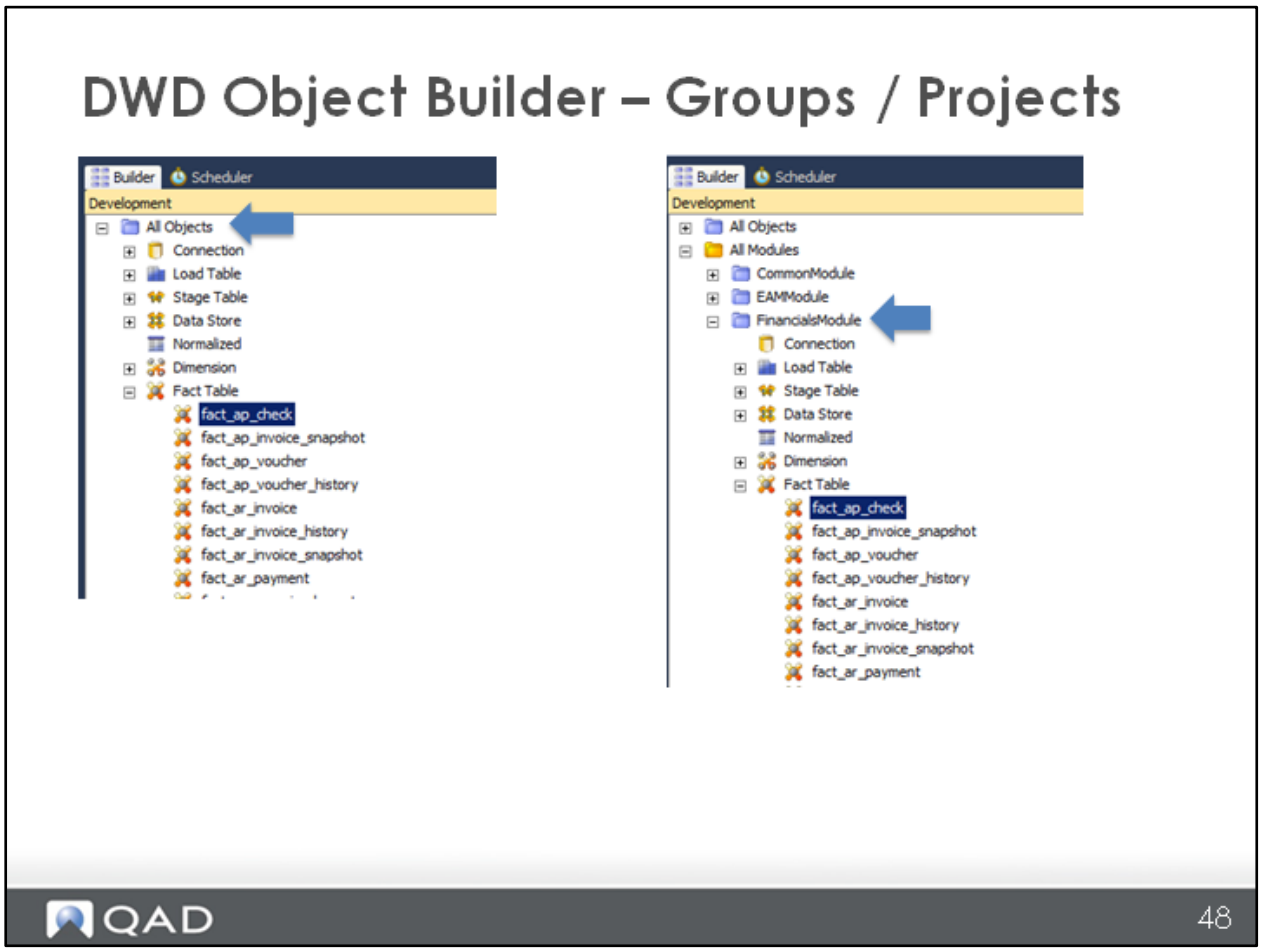
Objects displayed in the object pane are organized into Projects.

A single object can be assigned to more than one project.

DWD Object Builder – Groups / Projects



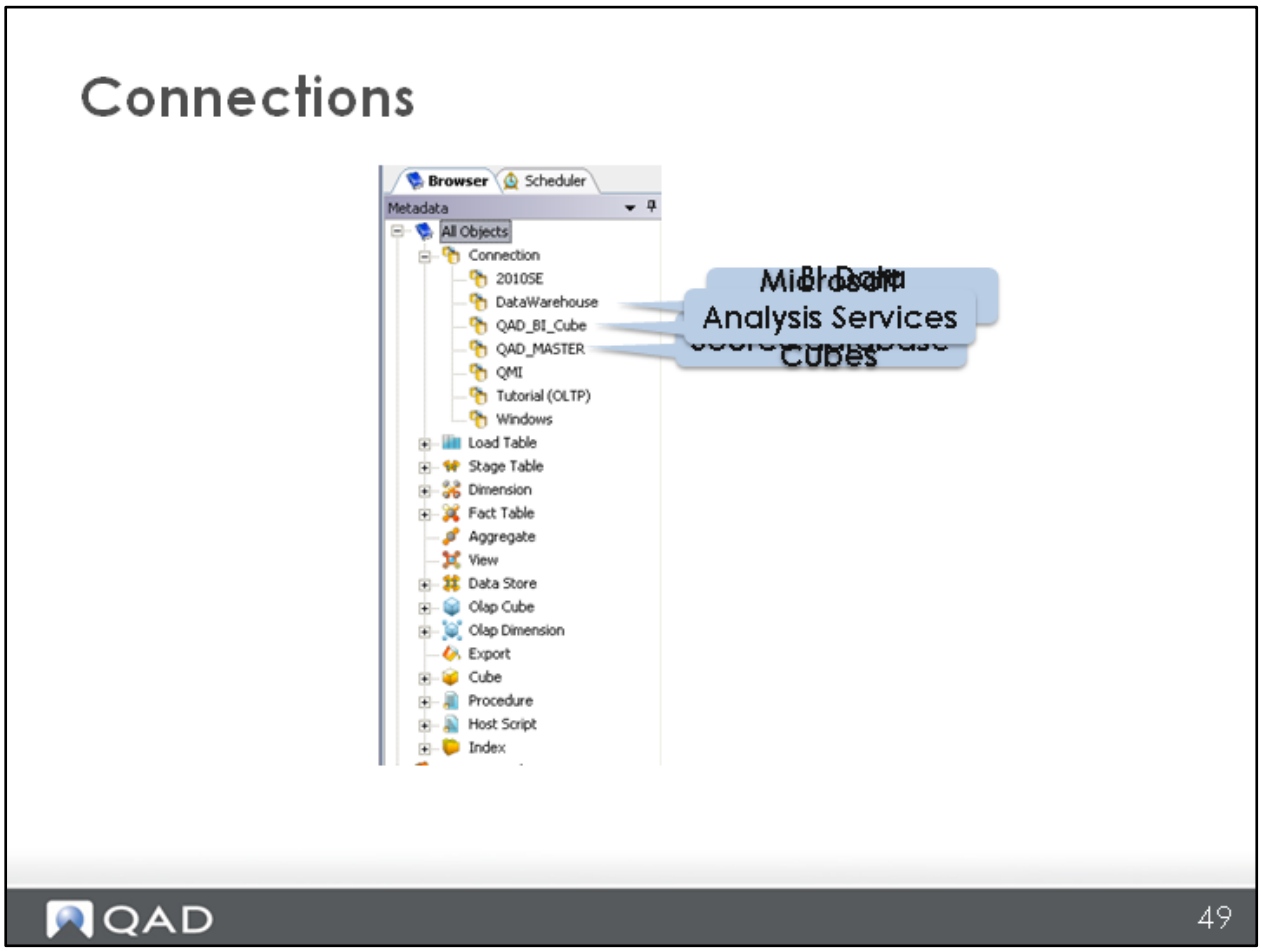
DWD Object Builder – Groups / Projects



The All Objects project contains every object in the data warehouse. To expand the set, click on the plus sign in front of the set name.

Here we see that the object named *fact_ap_check* is linked to both the *All Objects* project, and the *FinancialModules* project. Further, the *FinancialsModules* project is part of the *All Modules* group.

Connections



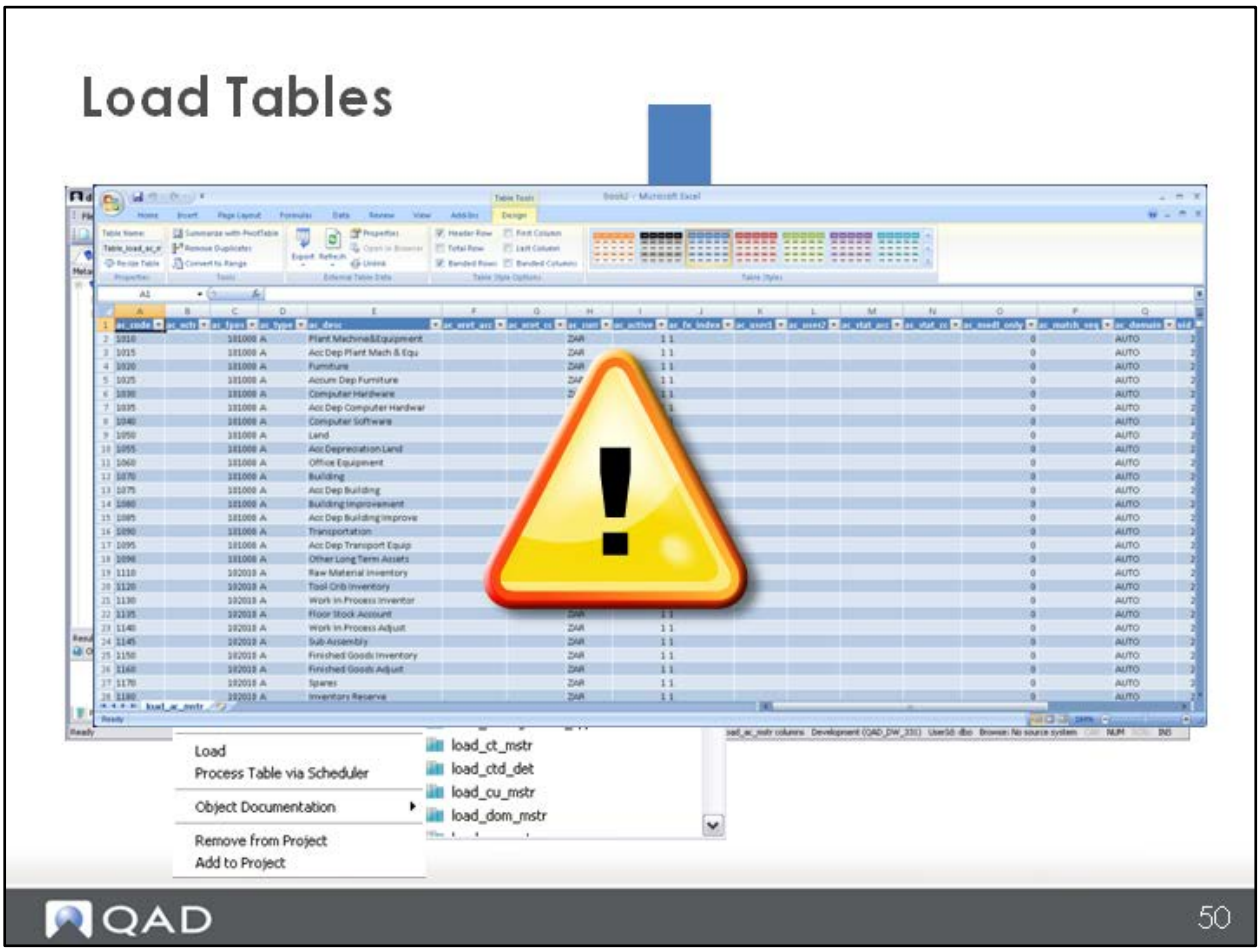
Connections define the path to external objects, such as source data.

Also, a connection is defined to the BI Data Warehouse itself, the SQL database that contains the BI data.

QAD_MASTER is a template connection for Enterprise Application (ERP) and EAM Source systems. The connections named *2010SE* and *QMI* above were defined during the implementation of this specific data warehouse. They are links to 2 different QAD Enterprise Application environments.

There is also a link shown to the Microsoft Analysis Services Cubes (*QAD_BI_Cube)*

Load Tables



Load tables are the first entry point of data into the data repository. They hold the latest set of change data.

Standard QAD modules include Load tables that are ODBC “type”.

Right click on the table name for a drop down list of options. Options include *Display Data* and *Export Data via Excel.*

When using the *Export Data via Excel*, be aware of the potential number of rows to be extracted. You can add a SQL Where clause to the extract, to limit the number of rows extracted.

Load Tables - Properties

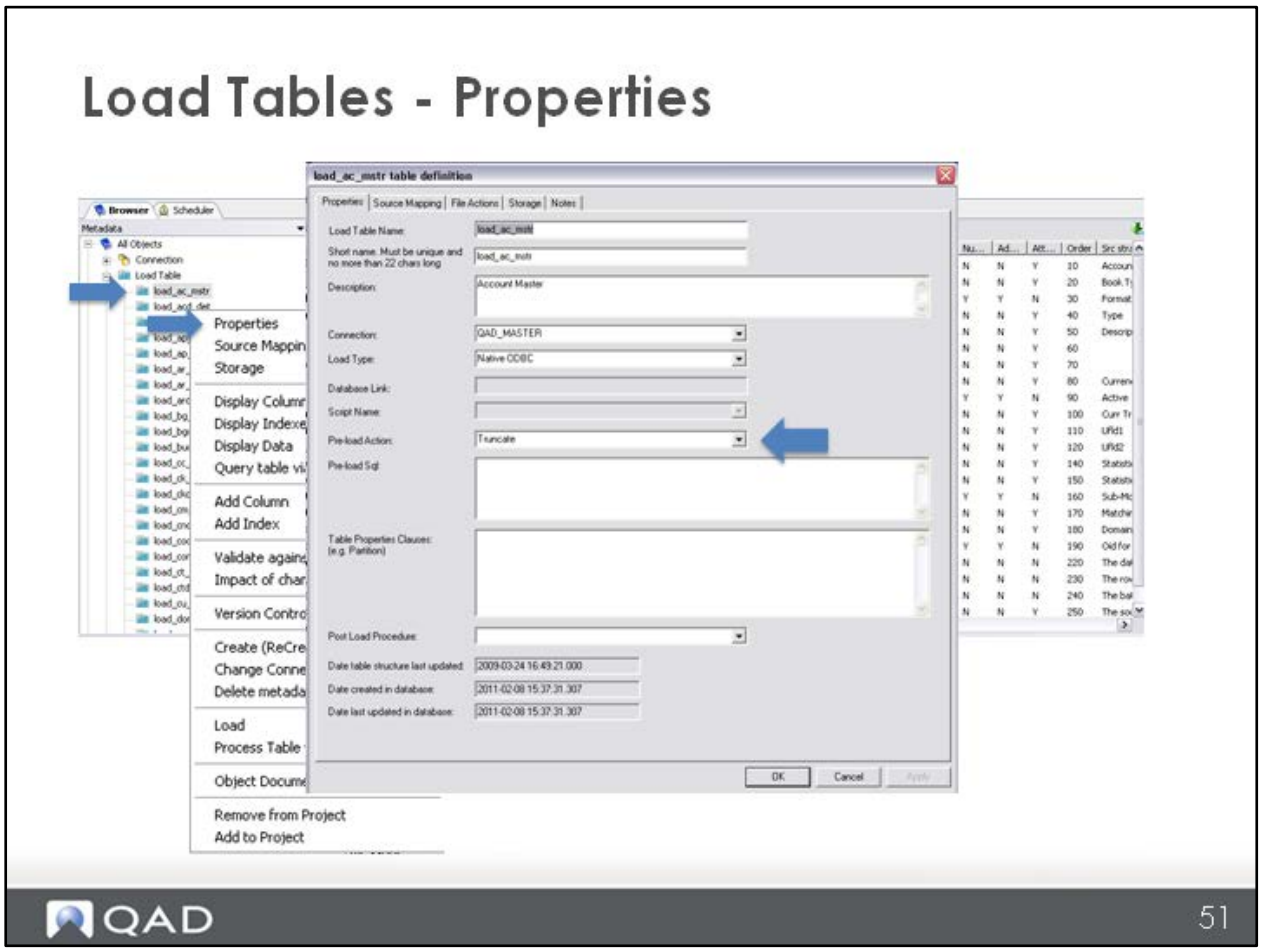
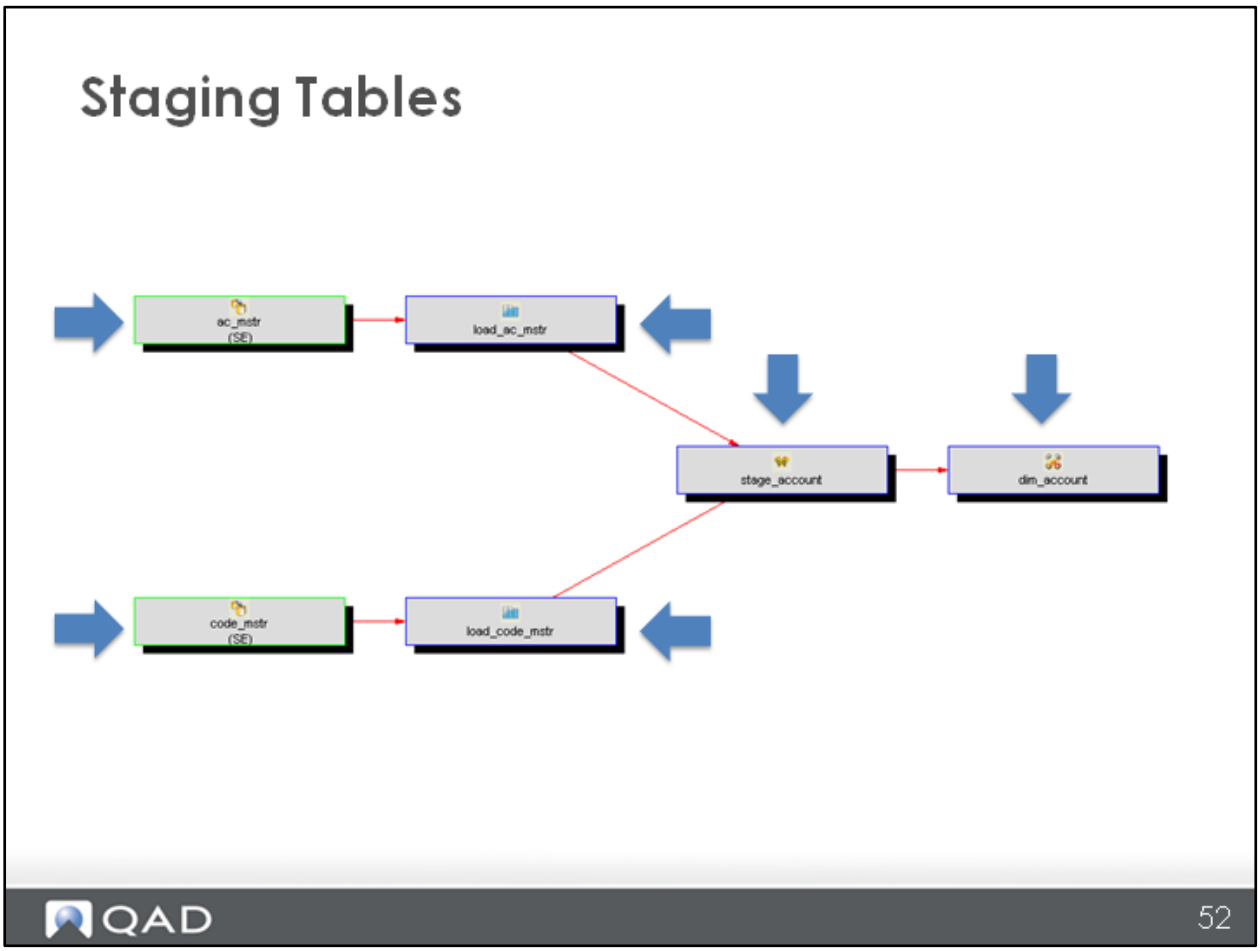


Table *Properties* show key elements related to the table.

Load tables can include pre-load actions. Here we see an example of a *Truncate* pre-load action.

Staging Tables



Staging tables are used in the transformation of raw data into a star schema format. They are **temporary** storage.

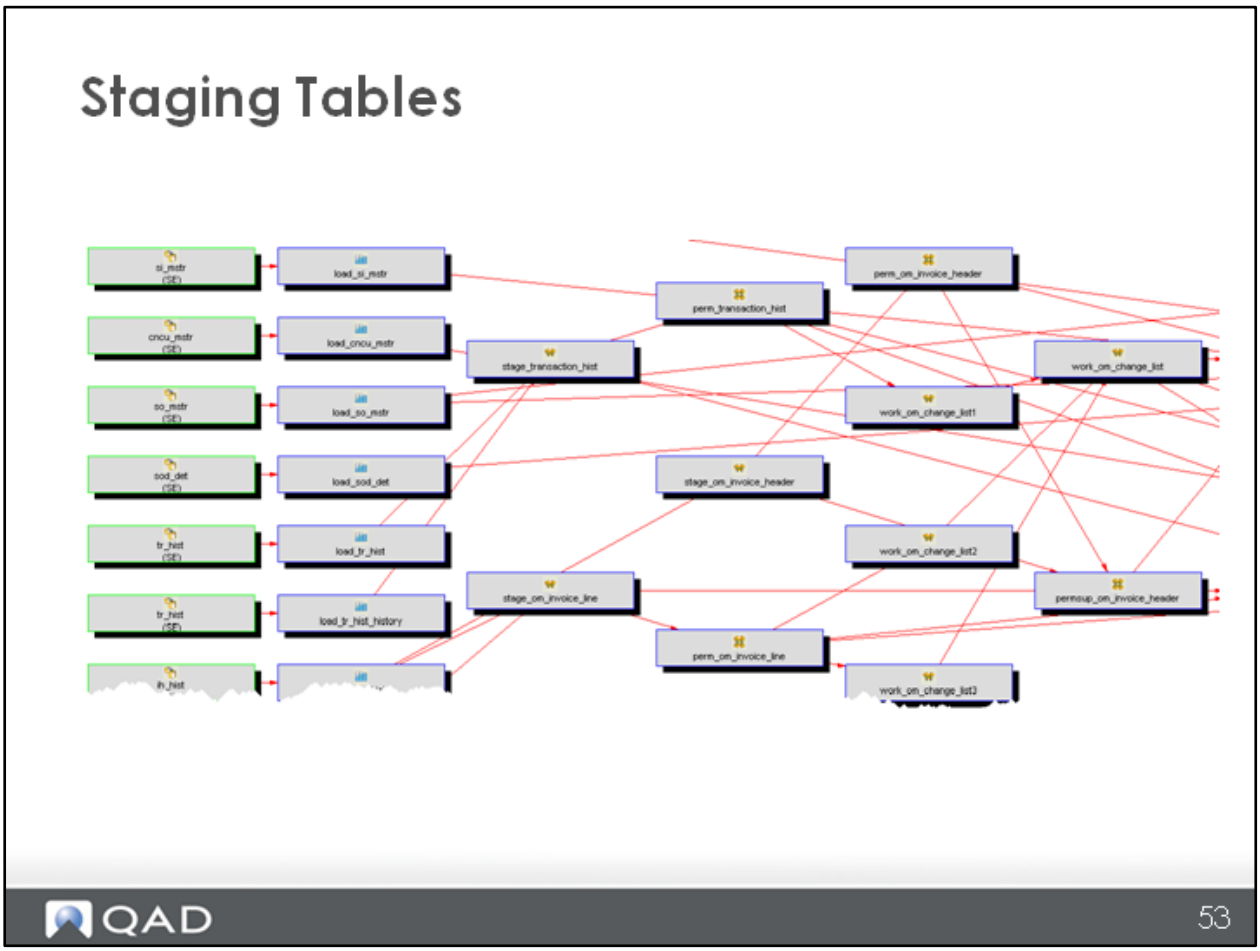
This slide is an example of a *Track Back Diagram*.

From left to right:

The two source tables shown in this diagram are *ac_mstr* and *code_mstr*. Note that the boxes are in green, there are outside the data Warehouse.

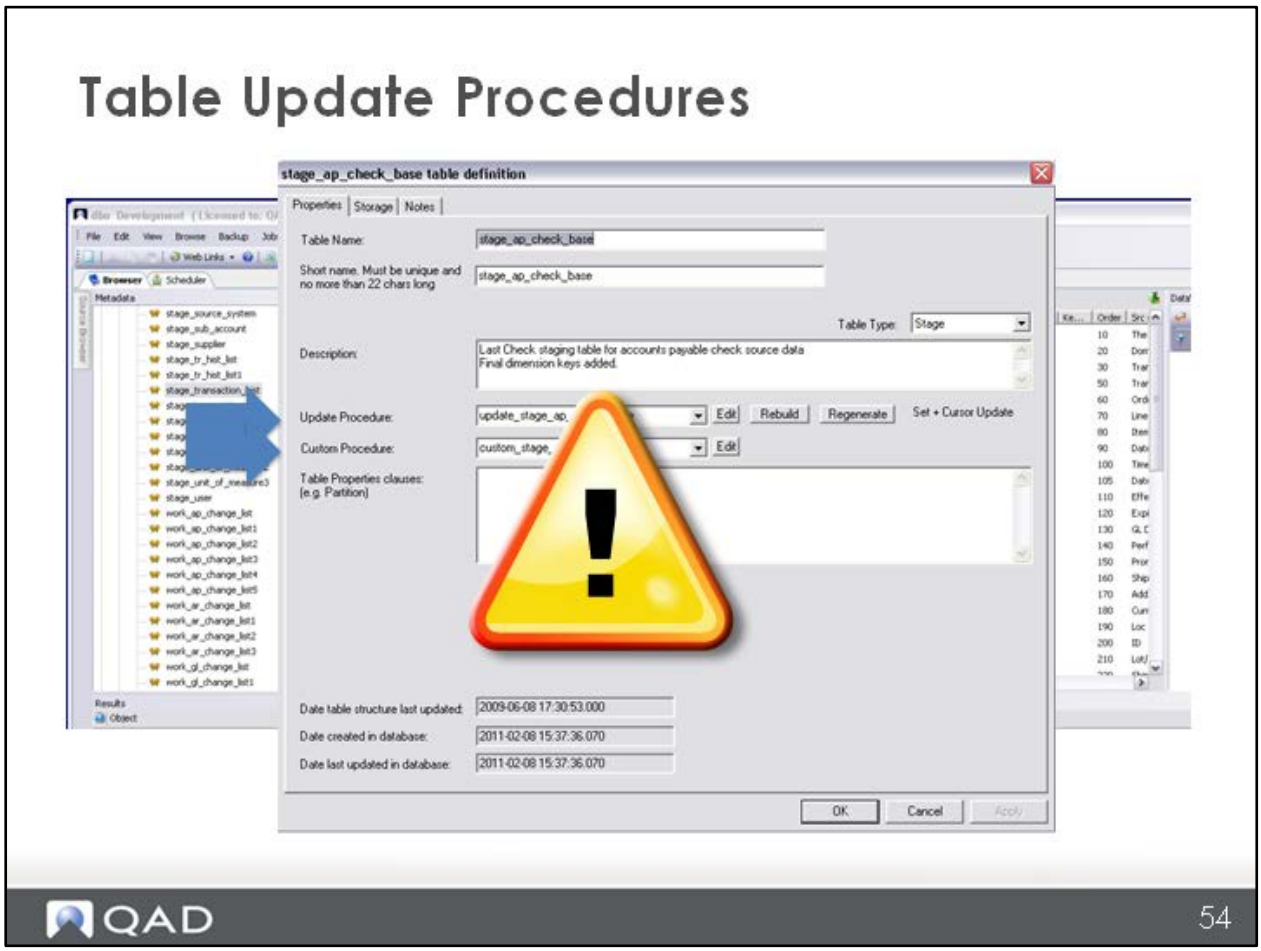
The source tables feed the load tables. The load tables are combined to a single stage table. Finally, we see that the stage table feeds the account dimension table.

Staging Tables



This slide is an example of a portion of a much more complex track-back diagram.

Table Update Procedures

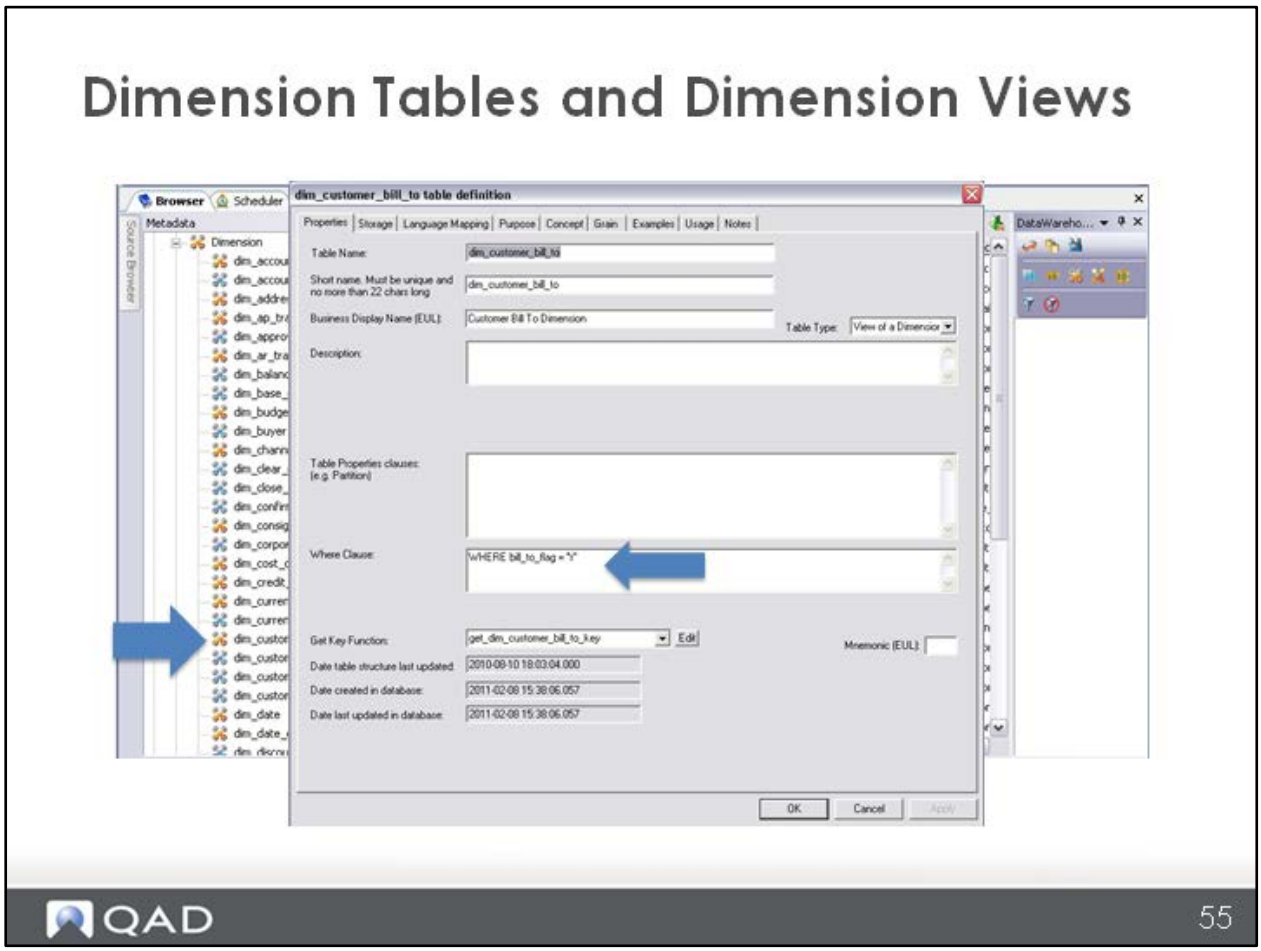


As with other tables within the data warehouse, the processing of data in the staging tables is controlled using procedures.

In this example, we see to procedures: *Update* and *Custom.*

These procedures should NOT be modified, except by trained personnel.

Dimension Tables and Dimension Views



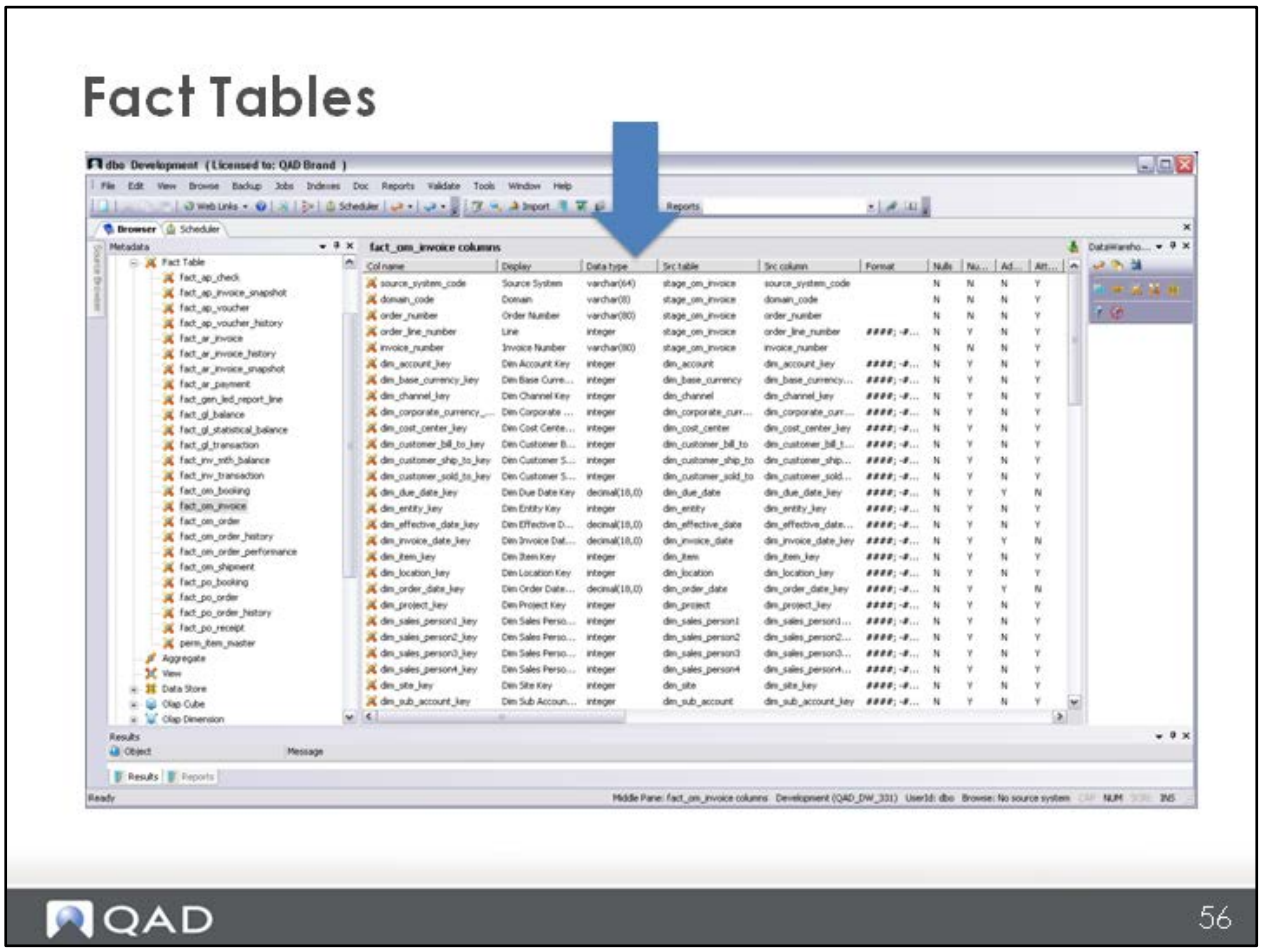
Dimensions are qualifiers of facts.

Views are created from dimensions.

As an example: The dim_customer contains all rows for all customers. There are 3 views for this dimension: bill_to, sold_to and ship_to.

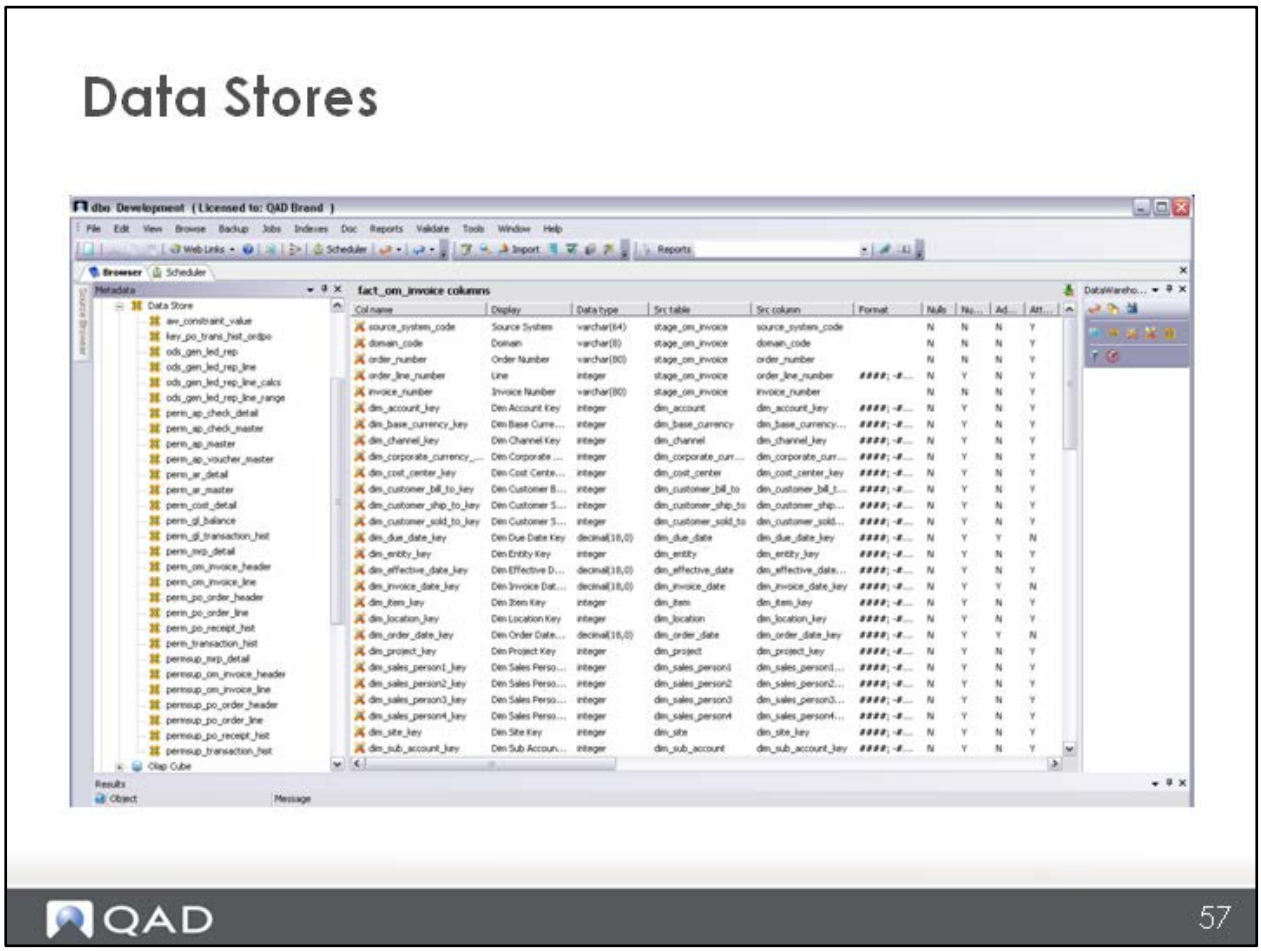
The Bill_to dimension view will select only rows in the customer dimension where the bill-to flag is “Y”.

Fact Tables



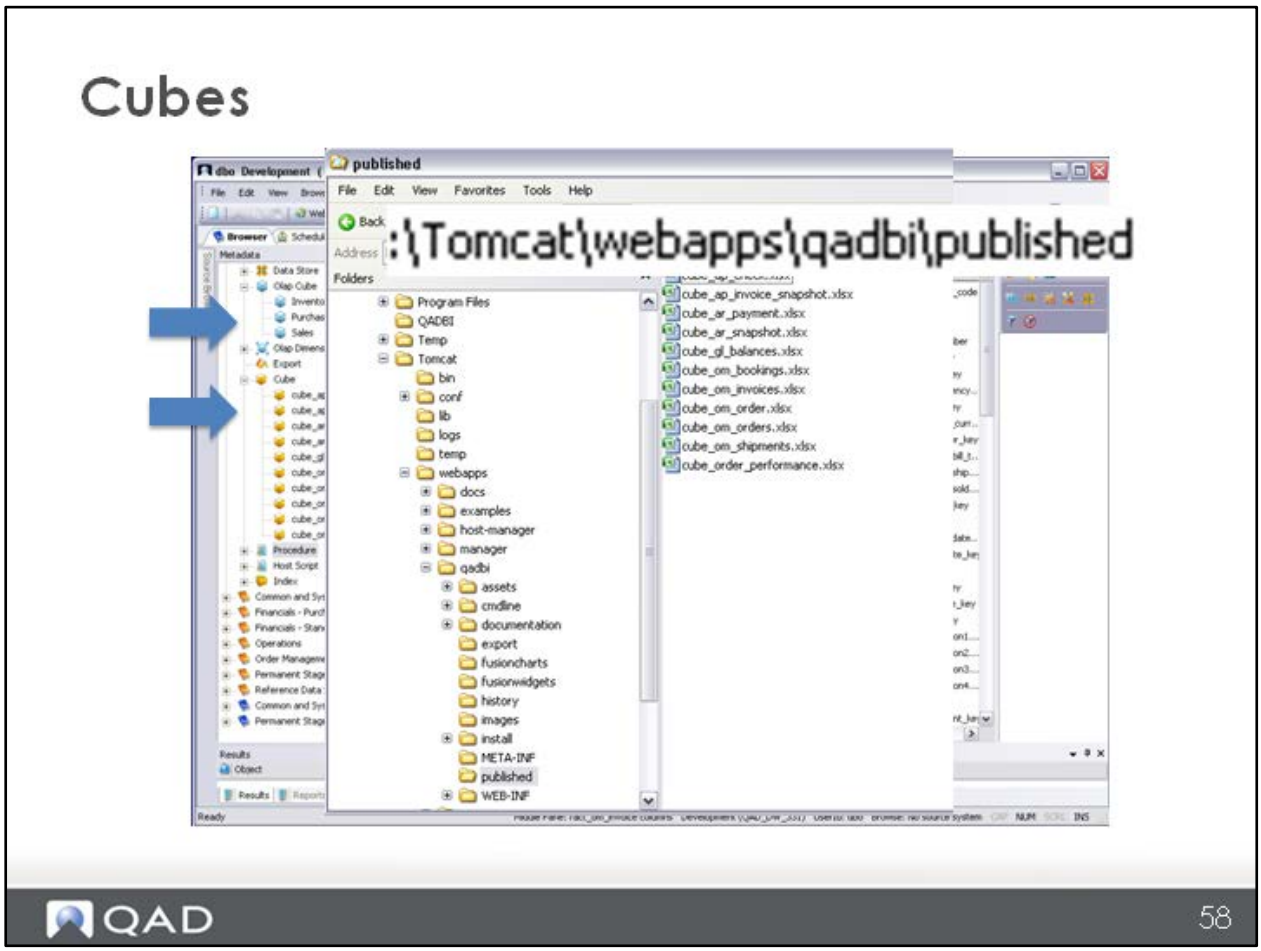
Fact tables are the central table in a star schema design.

Data Stores



Data Stores are permanent tables that are used to support the logic that transforms source data to fact tables.

Cubes

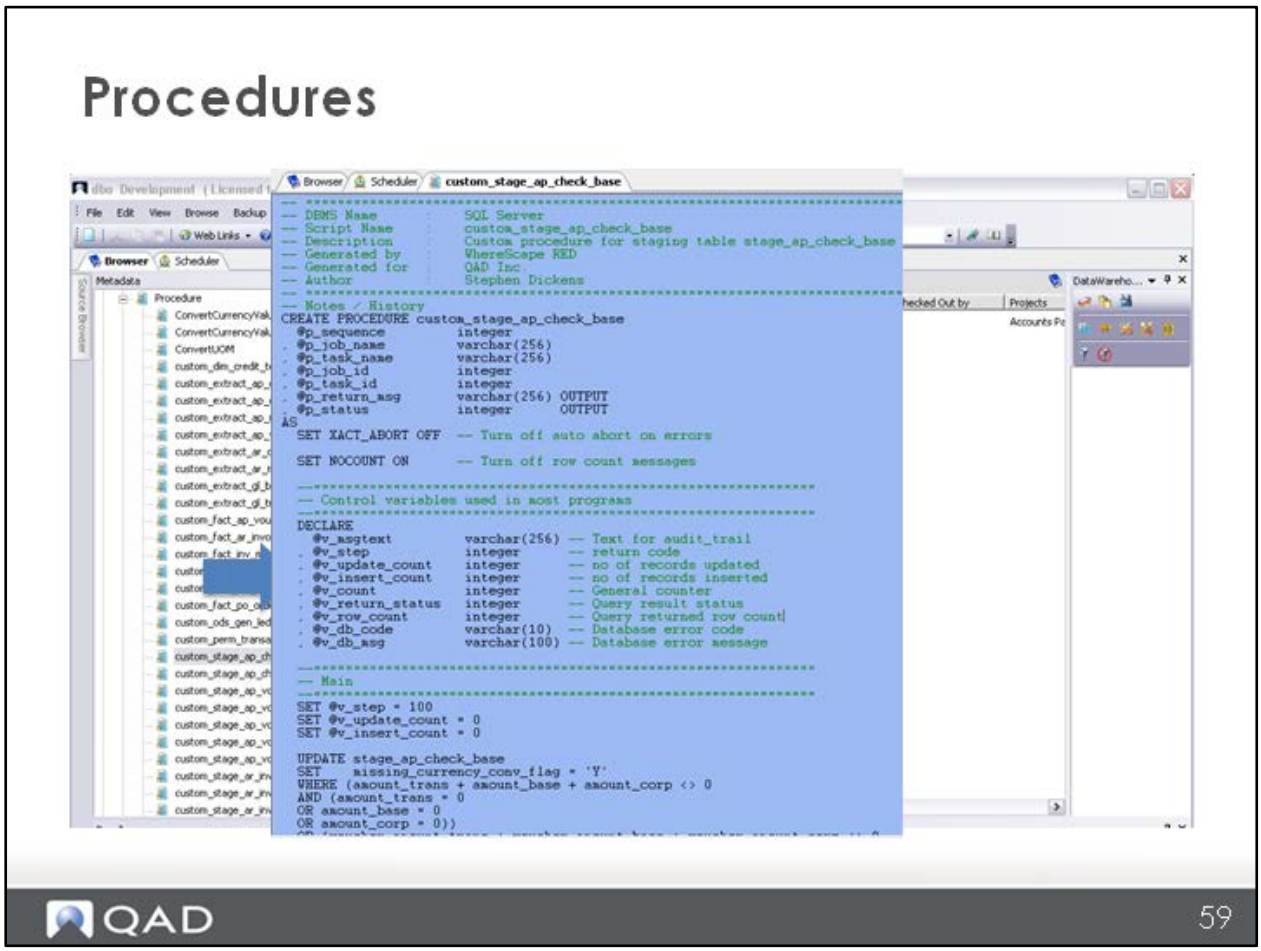


2 types of cube objects in the DWD:

- **Older type** - “Cubes”
- **Newer type** - “OLAP Cubes” and “OLAP Dimensions”.

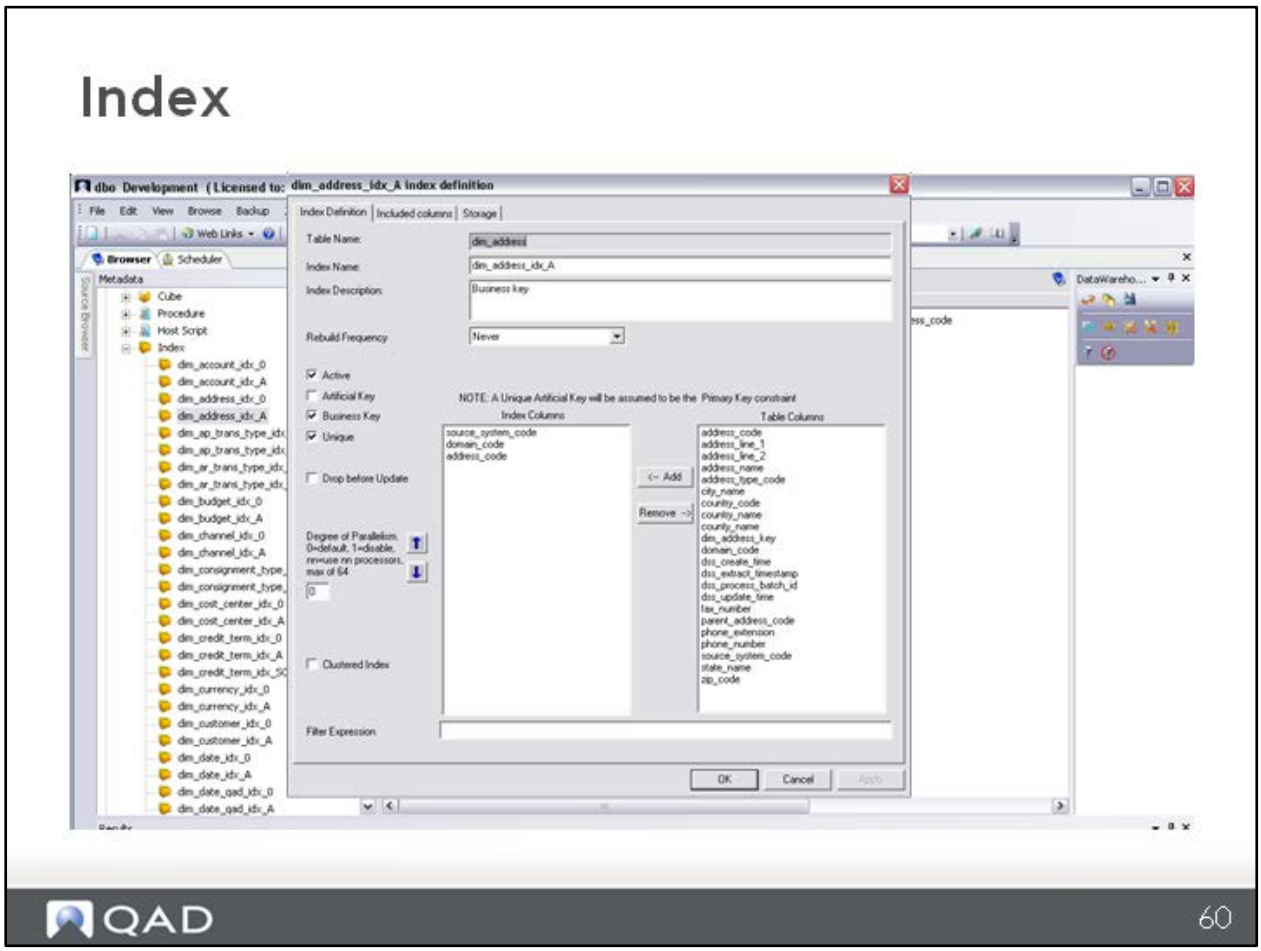
QAD standard provides Excel workbooks that access the older type of cube.

Procedures



Procedures are an object type in the DWD.

Index



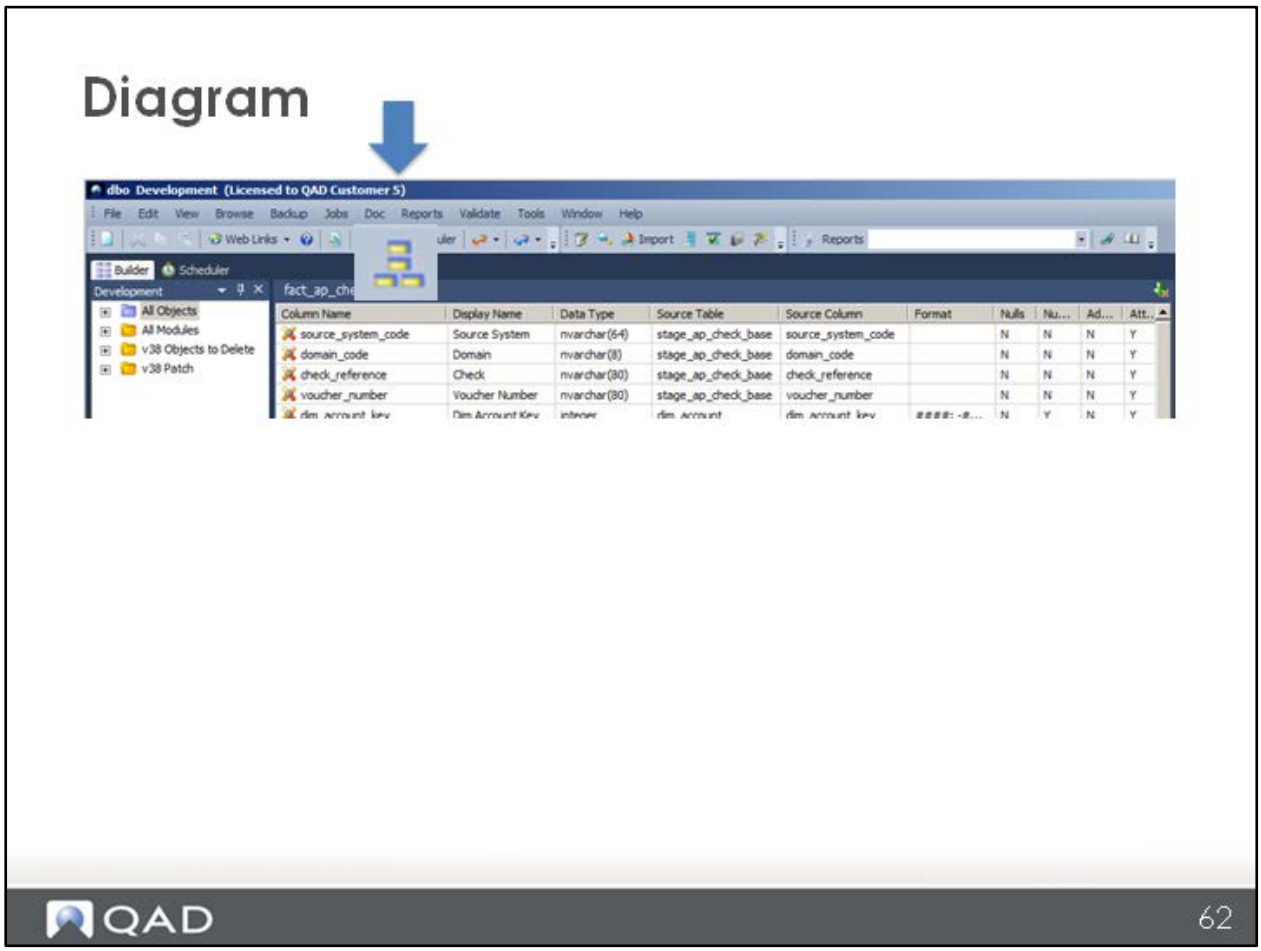
Tables may have indexes.

To see which indexes are defined for a table, right click on the table object and select *Display Indexes*

Diagrams

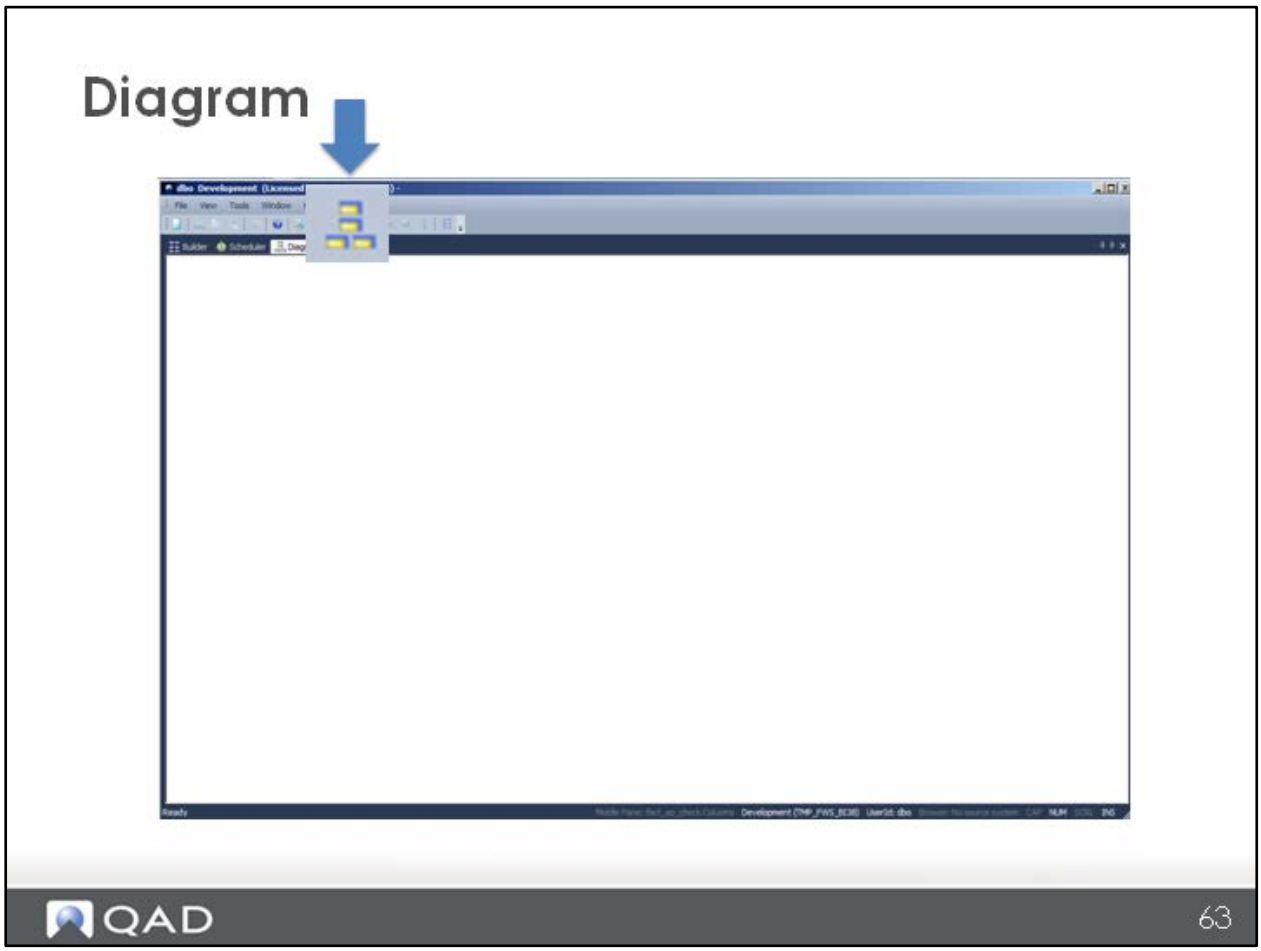


Diagram



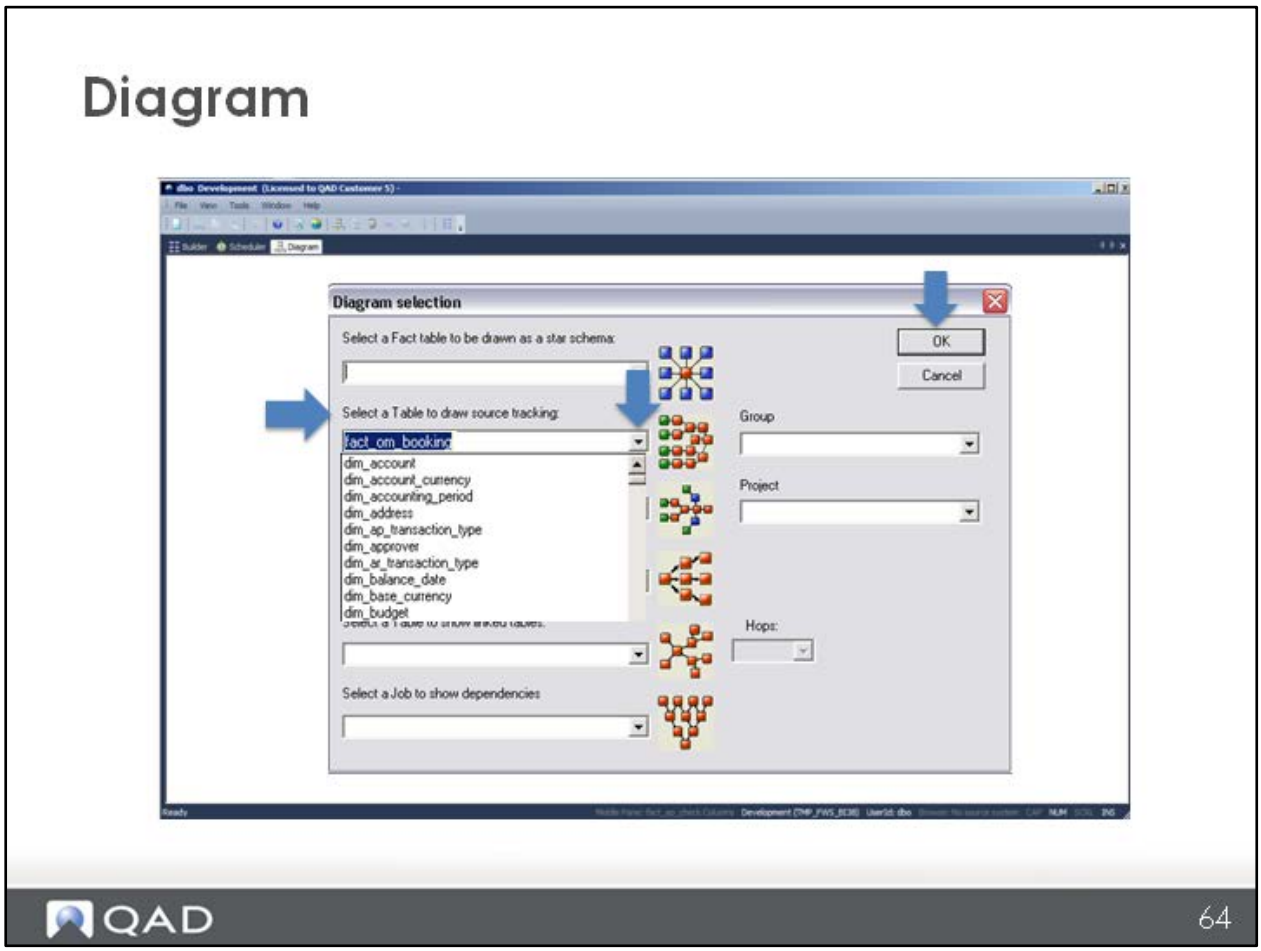
Open the Diagram window by clicking on the Diagram button.

Diagram



When the Diagram window is displayed, click the Diagram button again.

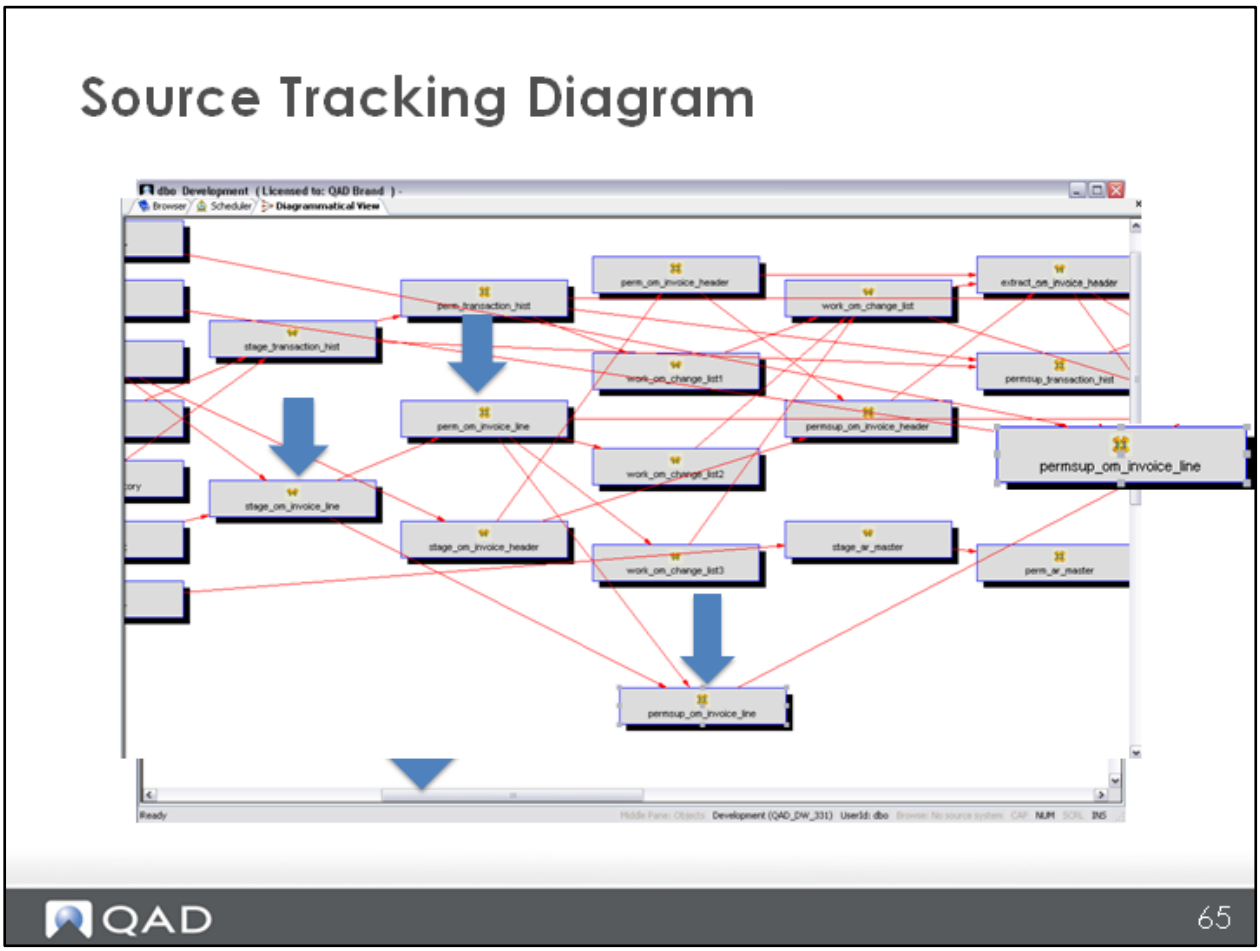
Diagram



The diagram selection window lets the user select the type of diagram and which object to use.

The user MUST select the object from the drop down list.

Source Tracking Diagram

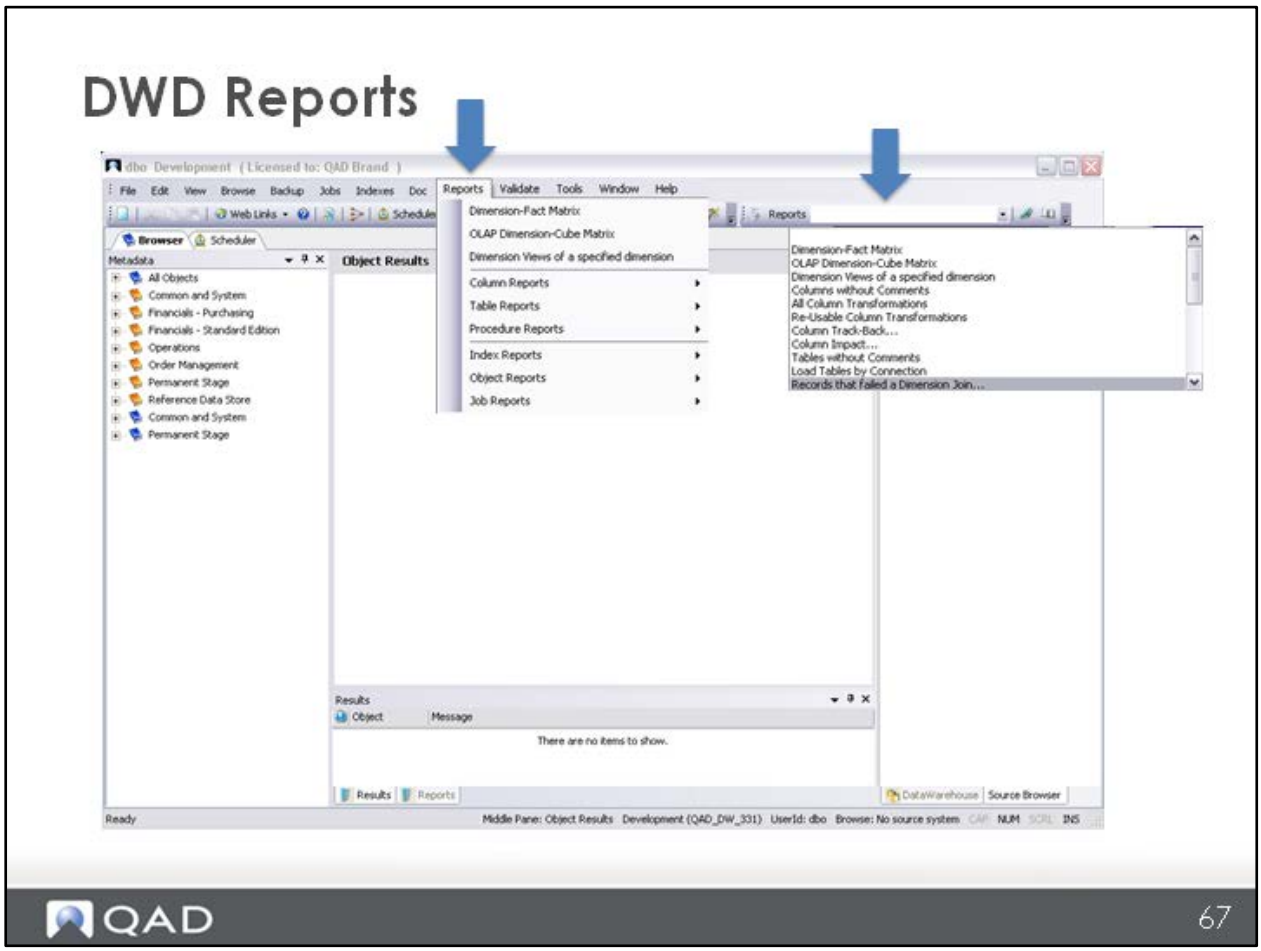


The diagram is interactive. The user can click and drag objects within the window.

Reports



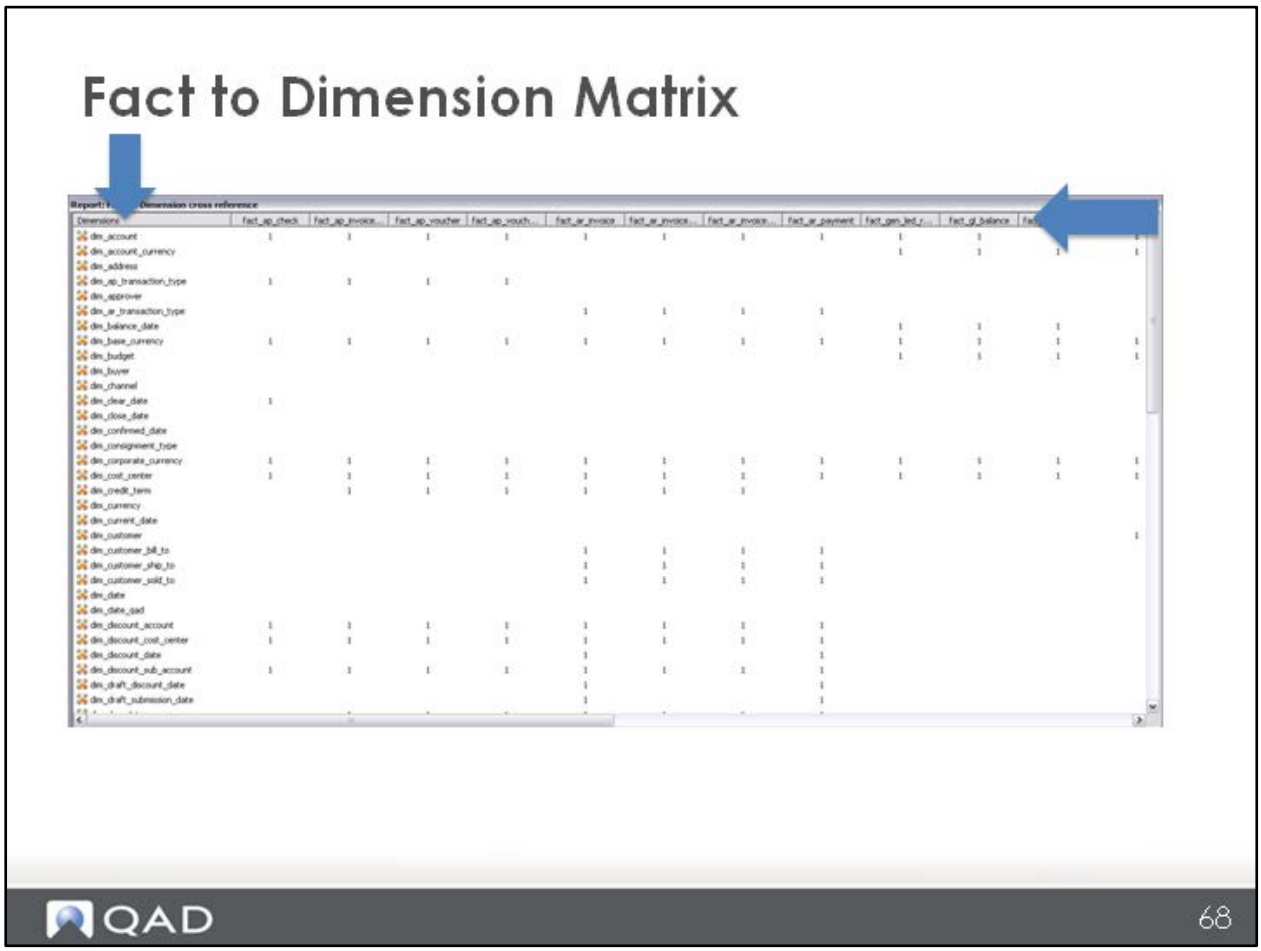
DWD Reports



Reports can be run from a drop down menu available on the main Builder/Browser window.

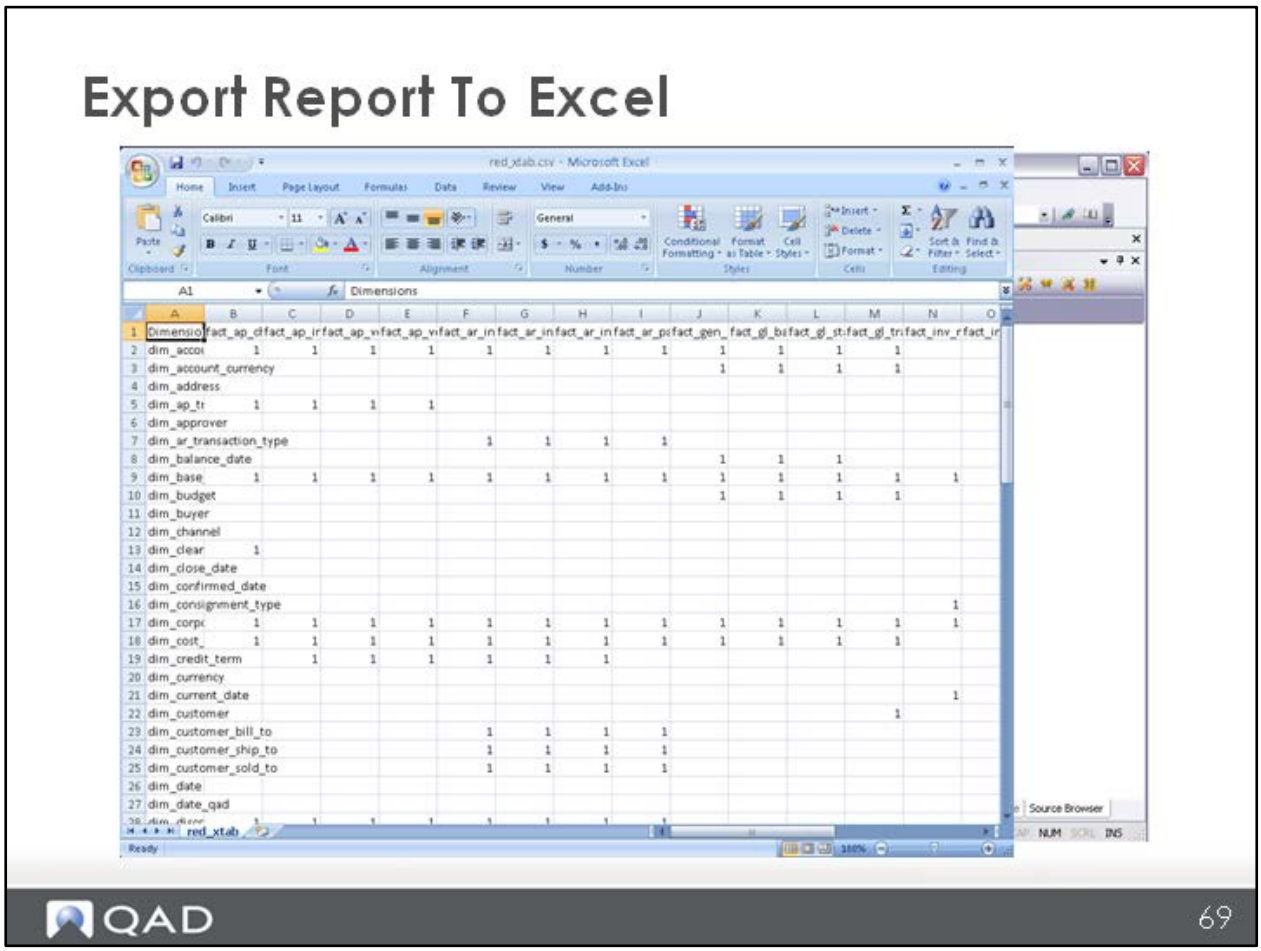
A subset of all the reports is available in the “fast access” bar in the window.

Fact to Dimension Matrix



This is an example of a report – the *Fact to Dimension Matrix*.

Export Report To Excel

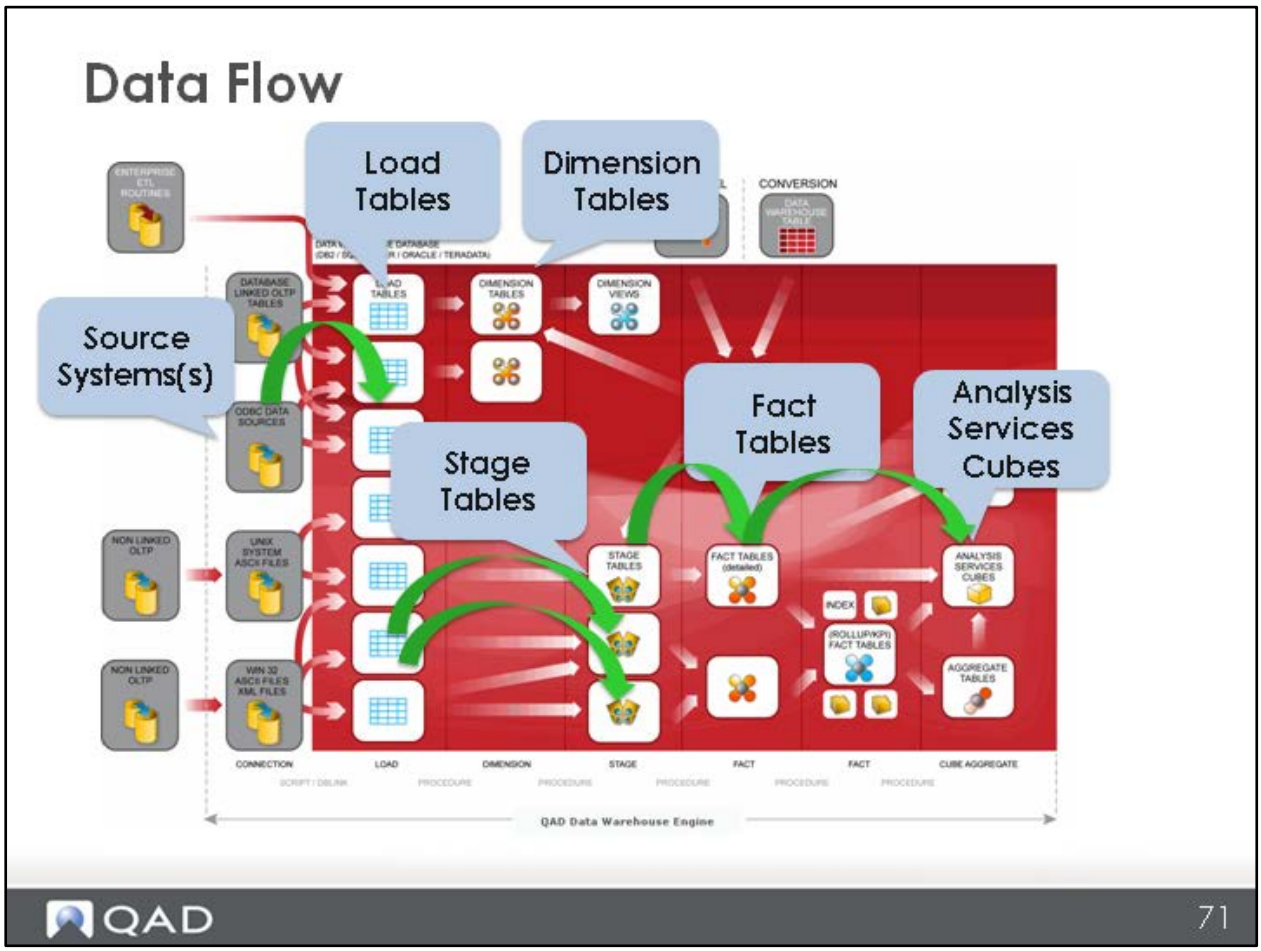


The user can export the report to Excel. Right click within the *Results* and select *Excel It*.

Scheduler Components



Data Flow

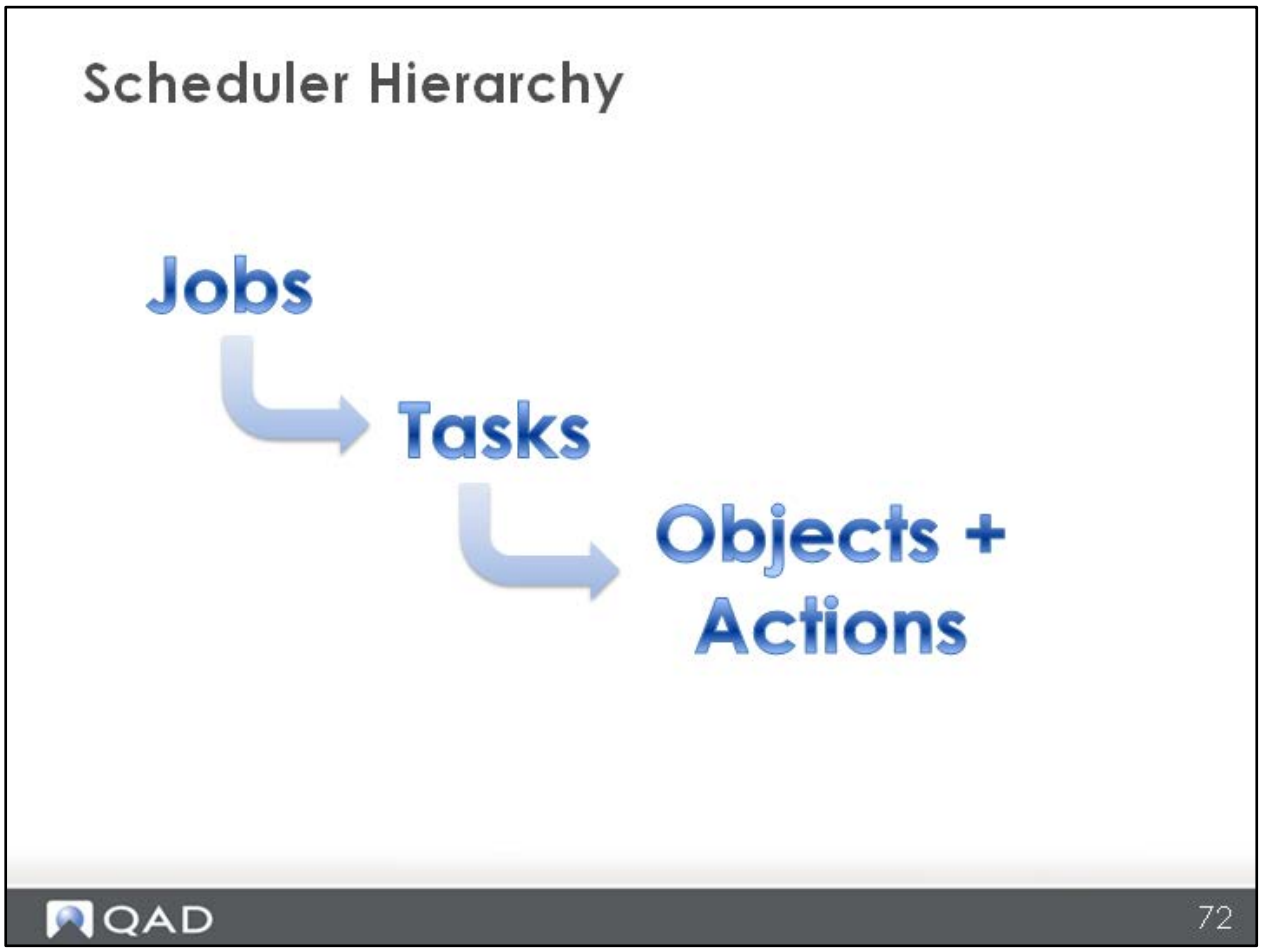


Data objects in the standard data flow include:

- Source systems
- Load tables
- Staging tables
- Dimension tables
- Fact tables

The DWD Scheduler is the mechanism that controls the Extract/Transformation/Load process.

Scheduler Hierarchy



The scheduler component hierarchy:

- Jobs
  - Tasks
    - Objects and Actions associated to the object

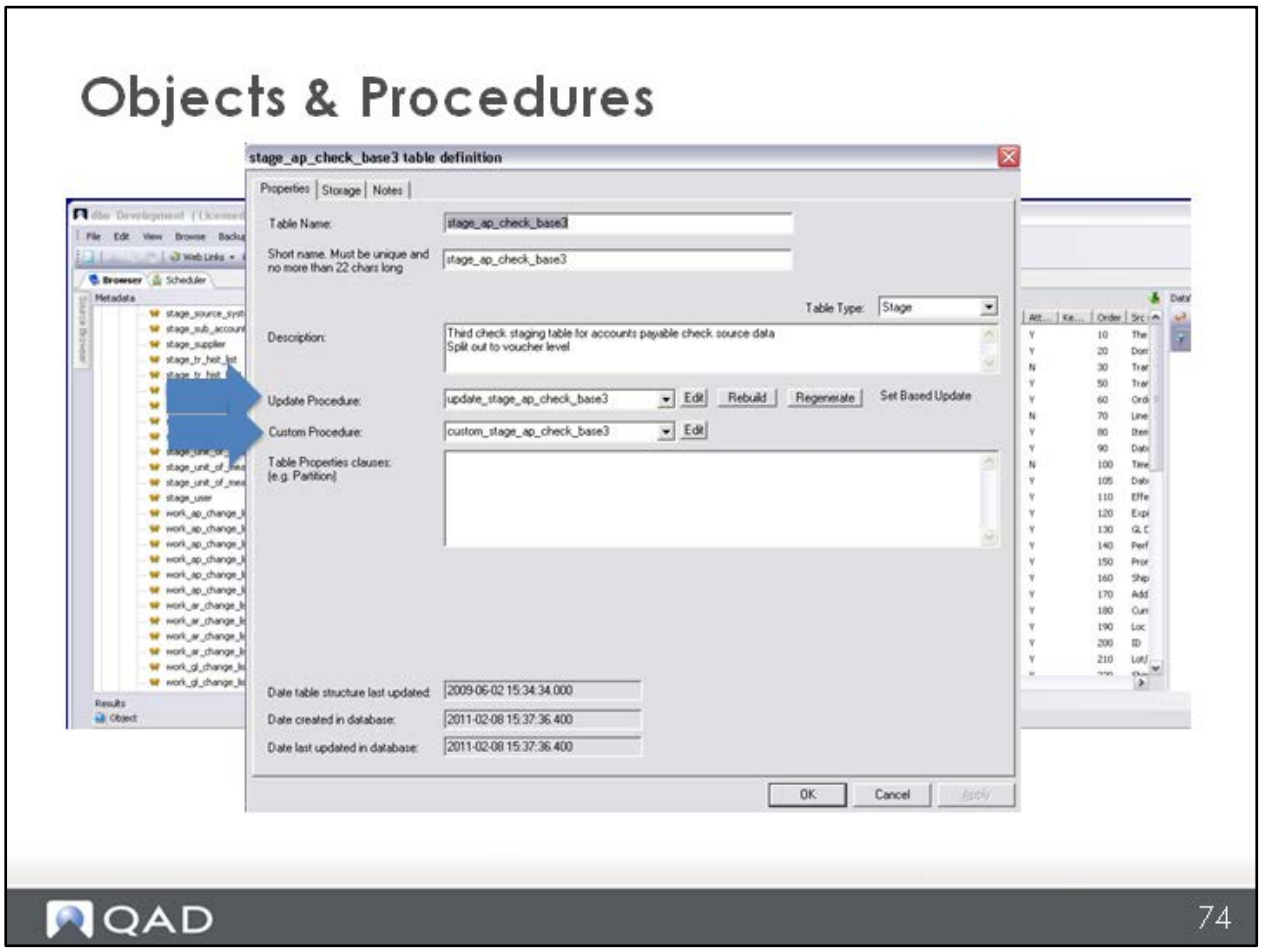
Common Task Actions



Common Task Actions include:

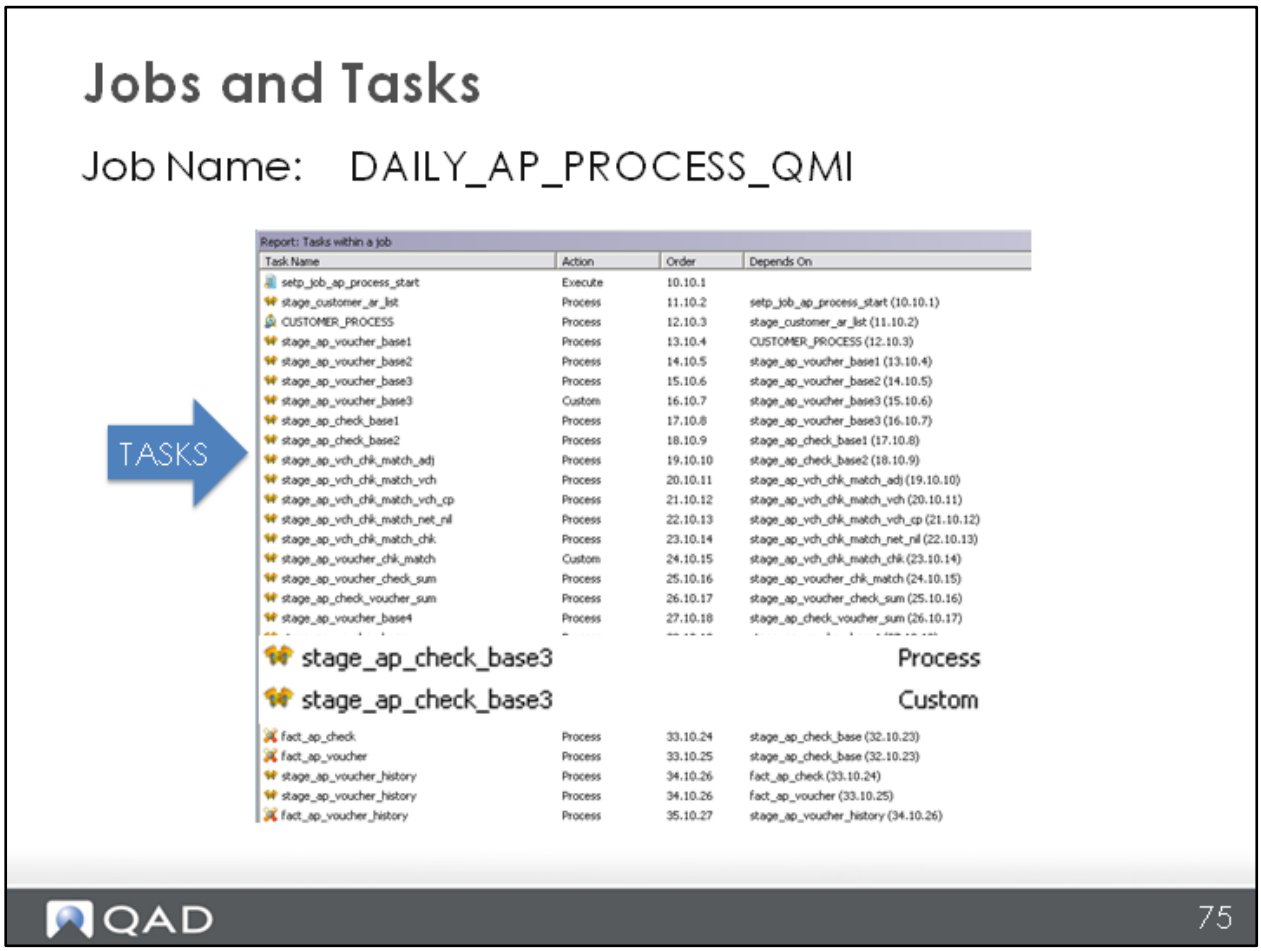
- **Drop.** Removes table from SQL data base.
- **Create.** Creates table in SQL data base.
- **Truncate.** Deletes all rows (data) in a SQL table.
- **Load.** Executes standard DWD load procedure and any defined pre and post load procedures.
- **Custom.** Executes custom procedure associated to table/object.
- **Update.** Execute update procedure associated to table/object.
- **Execute.** Execute the procedure or host scripts.
- **Process.** Drops all indexes on the table, performs the update procedure and rebuilds the indexes.

Objects & Procedures



This is the *Properties* page for a staging table in the system. It has two procedures associated to the table/object. One is the standard Update Procedure, the other is a Custom Procedure.

Jobs and Tasks



This is one job in the system.

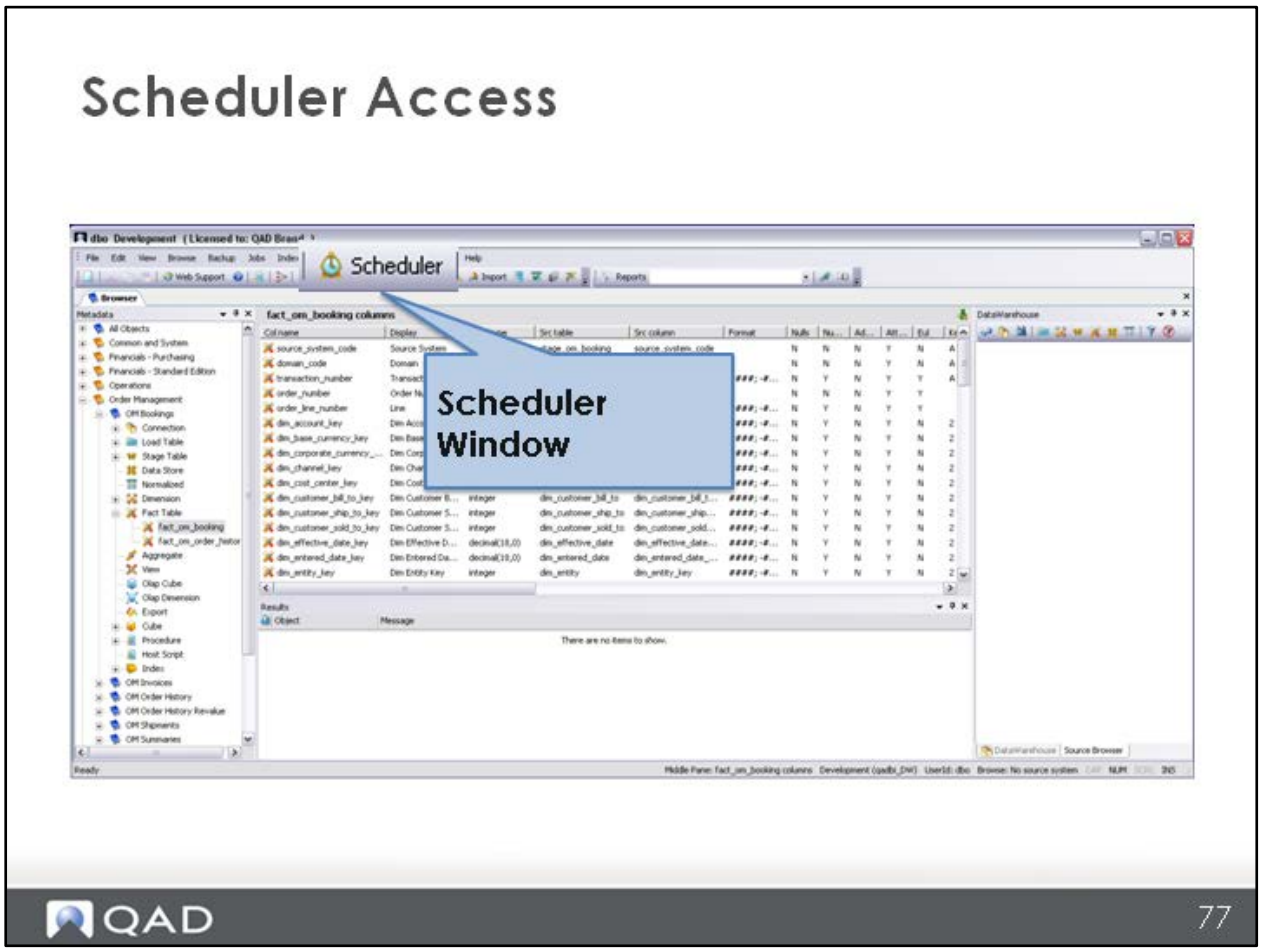
The object and it's related actions are shown here as tasks.

The object is stage_ap_check_base3 and the actions are *Process* and *Custom.*

Scheduler Navigation

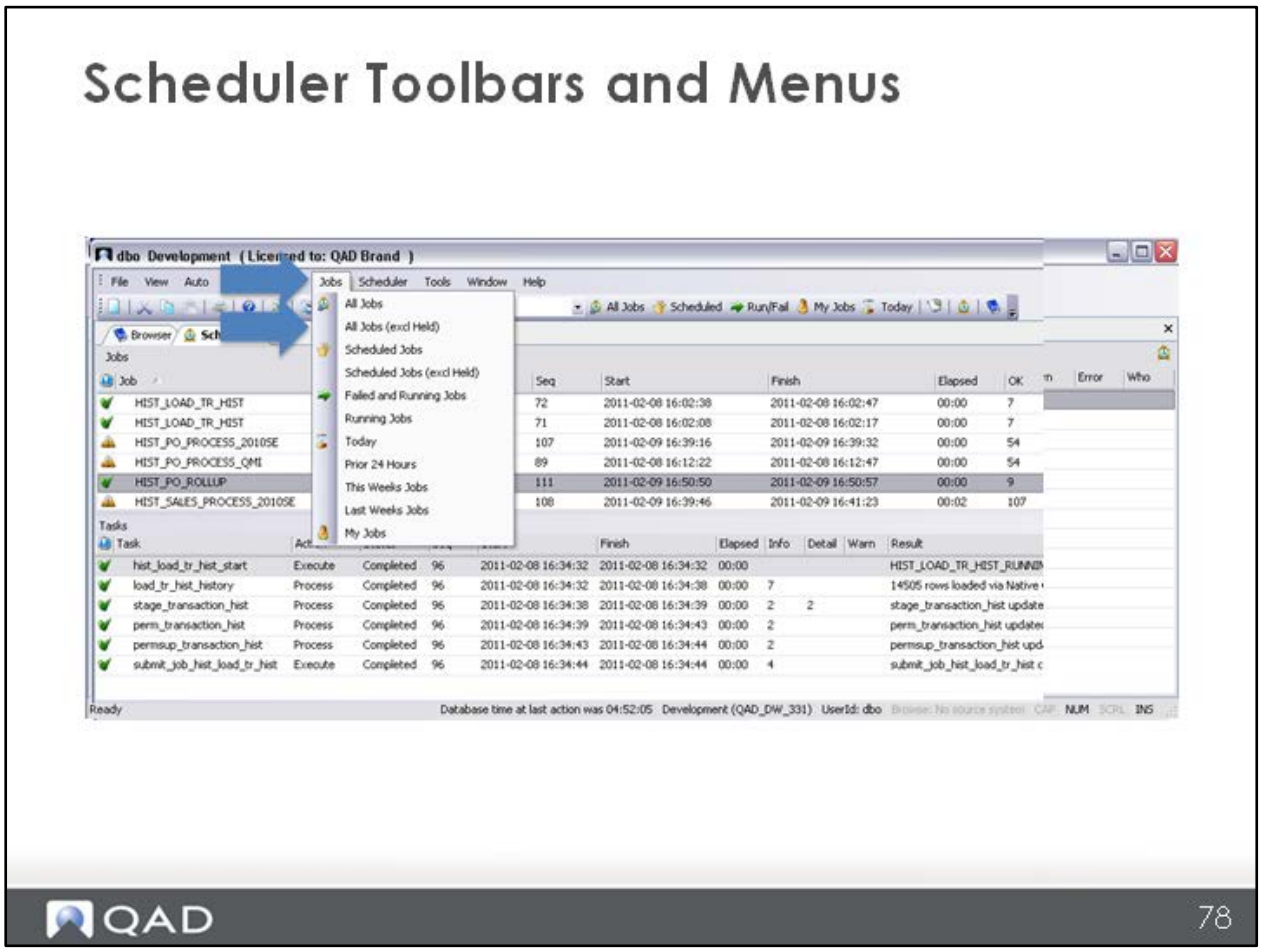


Scheduler Access



The scheduler is accessed via a button on the builder/browser toolbar.

Scheduler Toolbars and Menus

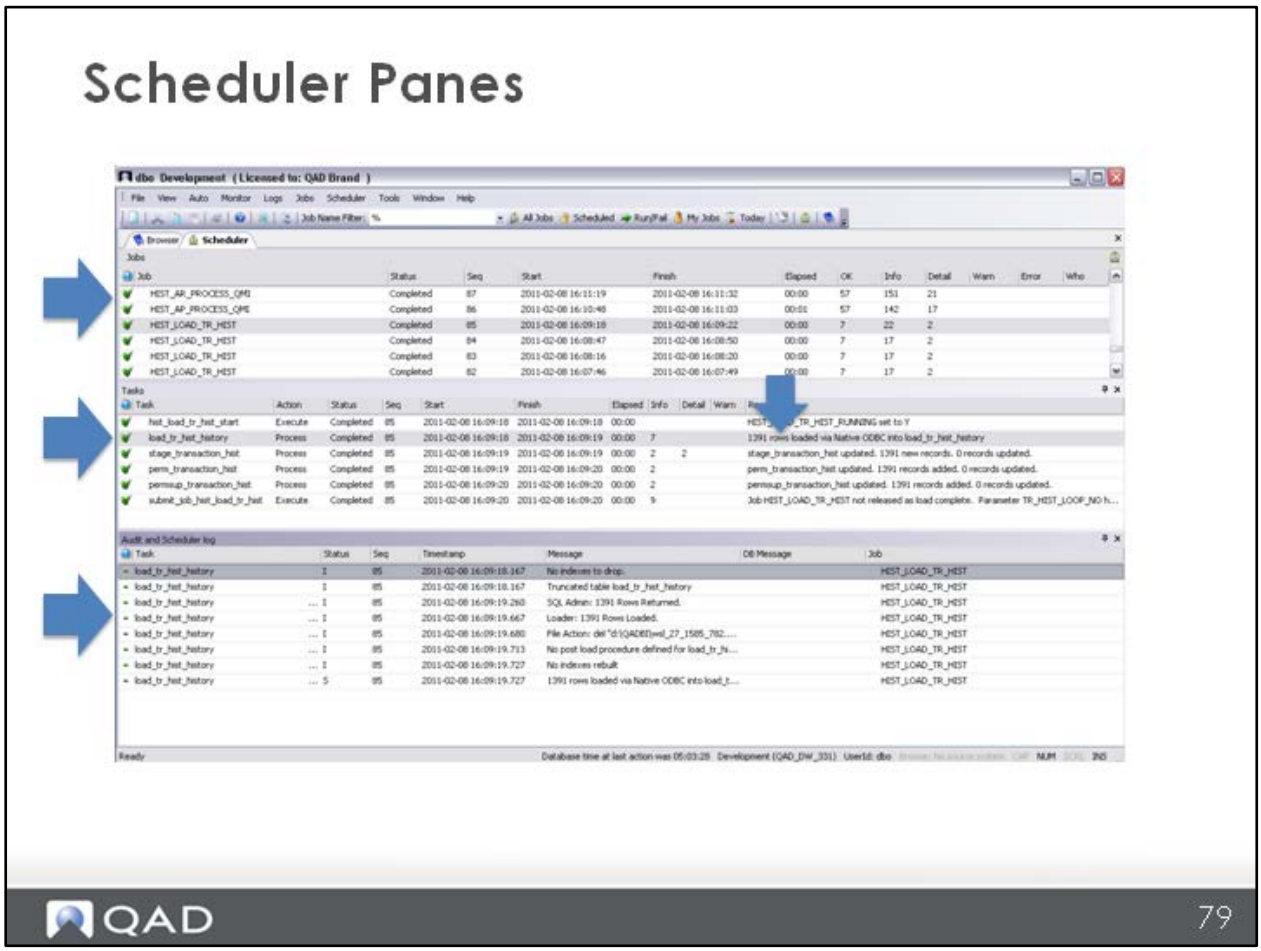


The Scheduler toolbar includes a drop down menu to run various views of the jobs.

Similar functionality is available vie buttons on the toolbar. The user can enter a search string, along with wildcards in the box on the toolbar, prior to running one of the options.

For example, to see all jobs with “start” in the name, the user would enter “%start%” in the search window.

Scheduler Panes



In the standard Scheduler window, the Job pane appears at the top. Followed by Tasks, followed by the auditor/scheduler log.

Scheduler States



Scheduler States - JOBS

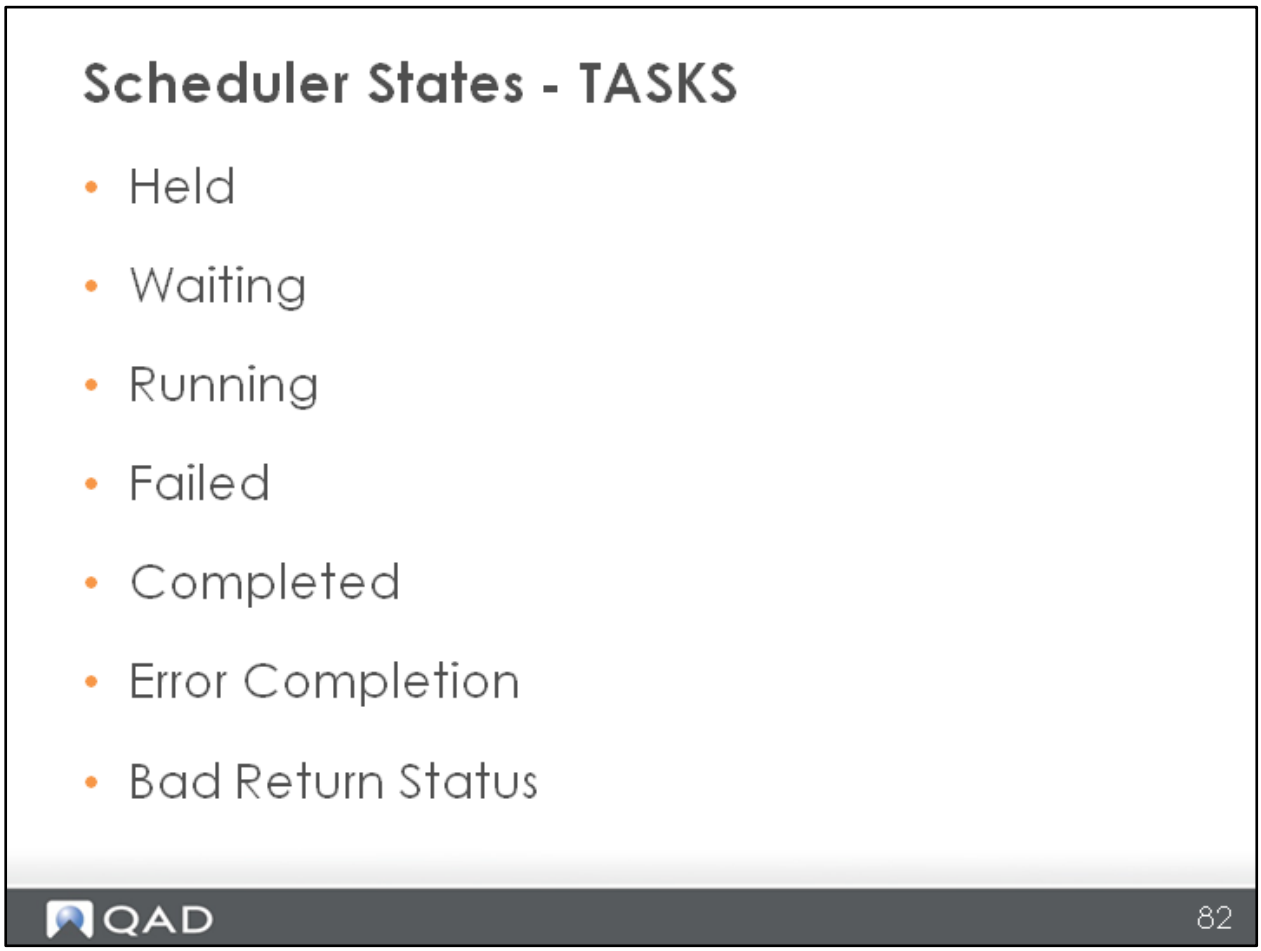


Scheduler States for Jobs:

- **Hold** . Job is on hold. It can be edited and its state changed in order to release the job.
- **Waiting**. Job is waiting to start, or waiting for it's scheduled time to arrive, or waiting for a scheduler agent to become available.
- **Blocked** . Job is blocked because another instance of the same job is running. When the currently running job completes. This instance of the job will start.
- **Pending** . This is the first stage of a running job. The scheduler has identified the job as ready to start and allocated a thread, or sub task to process the job. A job is in this state until the thread or sub task begins processing. If a job stays in this state, then the scheduler thread has failed for some reason. The logs can be check on which the scheduler is running.
- **Running** . The jobs is currently running. Double click on the job name in the right hand pane to drill down into specific tasks.

- **Failed** . A failed job is one that had a problem. It can be restarted from the point of failure and is considered to be running unless subsequently aborted.
- **Failed – Aborted** . The job has been aborted after having failed. Once in this state, a job cannot be restarted. The job exists only as a log of what occurred and essentially is now not regarded as a job.
- **Completed** . The job has successfully completed, possibly with warnings. Once in this state a job cannot be restarted. The job exists then only as a log of what occurred and essentially is now not regarded as a job.

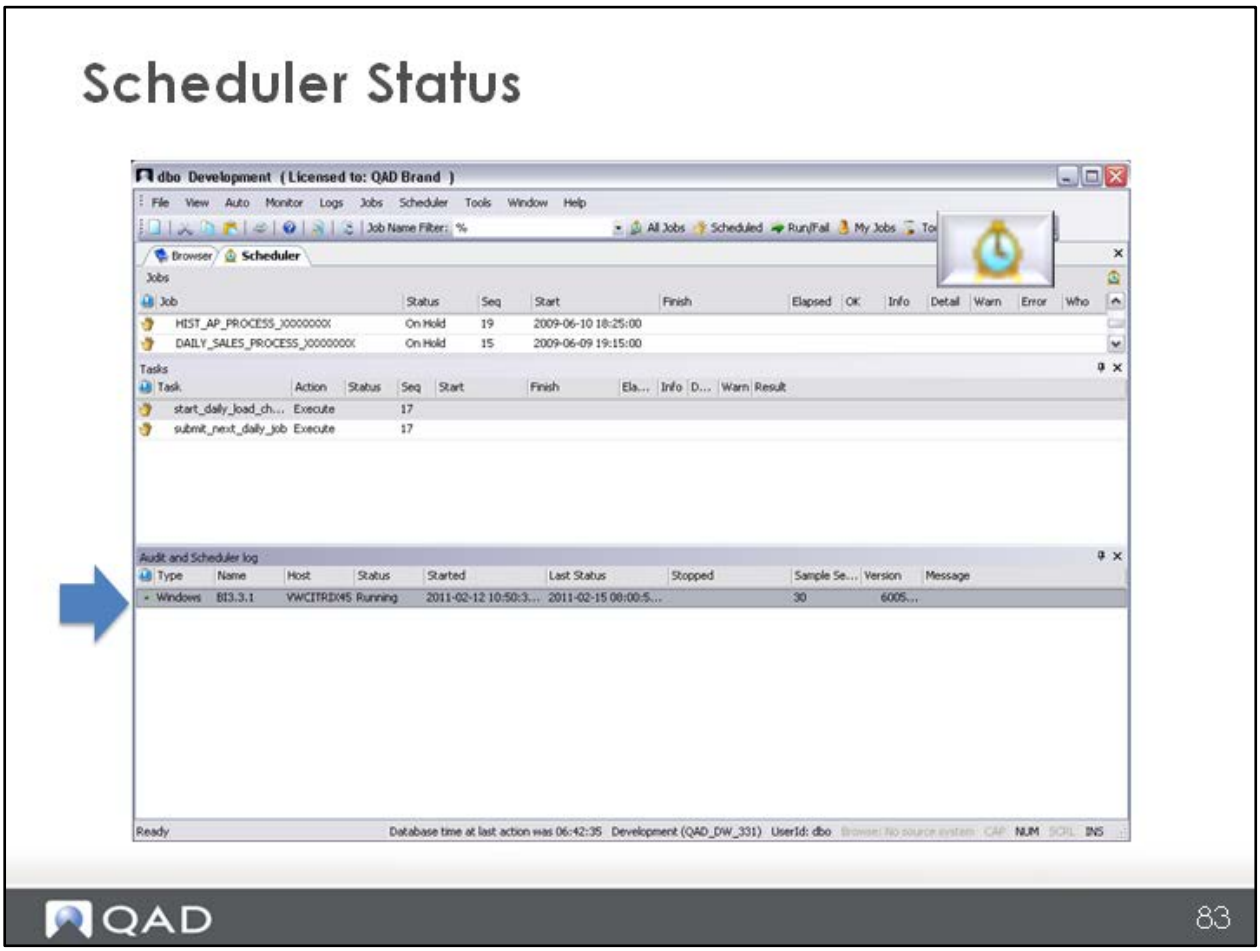
Scheduler States - TASKS



Tasks also have a status associated to them:

- **Held**. The task has been held due to a prior dependency failure. The problem must be rectified and the job restarted.
- **Waiting (Blank).** Tasks that are waiting to run either due to a shortage of threads, or prior dependencies normally have a blank status.
- **Running**. The task is currently running.
- **Failed**. The task has had a fatal error. Any dependencies on this task will be held. Double click on the task to see more detail error information or review the audit and error/detail log for the job.
- **Completed** . The task has completed successfully.
- **Error Completion**. The task has completed with a handled error. Any dependent tasks will be held, and the job must be restarted when the problem is rectified.
- **Bad Return Status**. The task has returned and unknown status. This normally occurs with script files that produce unexpected information.

Scheduler Status

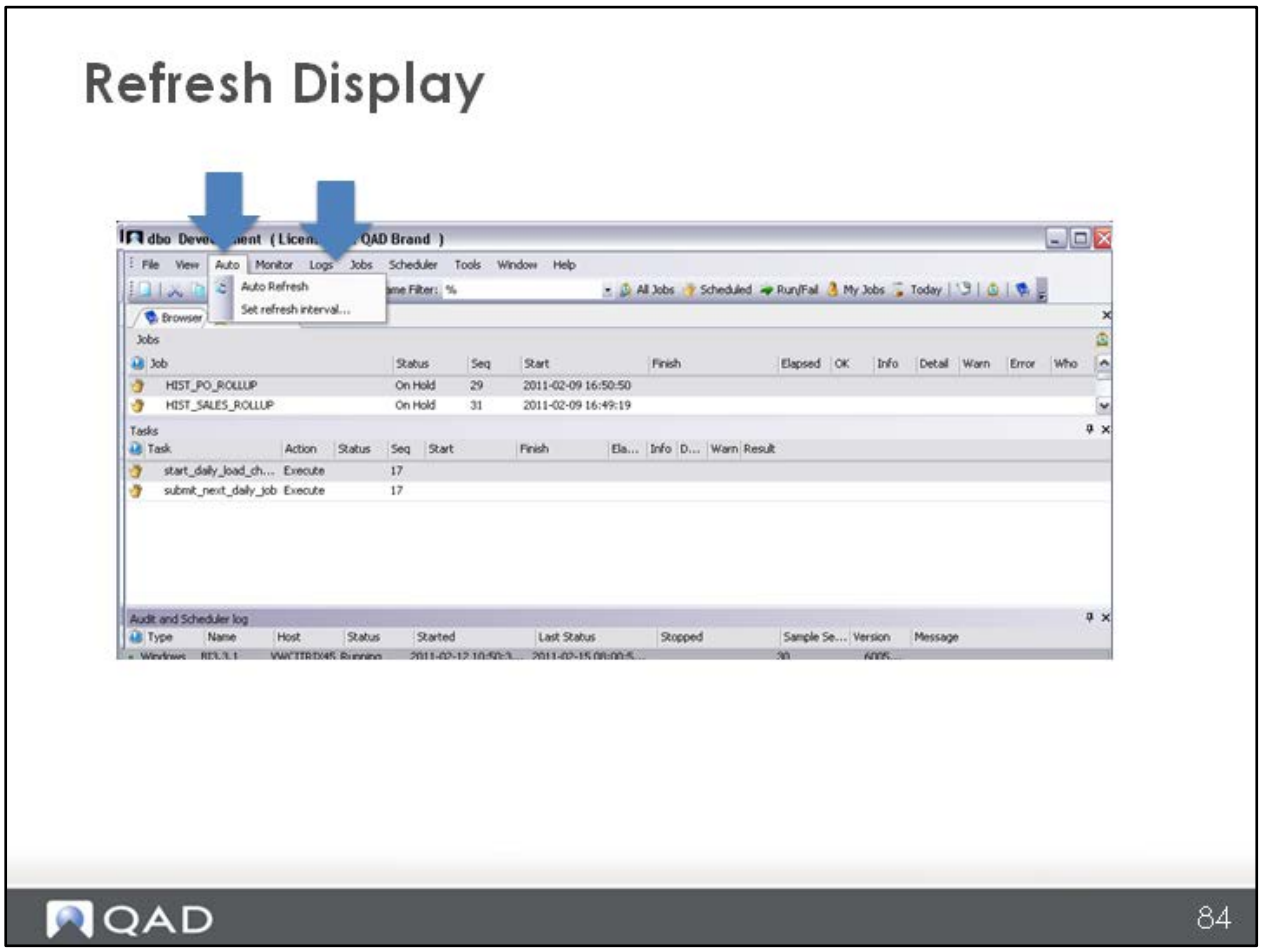


The scheduler itself has a status, that is, the overall process that is executing the scheduler functions.

To see the current status of the Scheduler process, select the Scheduler Status icon, which is this little Clock icon on the Browser toolbar.

The current status is shown in the bottom pane.

Refresh Display



If you are monitoring the jobs using the Scheduler Browser, you will want to refresh the screen from time to time.

Select the Refresh button for a one-time refresh.

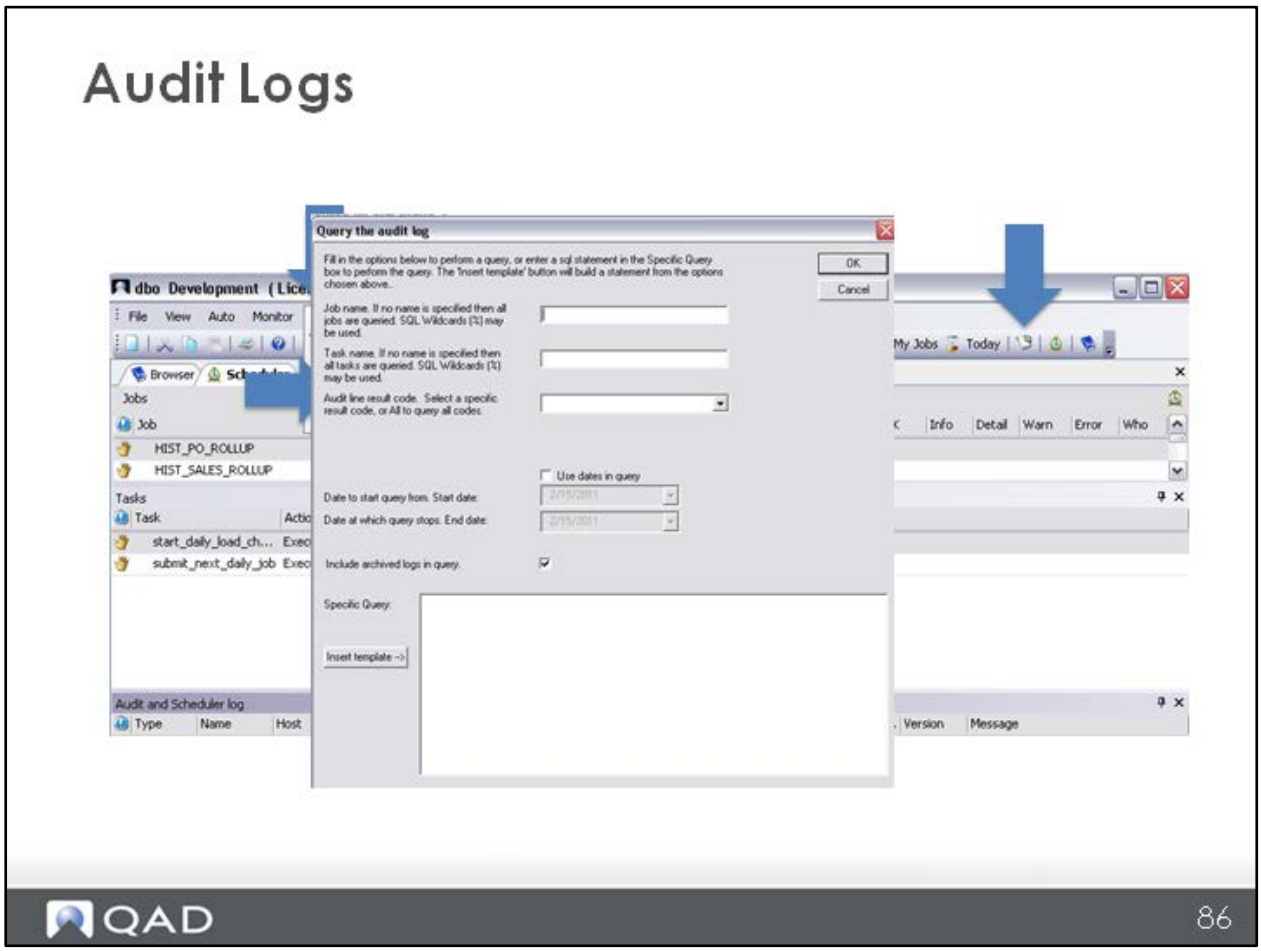
You can also set the screen to refresh automatically

By Selecting Auto on the Menu bar.

Troubleshooting Scheduler Issues

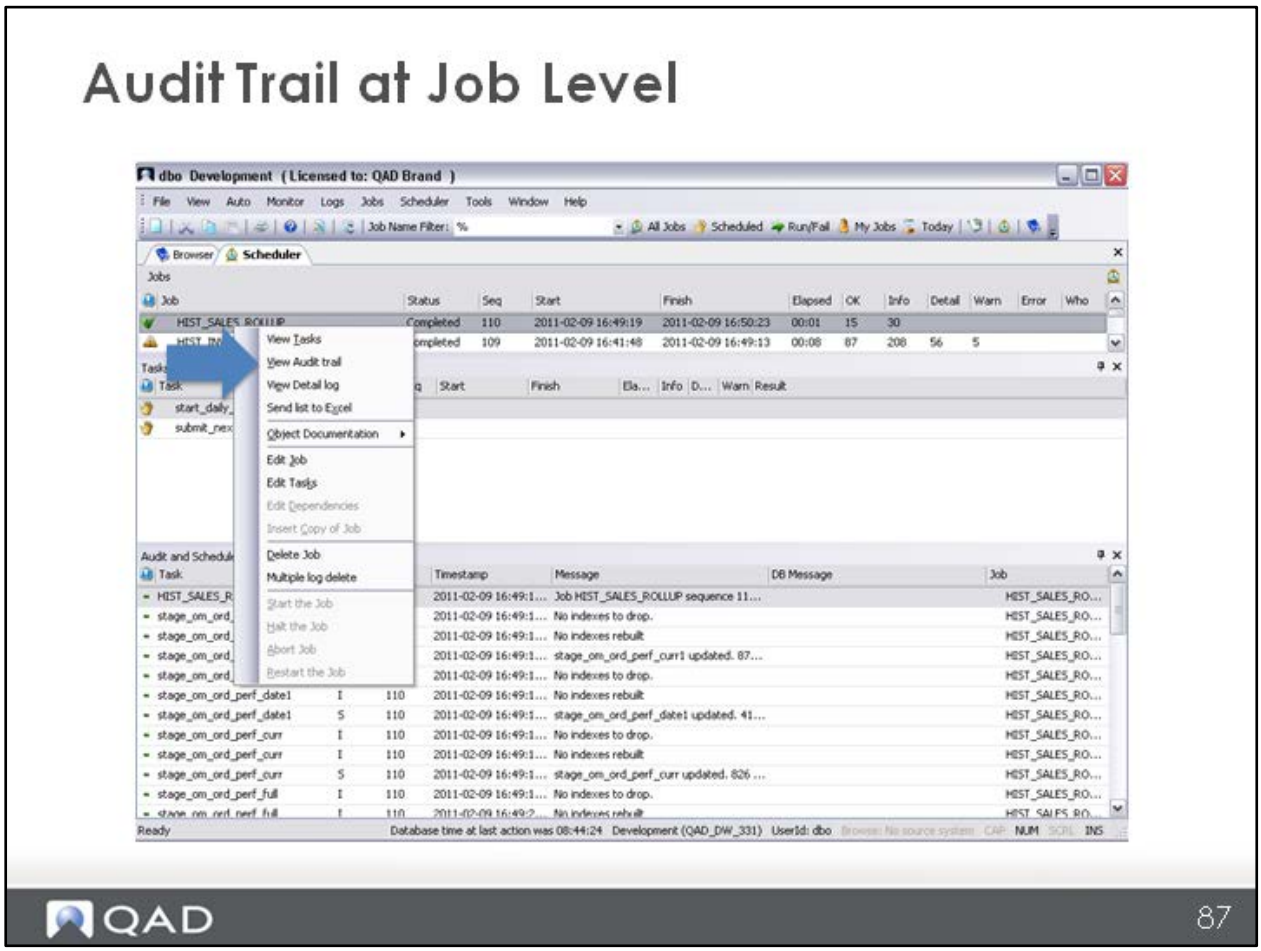


Audit Logs

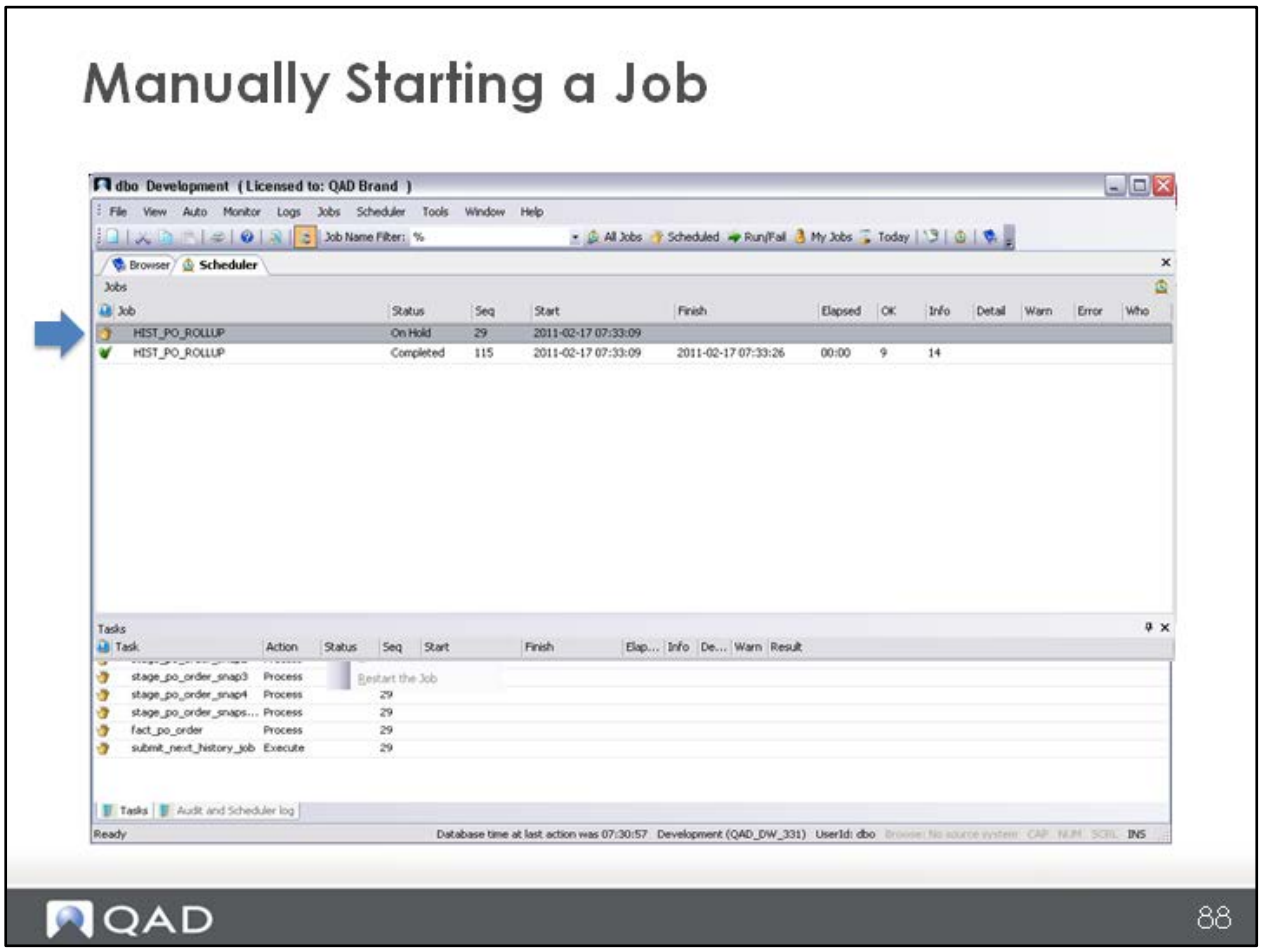


If a job fails and drilling down does not show any errors against the tasks, right click the job and select “View Audit Trail”. The job may have failed because of an error in the JOB level.

Audit Trail at Job Level

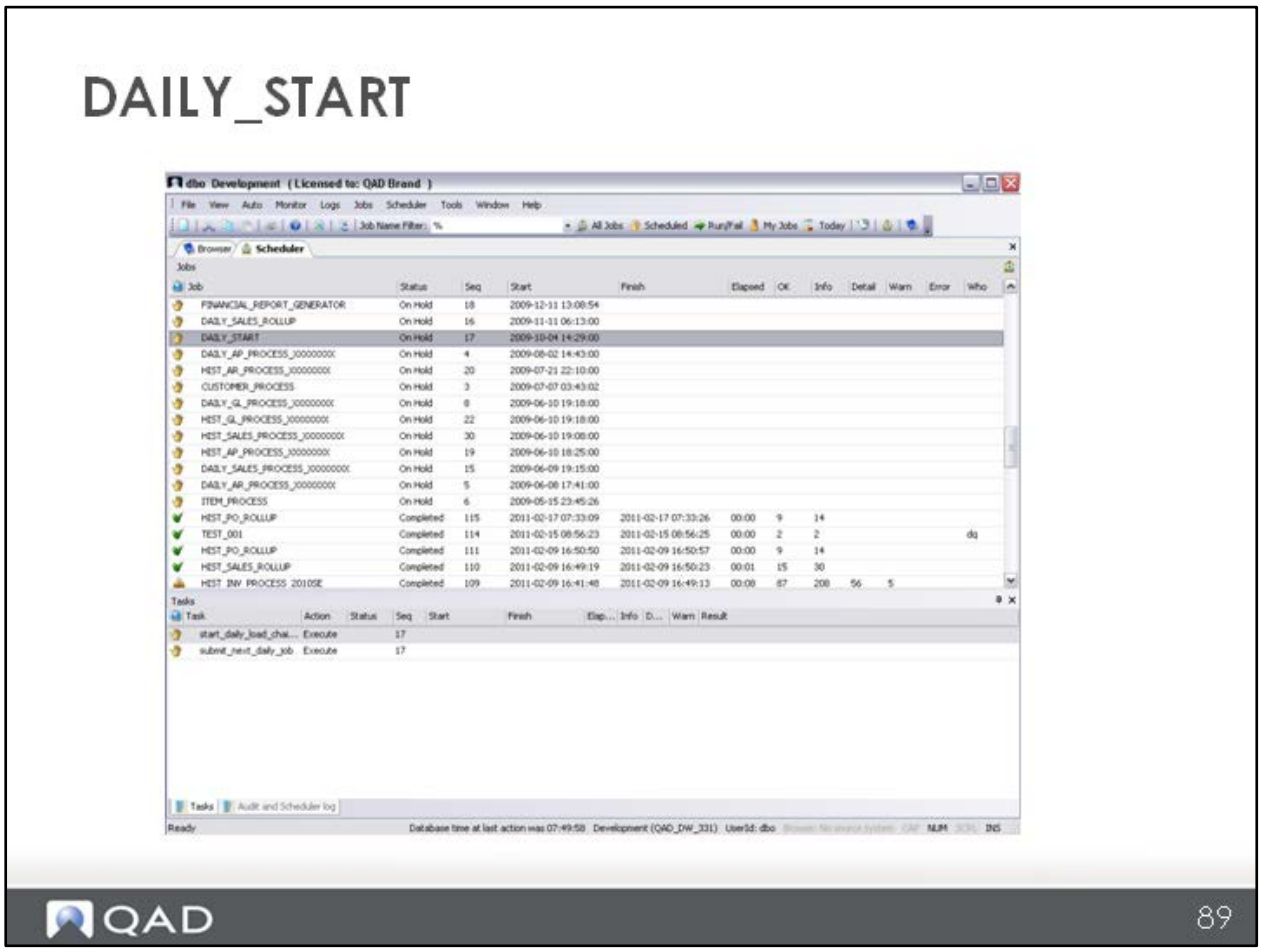


Manually Starting a Job



If during the course of troubleshooting system problems, a job needs to be started, or re-started, the operator would highlight the job, then right click and select *Start the Job.*

DAILY_START



The job that executes all the daily processing of the QAD BI is called DAILY START.

It contains only two tasks:

Stage_daily_load_chained

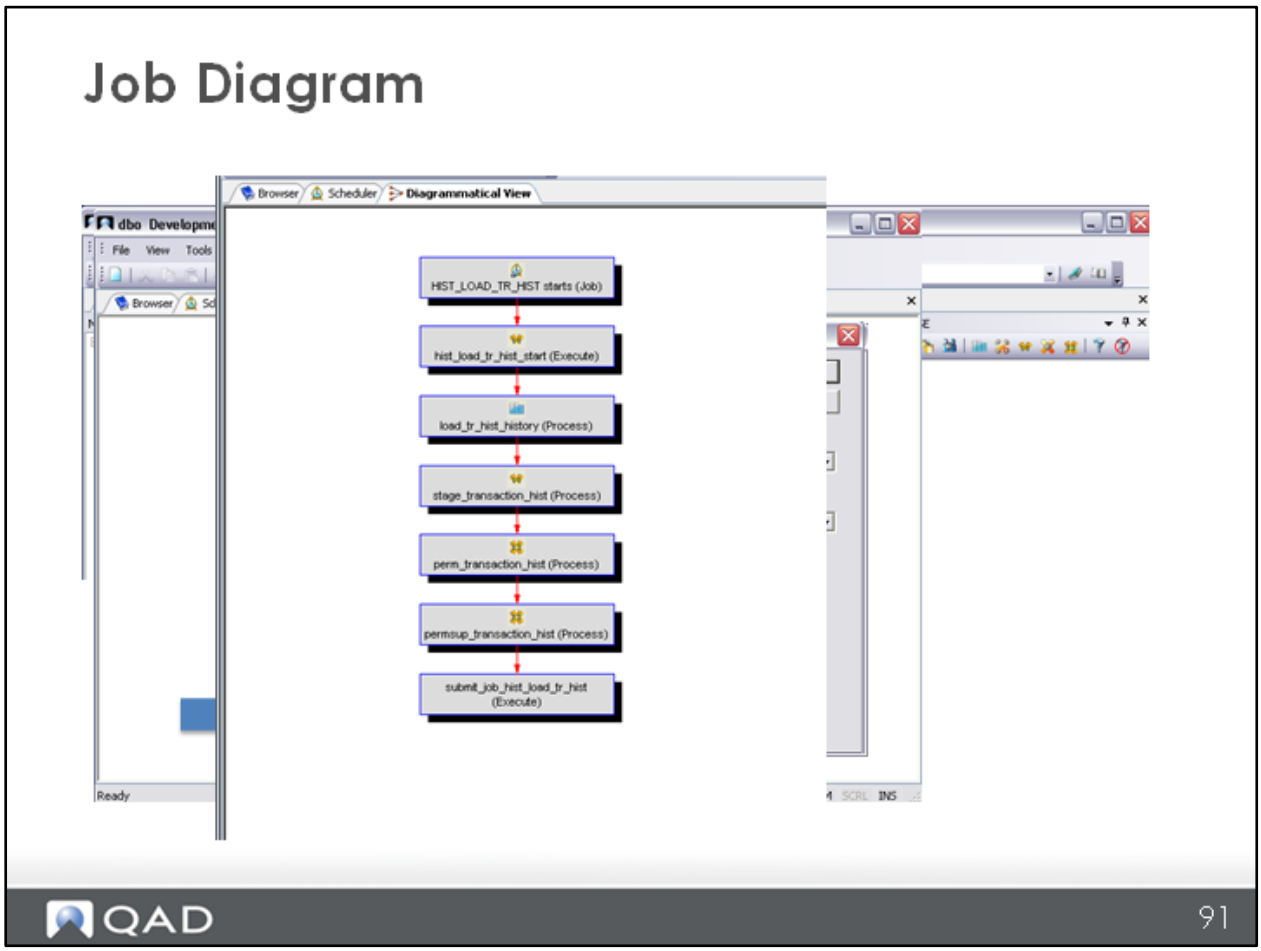
Submit_next_daily_job

Both of these tasks are custom procedures. The Stage Daily Load Chained job will kick off the first job in the string of jobs necessary to Extract, Transform and Load the data.

Scheduler Documentation



Job Diagram



From the main Data Warehouse Designer Browser window, elect Diagrammatical View.

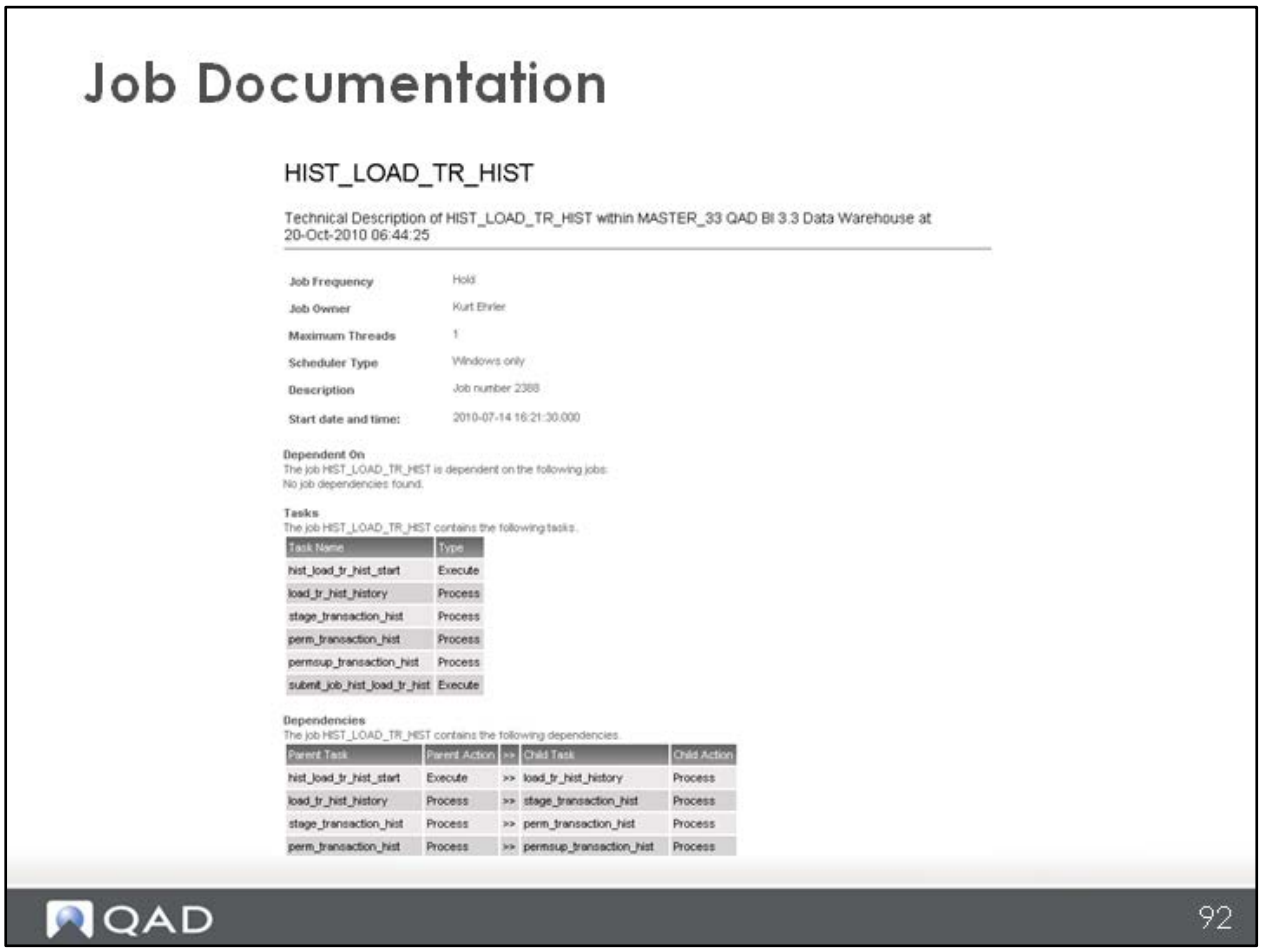
When the Diagram window appears, select the Diagram button again.

When the Diagram Selection window appears, one of the options is *Select a Job to show dependencies*

Select the job from the drop down list and click *OK*.

A Dependency diagram will be displayed.

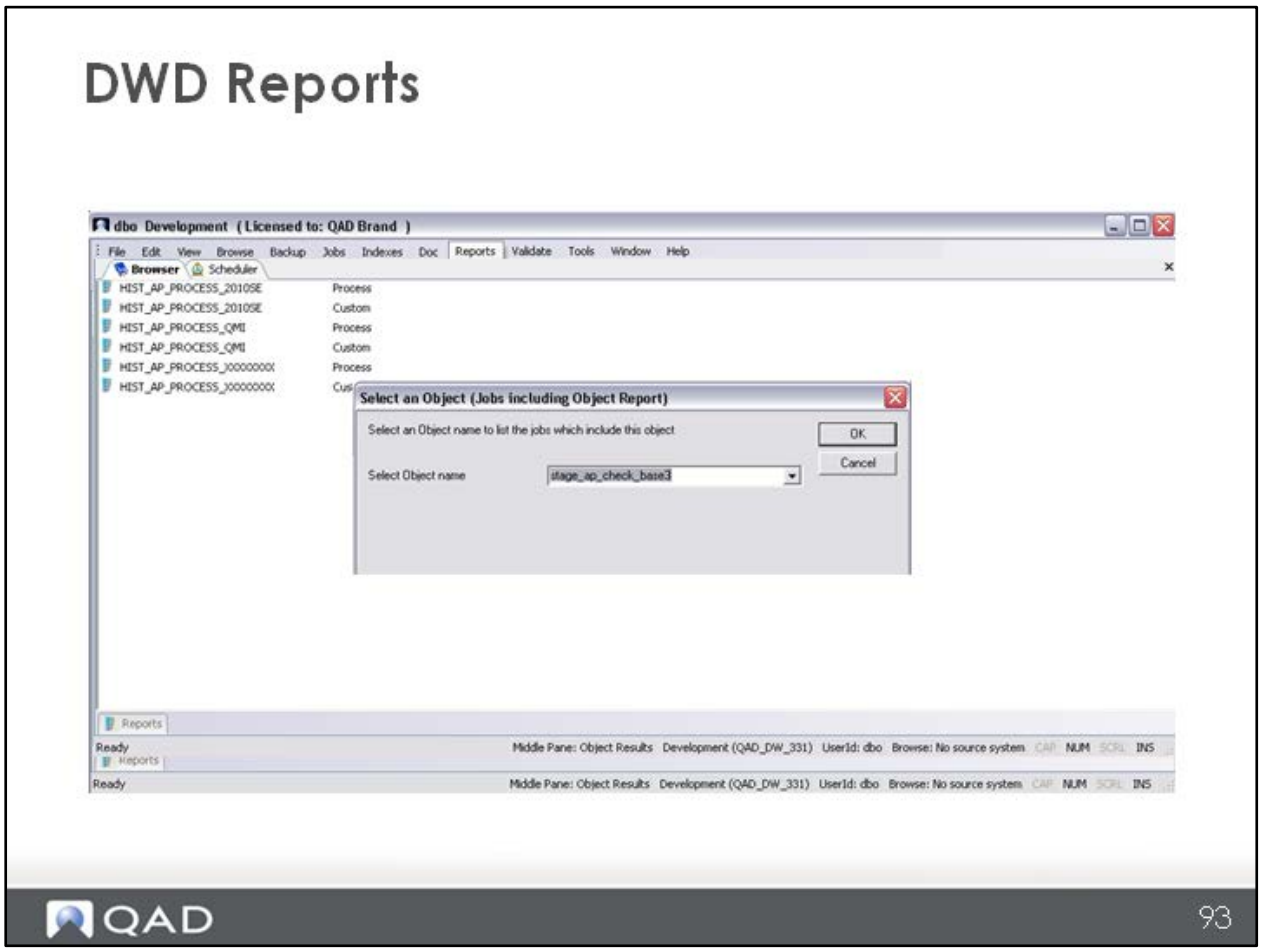
Job Documentation



Another way to see Job Documentation is from within the Technical Documentation, key information about a job is displayed.

This includes the Tasks included in the job and the dependencies for that job.

DWD Reports



Scheduler reports are available in the Builder/Brower Reports menu.

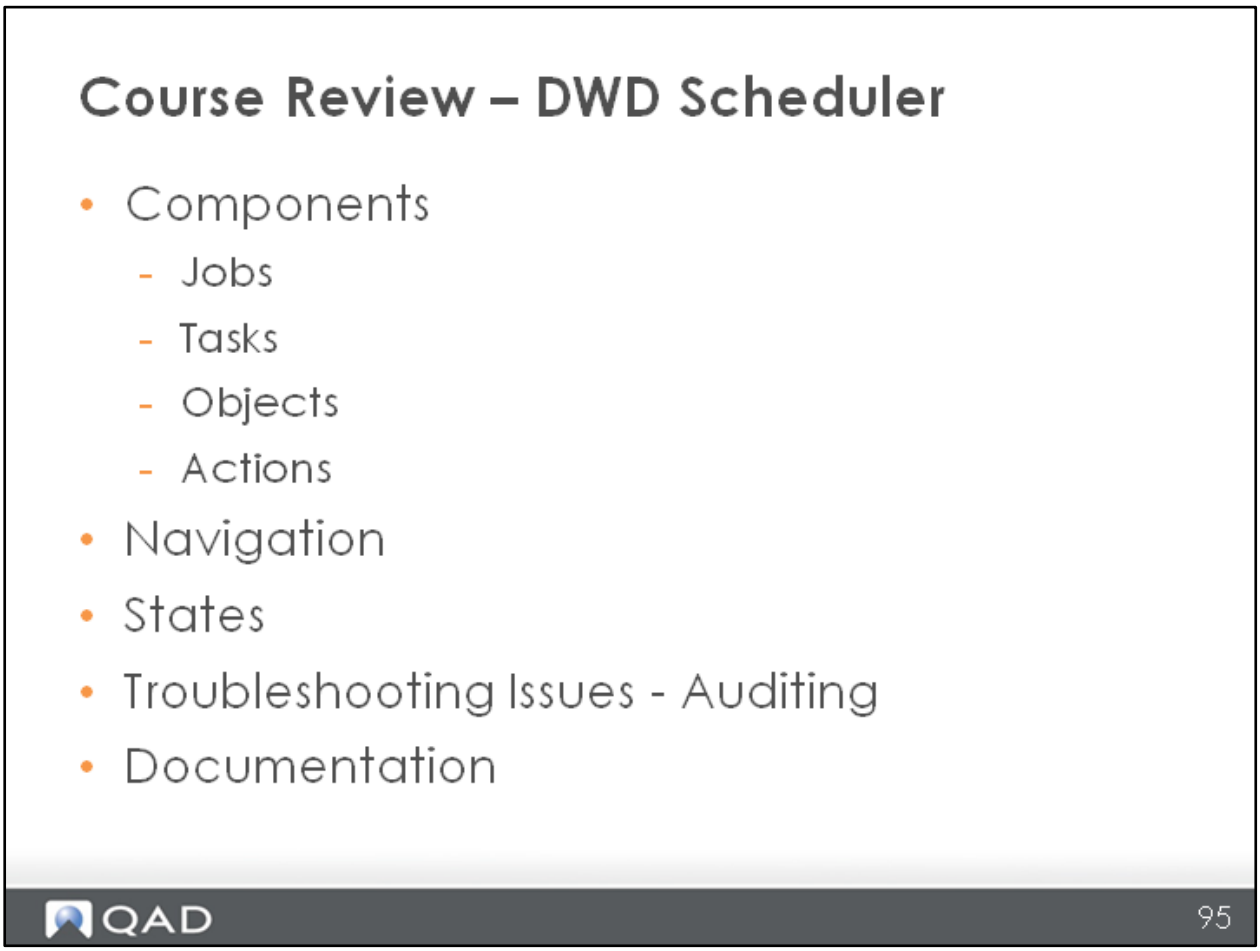
From the DWD Builder/Browser menu bar, select *Reports.*

One of the submenu options is *Job Reports* .

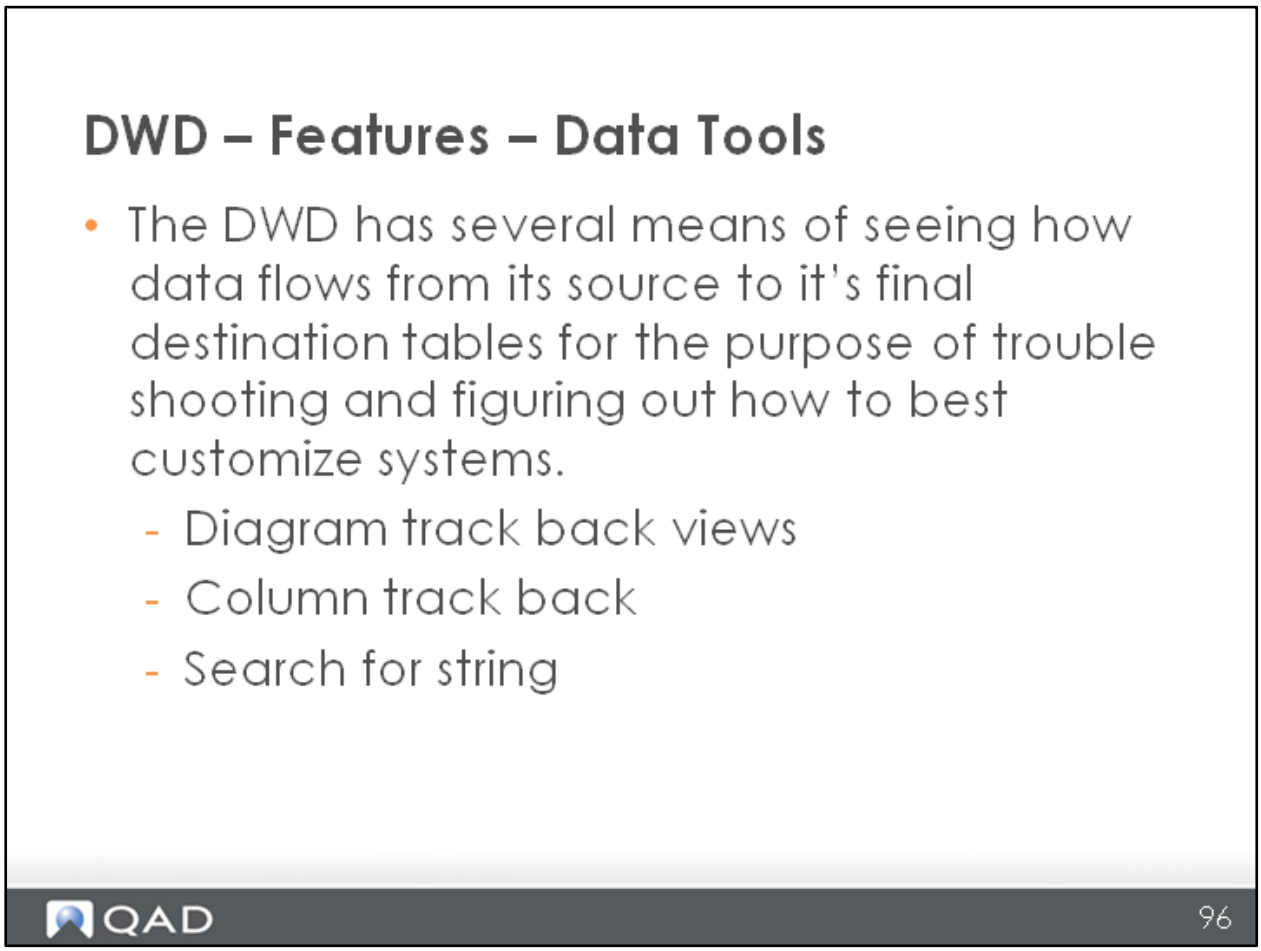
Course Review



Course Review – DWD Scheduler



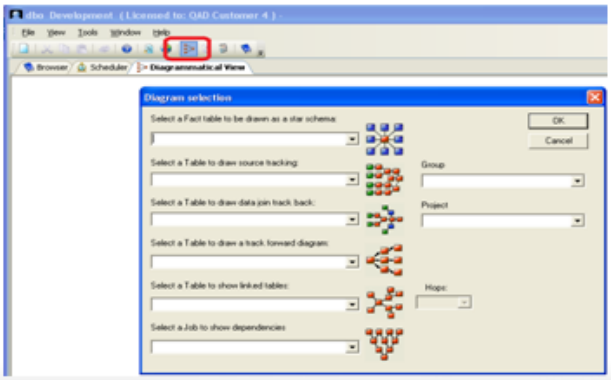
DWD – Features – Data Tools



DWD – Features – Diagram Views

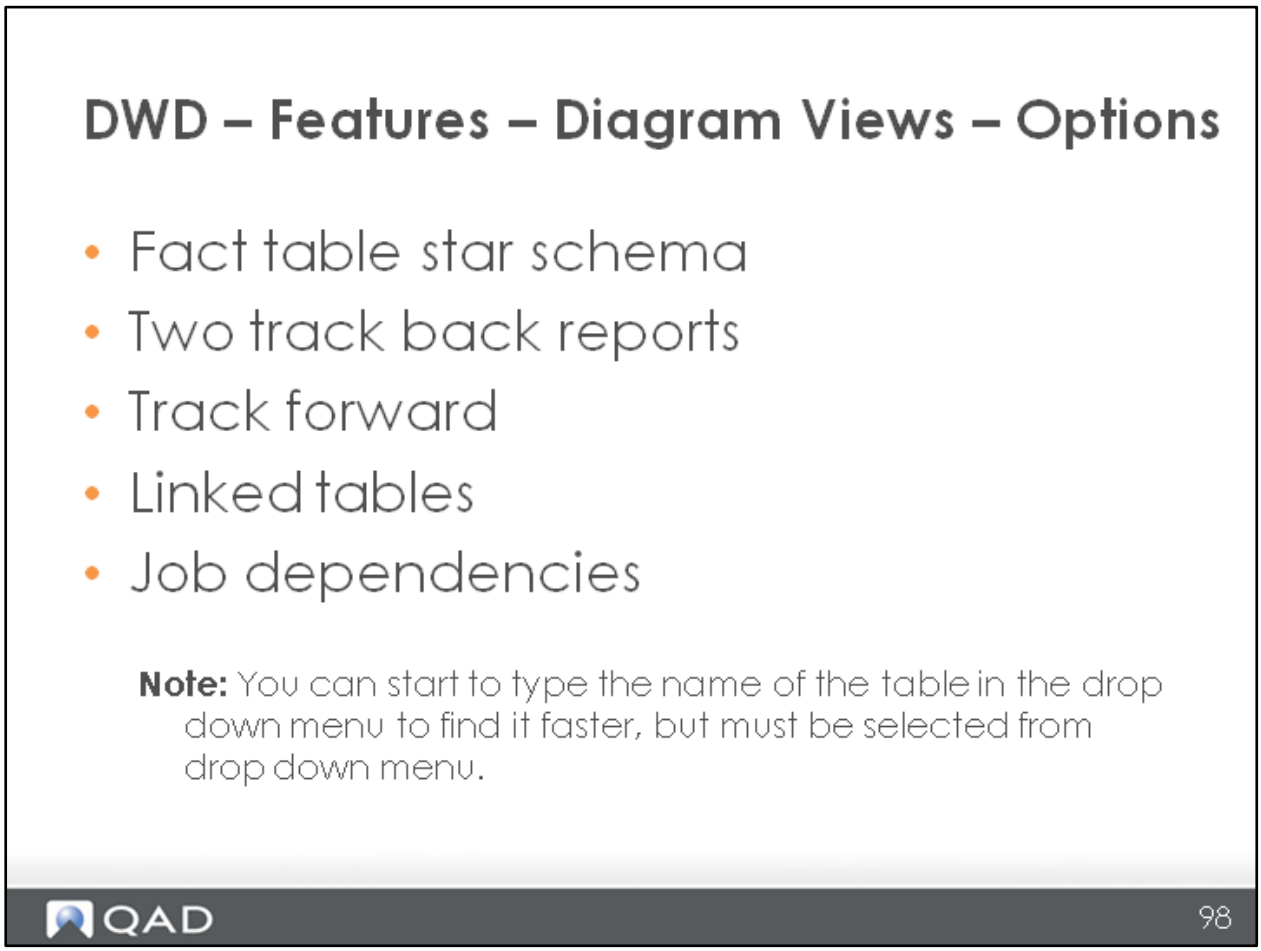
DWD – Features – Diagram Views

- The Diagram track back view option is generated from the DWD and is launched by clicking on the Diagram view button and when the blank screen comes up, click on it a second time which brings up the Diagram selection window.

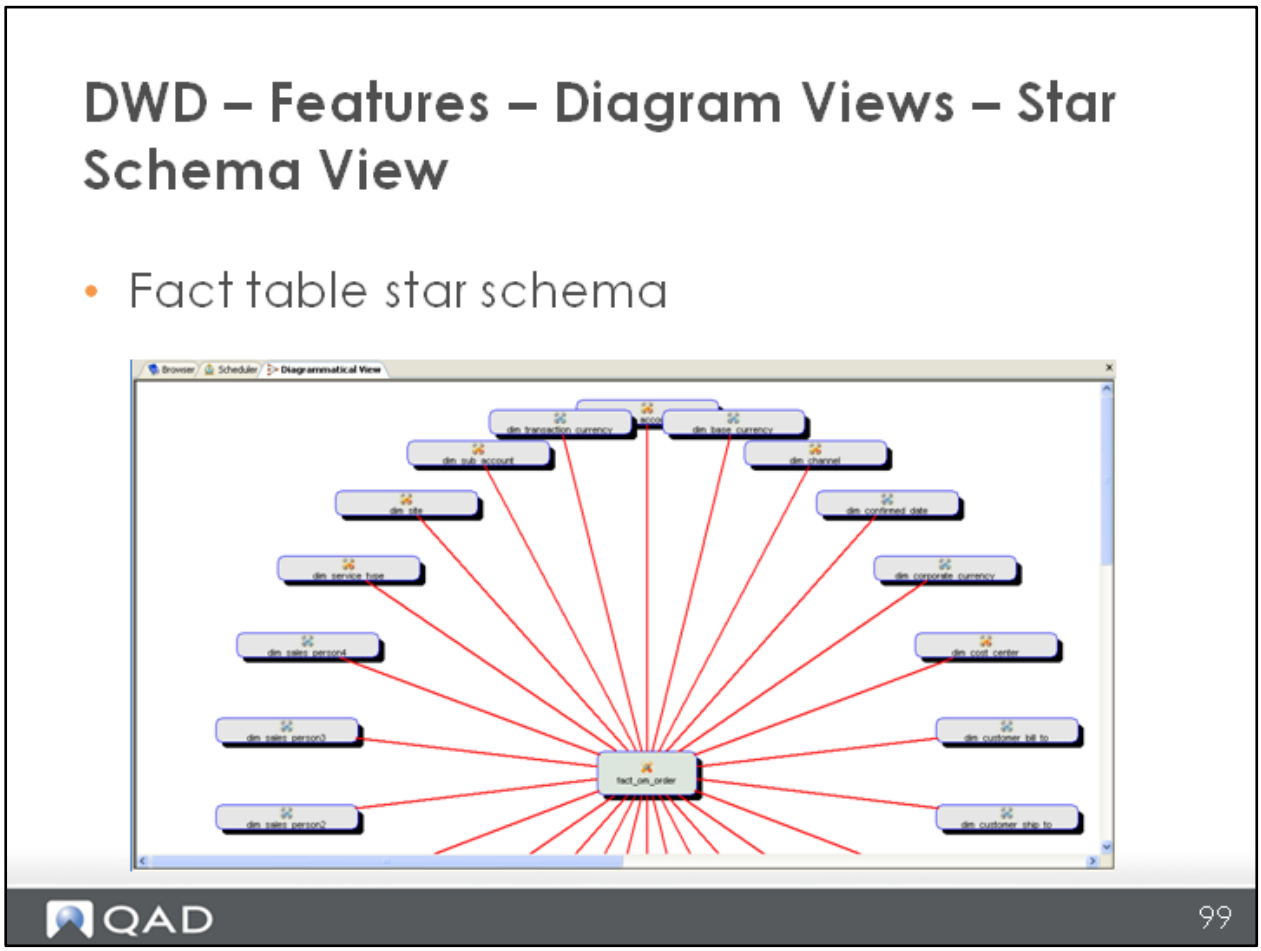


QAD 97

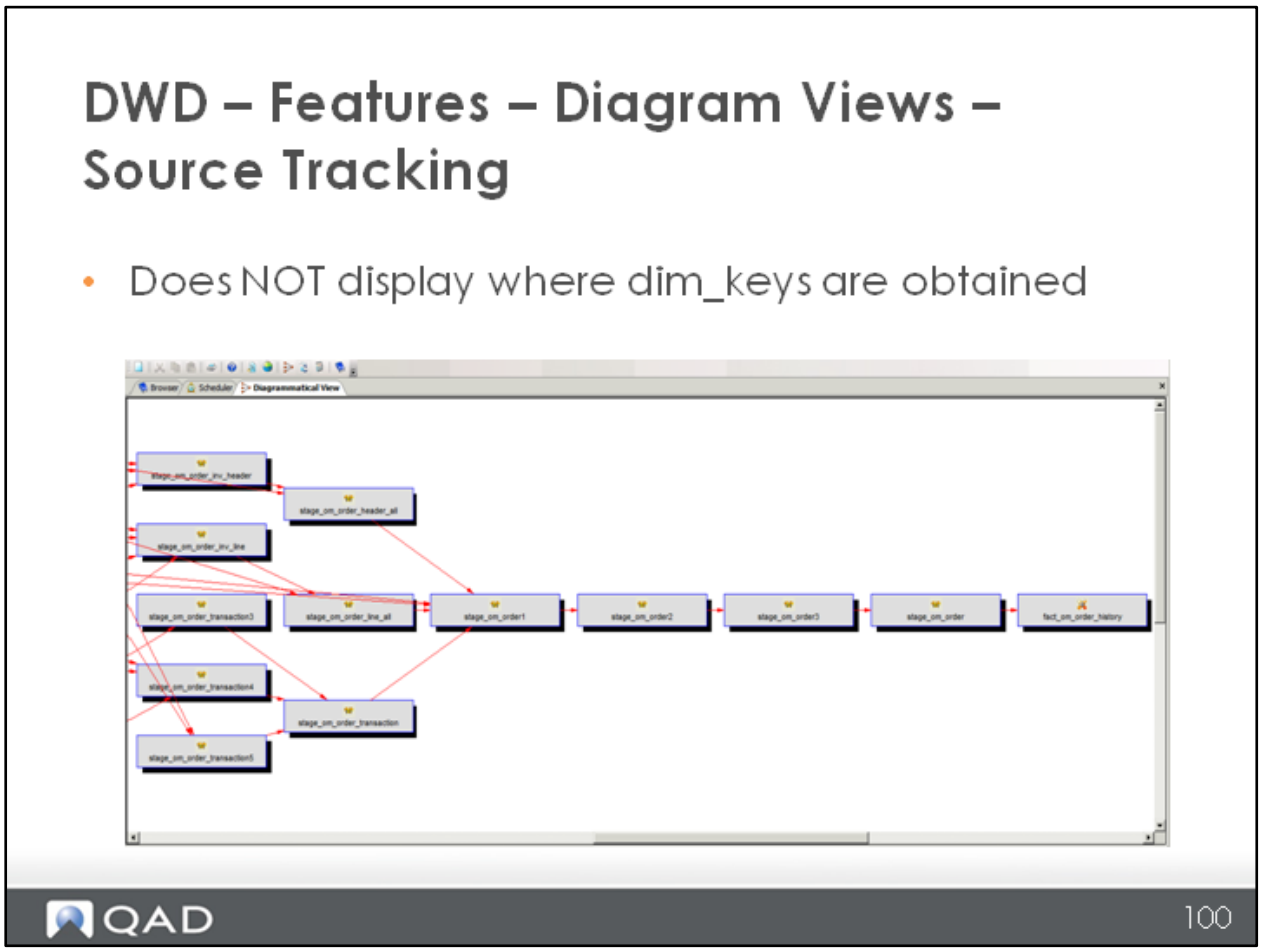
DWD – Features – Diagram Views – Options



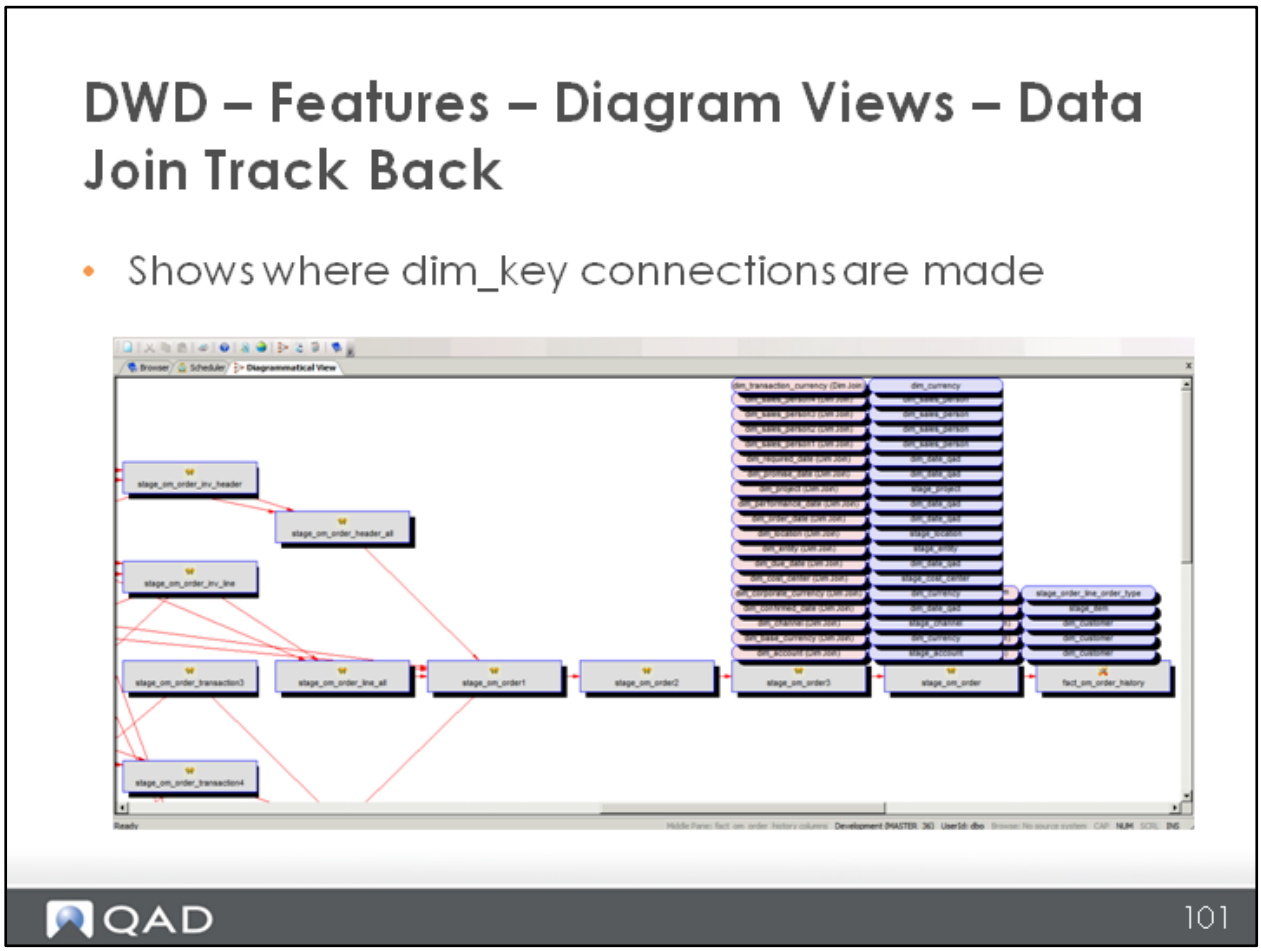
DWD – Features – Diagram Views – Star Schema View



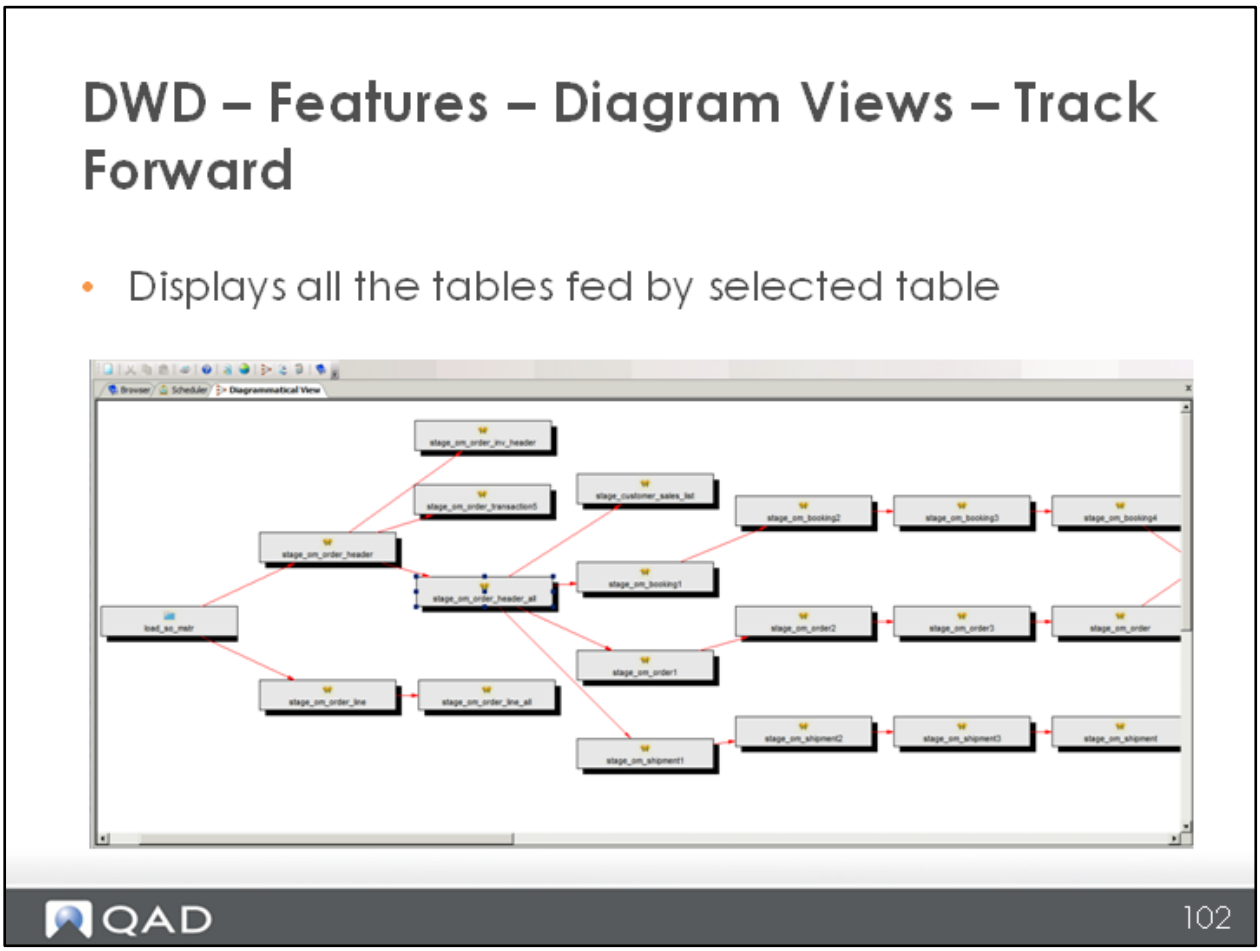
DWD – Features – Diagram Views – Source Tracking



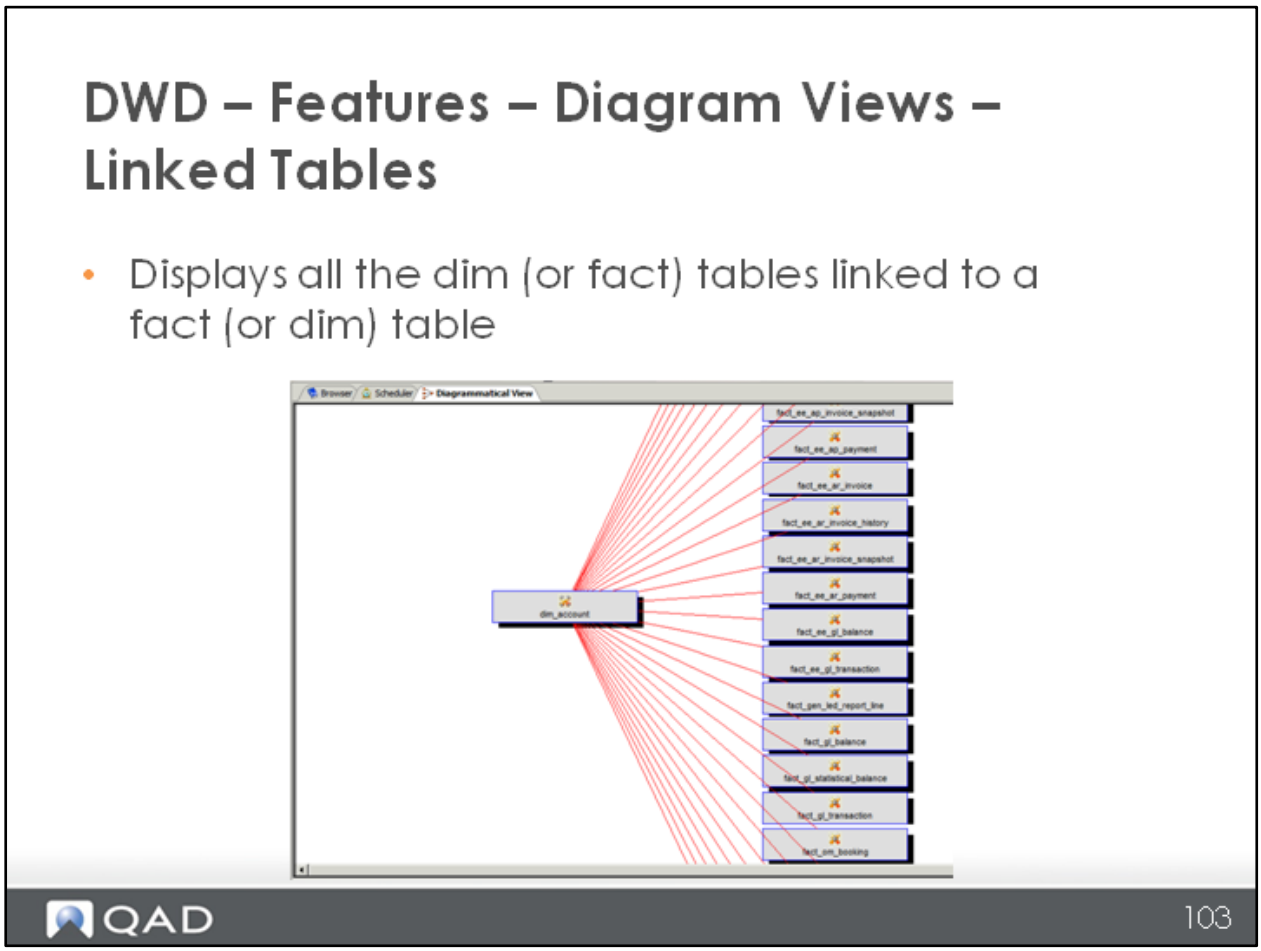
DWD – Features – Diagram Views – Data Join Track Back



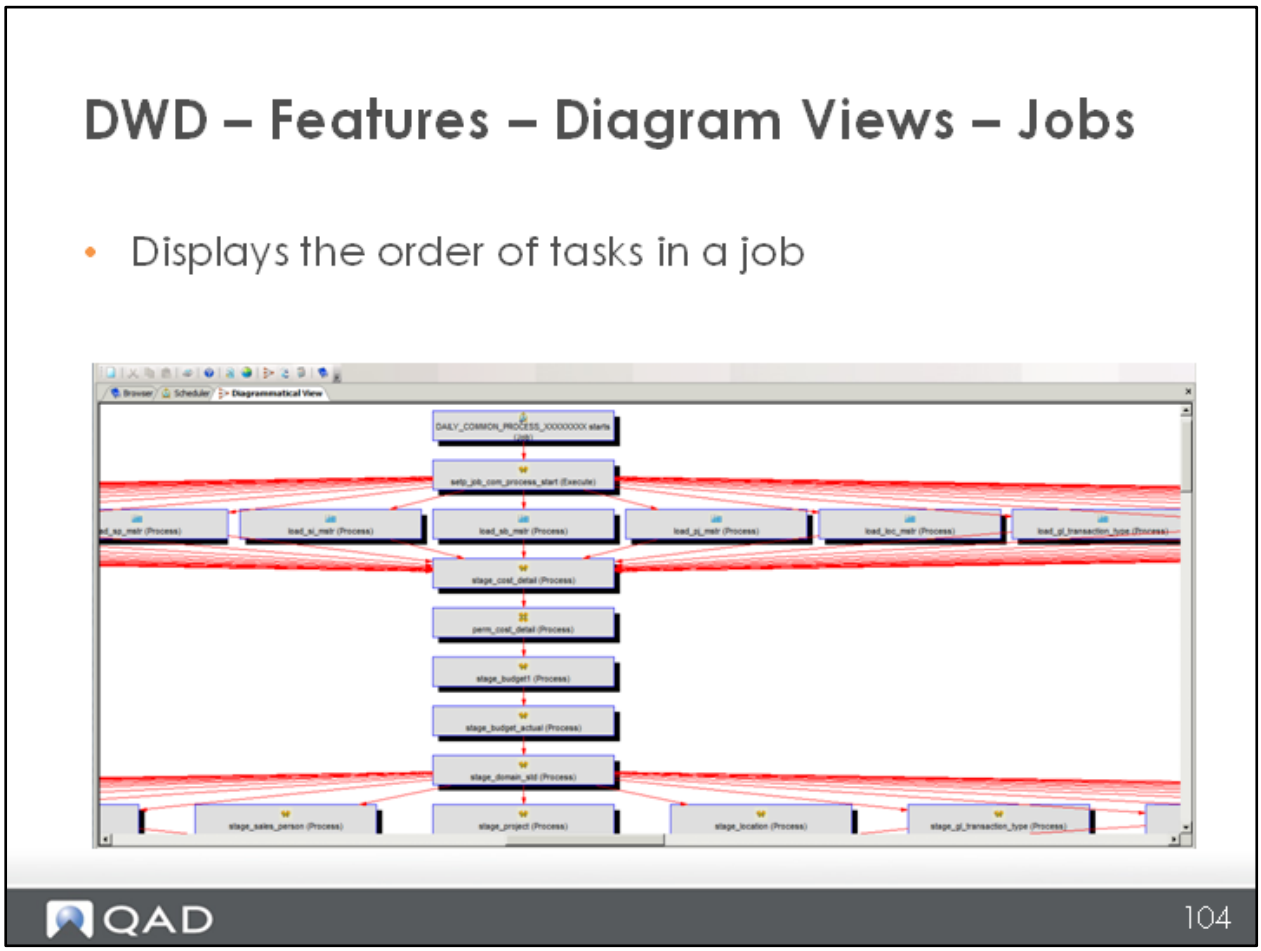
DWD – Features – Diagram Views – Track Forward



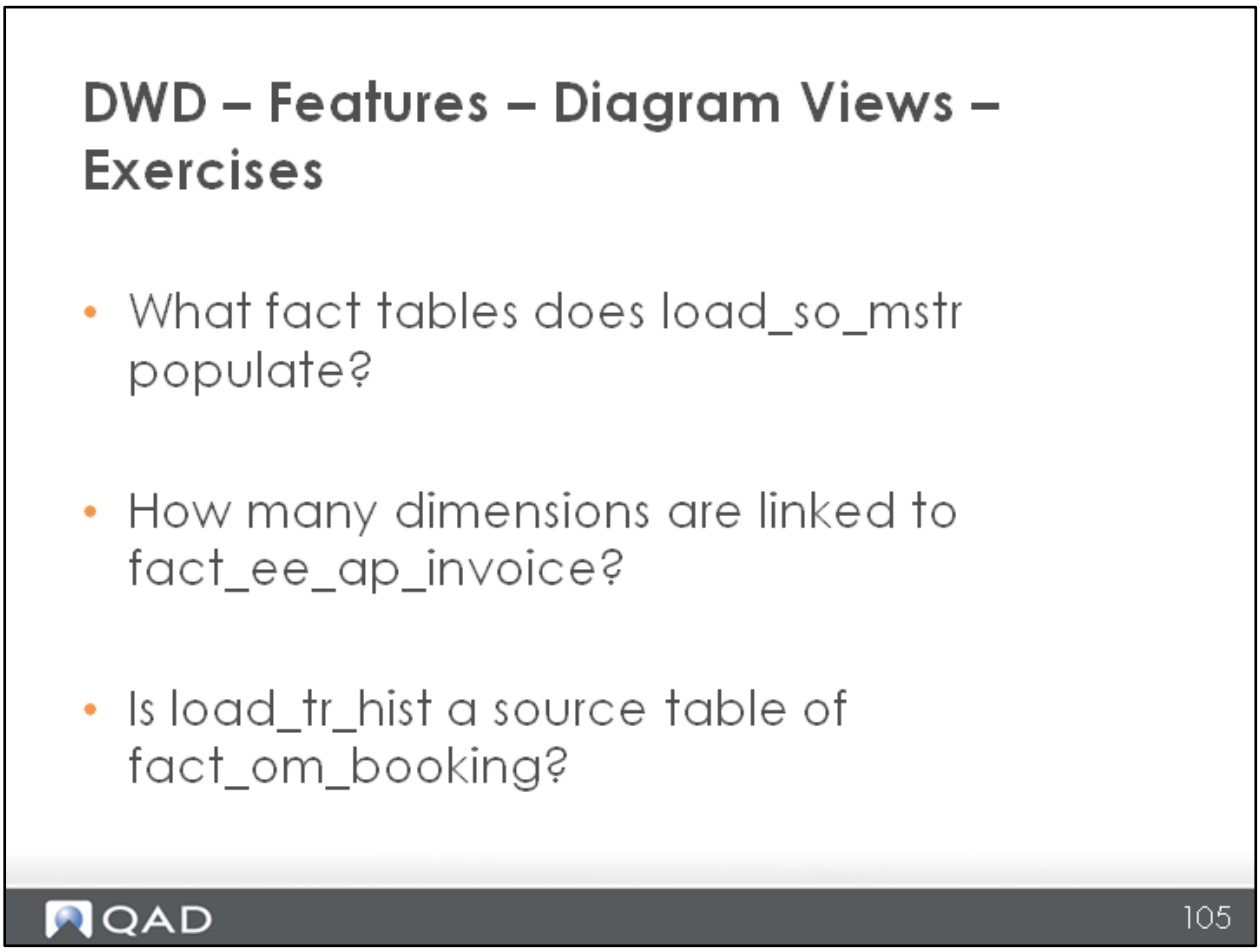
DWD – Features – Diagram Views – Linked Tables



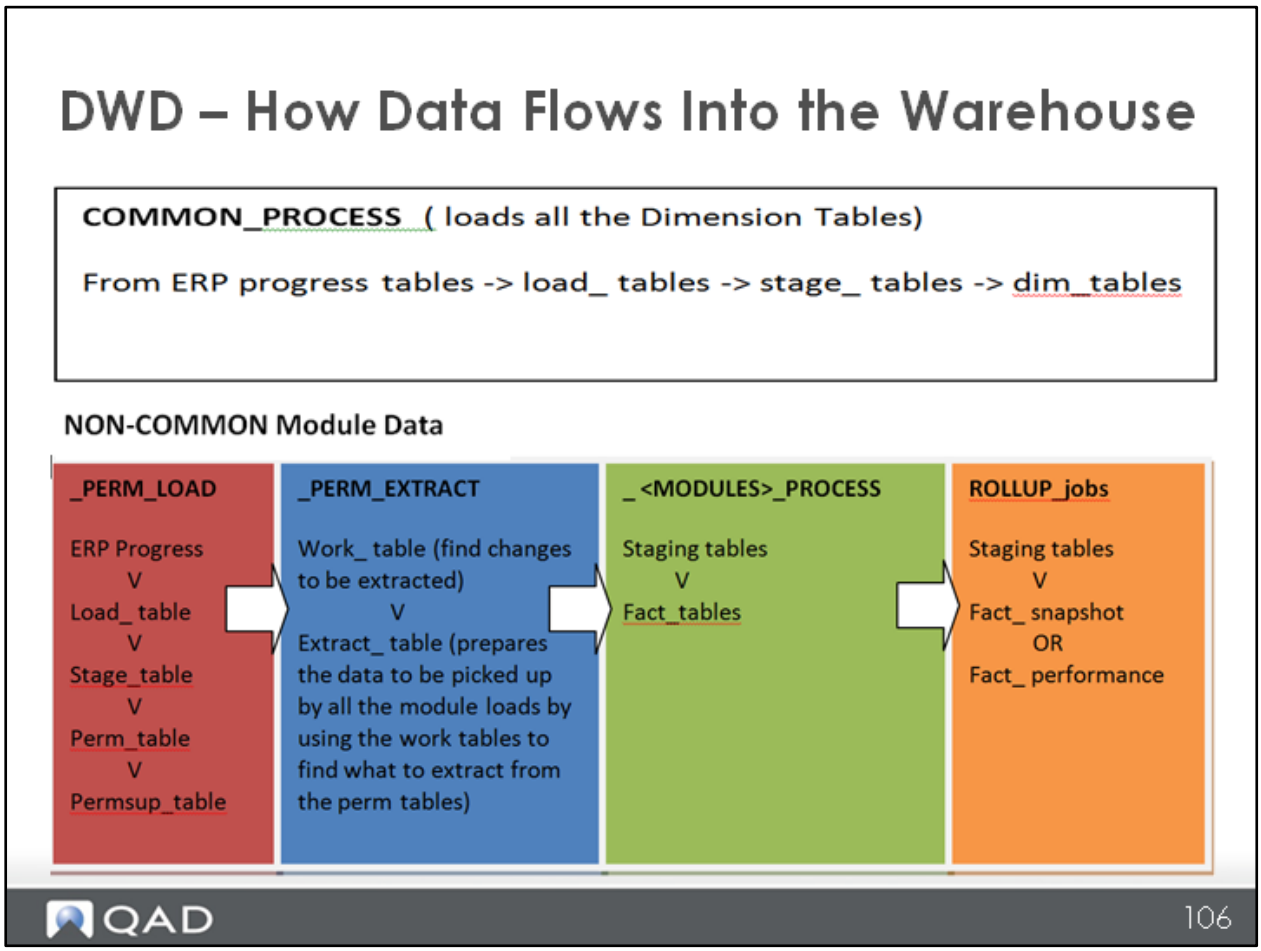
DWD – Features – Diagram Views – Jobs



DWD – Features – Diagram Views – Exercises



DWD – How Data Flows Into the Warehouse



Common Process plays a VERY important role of building the dimension tables which have all the keys, the fact tables will refer to when they are built.

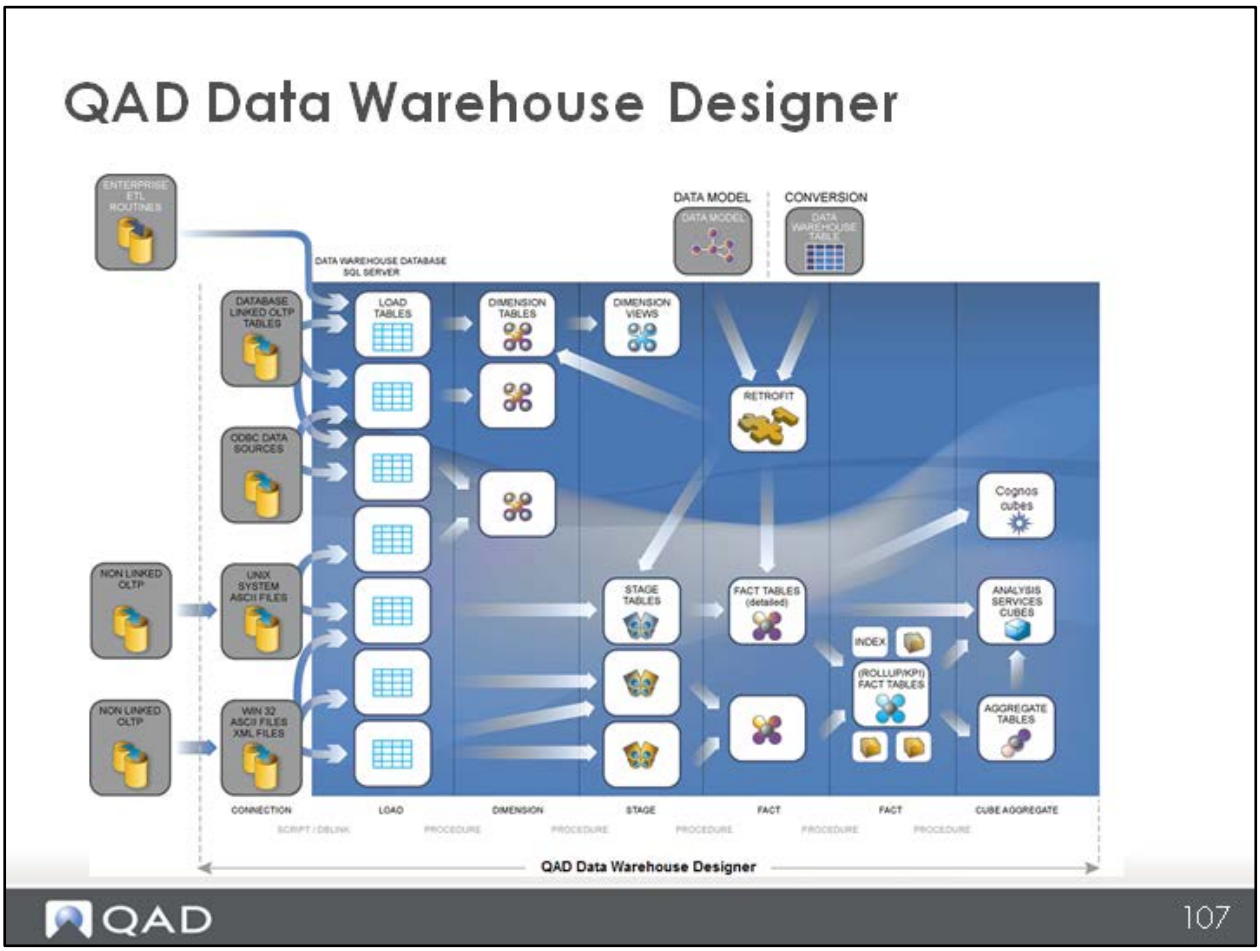
Perm_load loads any tables that store permanent data (large tables that shouldn't change once created).

Perm_extract "primes the pump" for the module loads by looking for changes to perm_tables and preparing the data to be loaded in extract tables.

The various modules processes loads for their respective modules.

The Rollup jobs populate the snapshots and the performance tables.

QAD Data Warehouse Designer

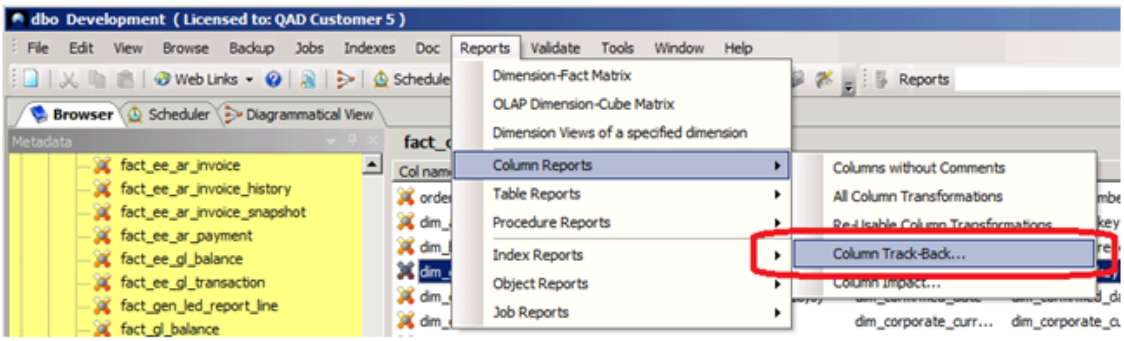


DWD – Features – Column Track Back

DWD – Features – Column Track Back

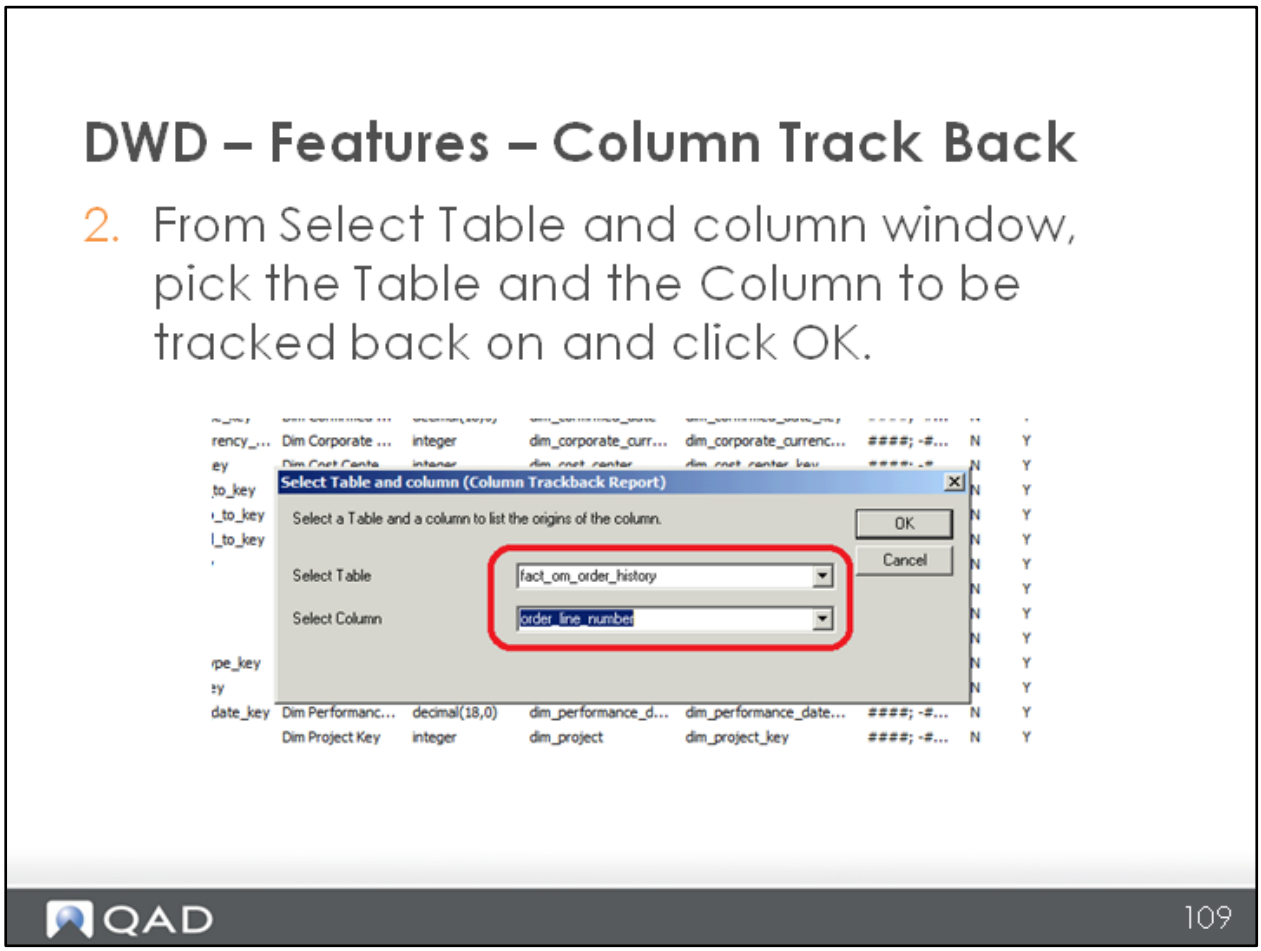
Very useful reporting option. Displays all tables and columns backwards from the table and column in question to its source.

1. From Browser tab, Go to Reports/Column Reports/Column Track-Back

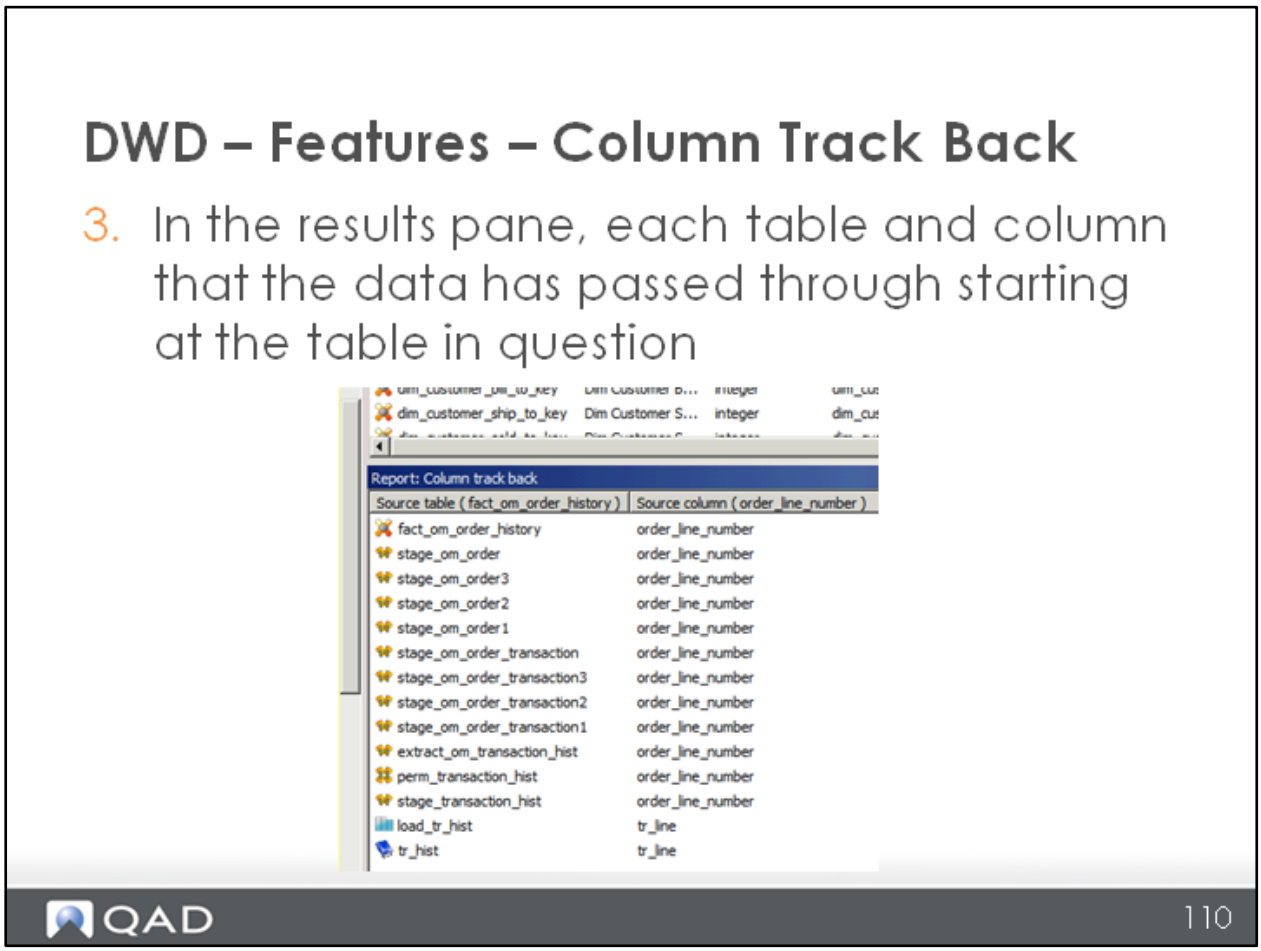


QAD 108

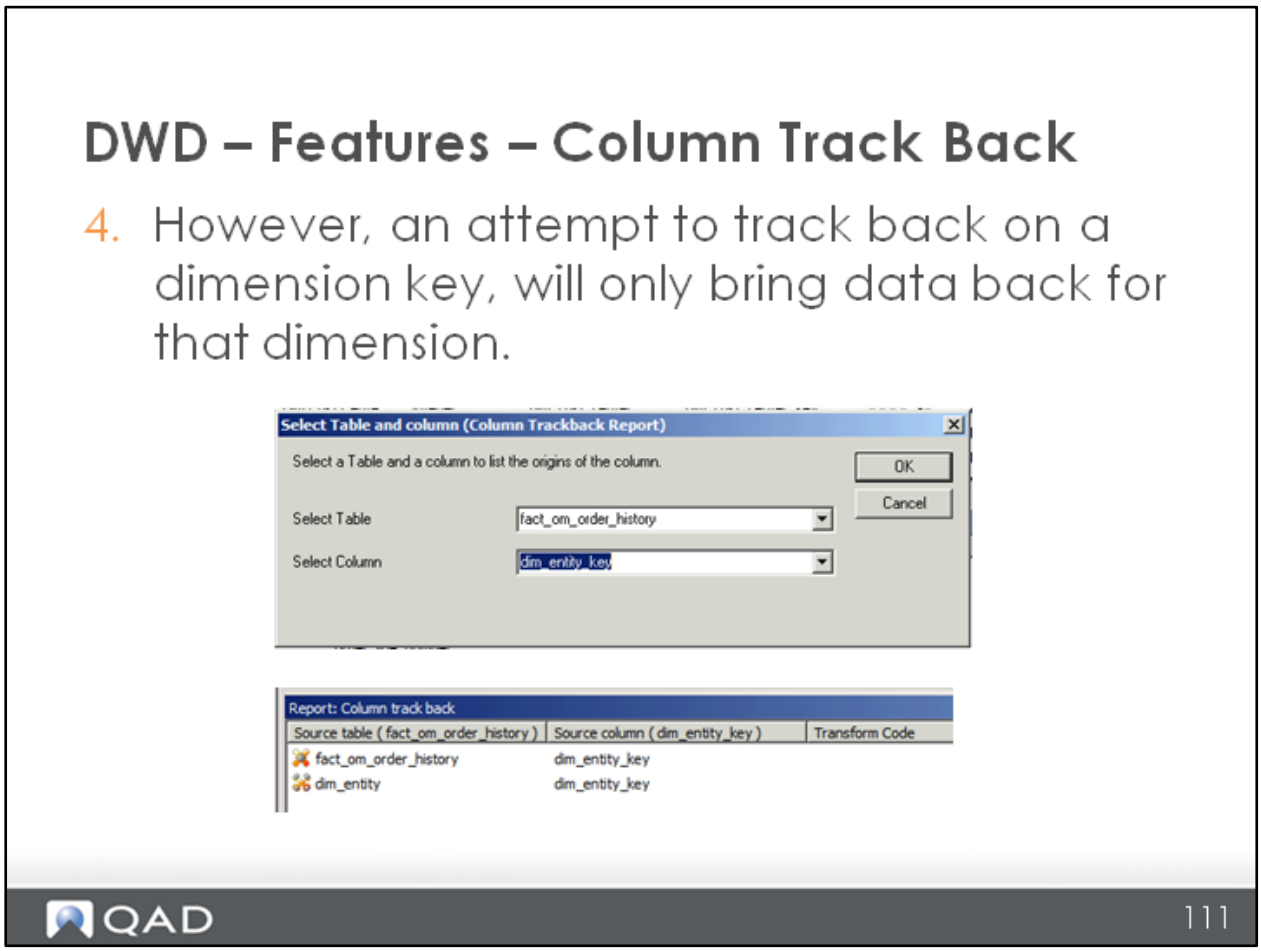
DWD – Features – Column Track Back



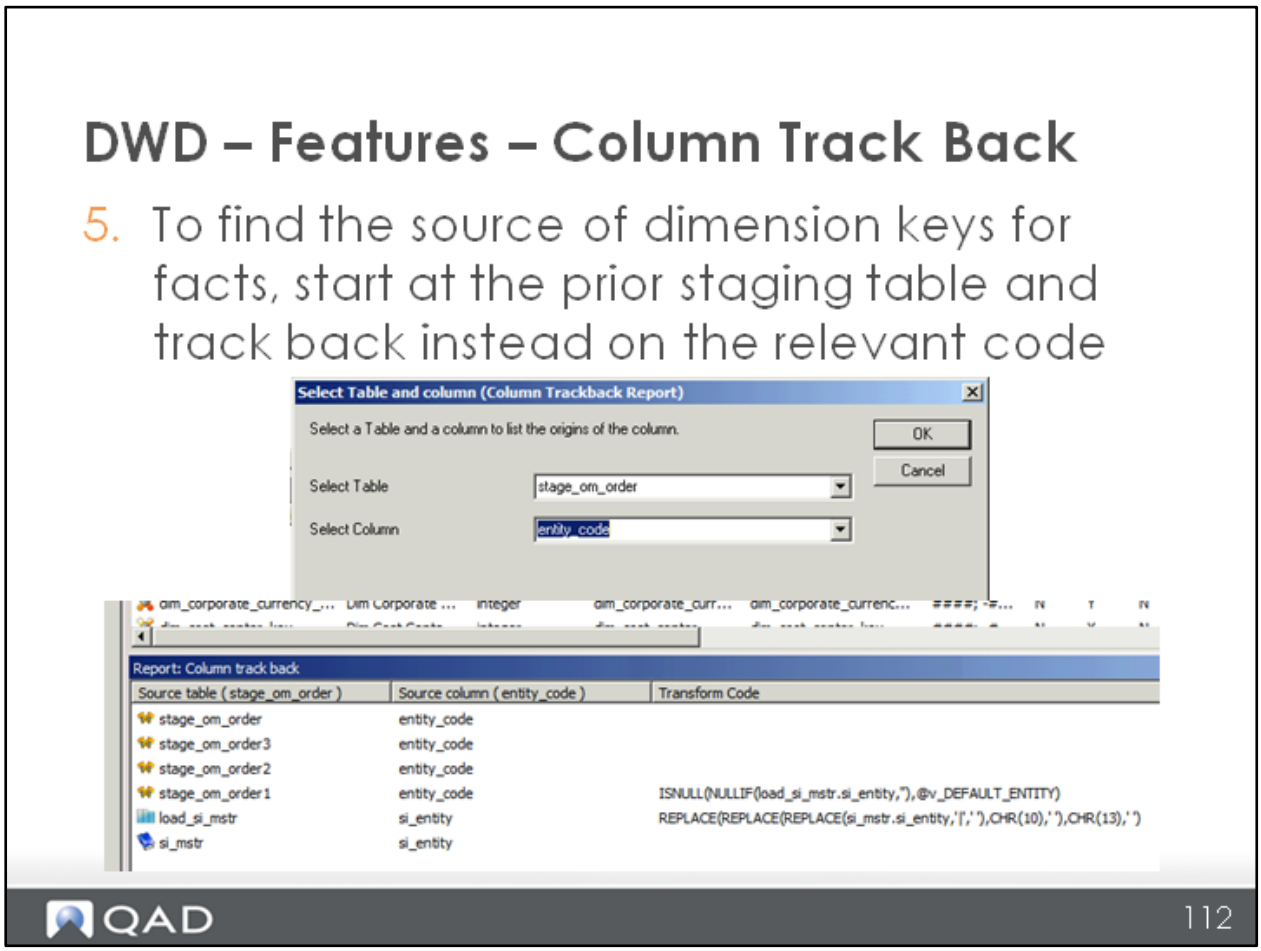
DWD – Features – Column Track Back



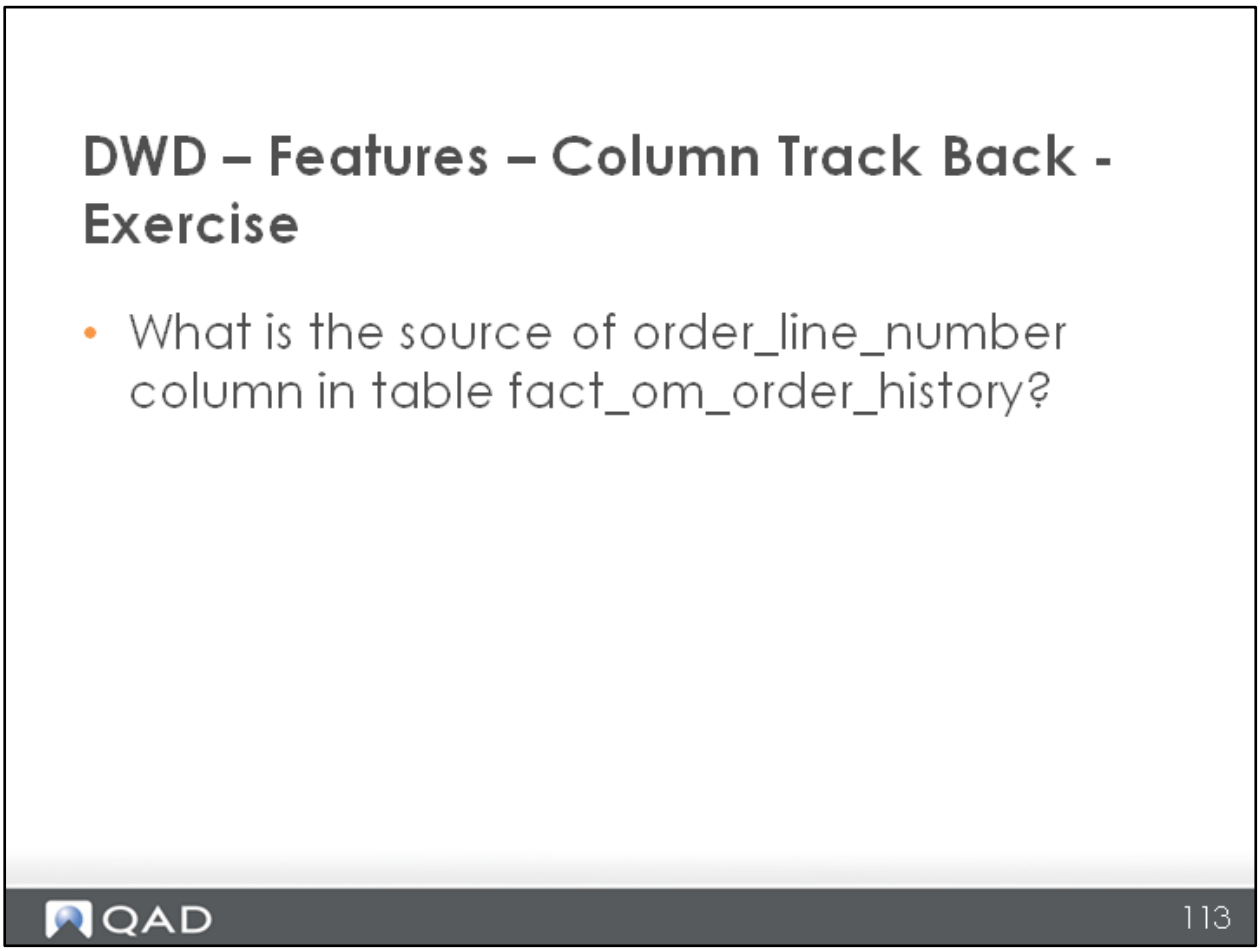
DWD – Features – Column Track Back



DWD – Features – Column Track Back



DWD – Features – Column Track Back - Exercise

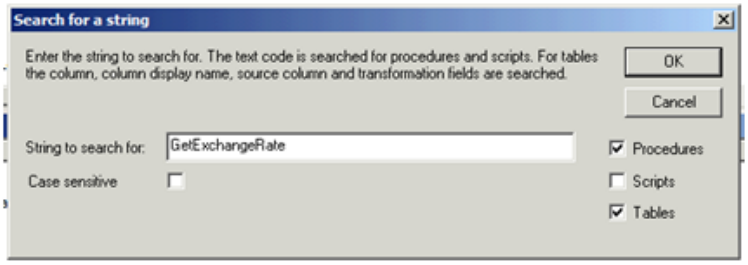


DWD – Features – Search For String

DWD – Features – Search For String

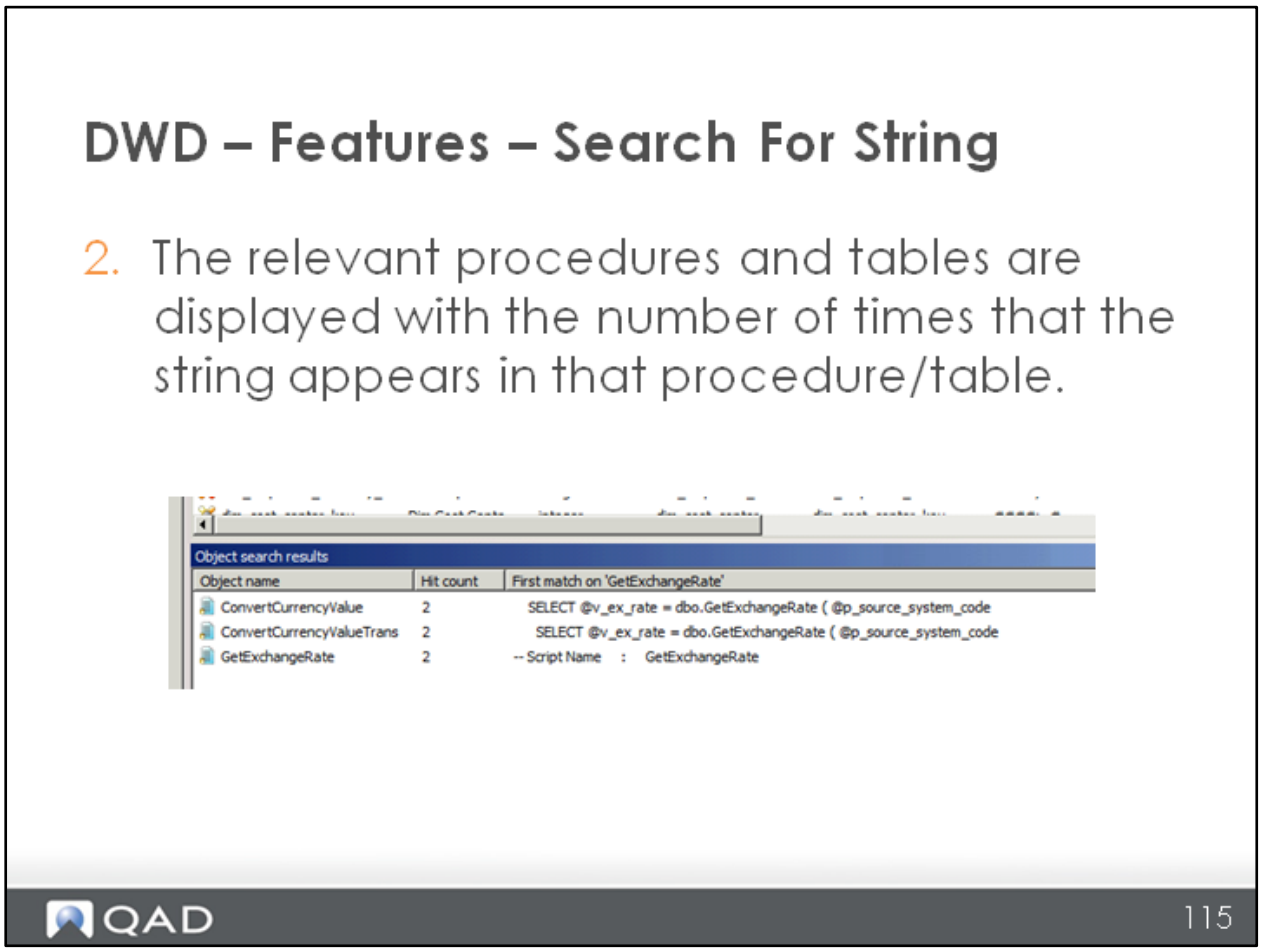
If a certain column or procedure or function or any type of string is sought in a procedure or in a table, this can easily be achieved using the Search for String option under Tools.

1. Click the check boxes for where the string will be searched.



QAD 114

DWD – Features – Search For String



DWD – Features – Column Transformations

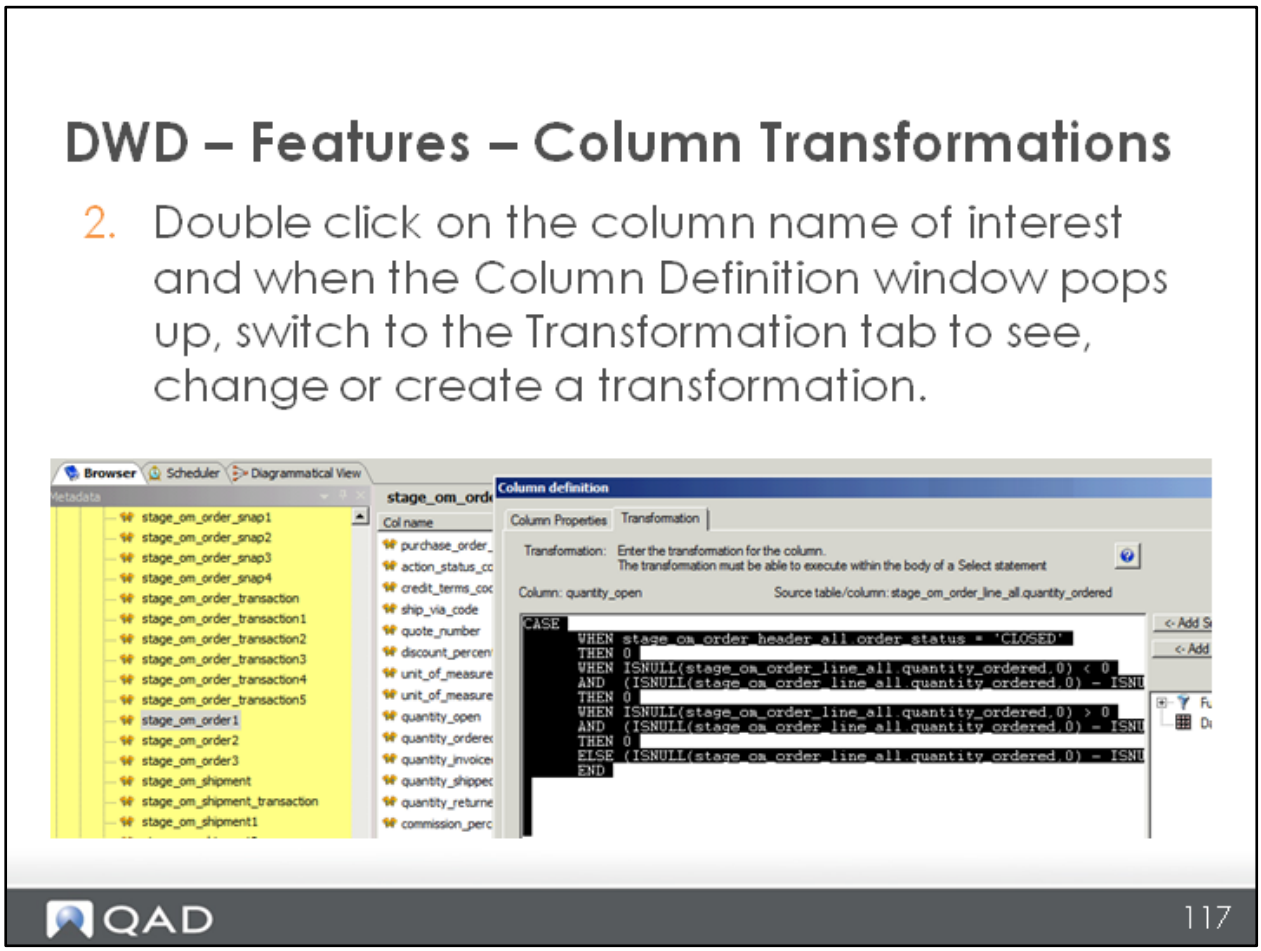
DWD – Features – Column Transformations

In many instances, columns are transformed to display some other value than the column being referenced.

1. In the browser pane, click on a table name to see the columns from the table.

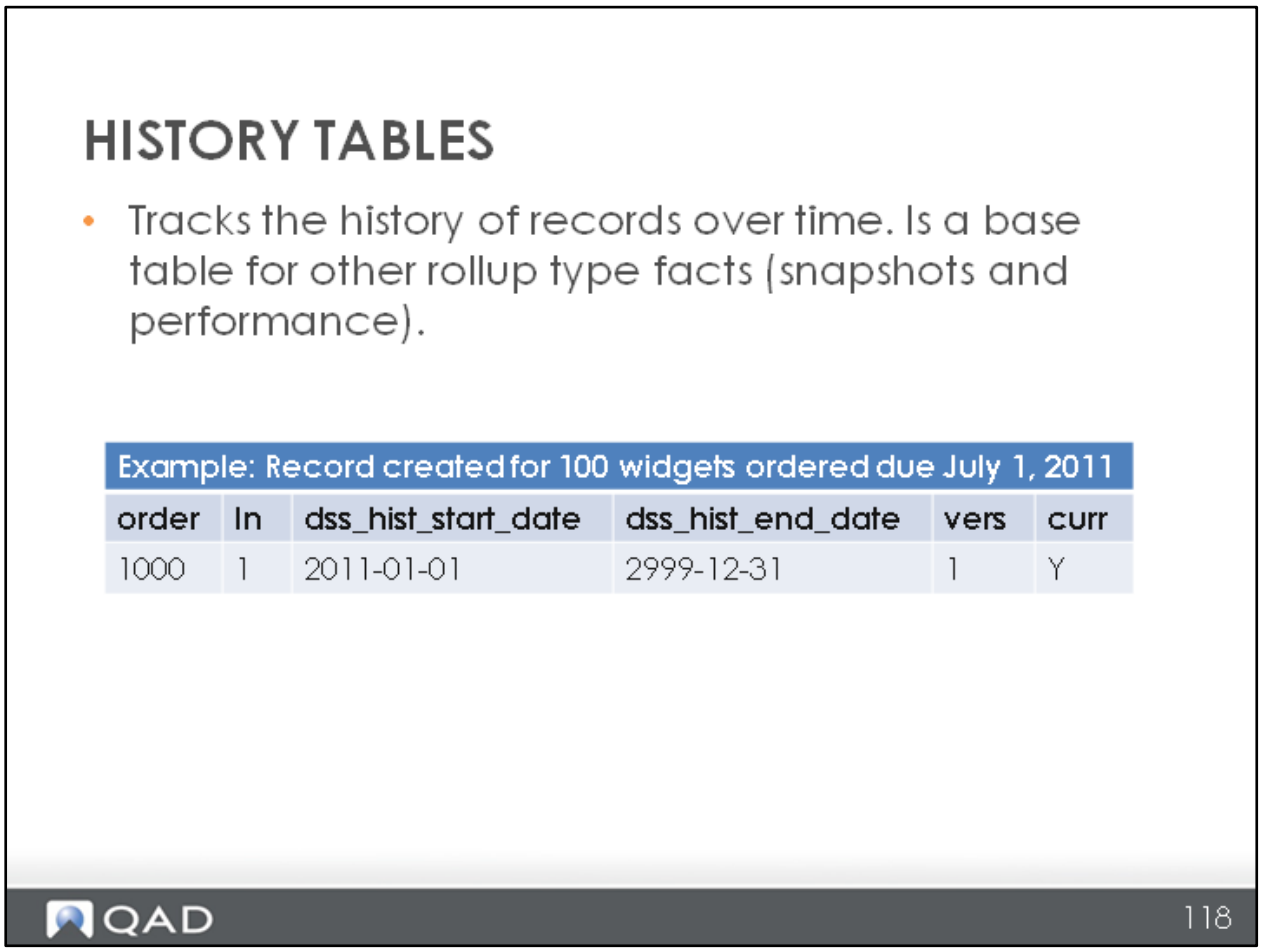


DWD – Features – Column Transformations

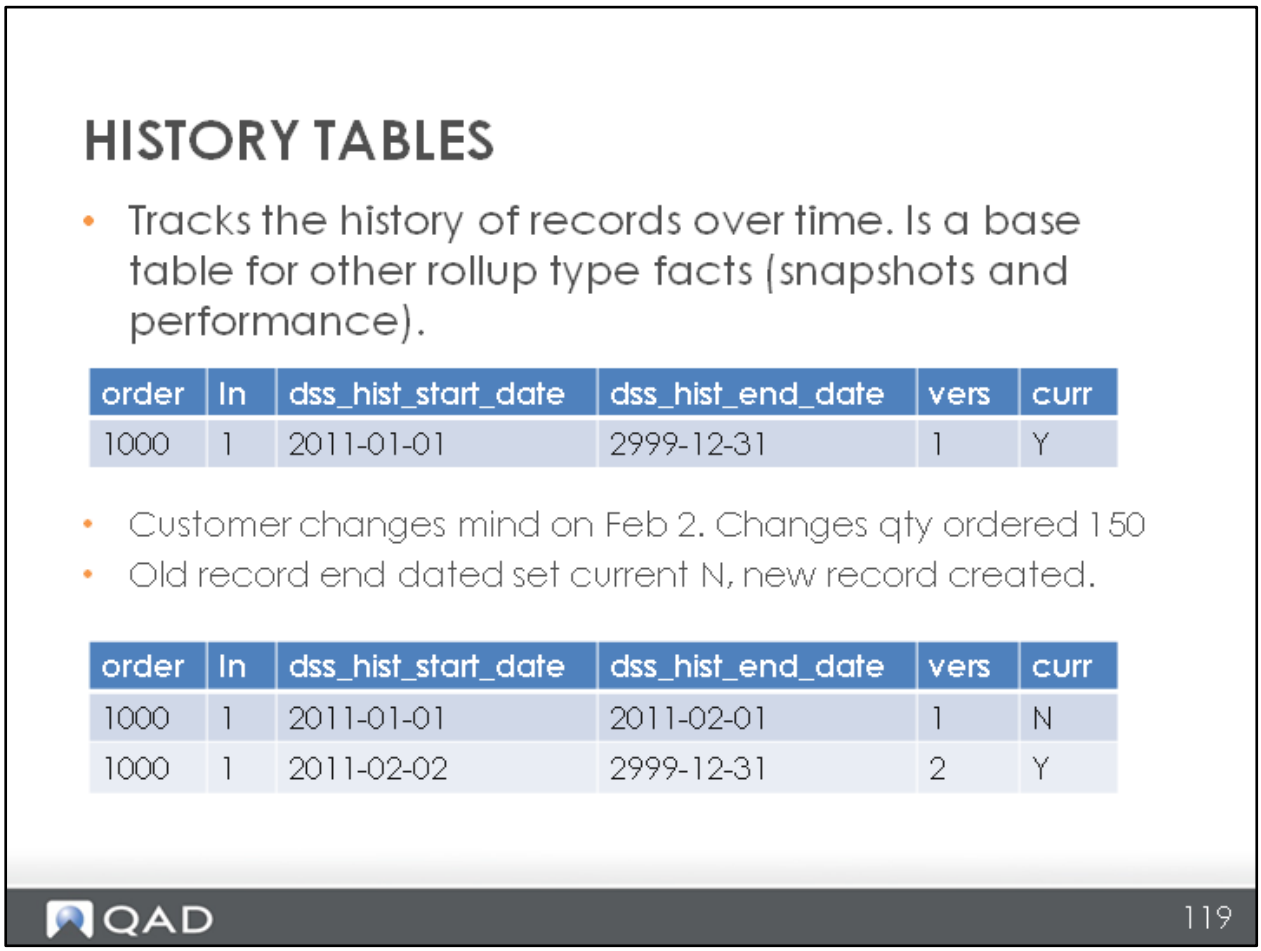


Use stage_om_order1 table and quantity_open column as a good example.

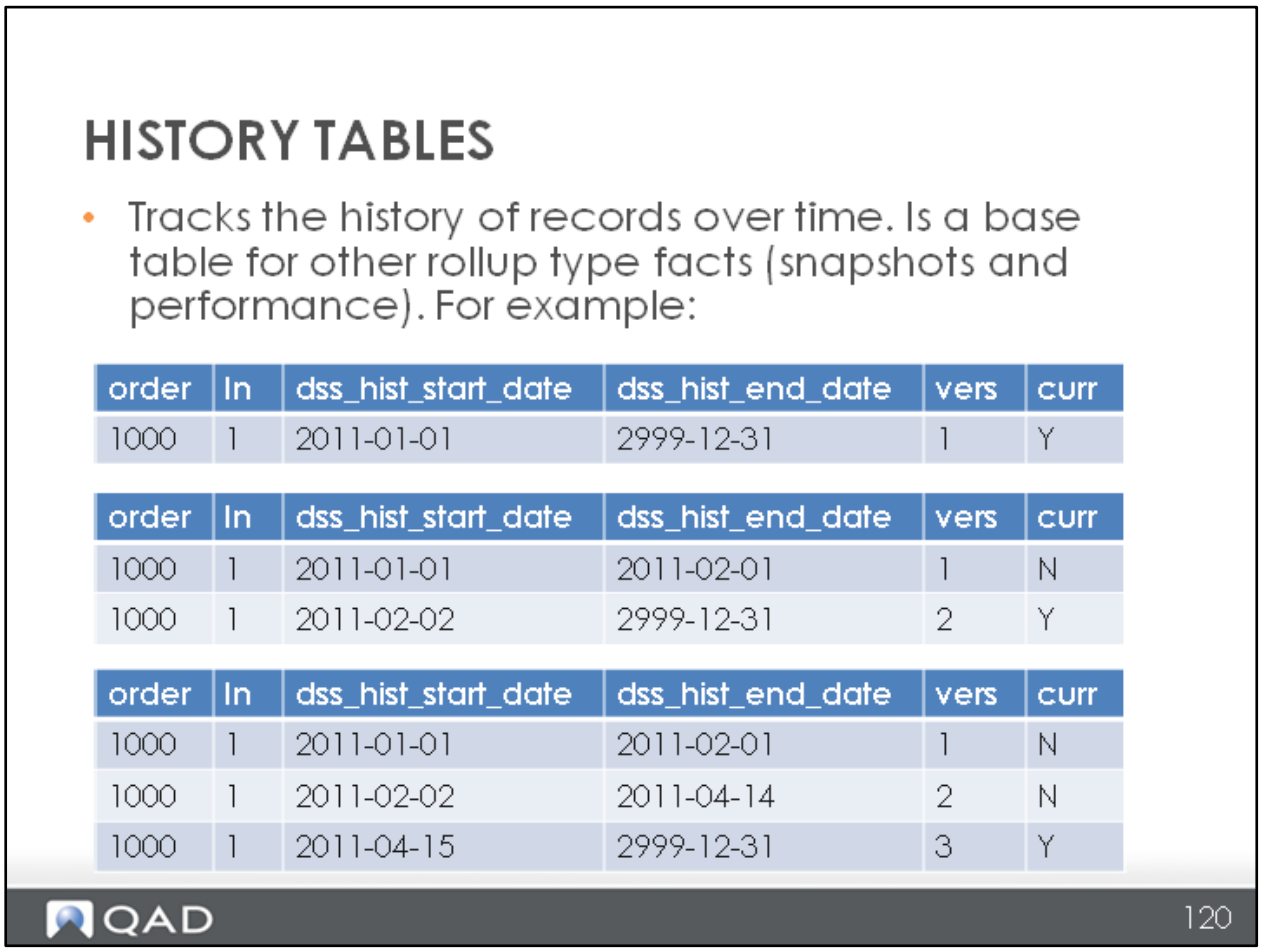
HISTORY TABLES



HISTORY TABLES

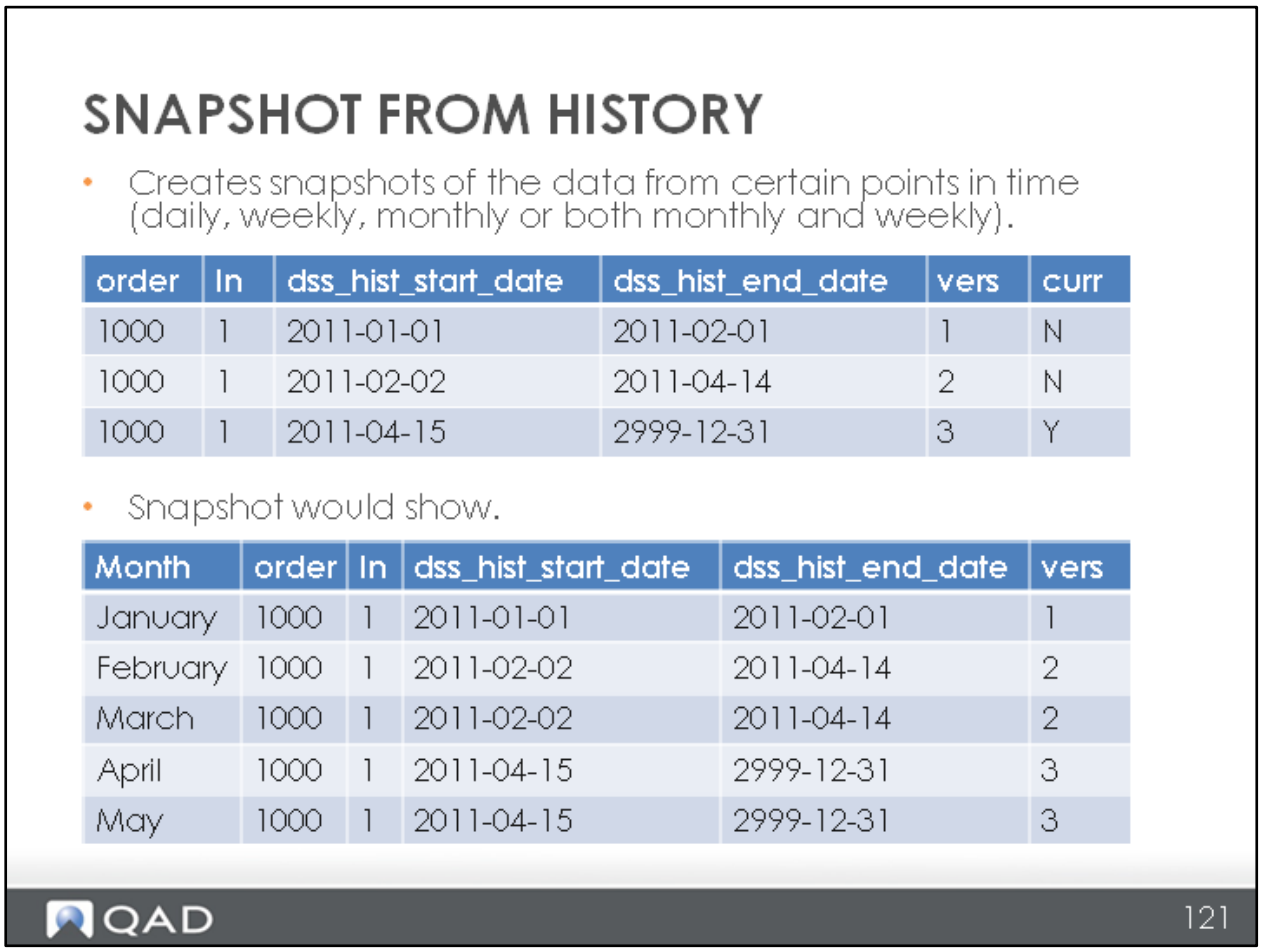


HISTORY TABLES

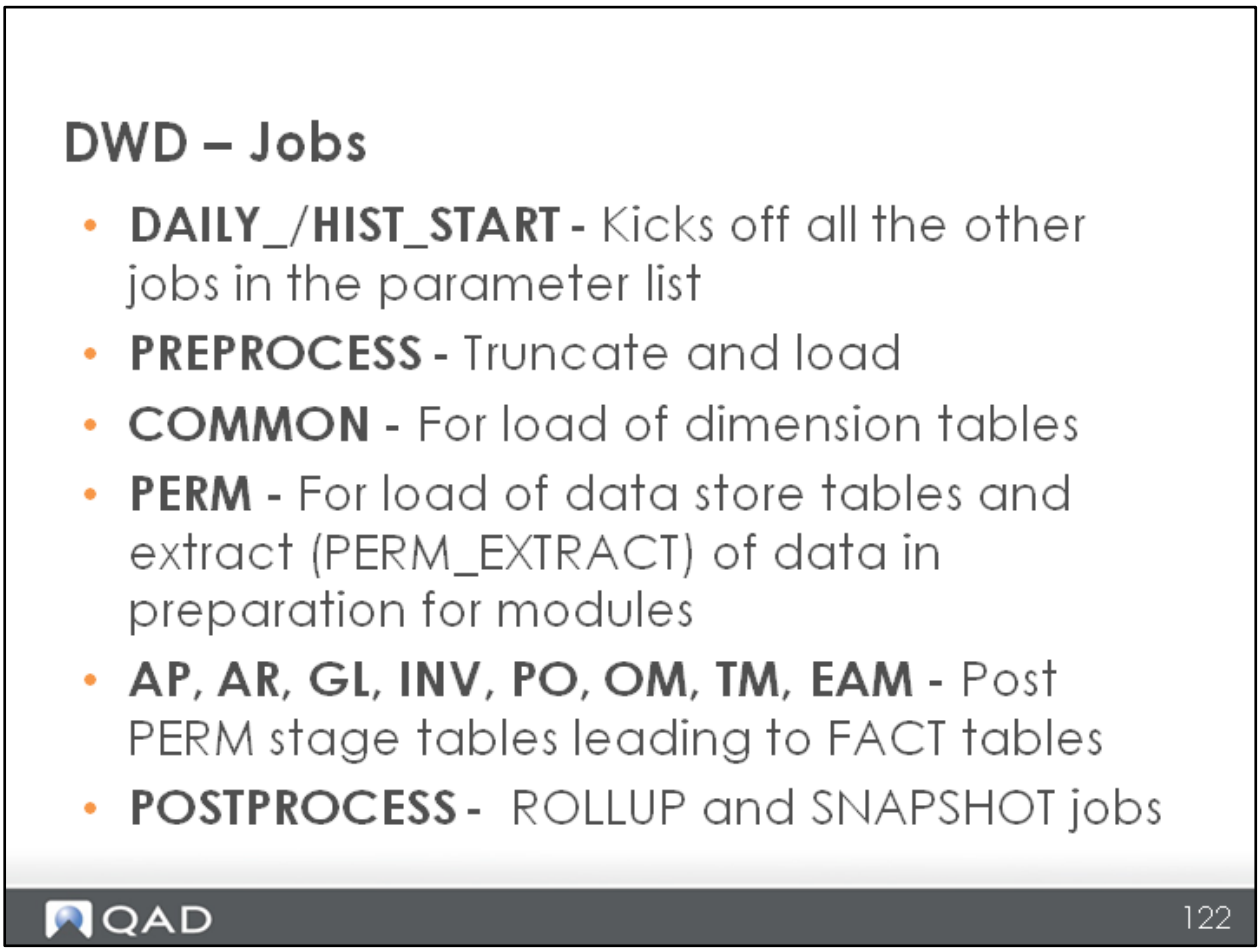


The customer then changes their mind again on April 15th. They change the due date of the record. The end date for the prior current record which is set to Y changes to current of N and the end date is set to the day prior to the new records begin date.

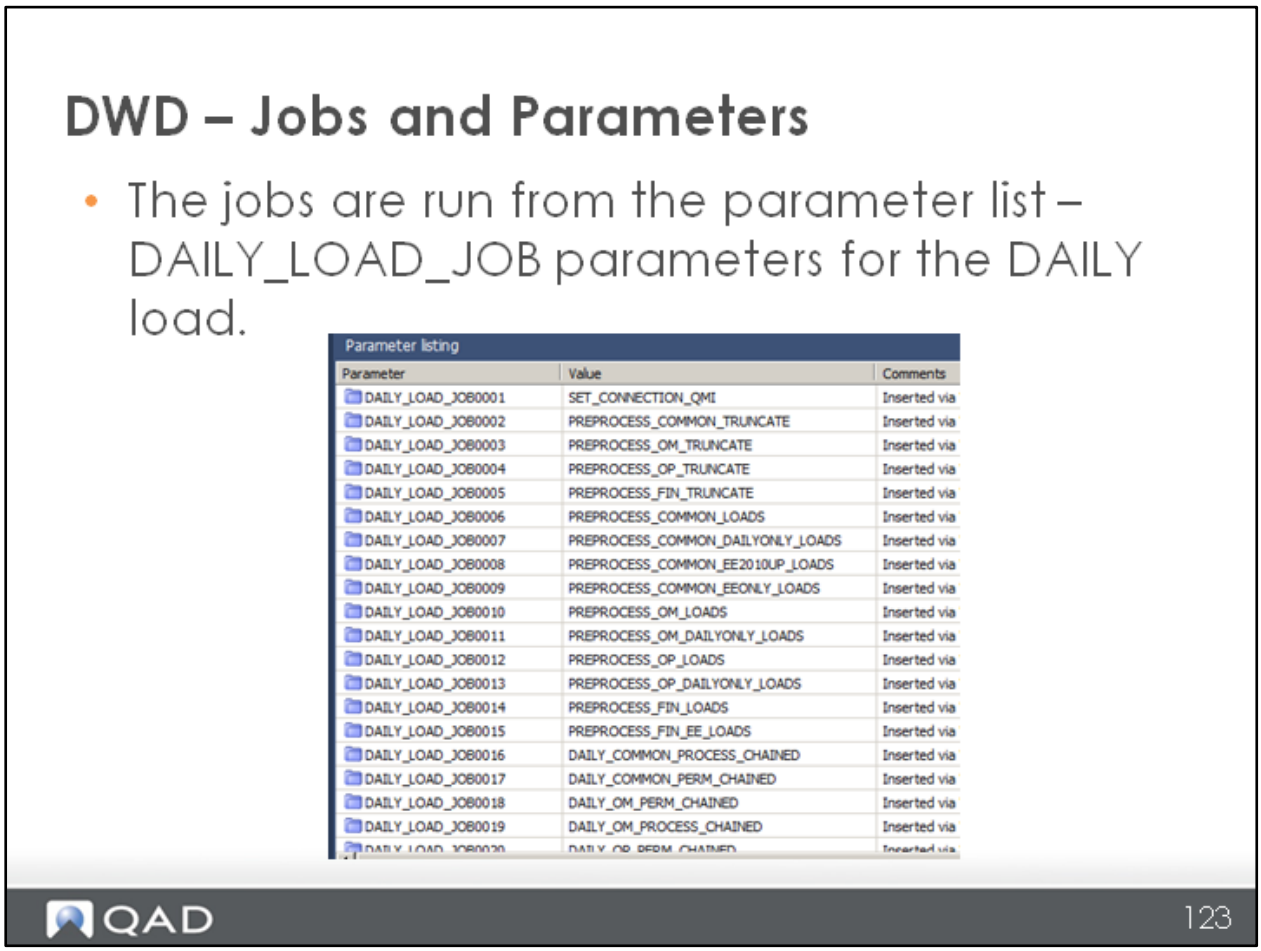
SNAPSHOT FROM HISTORY



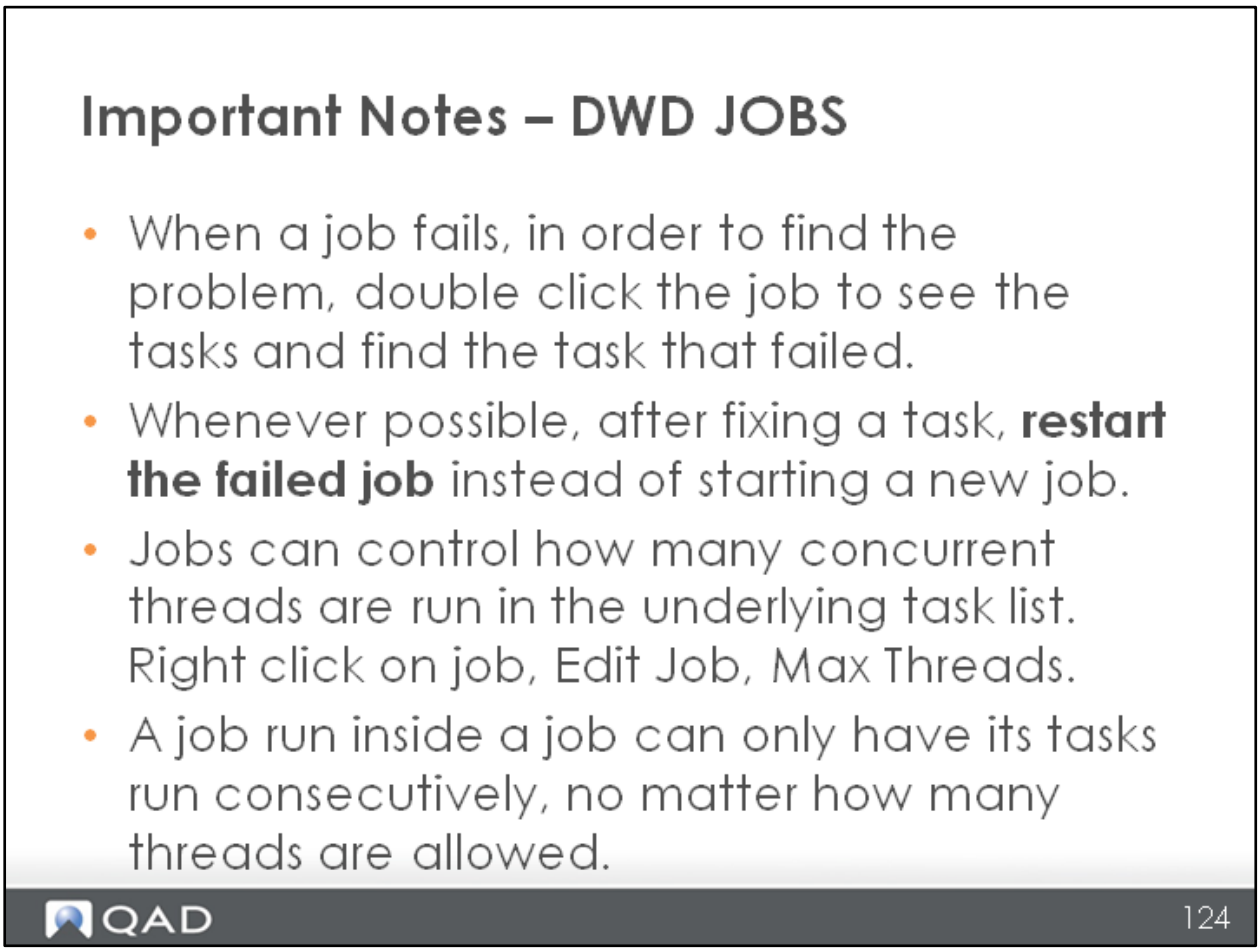
DWD – Jobs


DWD – Jobs
DAILY_/HIST_START - Kicks off all the other jobs in the parameter list
PREPROCESS - Truncate and load
COMMON - For load of dimension tables
PERM - For load of data store tables and extract (PERM_EXTRACT) of data in preparation for modules
AP, AR, GL, INV, PO, OM, TM, EAM - Post PERM stage tables leading to FACT tables
POSTPROCESS - ROLLUP and SNAPSHOT jobs
QAD
122

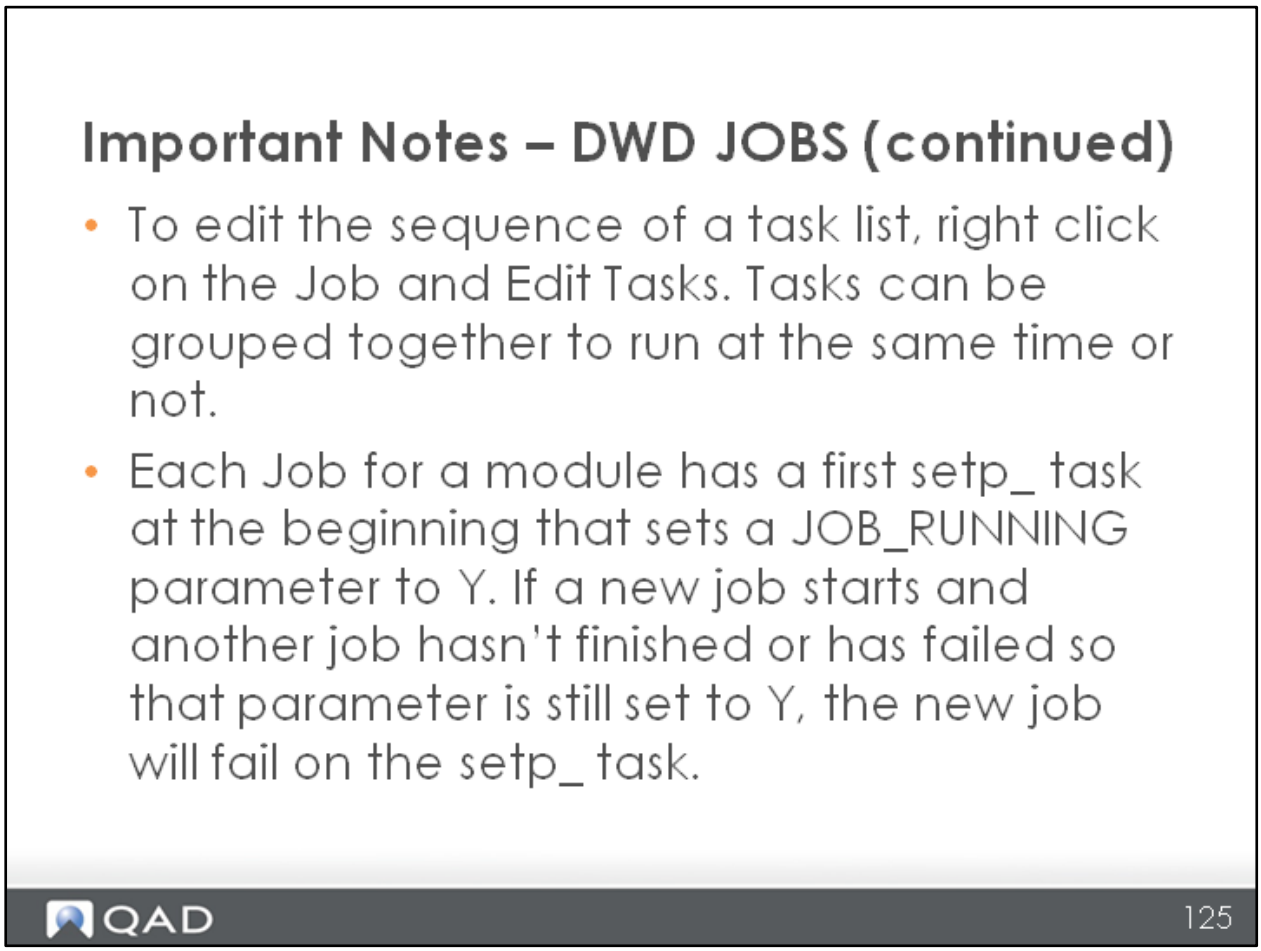
DWD – Jobs and Parameters



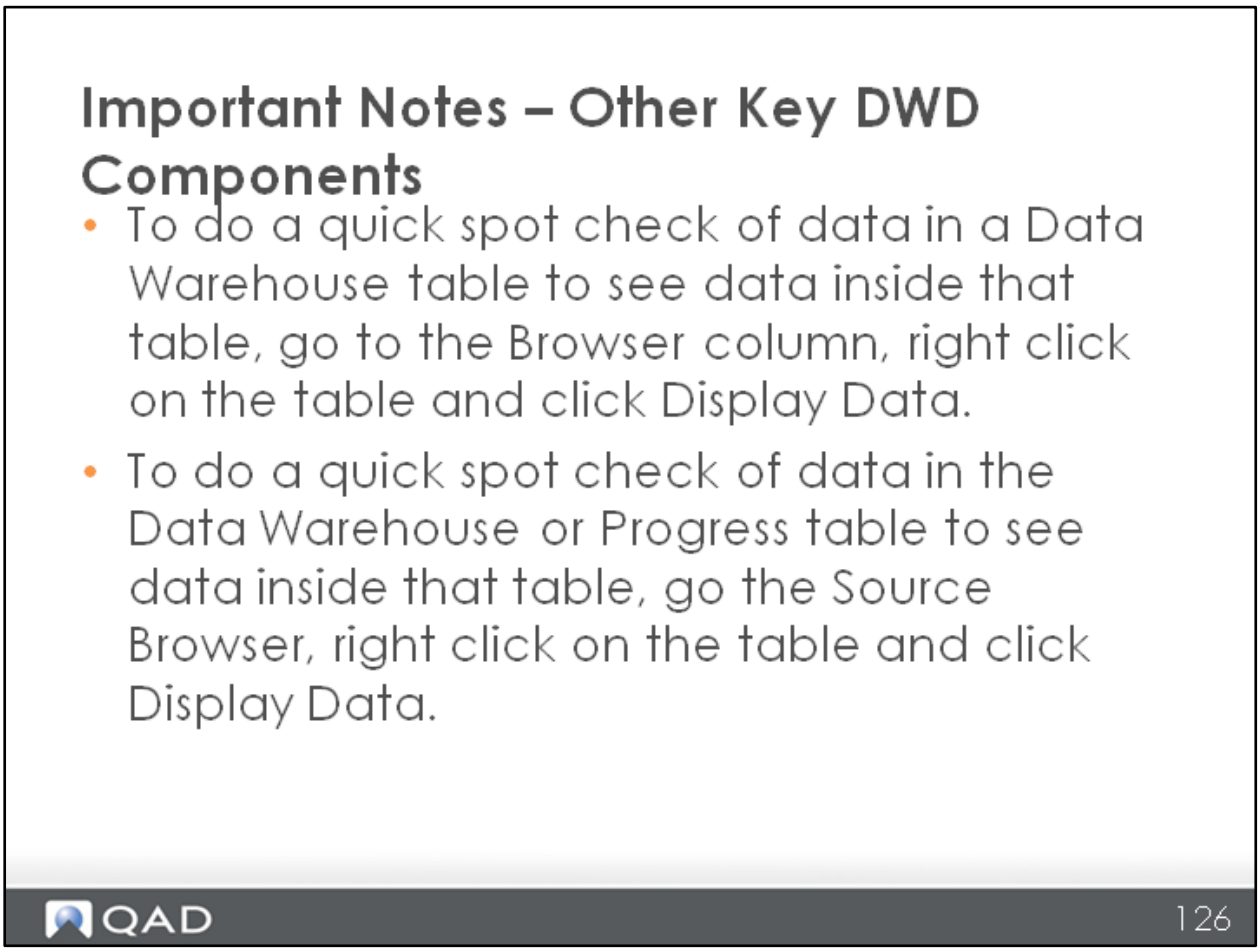
Important Notes – DWD JOBS



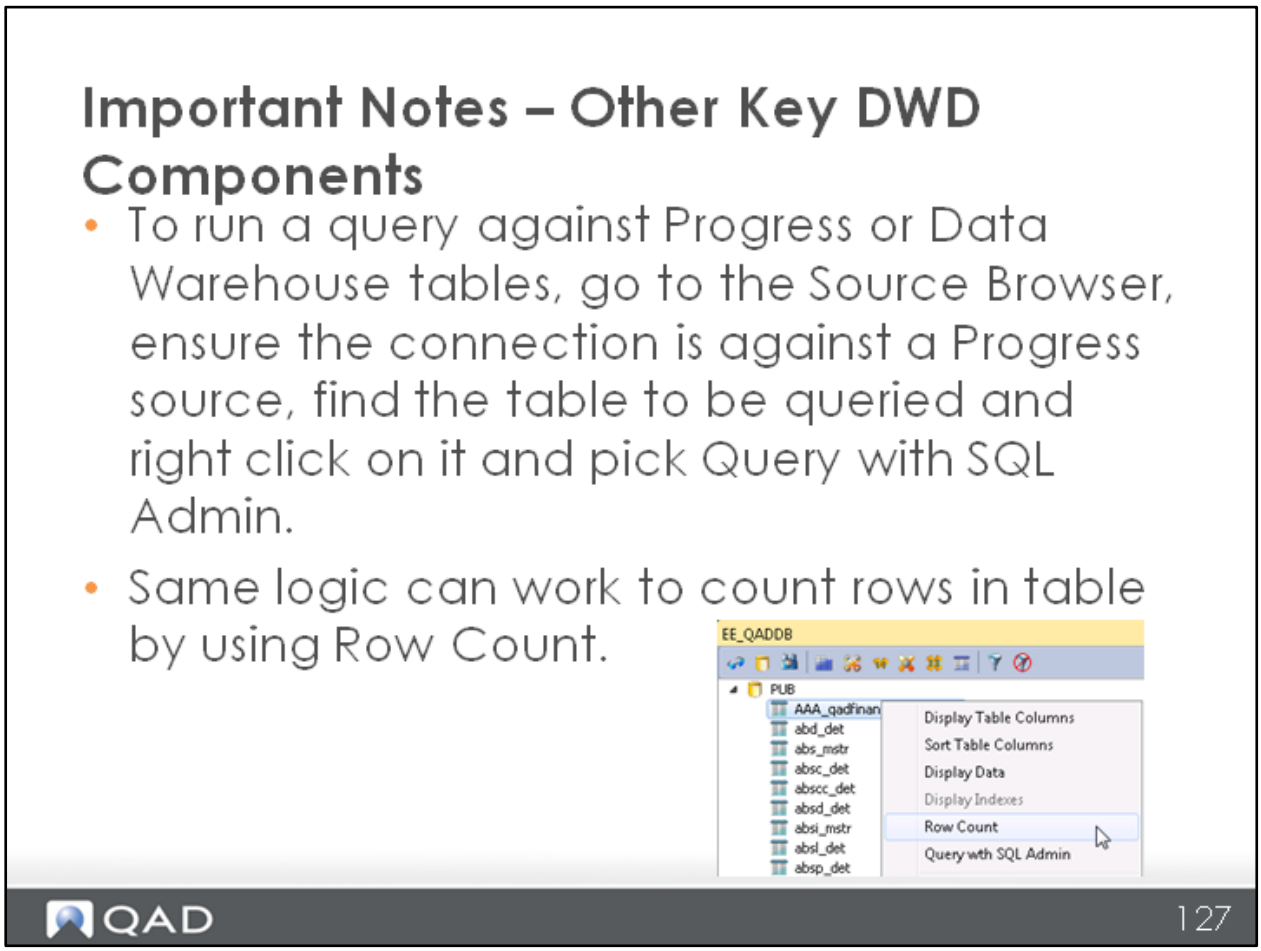
Important Notes – DWD JOBS (continued)



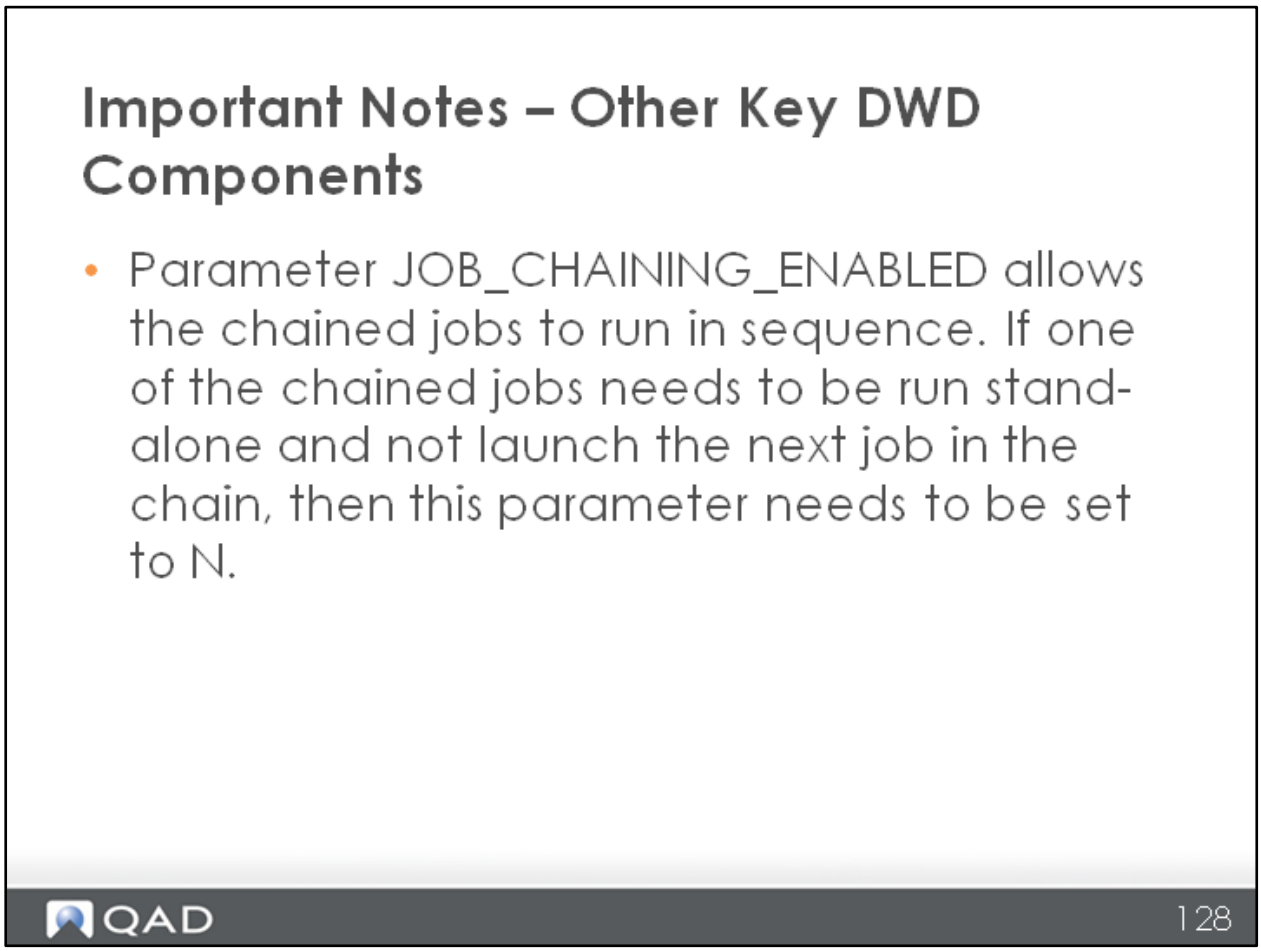
Important Notes – Other Key DWD Components



Important Notes – Other Key DWD Components



Important Notes – Other Key DWD Components

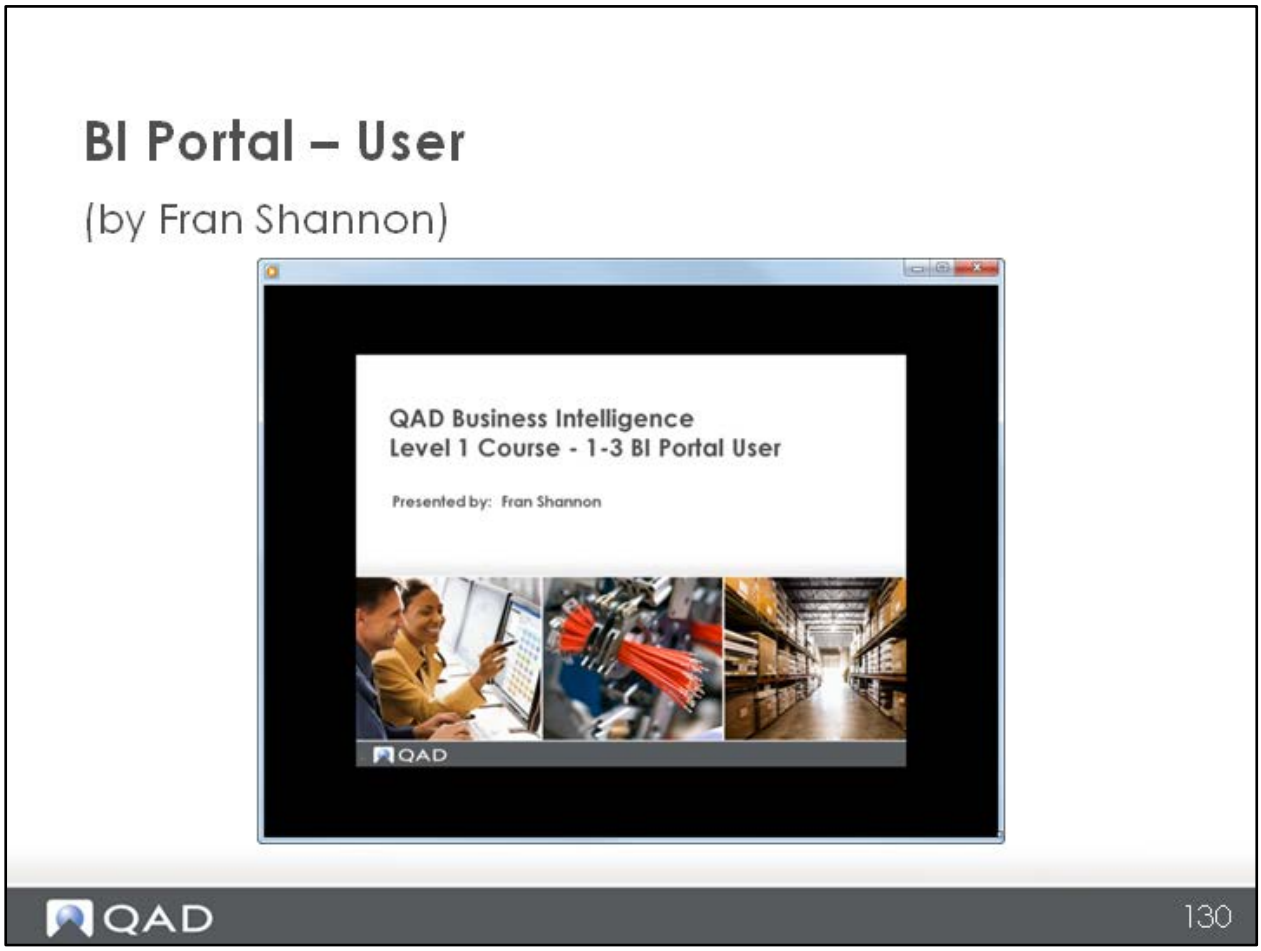


BI Portal – Administration



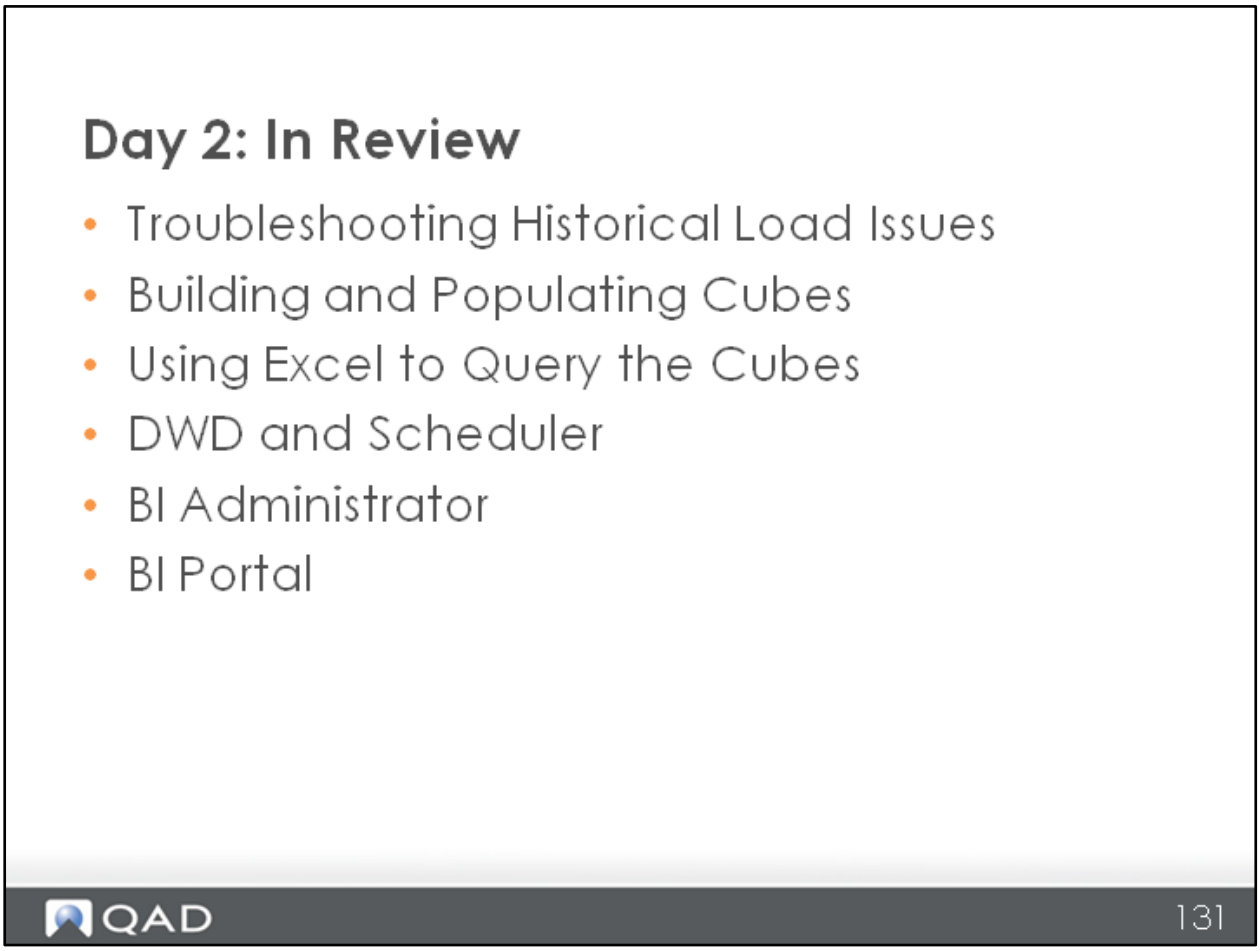
Show Fran's video about BI Portal Administration. https://share.qad.com/gm/document-1.9.727125/BI1-9%20BI%20Portal%20Administrator.wmv

BI Portal – User



Show Fran's video about Portal Users. https://share.qad.com/gm/document-1.9.788453/BI1-3%20BI%20Portal%20User.wmv

Day 2: In Review



Parking Lot Review ?



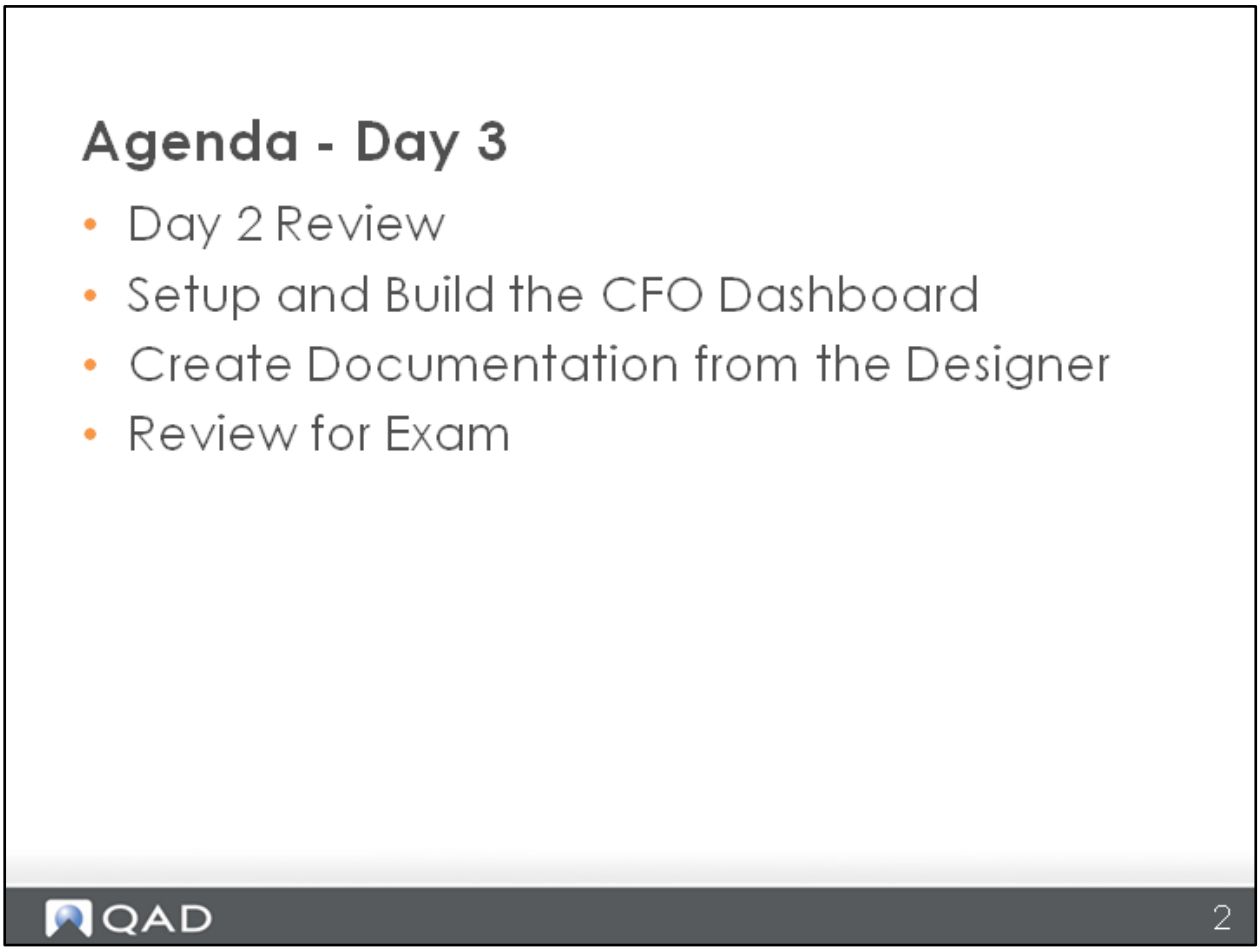
CHAPTER 3

QAD BI Technical Level 1 Certification – Part 3

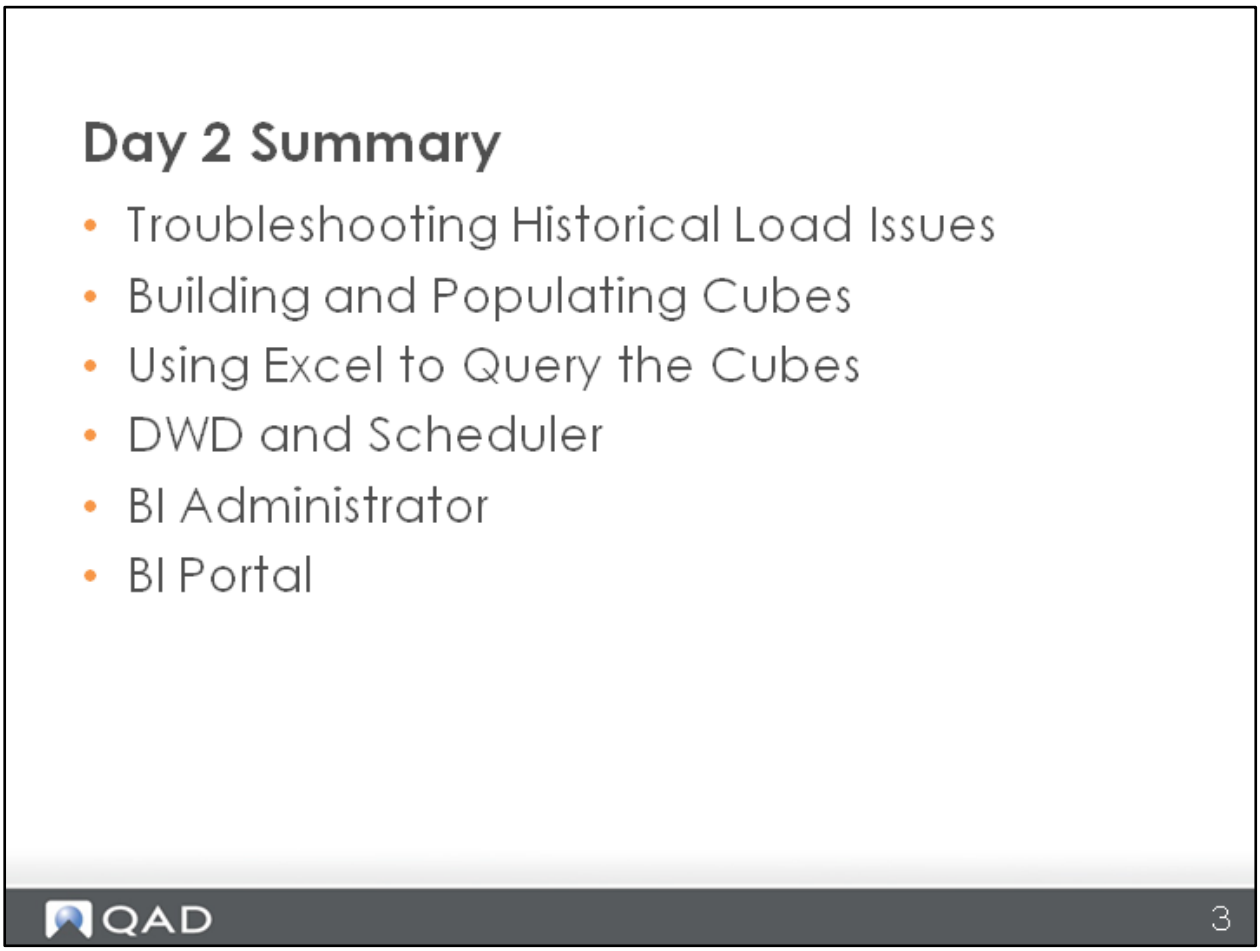
QAD BI v3 - Technical Level 1 Certification - Part 3



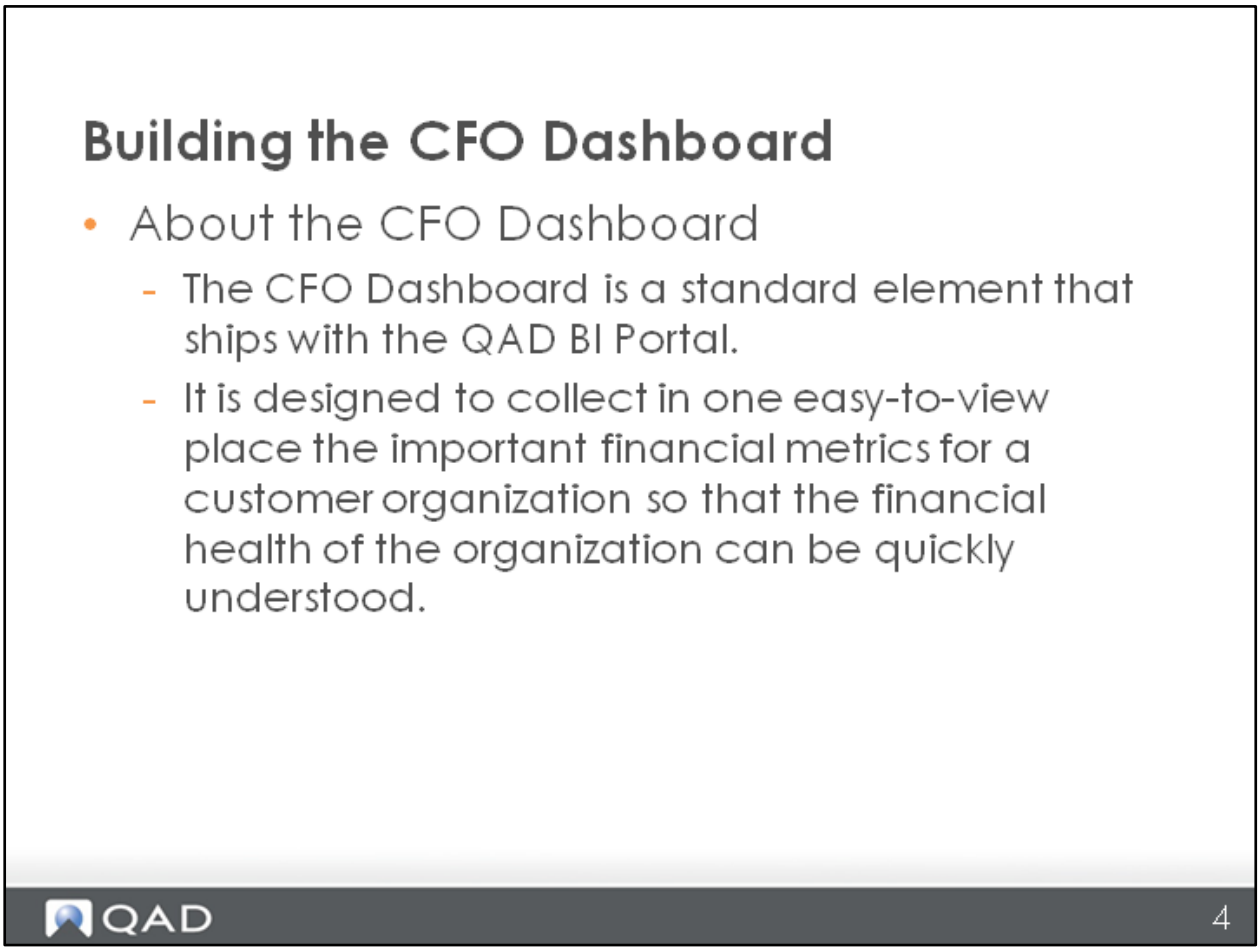
Agenda - Day 3


Agenda - Day 3
Day 2 Review
Setup and Build the CFO Dashboard
Create Documentation from the Designer
Review for Exam
QAD
2

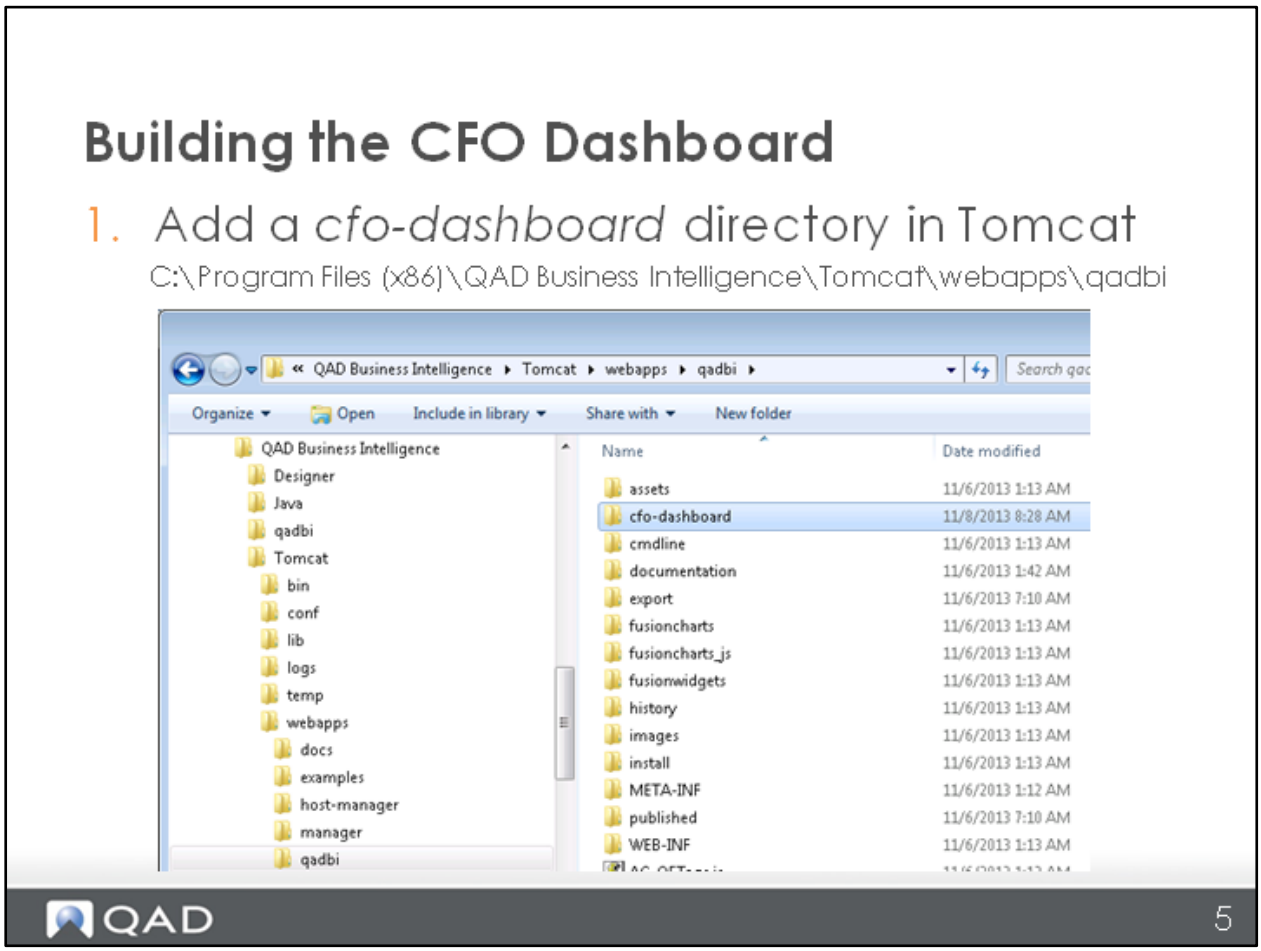
Day 2 Summary



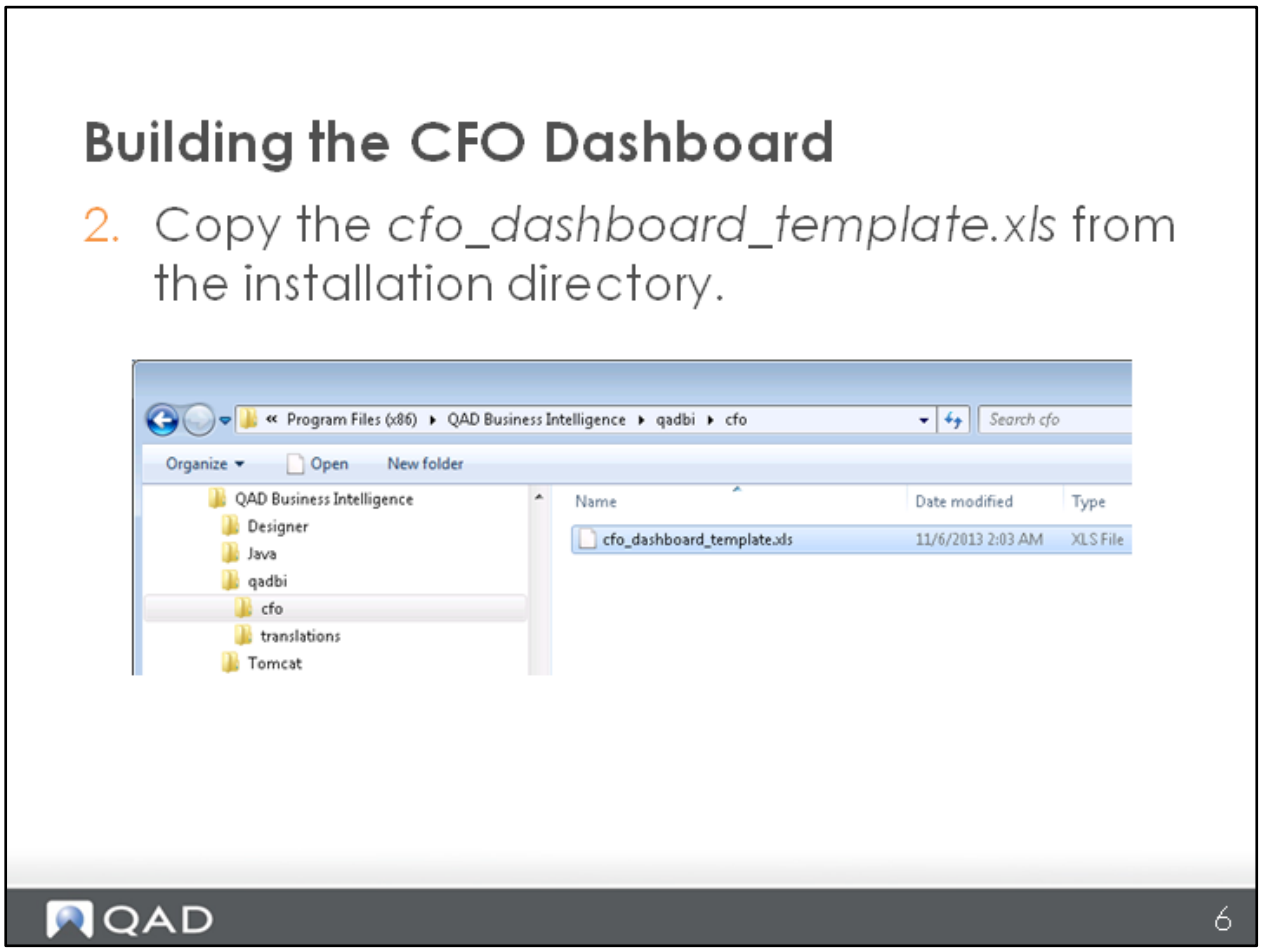
Building the CFO Dashboard



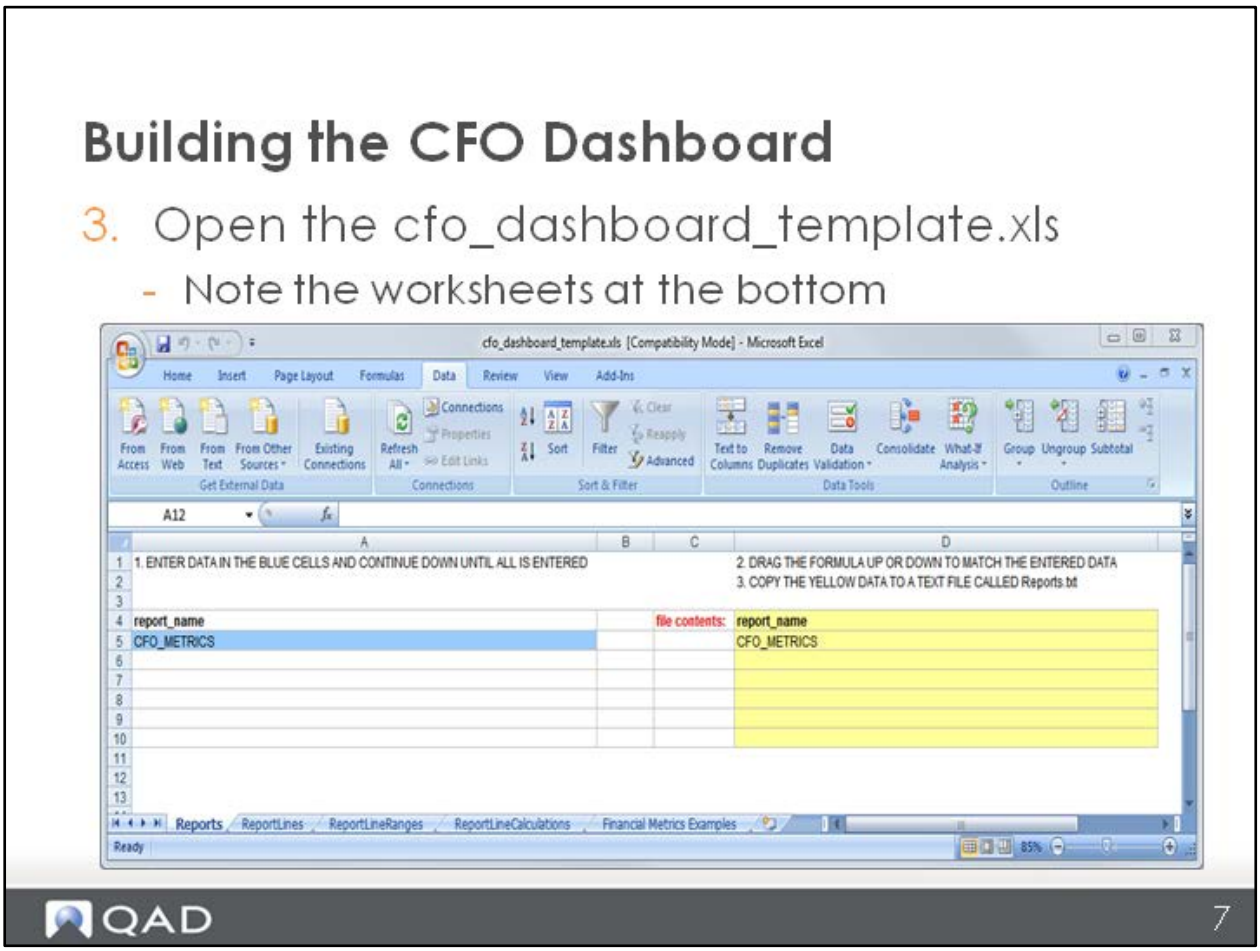
Building the CFO Dashboard



Building the CFO Dashboard

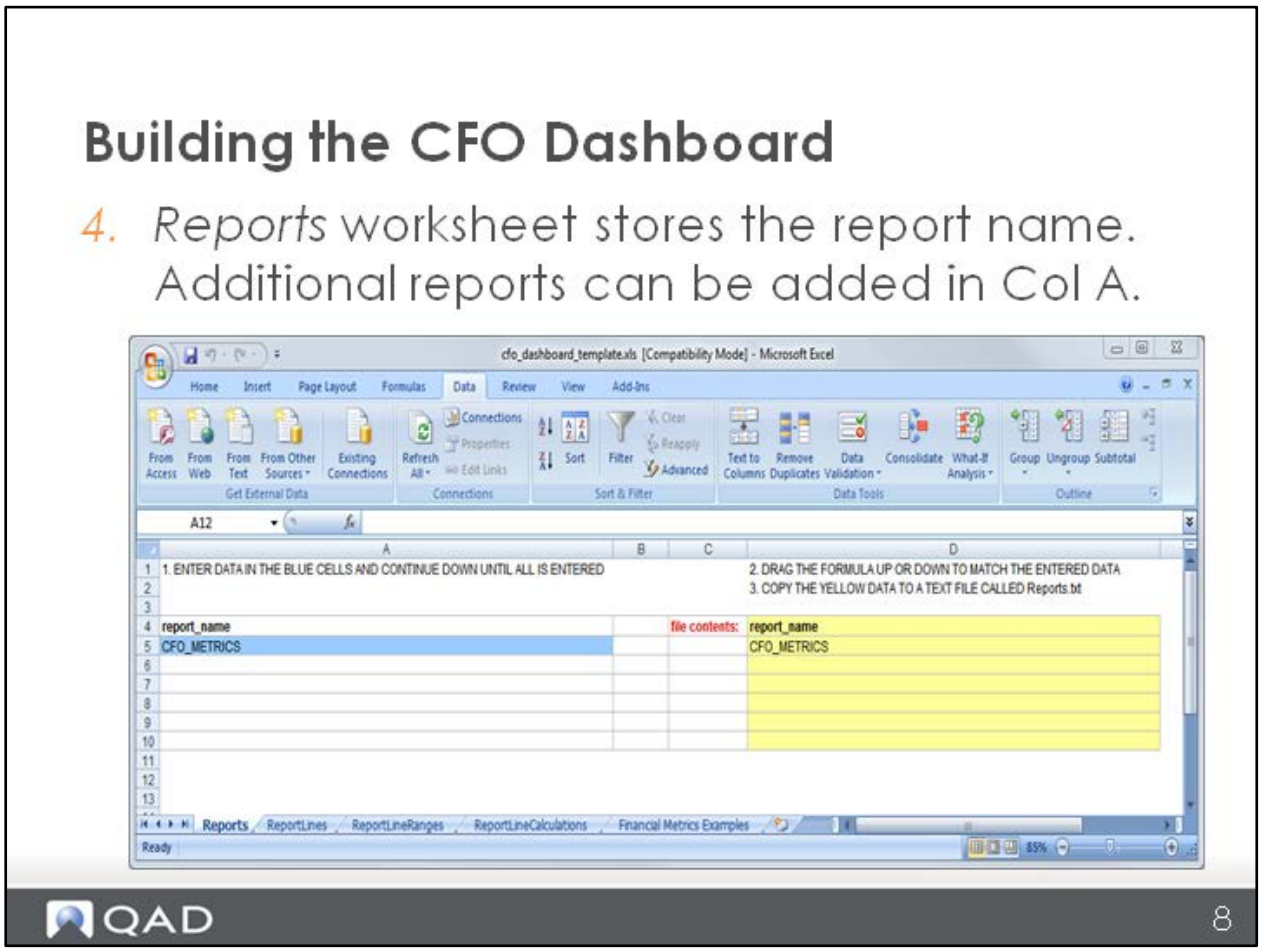


Building the CFO Dashboard

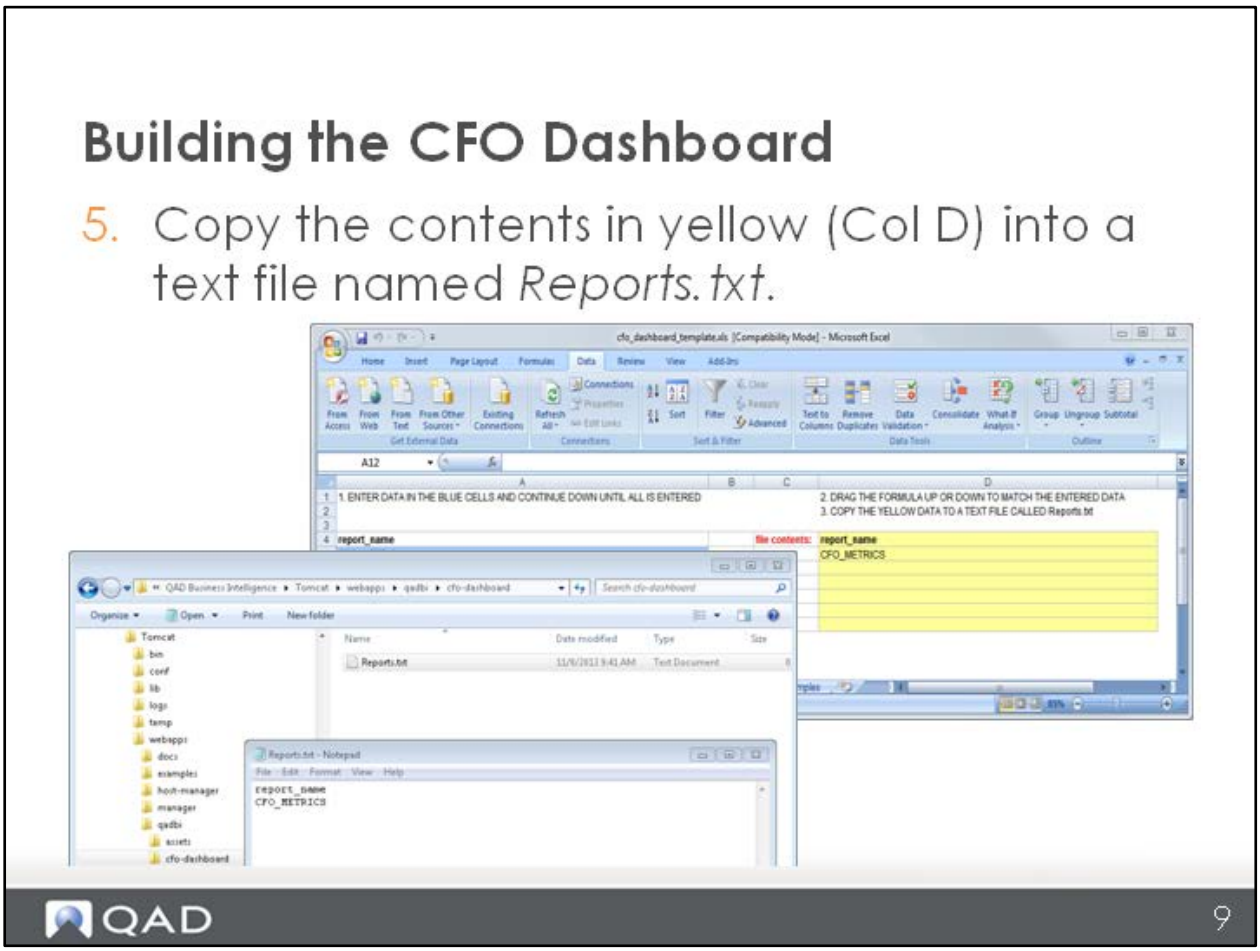


Each worksheet in the template represents a different level of the dashboard.

Building the CFO Dashboard

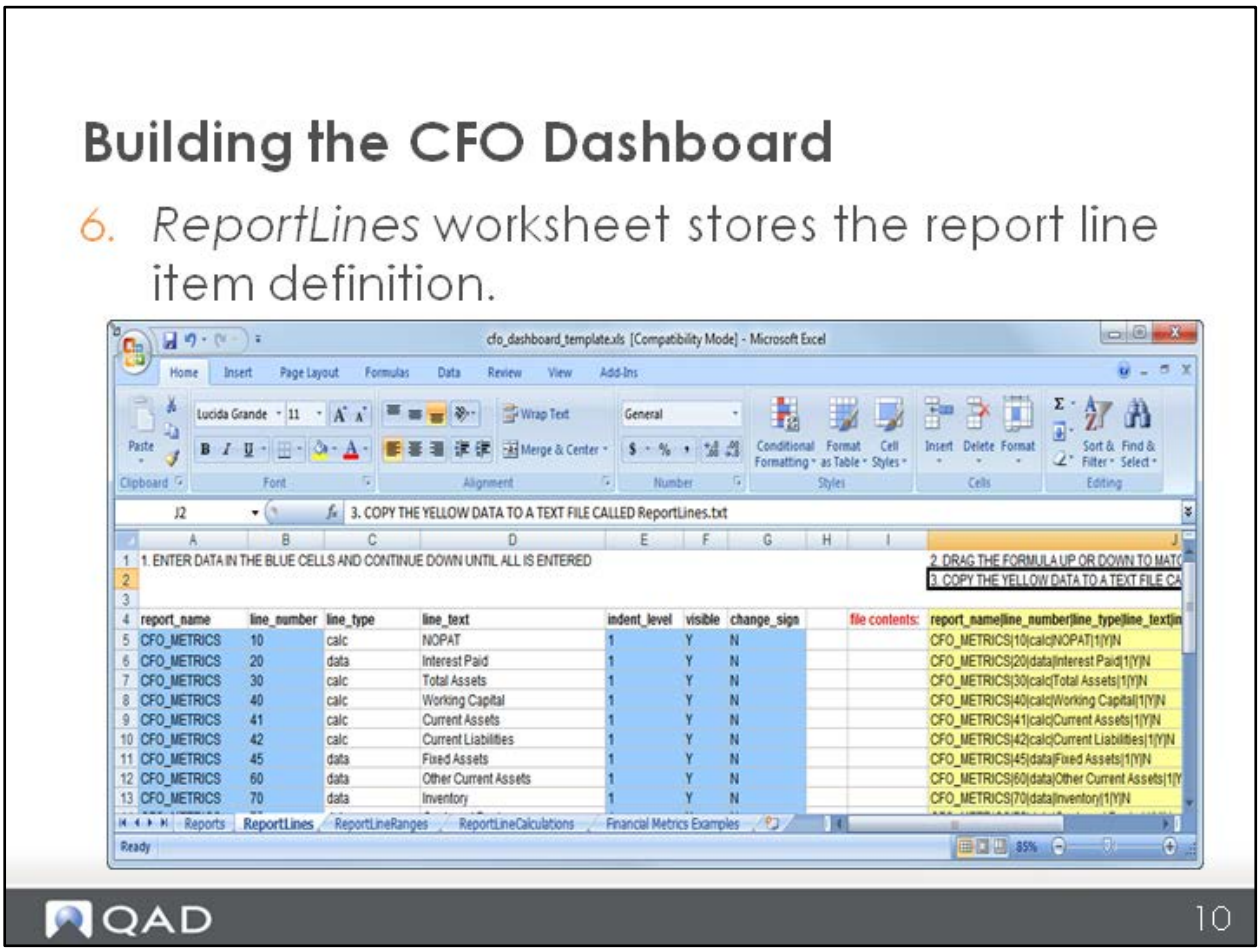


Building the CFO Dashboard

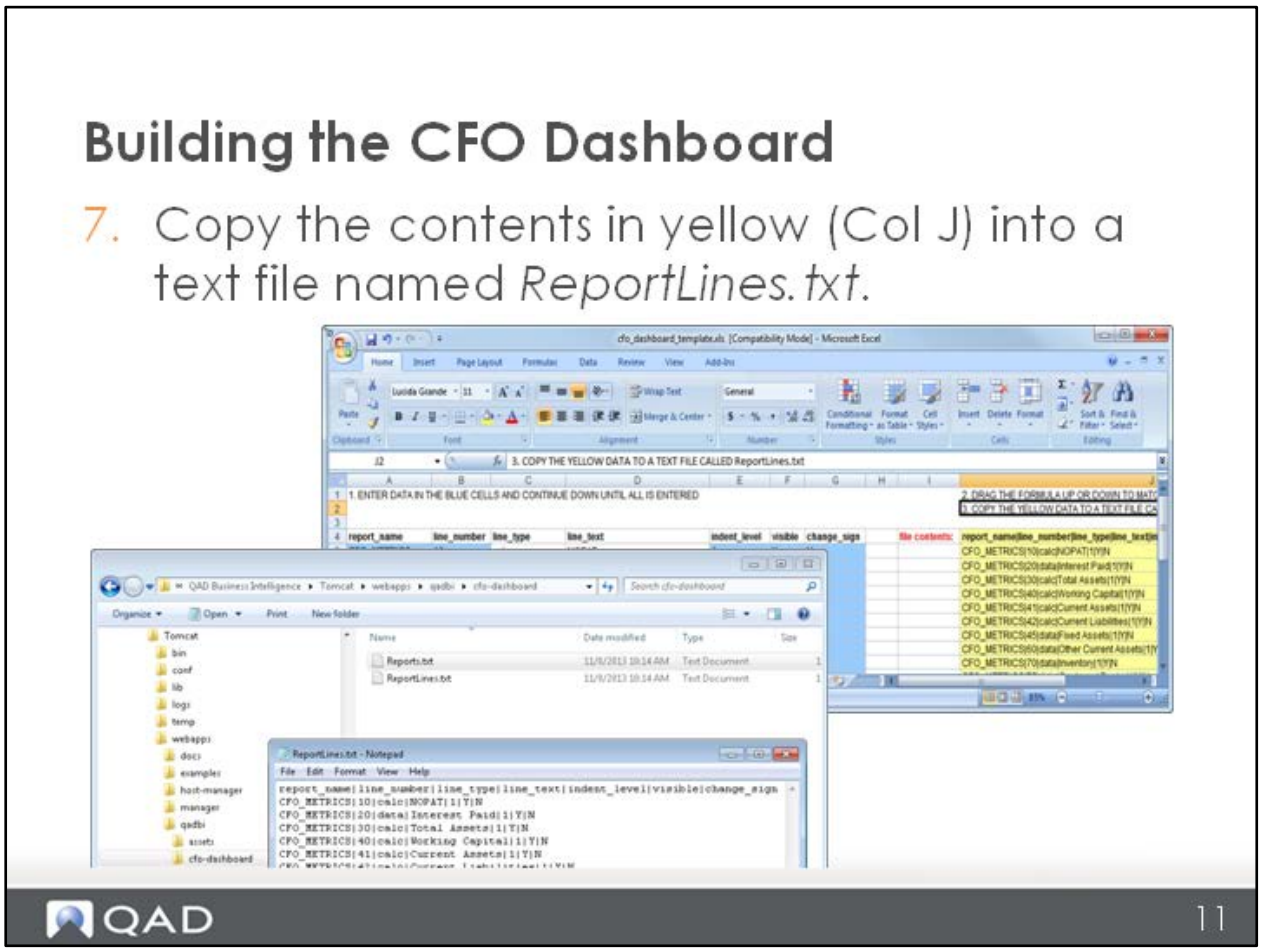


When all reports to be generated are listed, copy all the contents in Yellow starting at D4 down until the last entry in the D column. Paste the contents into notepad and save the file as Report.txt into the cfo-dashboard folder you just created. Make sure to not leave any spaces or carriage returns at the end of the document.

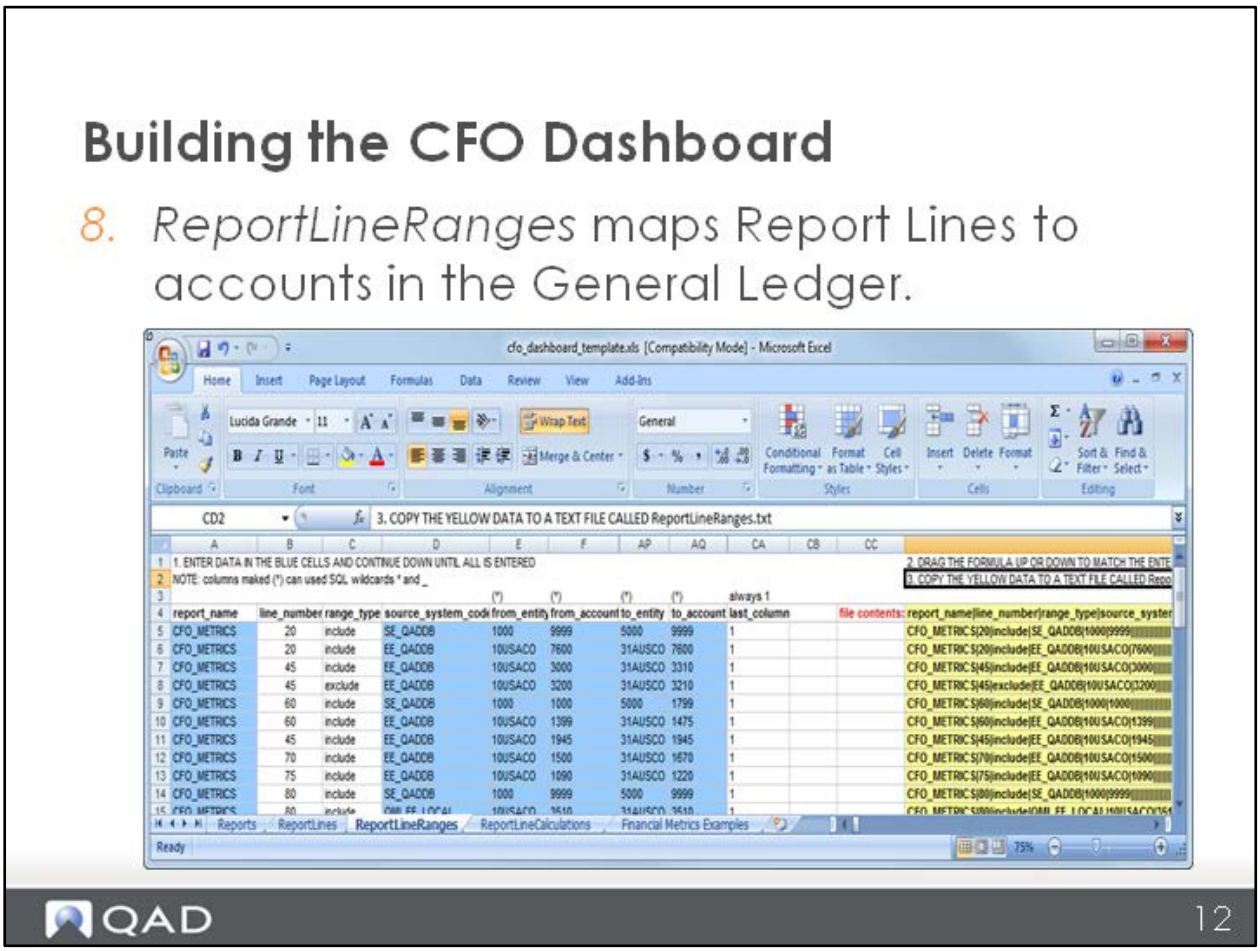
Building the CFO Dashboard



Building the CFO Dashboard

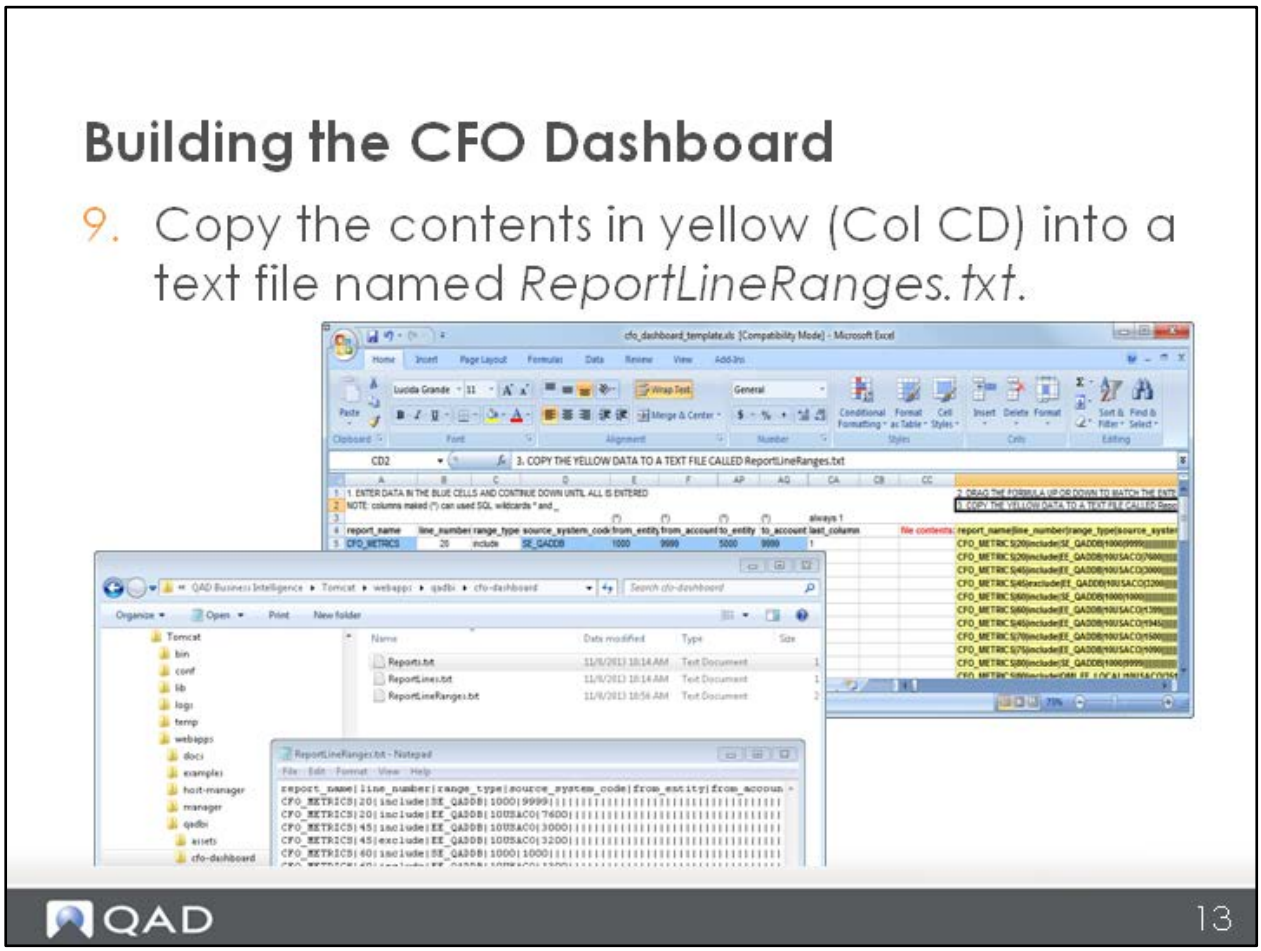


Building the CFO Dashboard

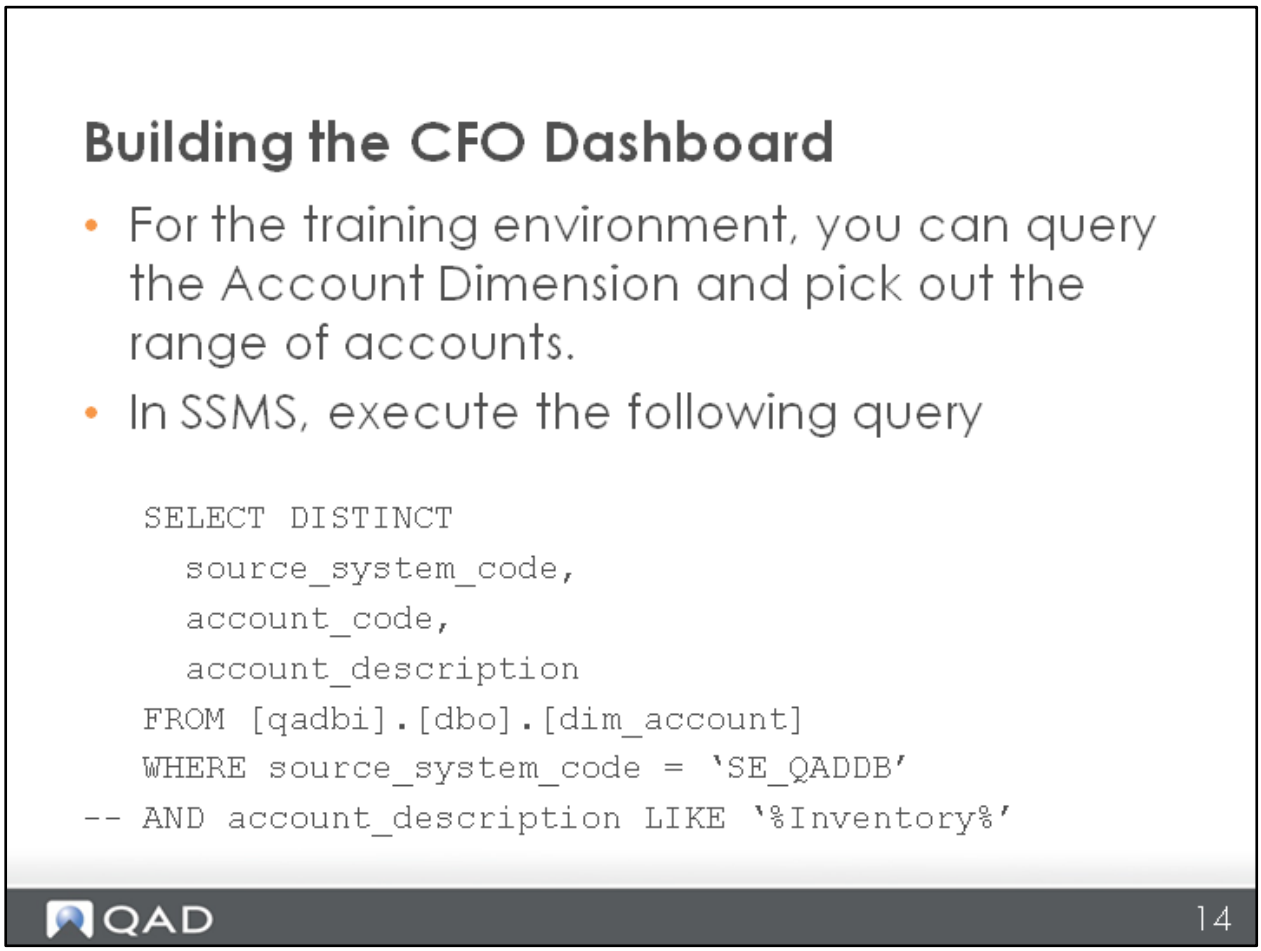


By default, the report values are already listed, but the **source_system_code** and the relevant range values will need to be modified to the correct values. This information should be provided by someone, normally from the Finance Department, who understands their Chart of Accounts.

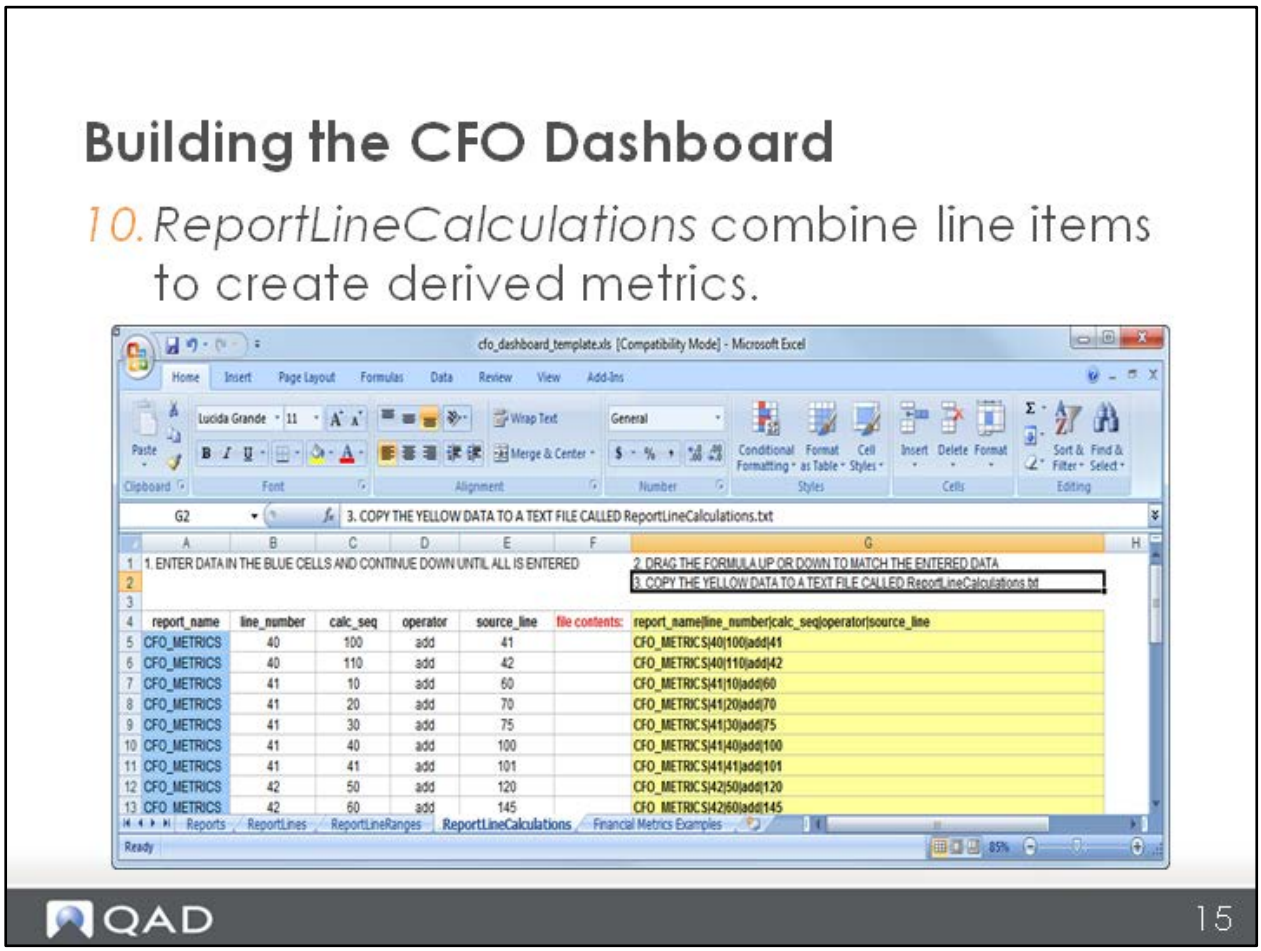
Building the CFO Dashboard



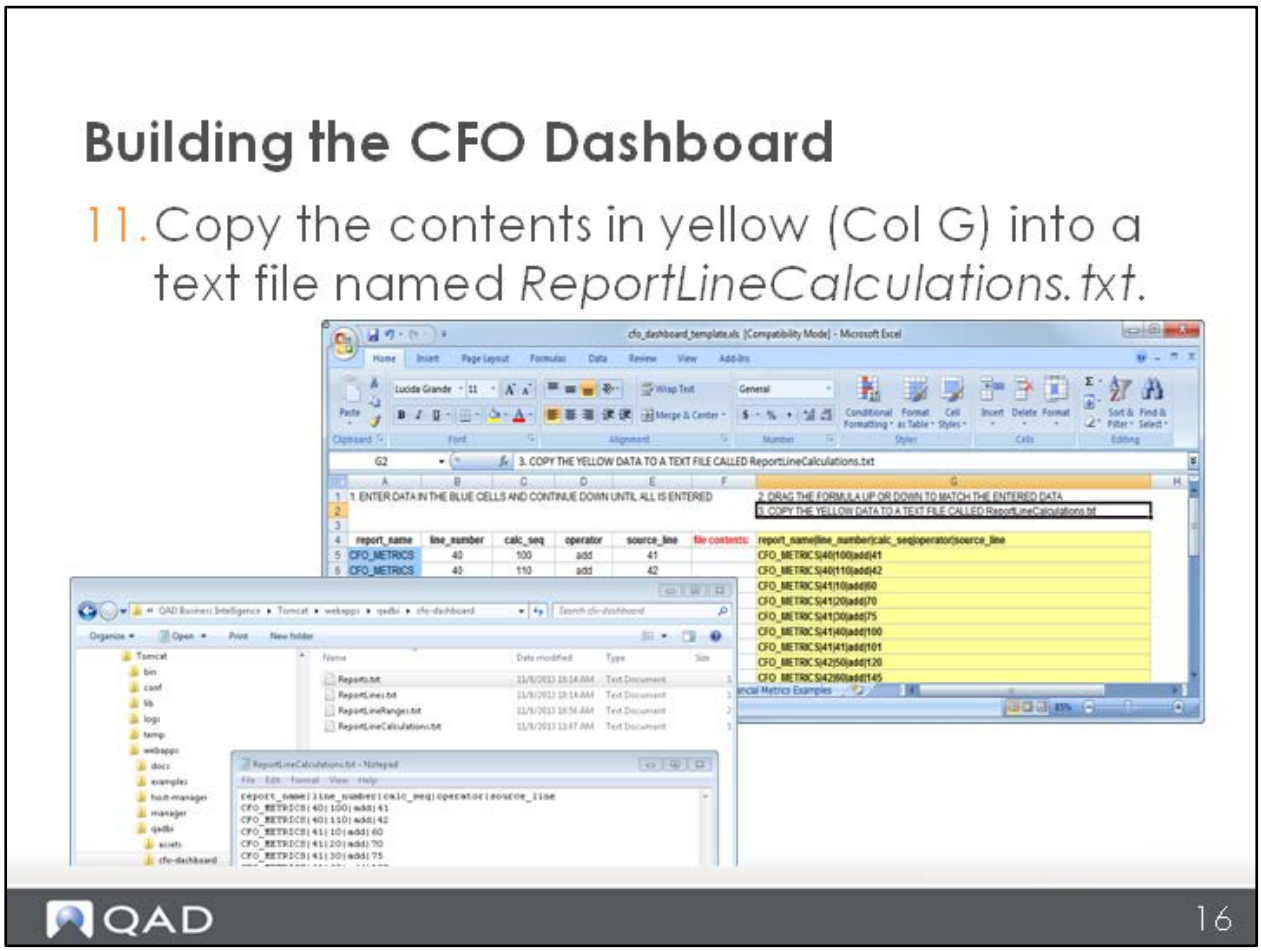
Building the CFO Dashboard



Building the CFO Dashboard



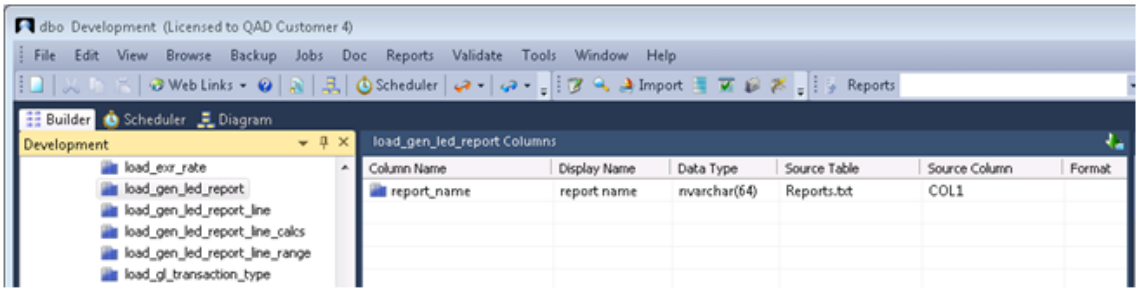
Building the CFO Dashboard



Building the CFO Dashboard

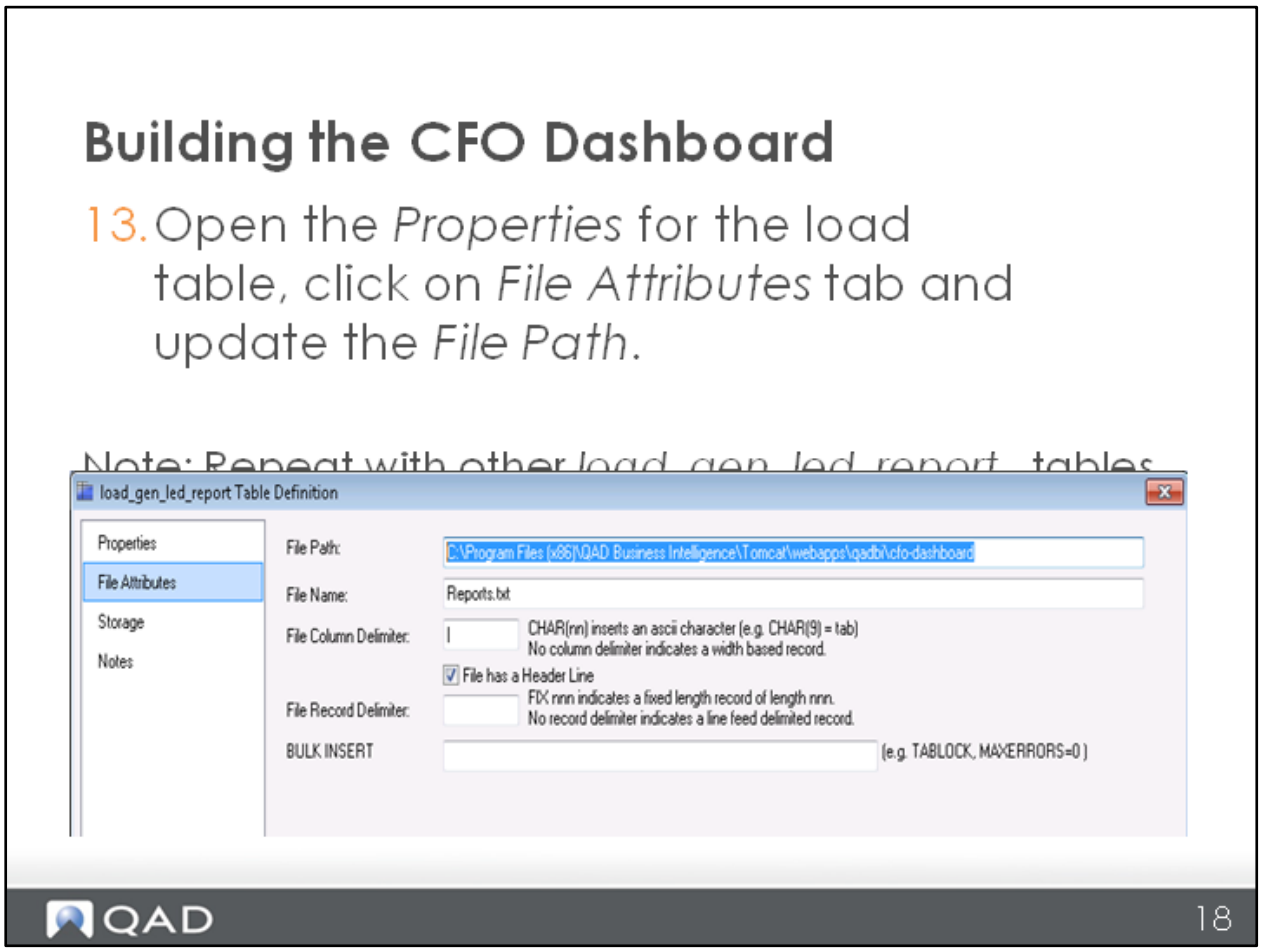
Building the CFO Dashboard

12. In DWD, map the text files to the load tables
    - load_gen_led_report
    - load_gen_led_report_line
    - load_gen_led_report_line_calcs
    - load_gen_led_report_line_range

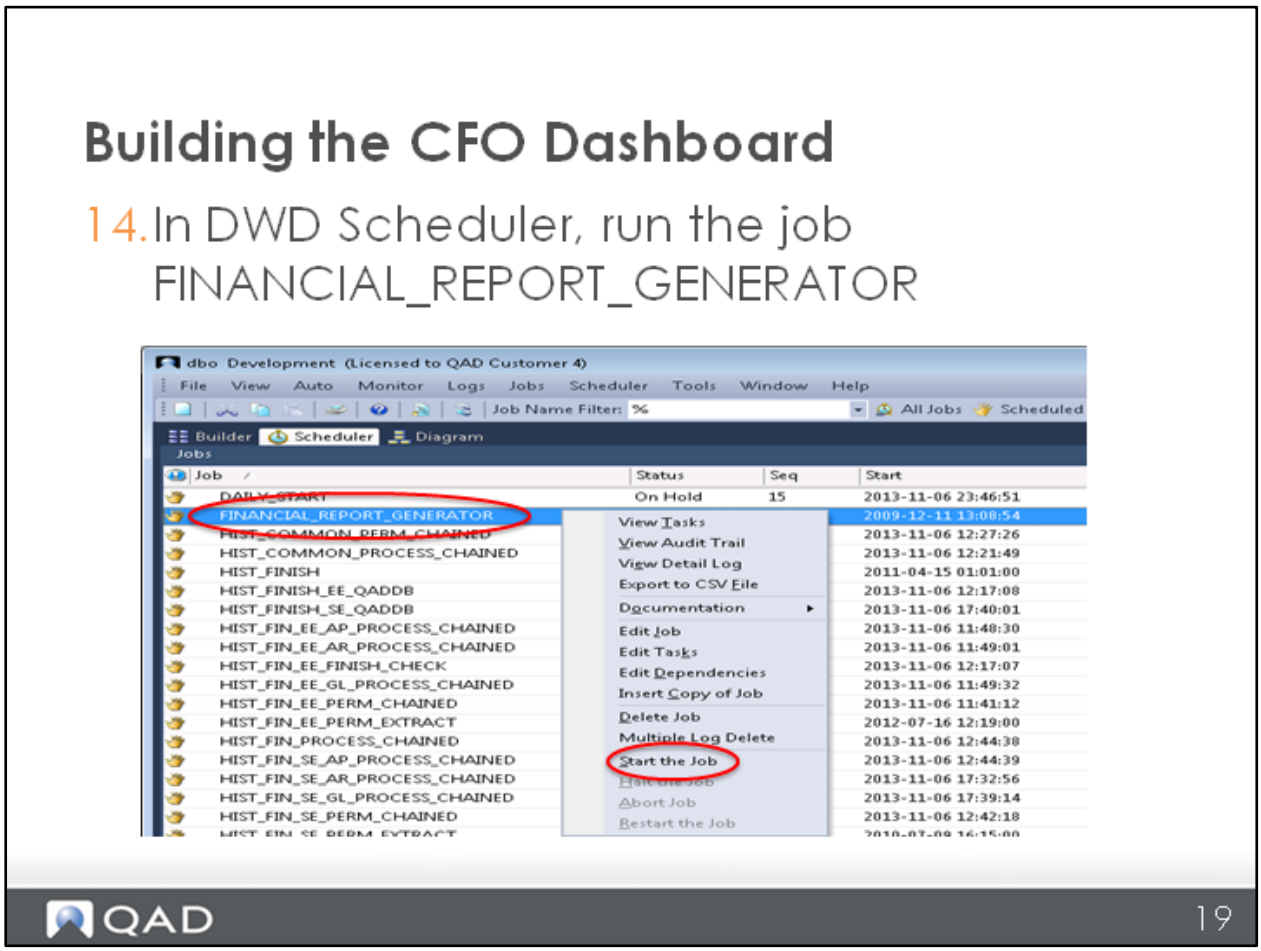


QAD 17

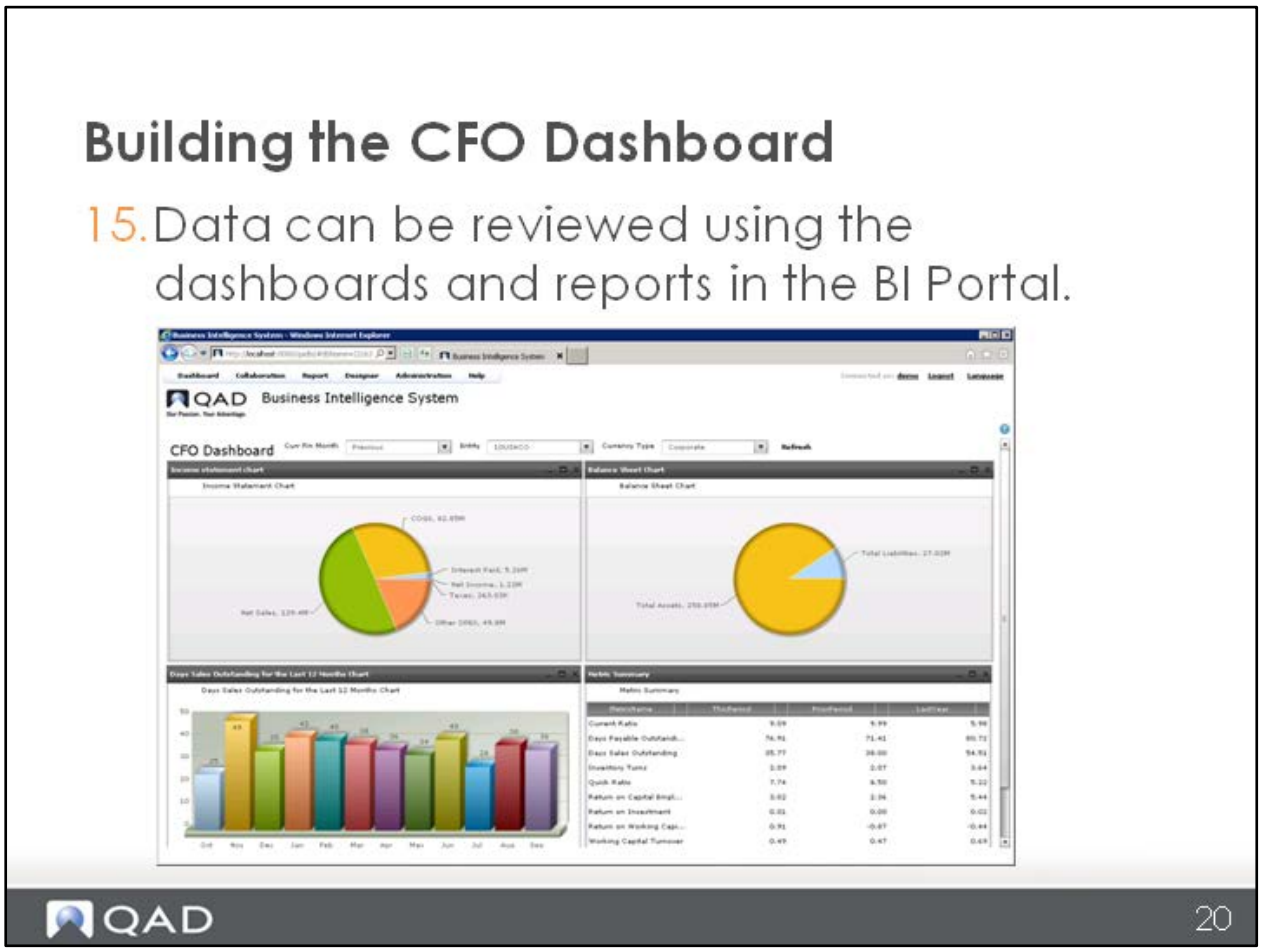
Building the CFO Dashboard



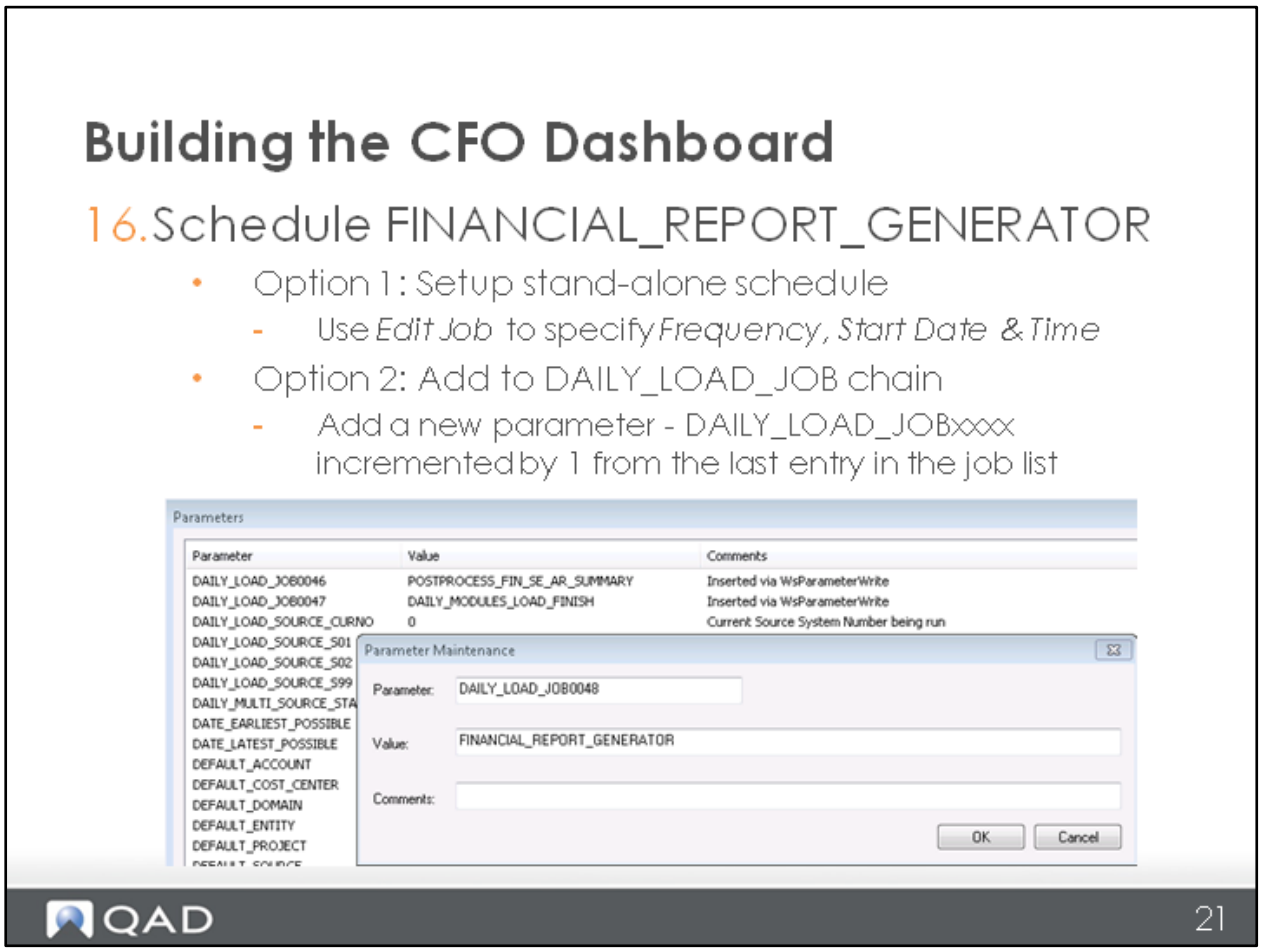
Building the CFO Dashboard



Building the CFO Dashboard



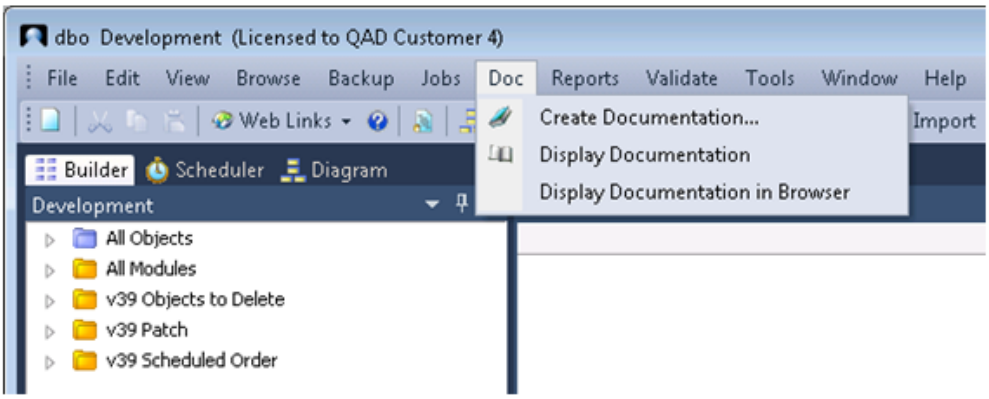
Building the CFO Dashboard



DWD – Creating Documentation

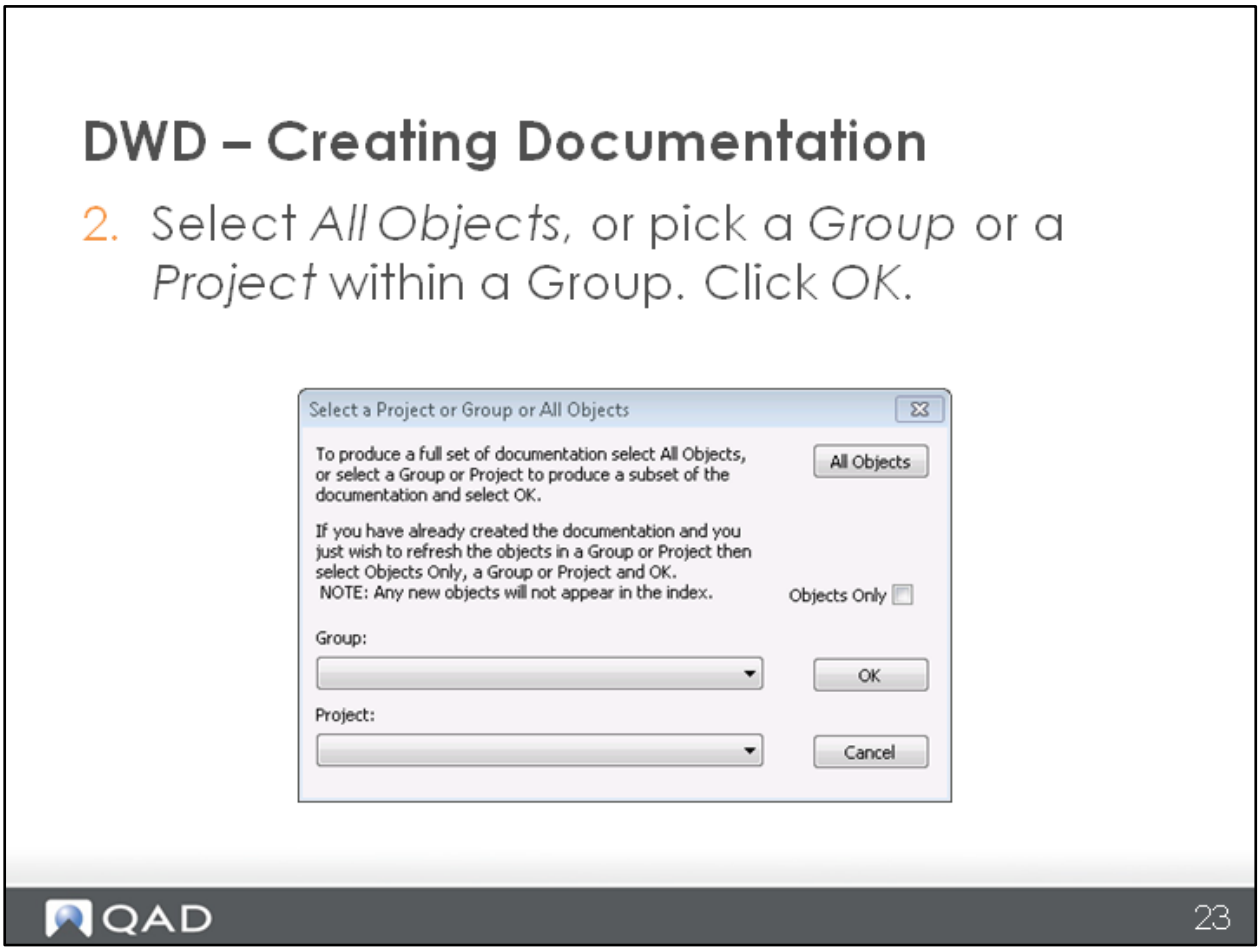
DWD – Creating Documentation

1. Click on *Builder* tab then from top menu select *Doc* → *Create Documentation.*



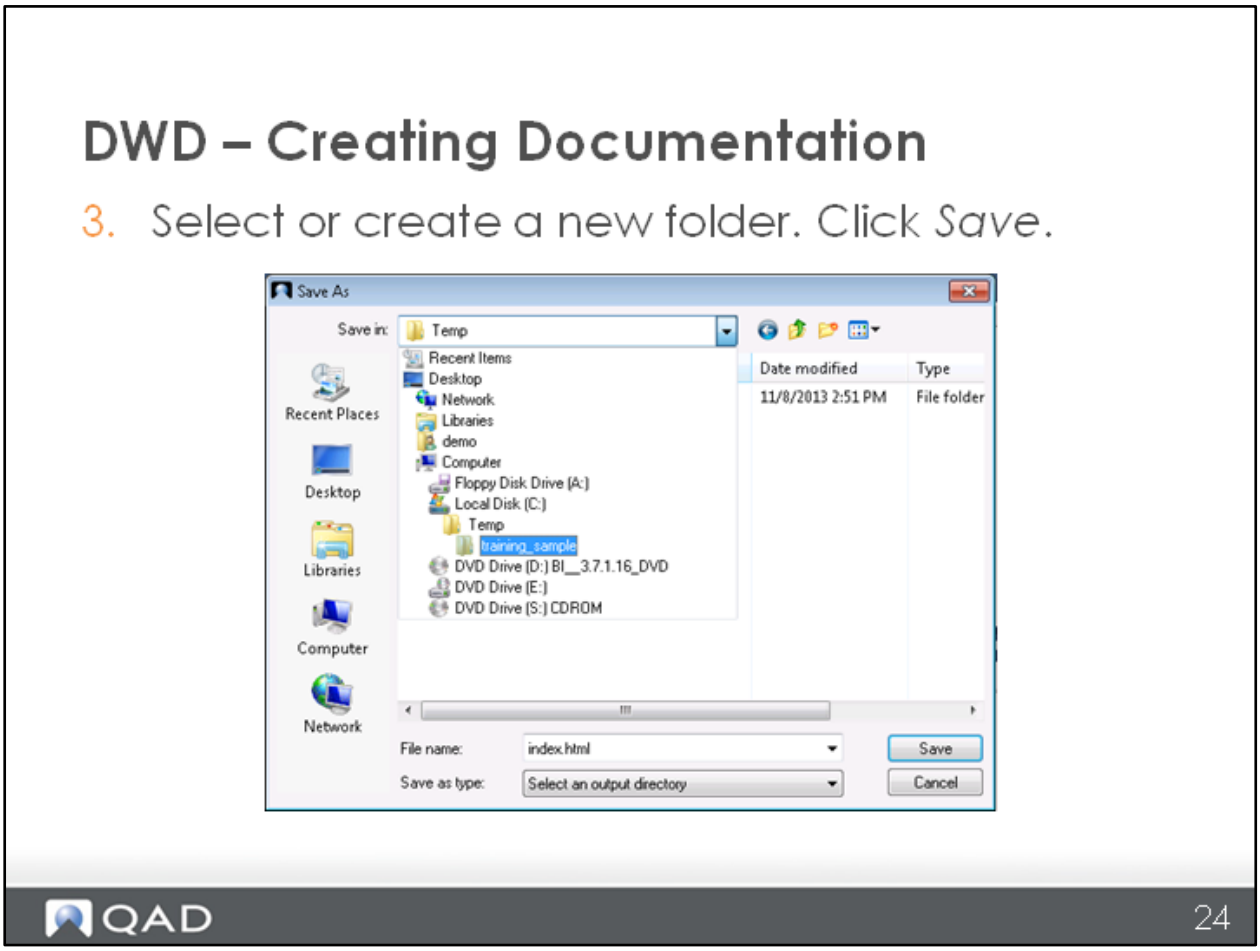
QAD 22

DWD – Creating Documentation

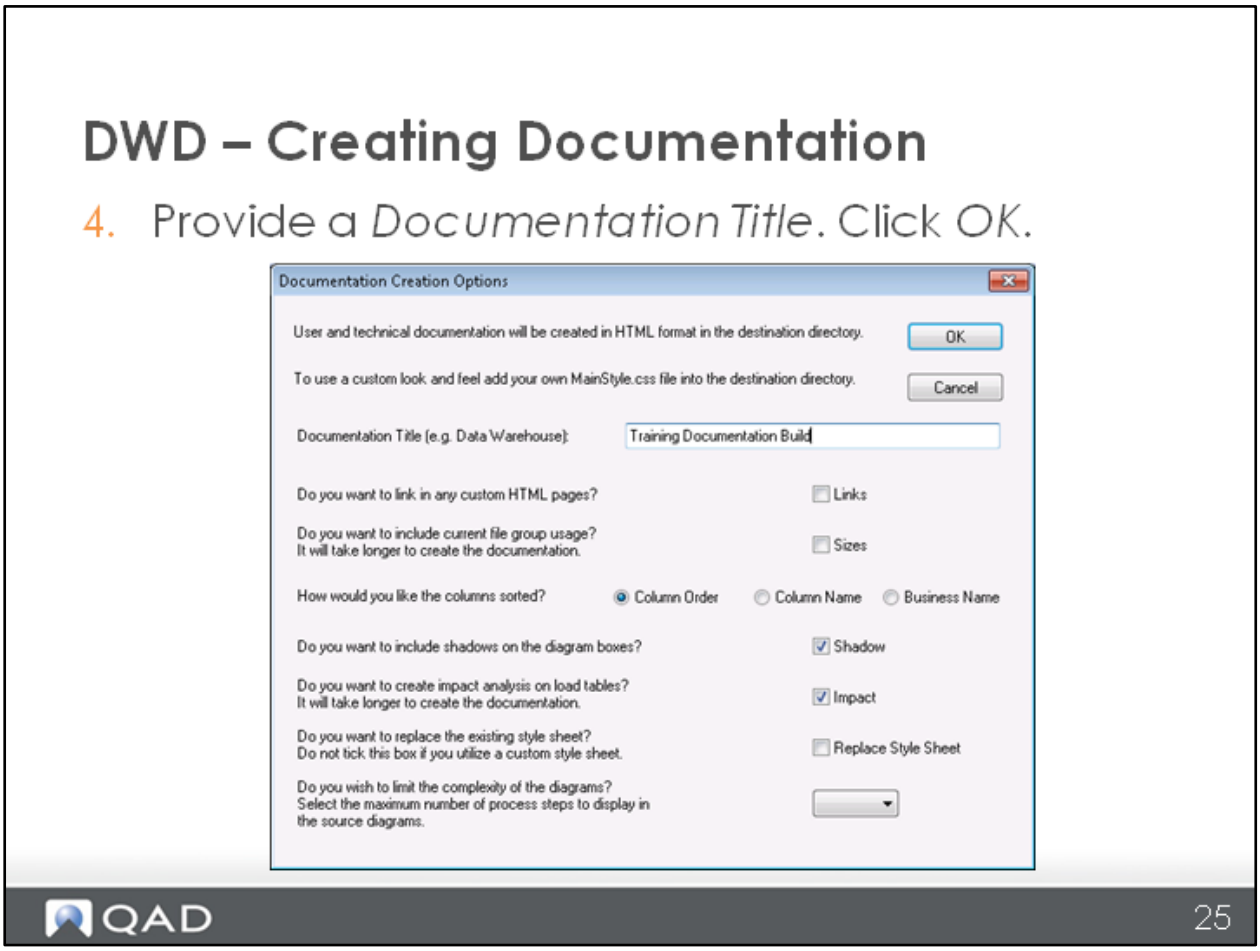


Click OK if presented with flowchartx32.dll error in the Training Environment.

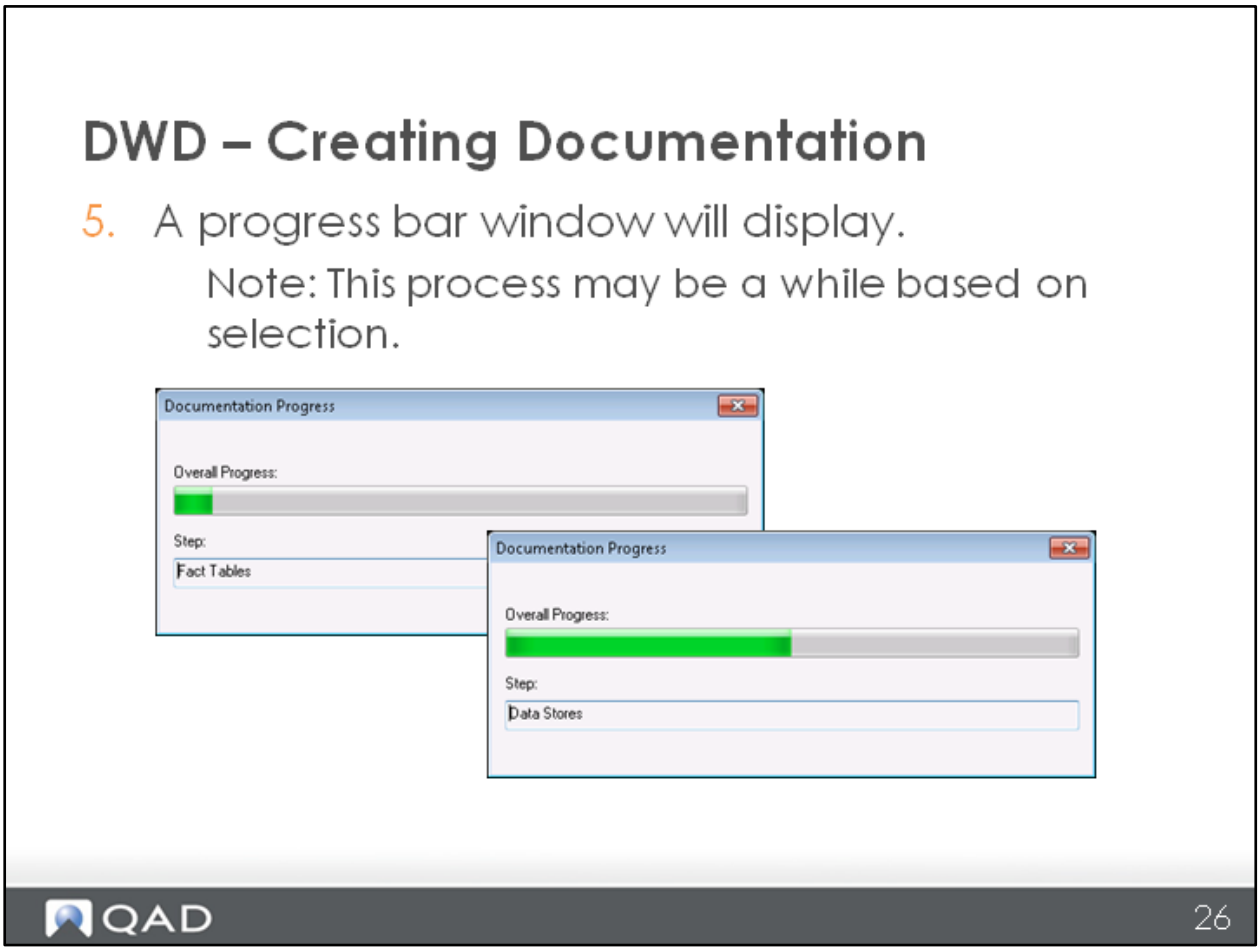
DWD – Creating Documentation



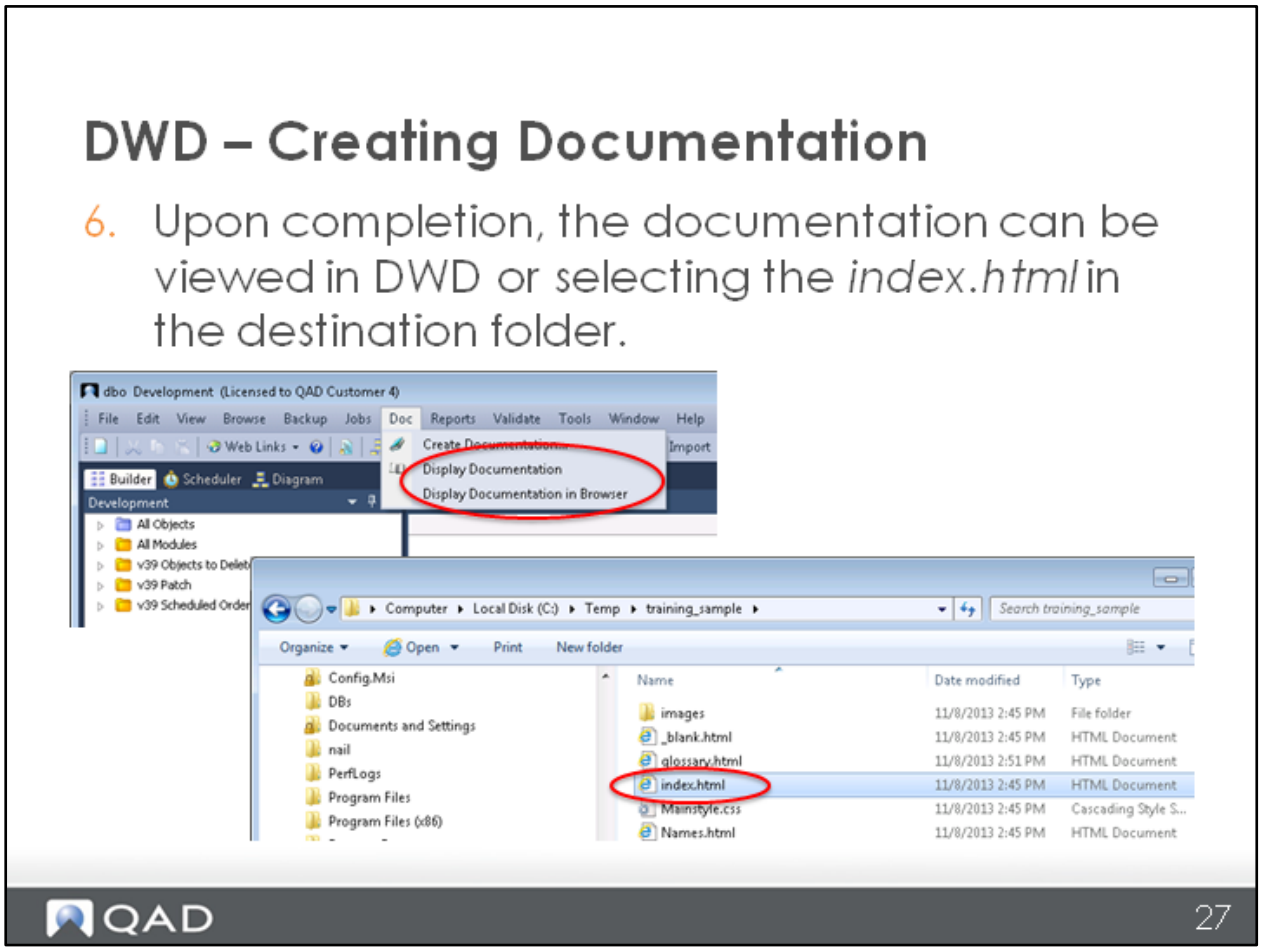
DWD – Creating Documentation



DWD – Creating Documentation

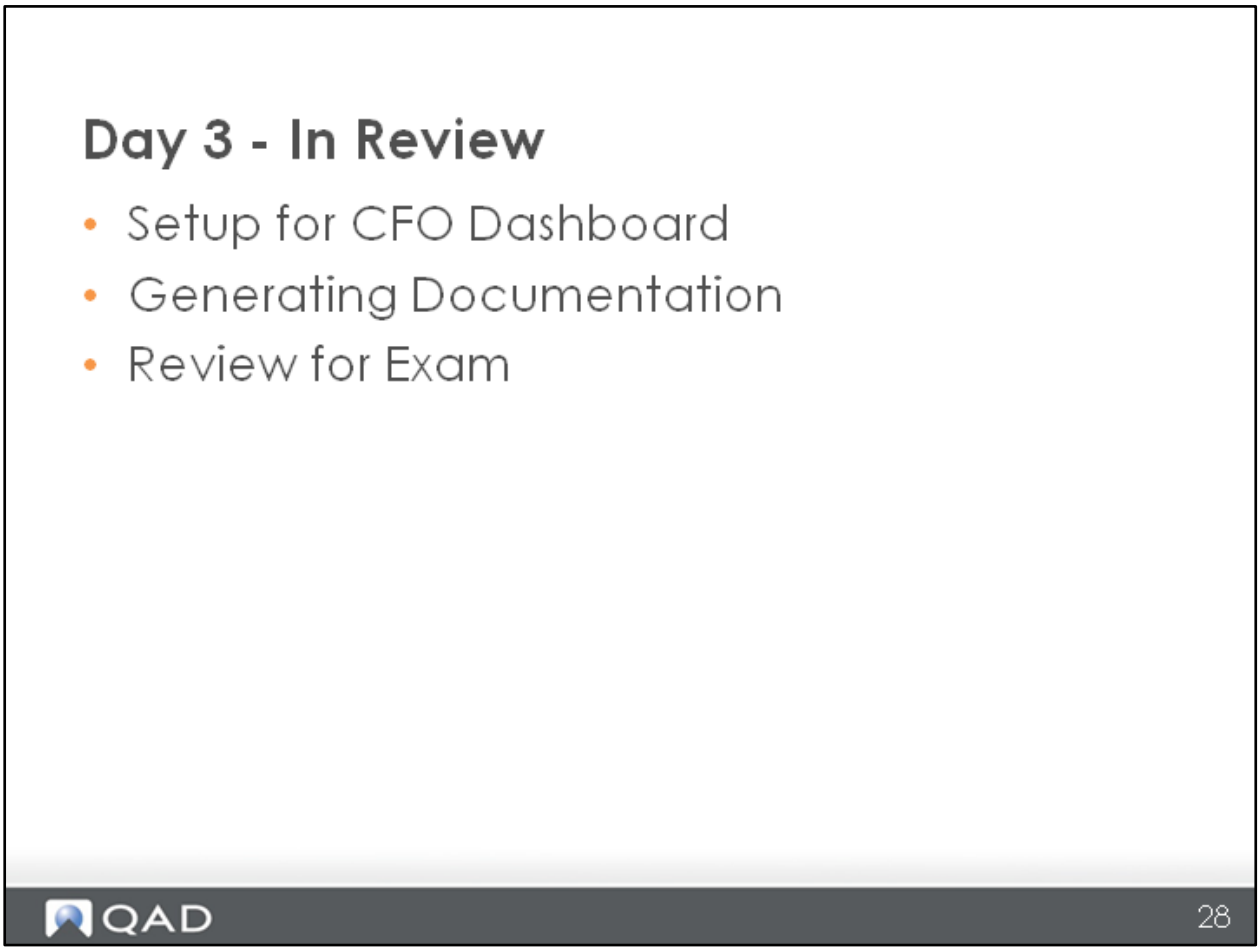


DWD – Creating Documentation



Standard documentation is stored in C:\Program Files (x86)\QAD Business Intelligence\Tomcat\webapps\qadbi\documentation\suite

Day 3 - In Review



Parking Lot Review ?



Upon completion of Level 1 Certification you will be able to do the following:

1. **Demonstrate core functionality.** While you will not yet be a SME knowing all the subtle nuances of the product, you will be able to utilize the product being taught and demonstrate its high level functionality.
2. **Guide customers to Best Practices.** This program will help you to understand what are best practices around the particular product you are studying and why they are best practices. This will enable you to speak confidently in making recommendations for business improvements.
3. **Recommend an appropriate Solution.** Perhaps worse than never recommending one of our products is recommending a product to address an issue it was never designed to address. Following your certification, you should be able to identify appropriate opportunities for solutions.
4. **Execute upon a SME Guided Project Plan.** Following Level 1 certification you should not just start working with EAM all by yourself. You should be able, though, to take direction and guidance from a SME and then execute upon that mentoring.

5. **Begin customer facing activities.** Whether you are in support, pre-sales, services, or some other area of expertise, following your Level 1 Certification you will be equipped to begin working face-to-face with customers and properly represent the solution. You should begin using your education immediately! In general:

    - Support Resources will be able to address T1 and T2 issues with some assistance from a SME
    - Services Resources will be able to be primary resources on Implementations working alongside a Mentor
    - Pre-Sales Resources will be able to provide customer-specific product demonstrations with support from a Mentor

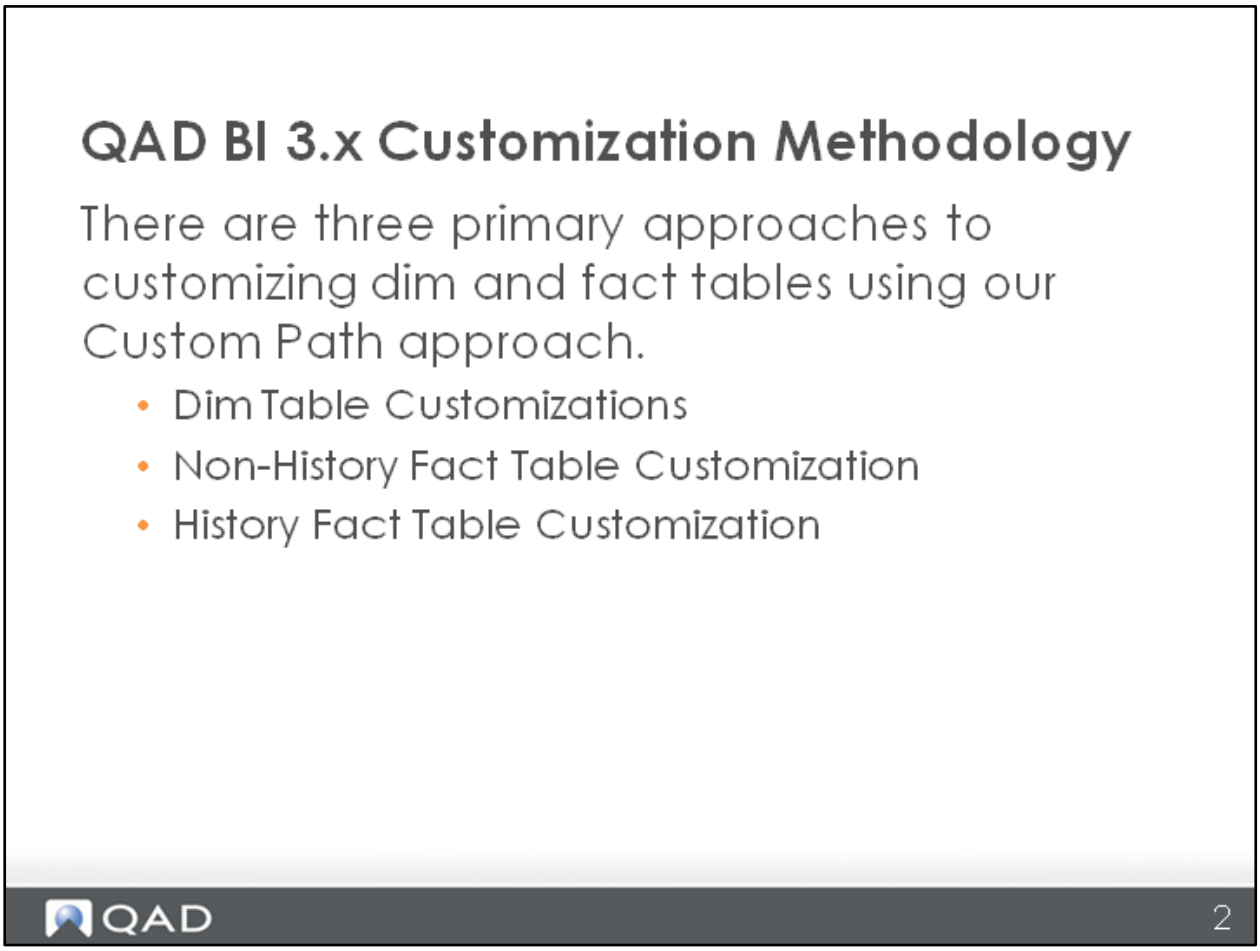
CHAPTER 4

QAD BI Technical Level 1 Certification – Extras

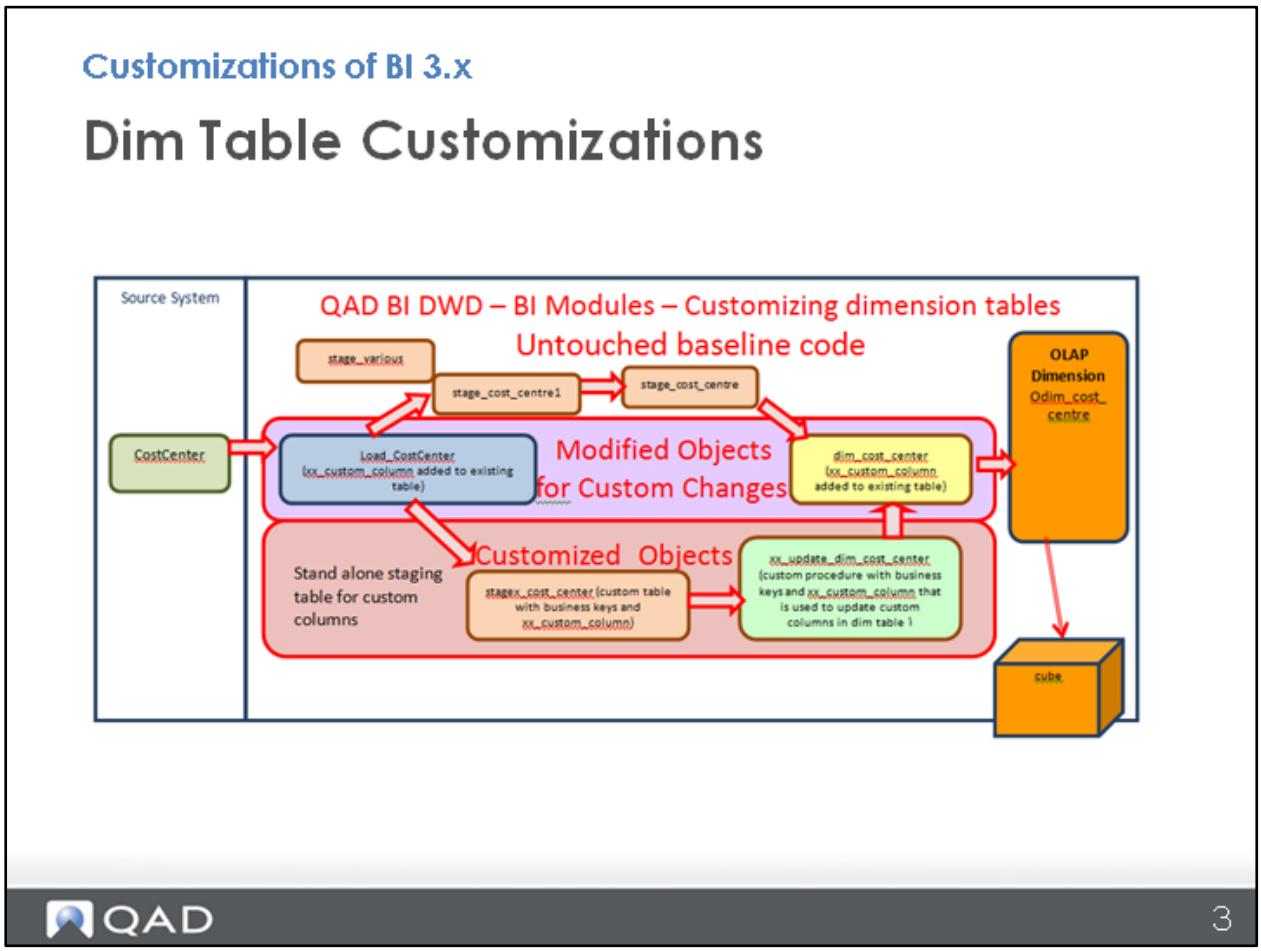
QAD BI v3 - Technical Level 1 Certification - Extras



QAD BI 3.x Customization Methodology

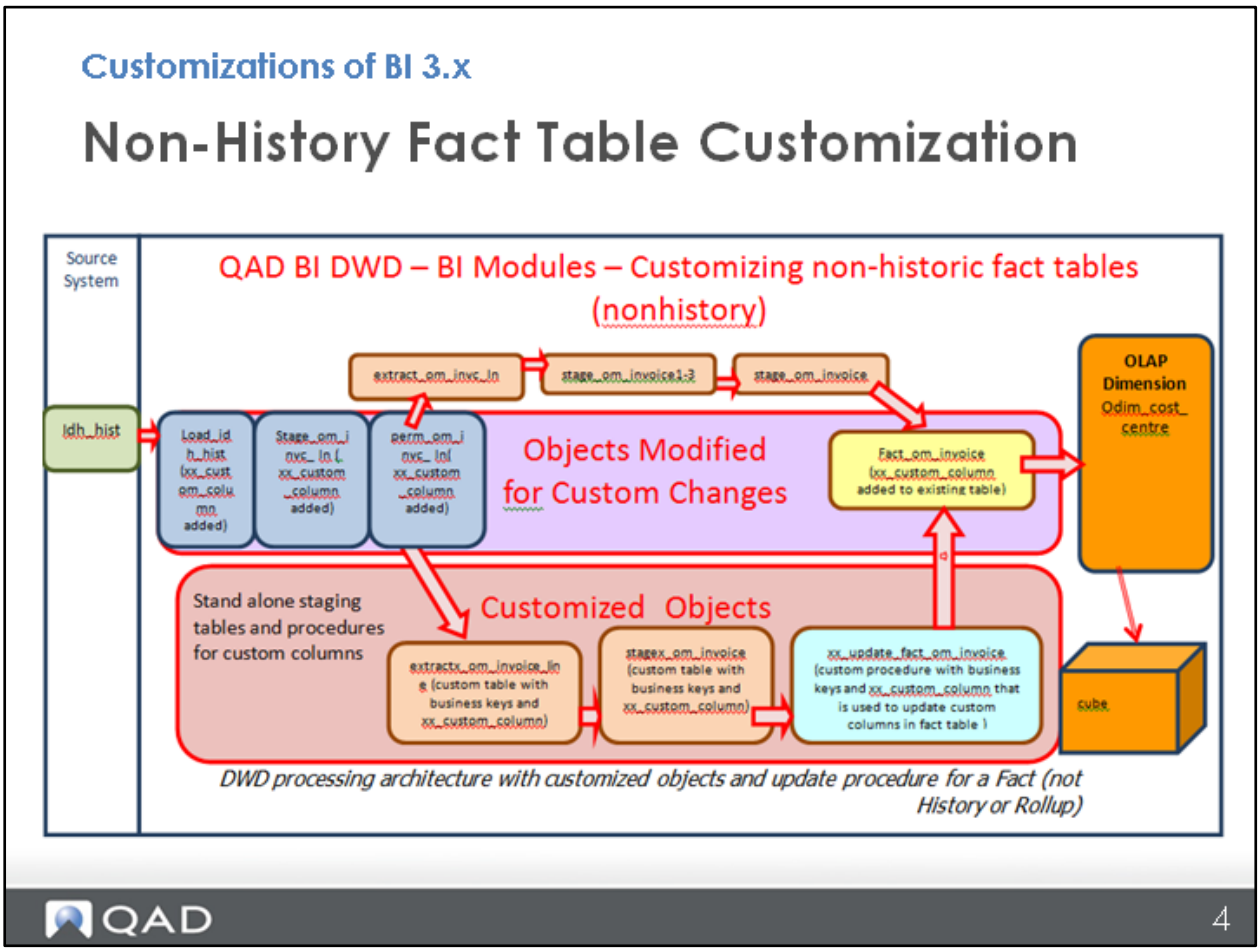


Dim Table Customizations



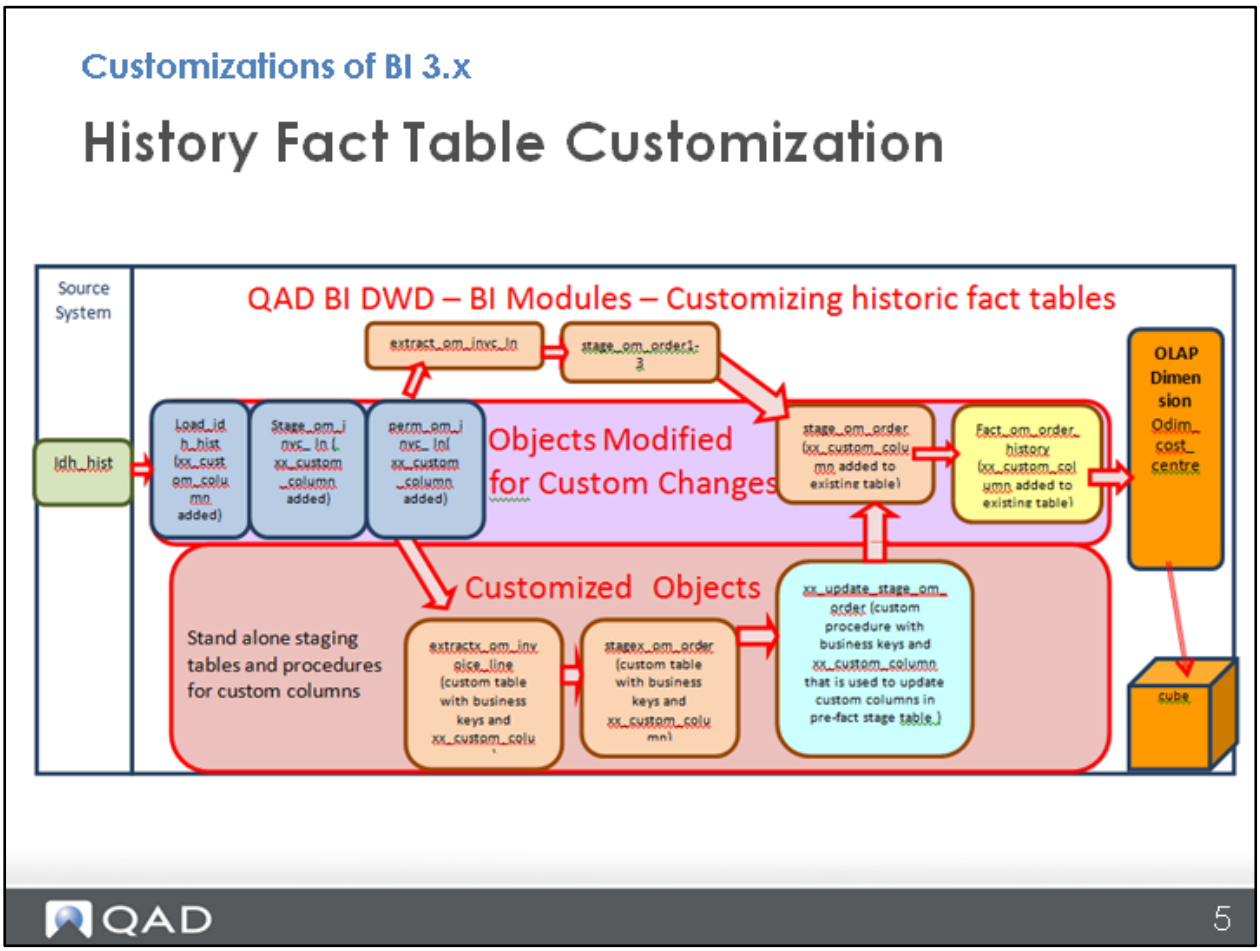
For dimension tables, the only tables that should get modified are load tables and dimension tables. Load tables can have additional columns added and so can dimension tables, but the new column in a dimension should only be updated by an outside procedure that is run after the table is loaded, not the code built by the wizard.

Non-History Fact Table Customization



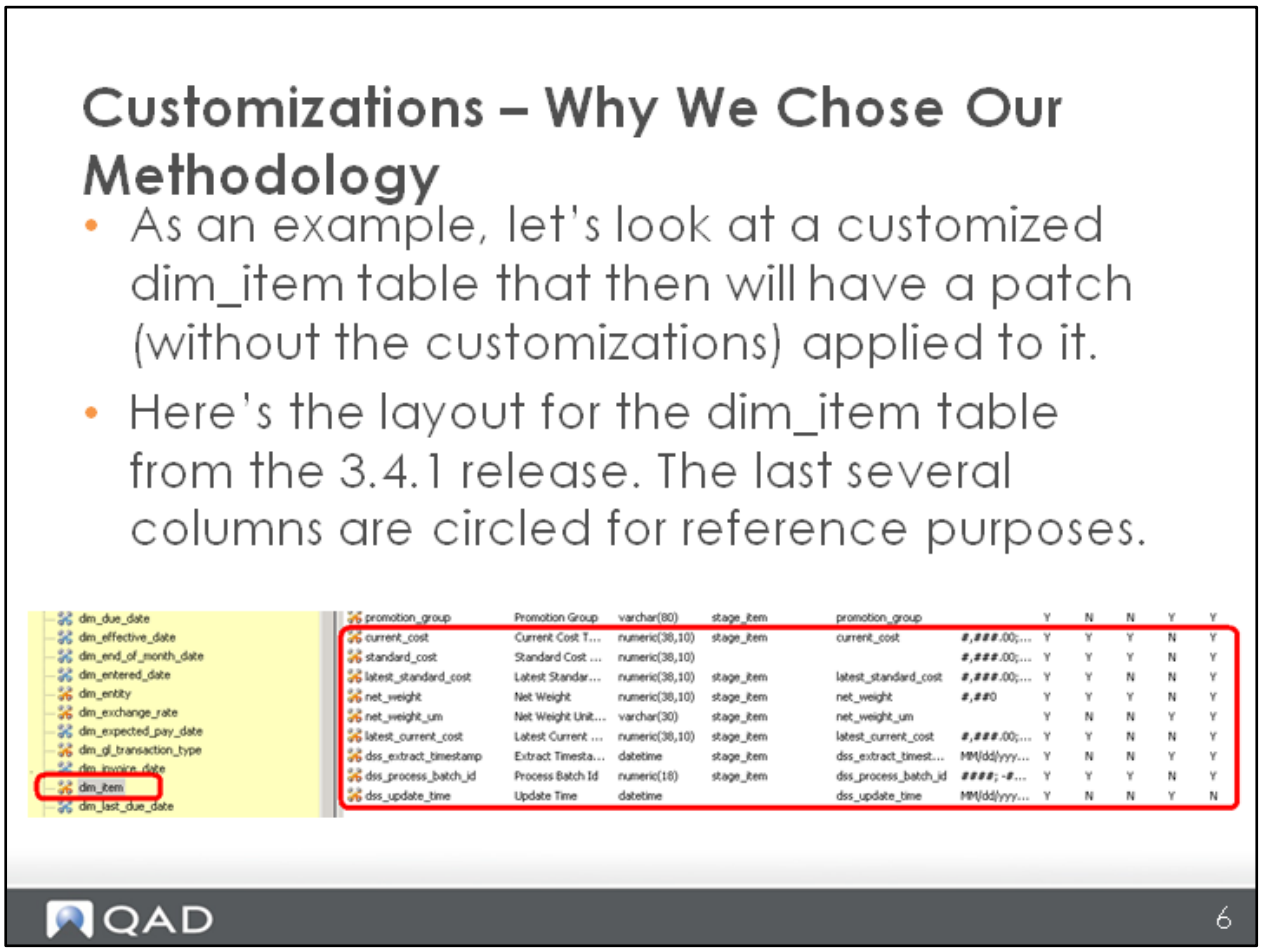
For non-history fact tables, the only tables that should get modified are load tables, the stage table prior to a perm table, perm tables and the fact tables. Any new columns in the fact table should only be updated by an outside procedure that is run after the table is loaded, not the code built by the wizard.

History Fact Table Customization

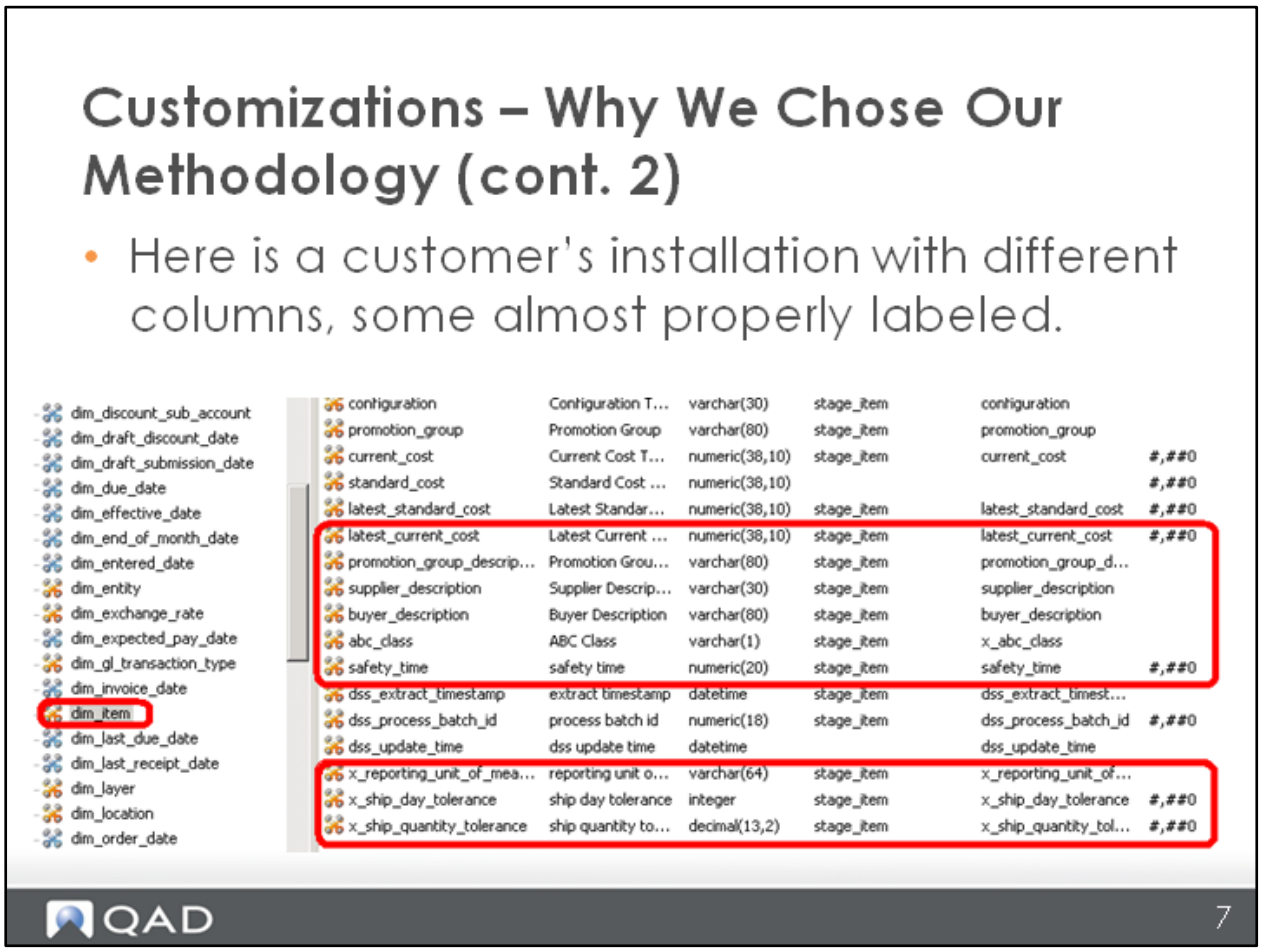


For history fact tables, the only tables that should get modified are load tables, the stage table prior to a perm table, perm tables, the last stage table prior to the fact and the fact tables. Any new columns in the fact table should only be updated by the prior staging table. The new column in the prior staging table should be updated by an outside procedure that is run after the table is loaded, not the code built by the wizard. The reason we allow this is that the logic involved in getting data right in the fact_om_order_history table is incredibly complex and by inserting it into the staging table prior, we can insure that the logic for the fact does it's thing as it should and people building customizations don't have to attempt to emulate all that logic with an update procedure for a customization.

Customizations – Why We Chose Our Methodology

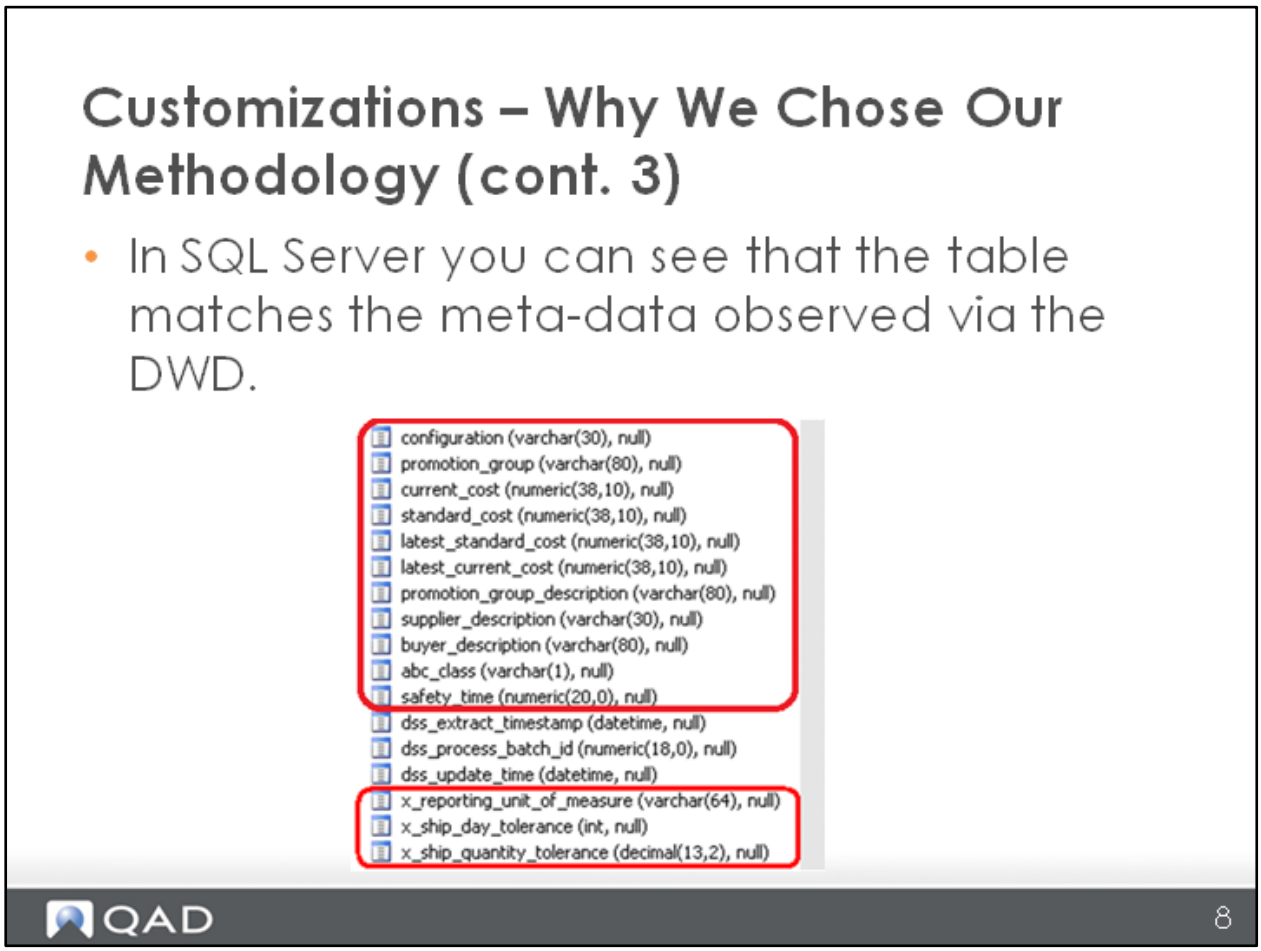


Customizations – Why We Chose Our Methodology (cont. 2)

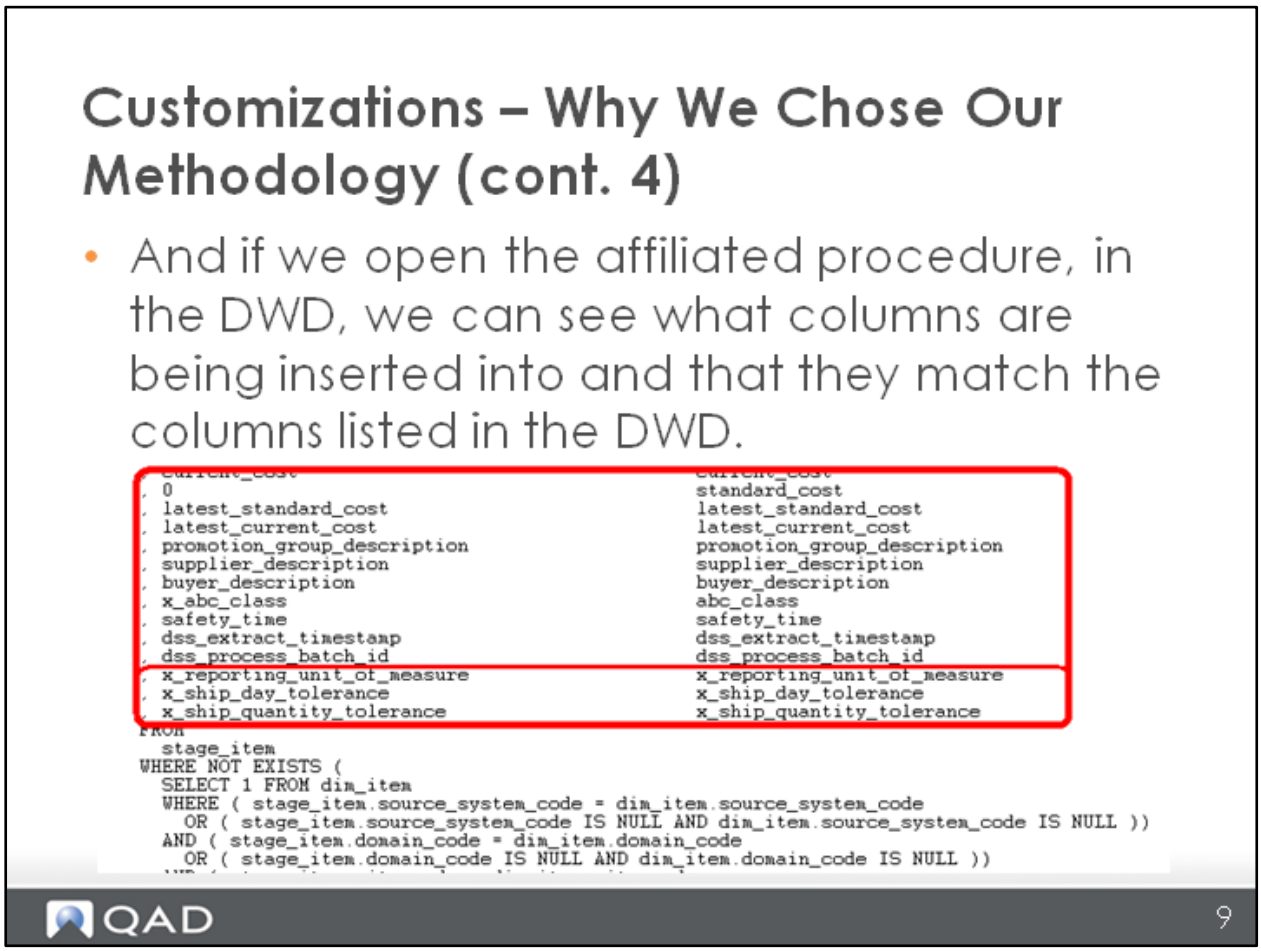


Here's the layout for the dim_item table for a customer that has a 3.3 customized version of the modules that not only has the easily identifiable custom columns that begin with an x_ prefix (our preferred prefix for custom columns now is xx_), but also note that they have some other columns that don't match our 3.4.1 dim_item table. These had been added at time of installation with the belief that these same columns would be added to the code base. That ended up not yet happening, so an upgrade to 3.4.1 is likely going to require even more work and investigation. Unless columns are already in the code base, treat any additions as custom.

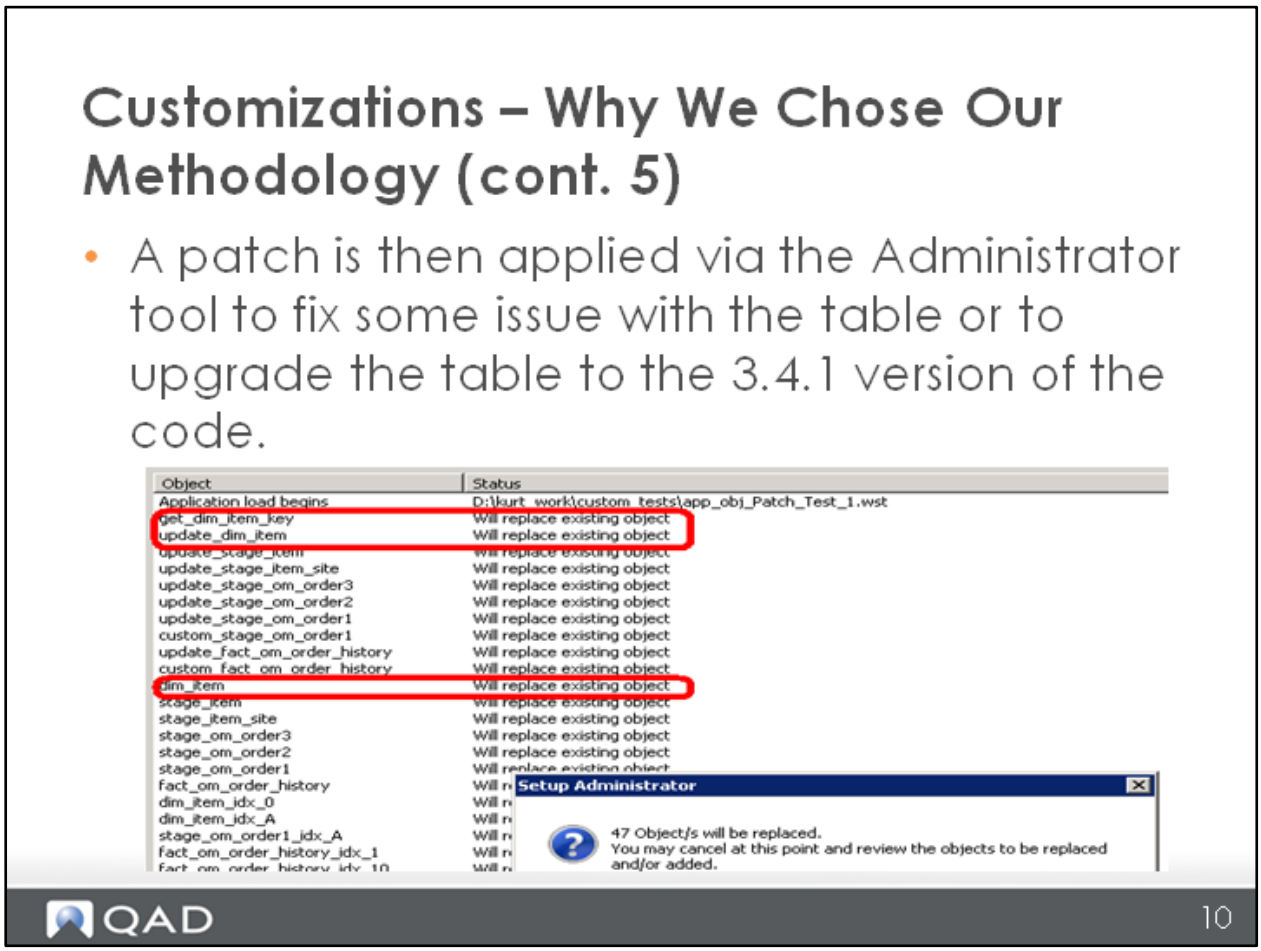
Customizations – Why We Chose Our Methodology (cont. 3)



Customizations – Why We Chose Our Methodology (cont. 4)



Customizations – Why We Chose Our Methodology (cont. 5)

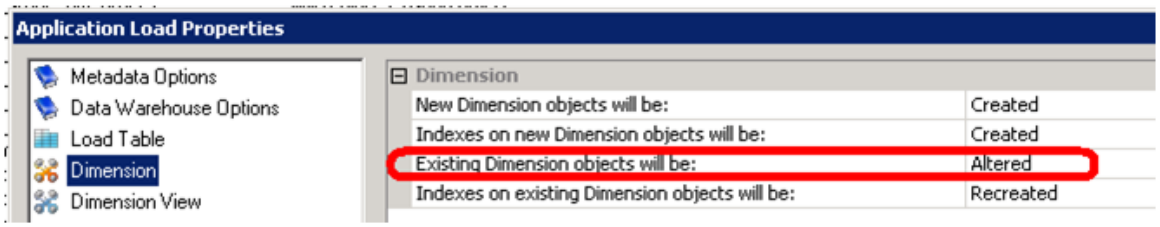


You can see that it initially says that existing objects will be replaced.

Customizations – Why We Chose Our Methodology (cont. 6)

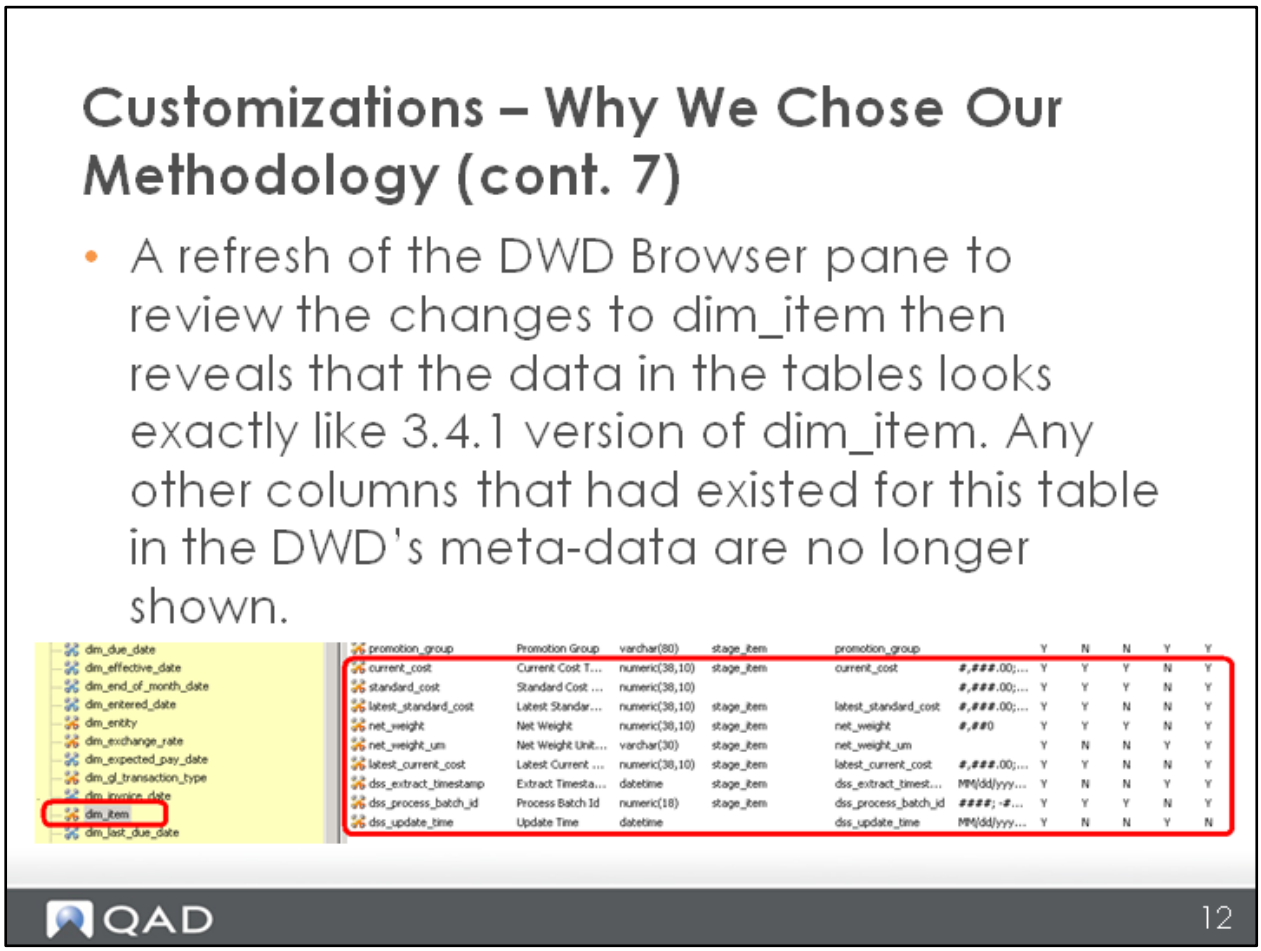
Customizations – Why We Chose Our Methodology (cont. 6)

- However, the default setting for each object during application installation ensures that the dim, perm and fact tables are only altered by changes and the updates proceed successfully.

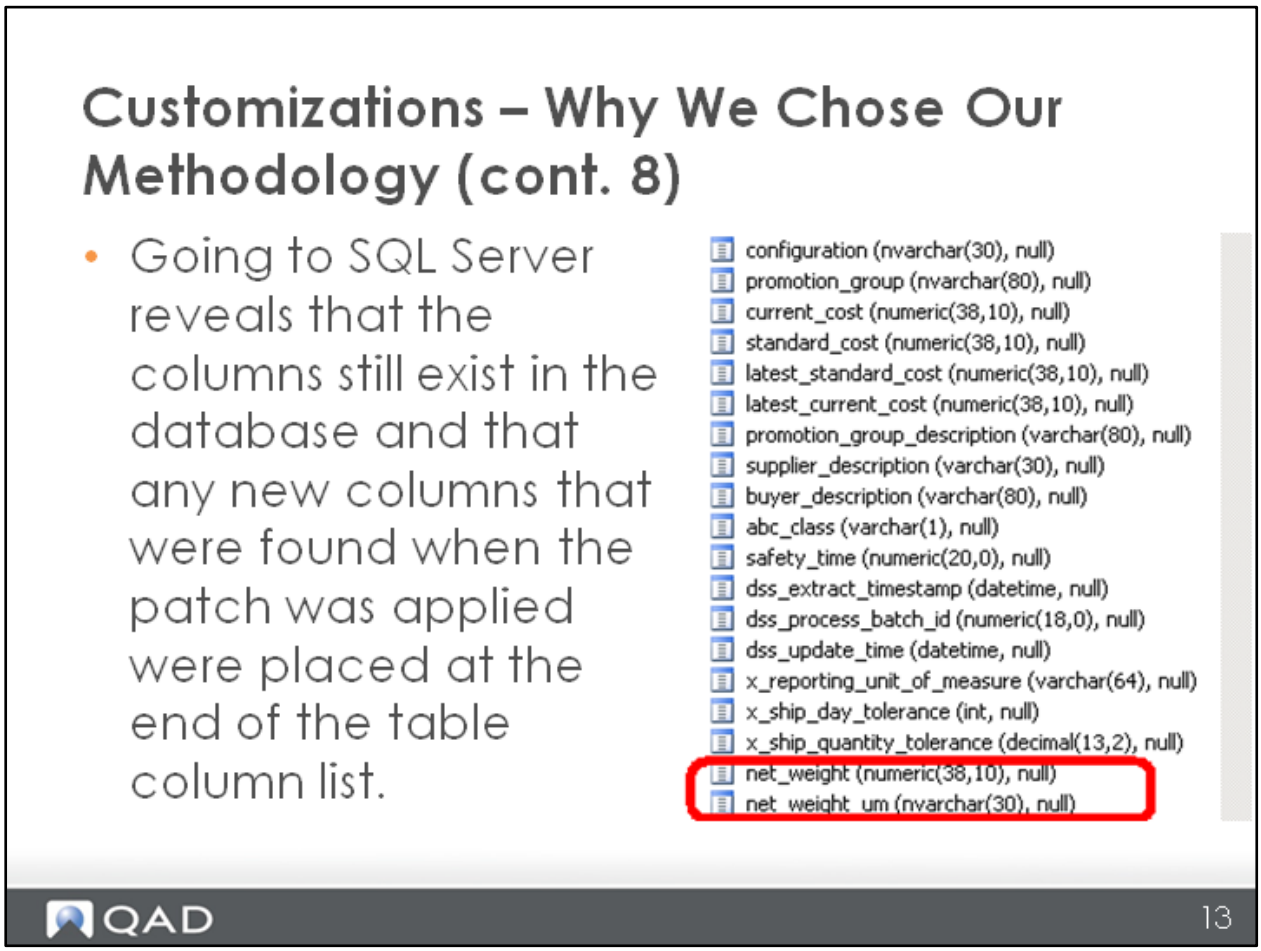


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Customizations – Why We Chose Our Methodology (cont. 7)

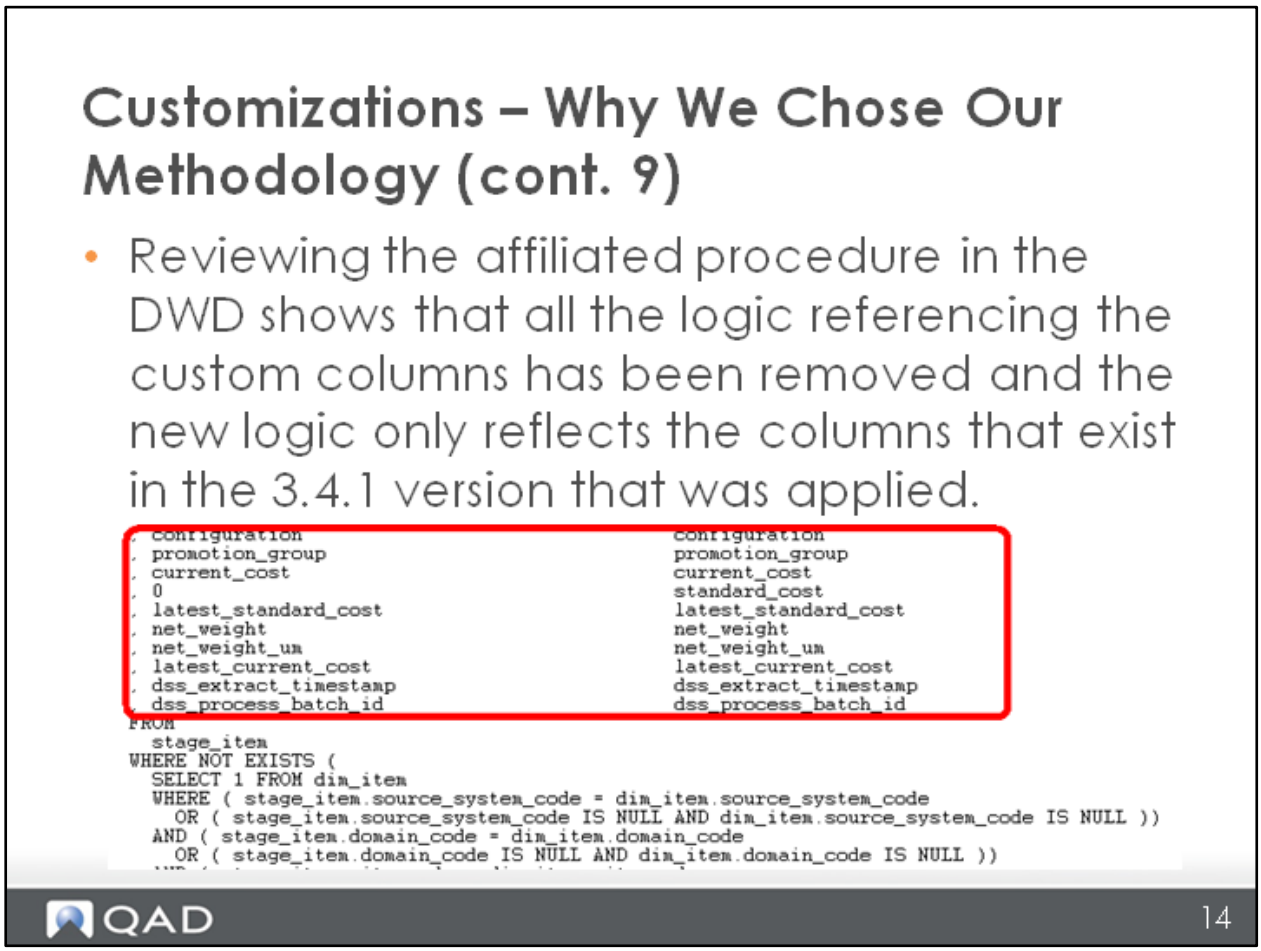


Customizations – Why We Chose Our Methodology (cont. 8)



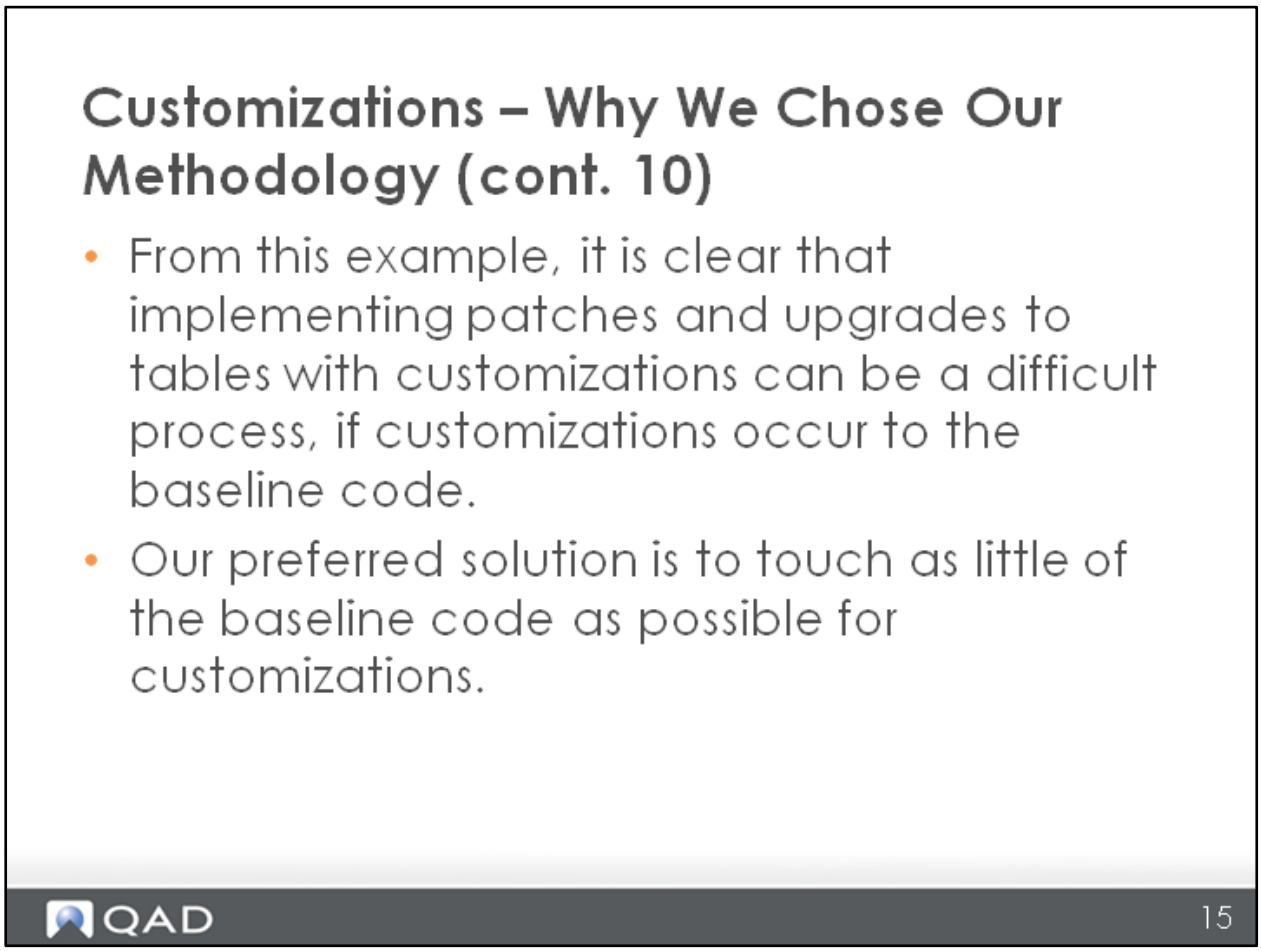
When the patch was applied, we had selected to not change existing table, only alter them. Why are the other columns gone?

Customizations – Why We Chose Our Methodology (cont. 9)



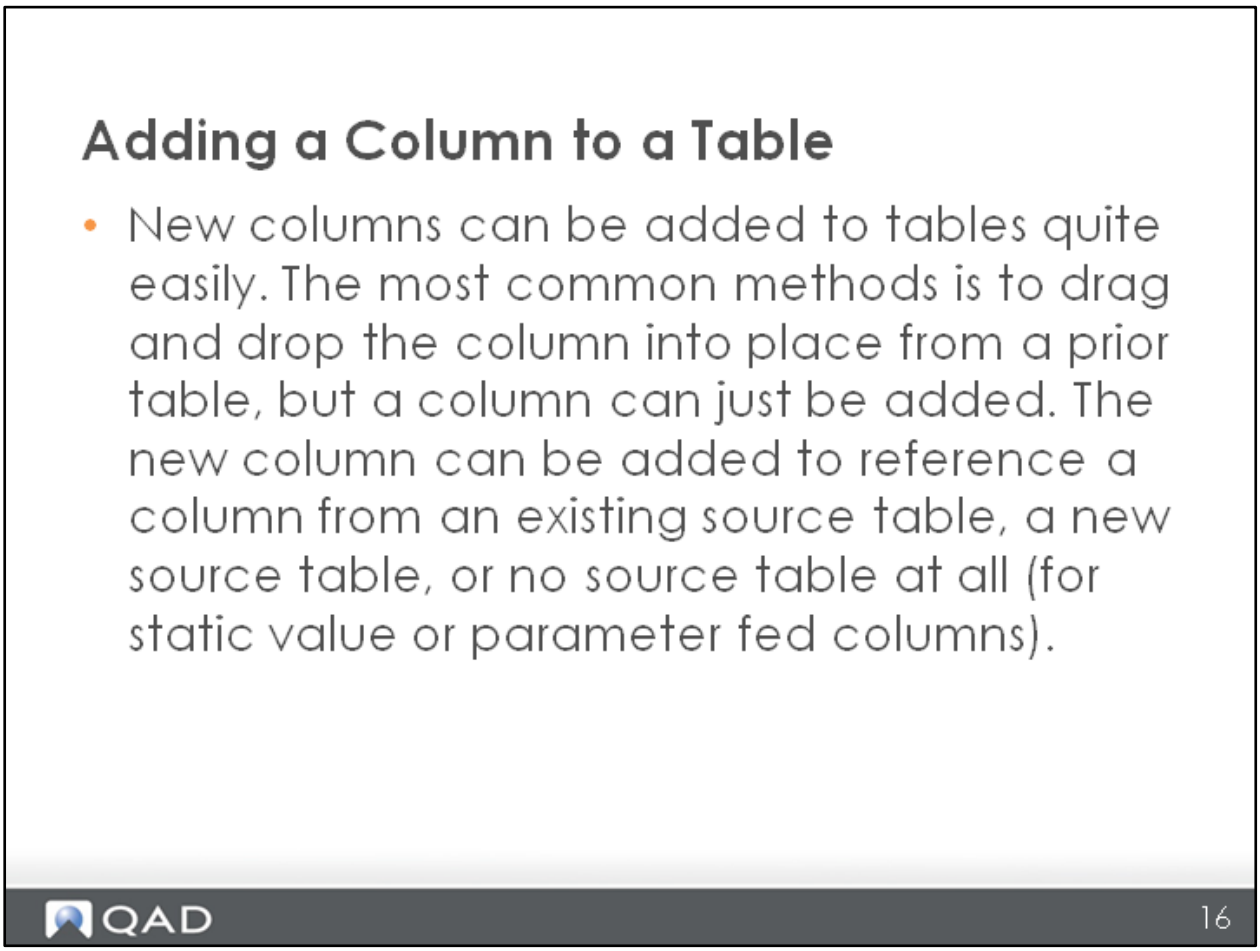
Note - Since the new columns were added to the table and the table was not dropped, the custom columns still would contain their data, but would no longer be updated by the new procedure. A SQL Query against the table would confirm this.

Customizations – Why We Chose Our Methodology (cont. 10)

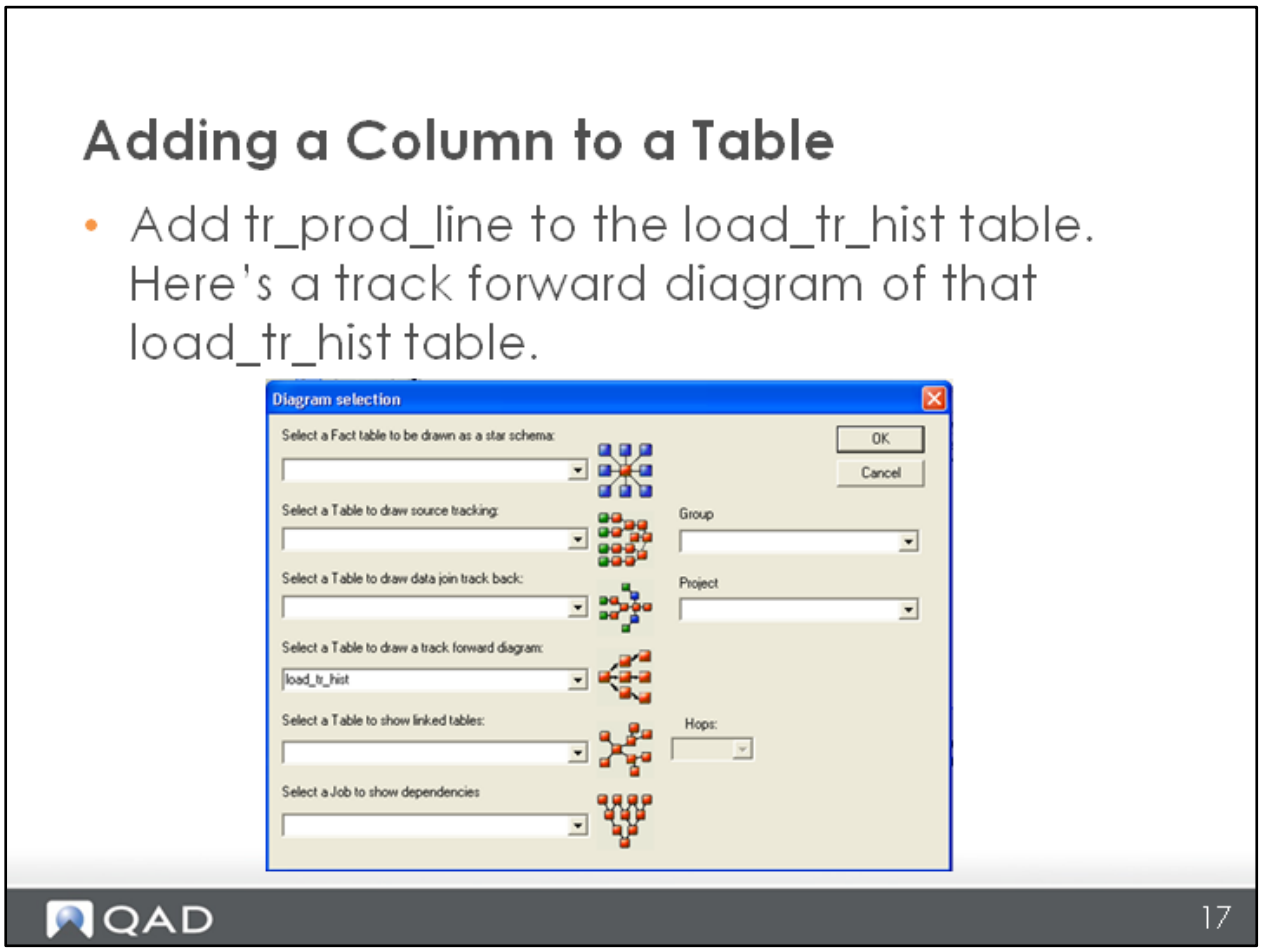


As one can see, implementing patches and upgrades to tables that have any custom work done to them is not a straight forward process and likely requires a fair amount of follow up work to get the customizations back in place in the DWD meta-data (the underlying SQL table can remain unchanged). It is for this reason that **ideally** custom work will not be done directly on standard release tables in the data warehouse or at the very least, the footprint of the customized work will mostly fall outside of the baseline code.

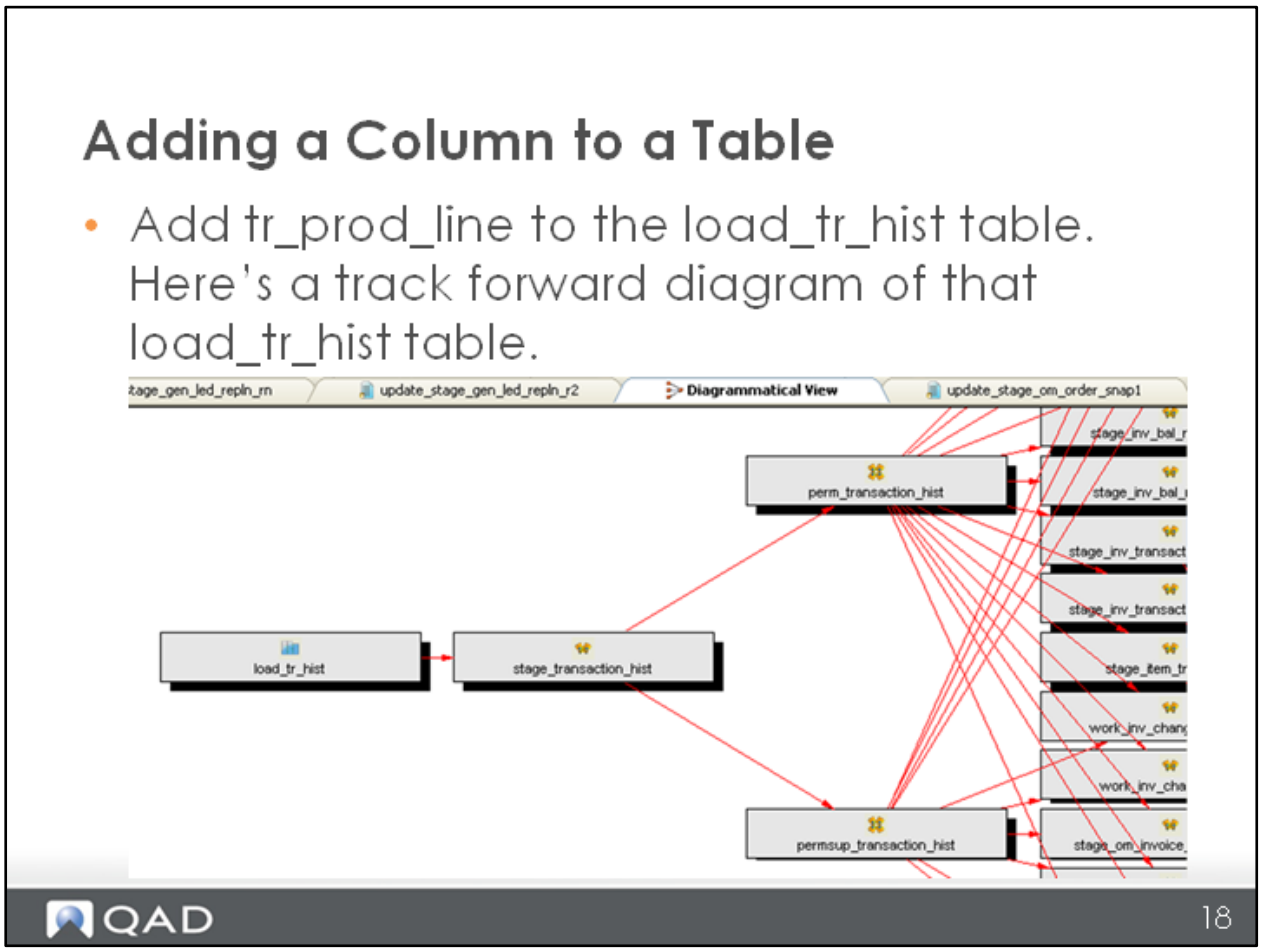
Adding a Column to a Table



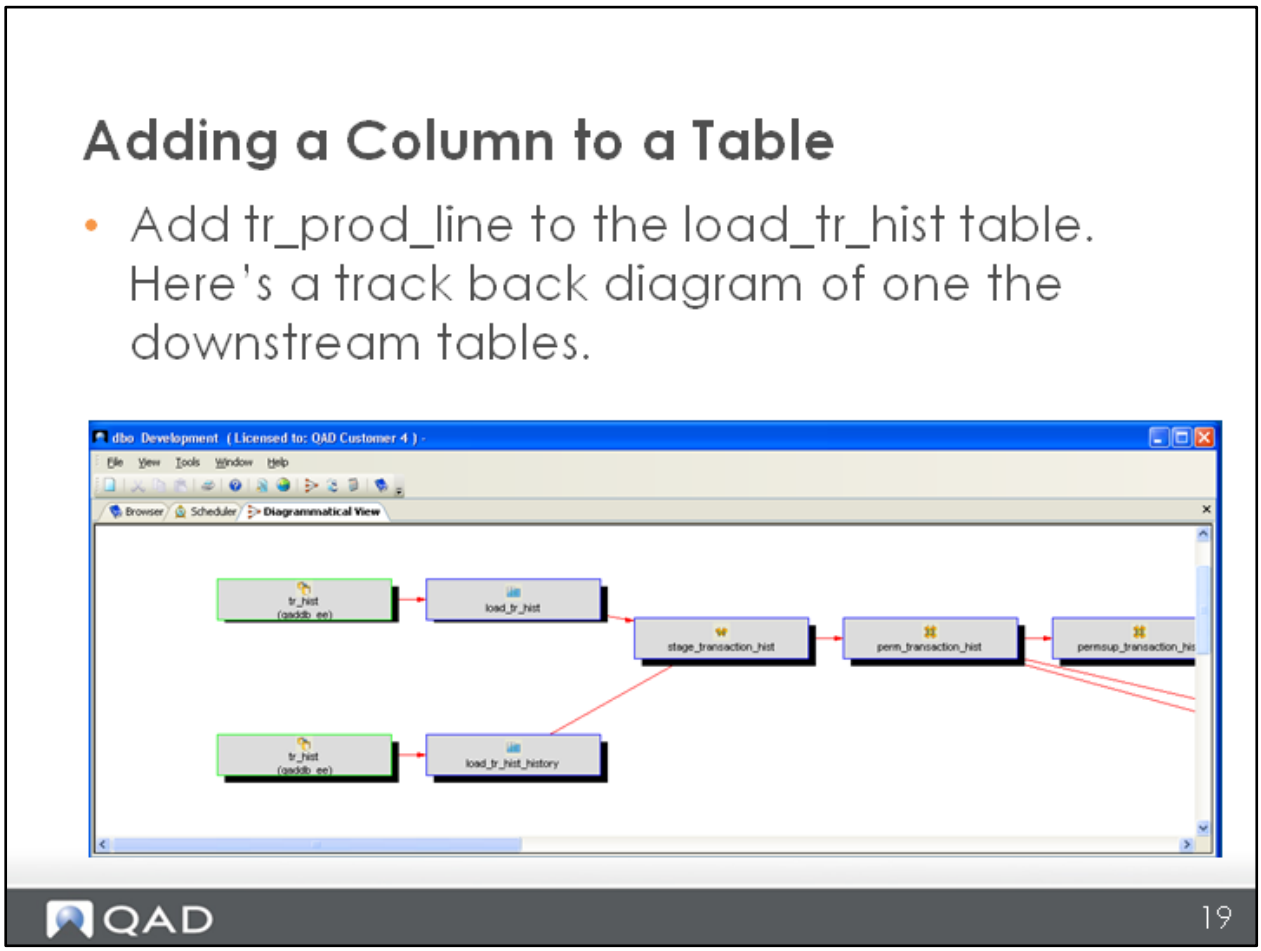
Adding a Column to a Table



Adding a Column to a Table

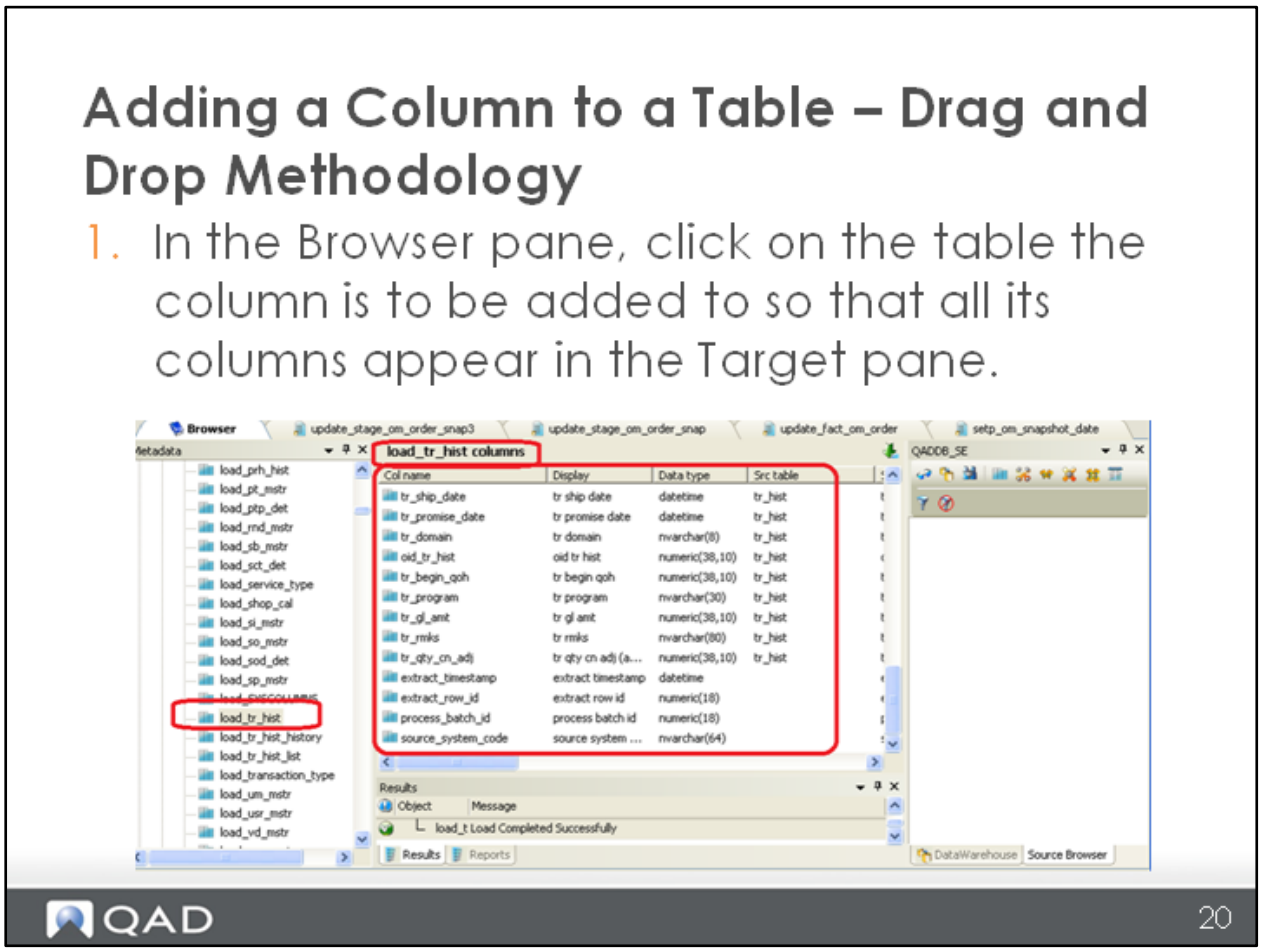


Adding a Column to a Table



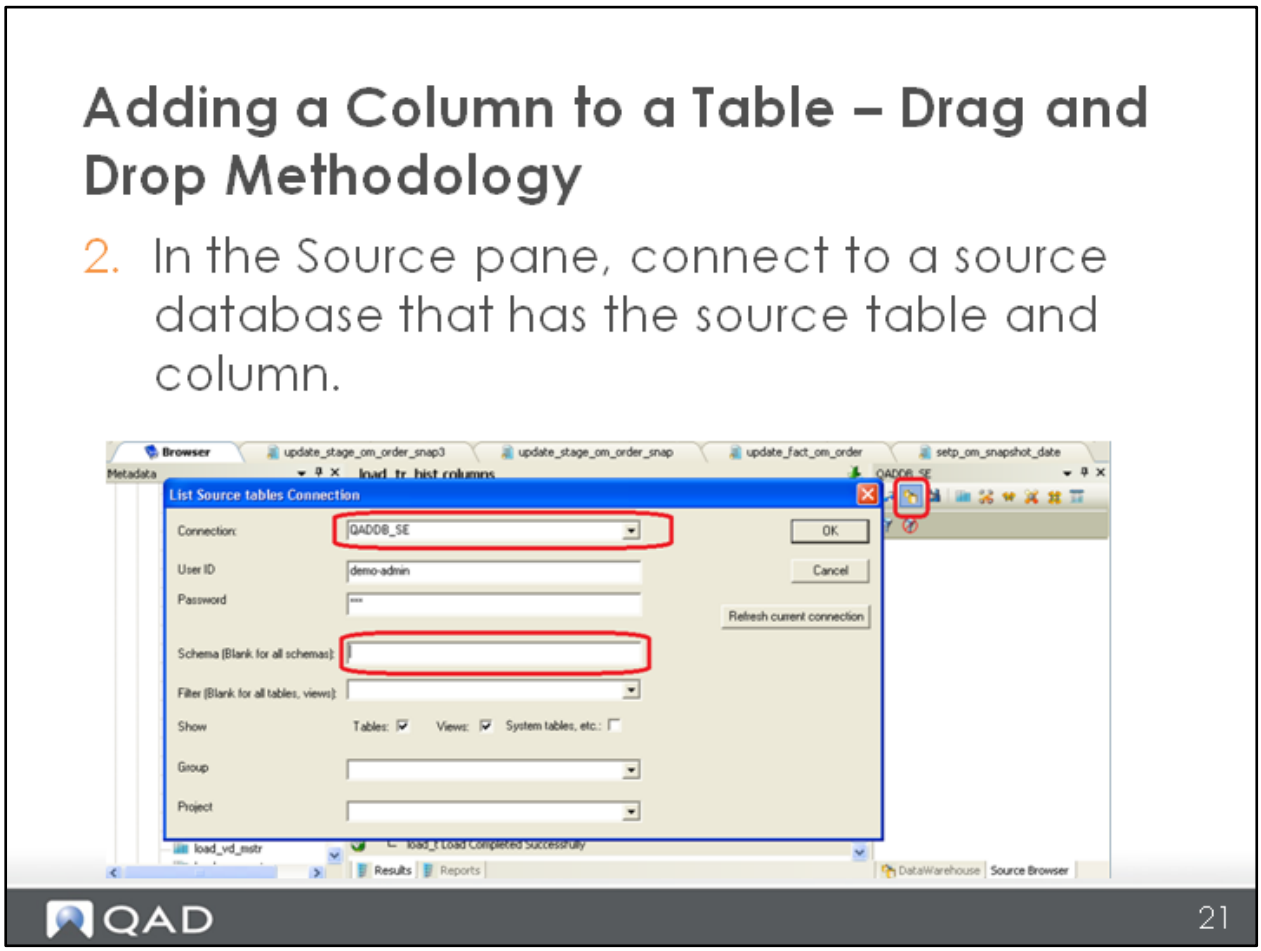
Stage_transaction_hist is a set merge table, so the change needs to be made to both load_tr_hist, load_tr_hist_history. Show the class the source columns from stage_transaction_hist, also properties and the stored procedure of the Set Merge for the insert into each table.

Adding a Column to a Table – Drag and Drop Methodology



For this example use tr_hist which will have the tr_prod_line added.

Adding a Column to a Table – Drag and Drop Methodology

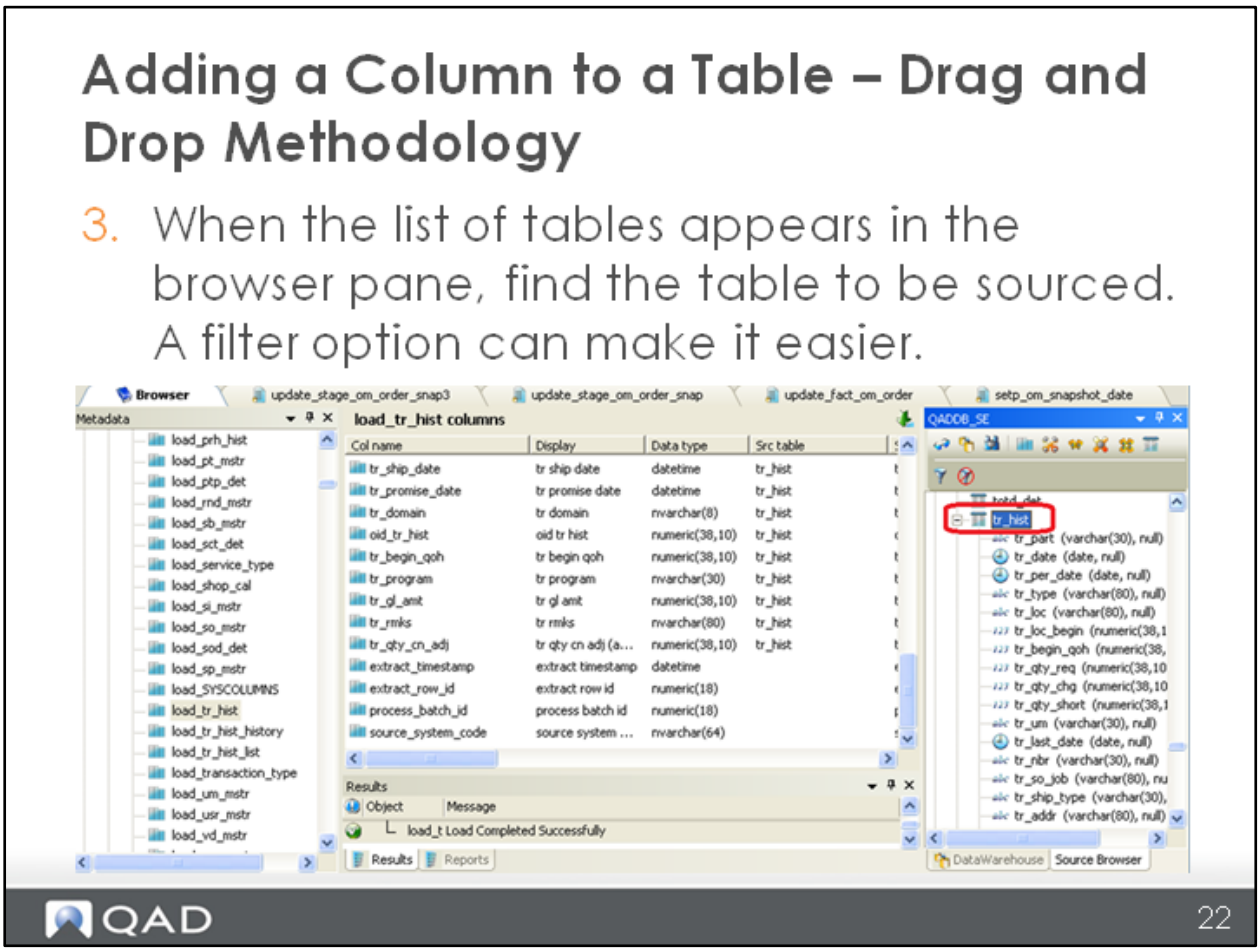


First in the source pane, click the connection button.

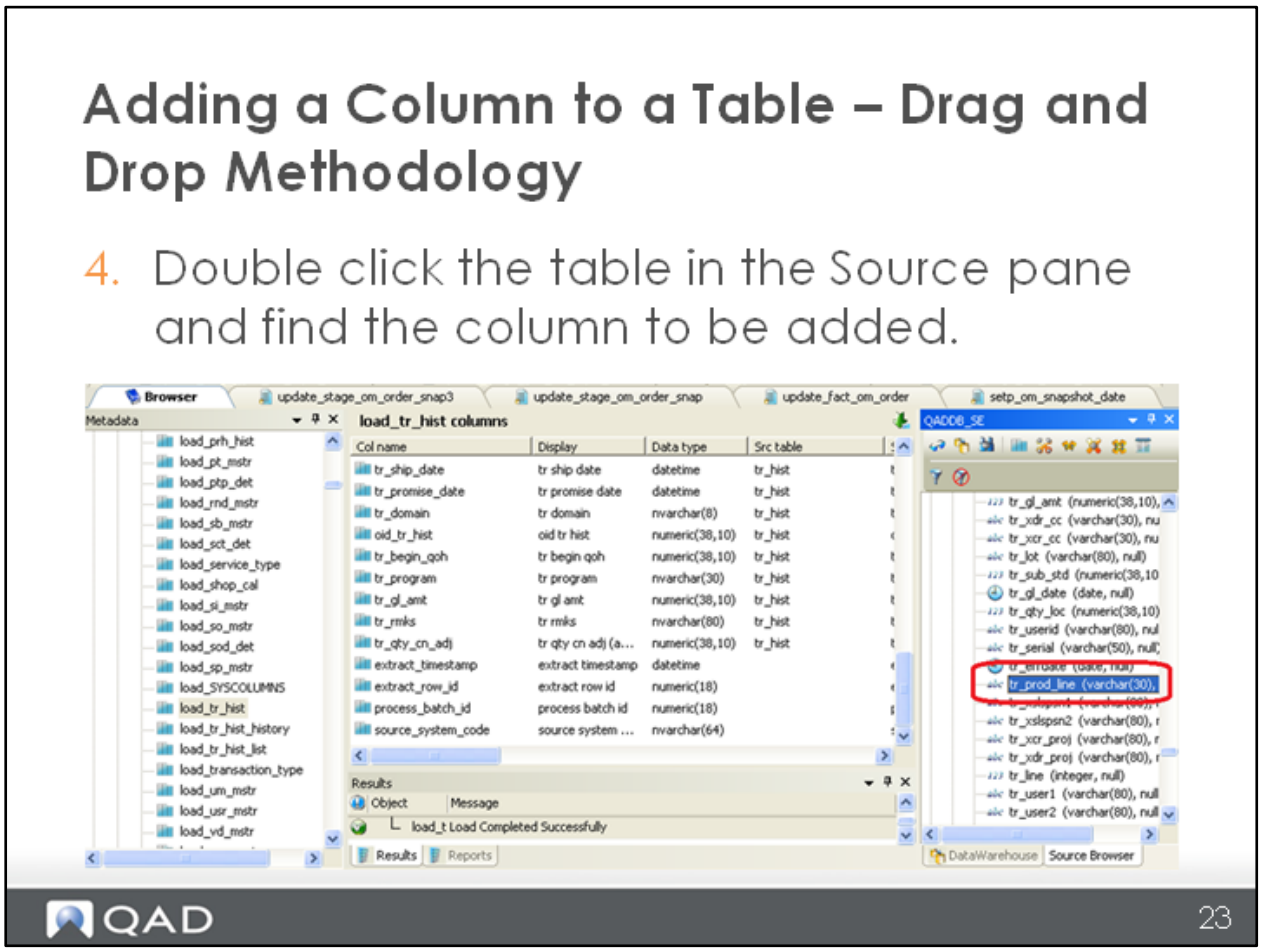
When the List Source table Connection window opens, change to the Connection.

Remove the Schema if there is one. It needs to be blank.

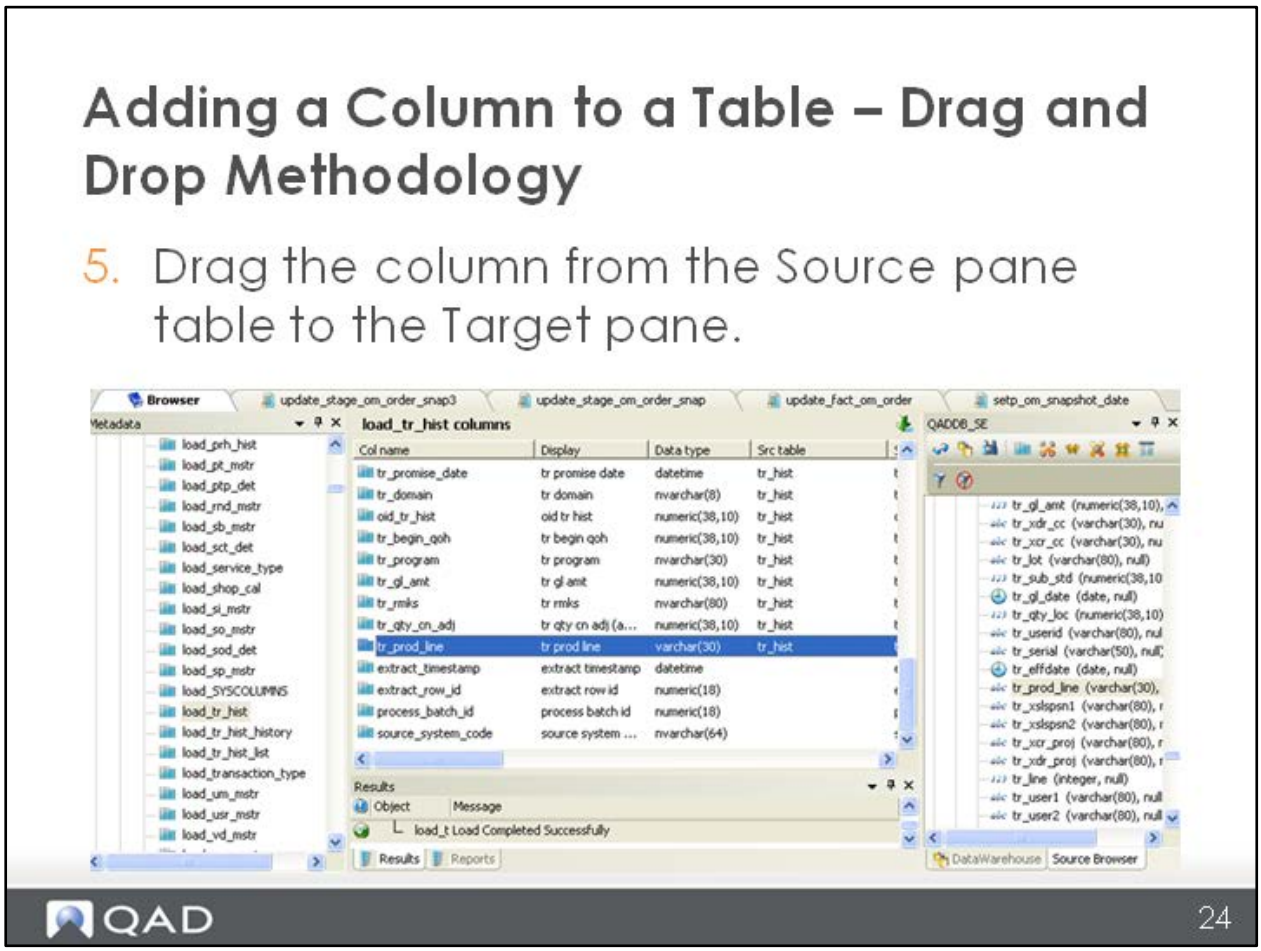
Adding a Column to a Table – Drag and Drop Methodology



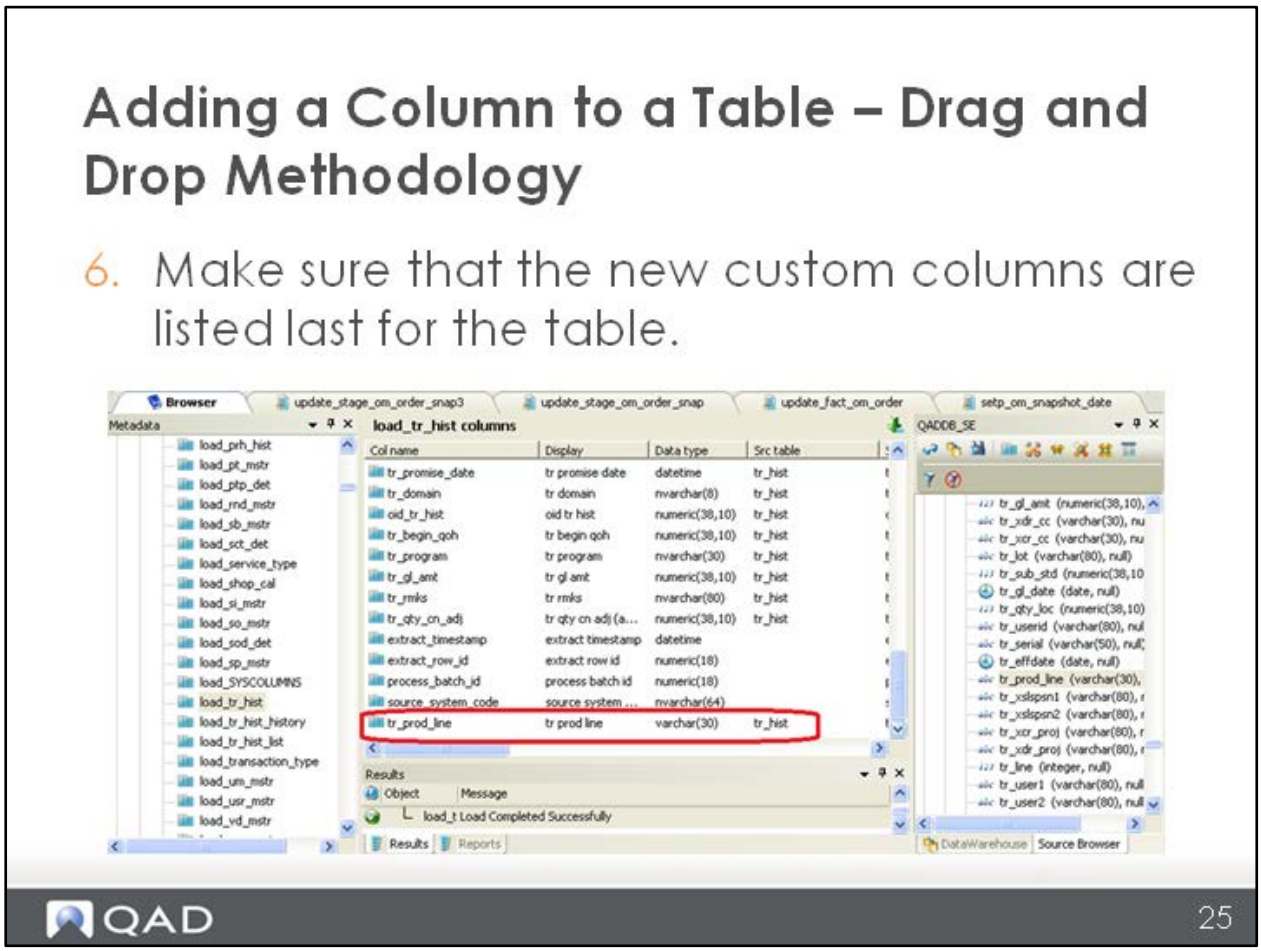
Adding a Column to a Table – Drag and Drop Methodology



Adding a Column to a Table – Drag and Drop Methodology

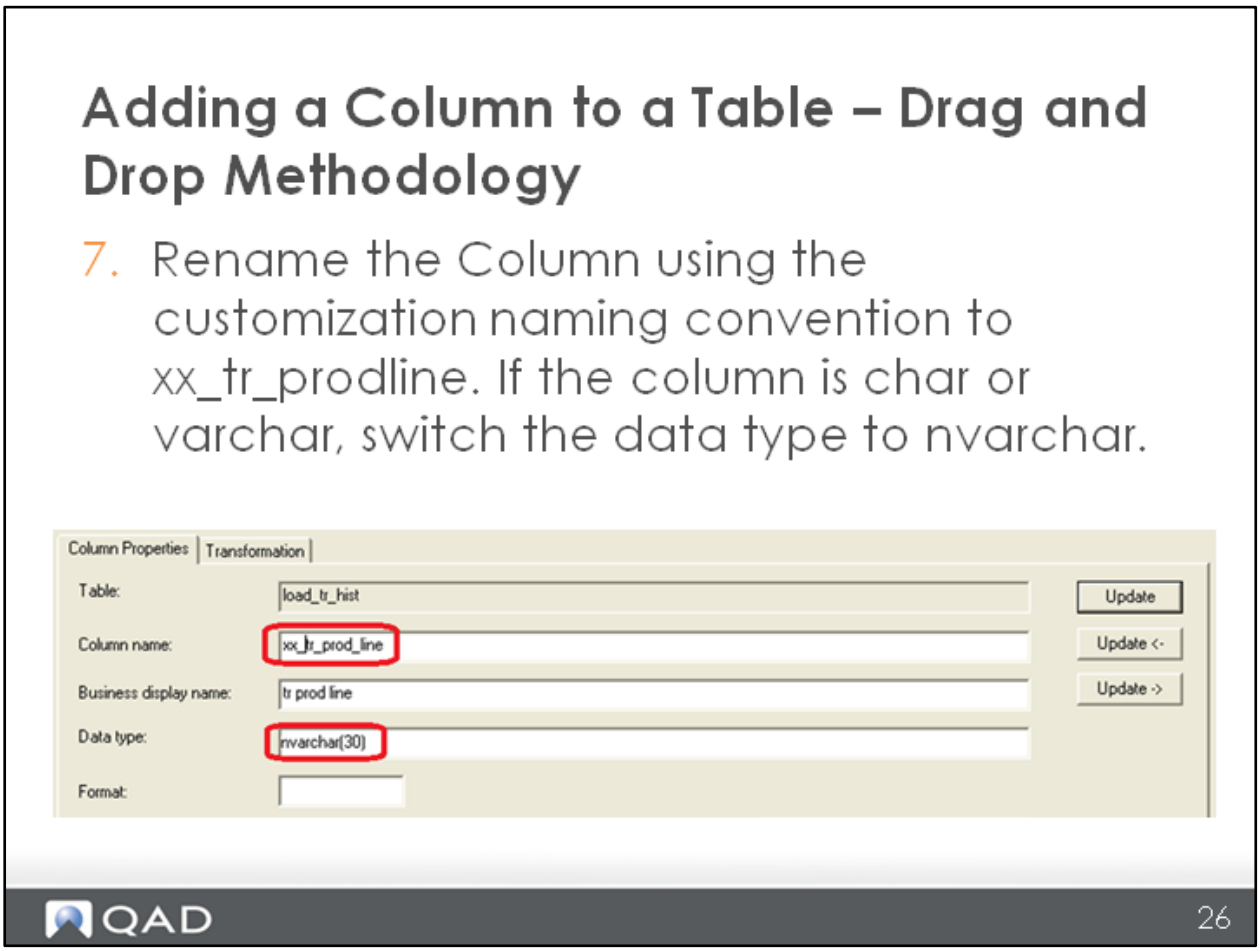


Adding a Column to a Table – Drag and Drop Methodology

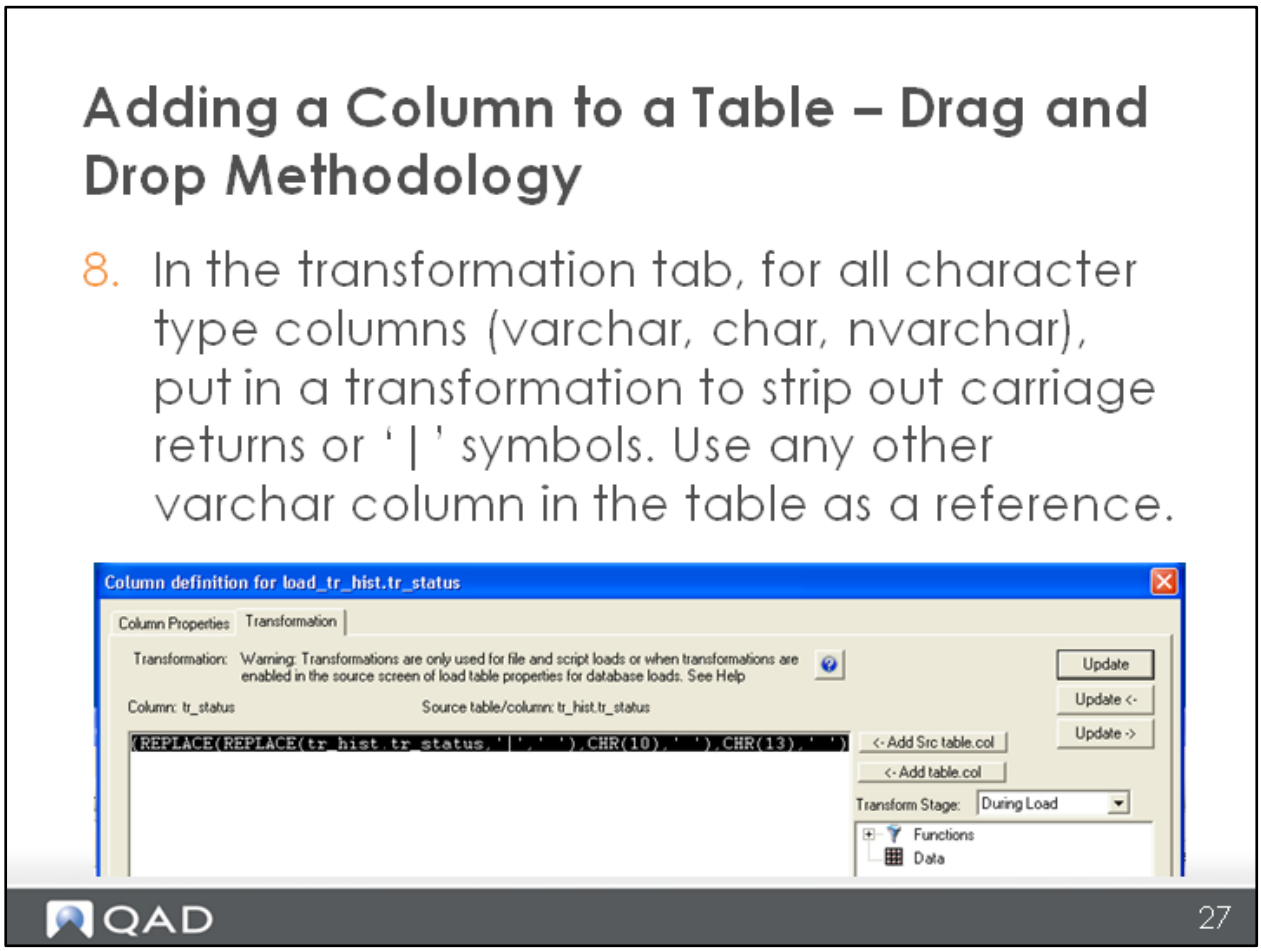


Do this by dragging the column to the end of the column list. If having trouble either move the columns before it up, or manually number the column with a number higher than the last one.

Adding a Column to a Table – Drag and Drop Methodology



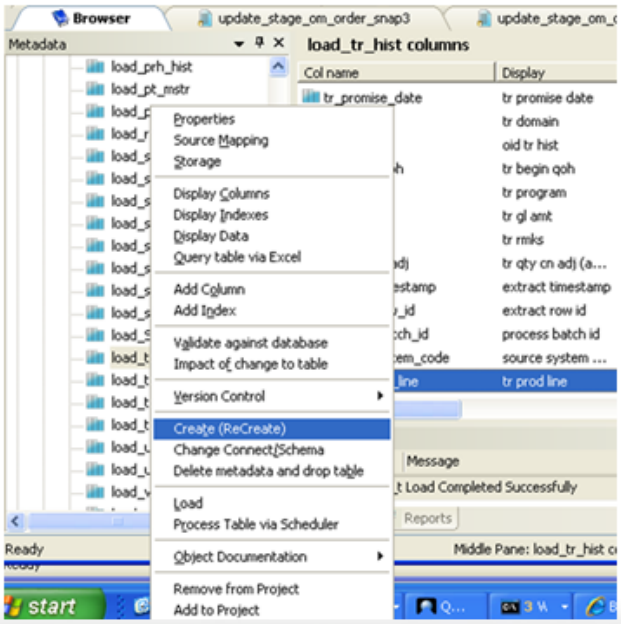
Adding a Column to a Table – Drag and Drop Methodology



Adding a Column to a Table – Drag and Drop Methodology

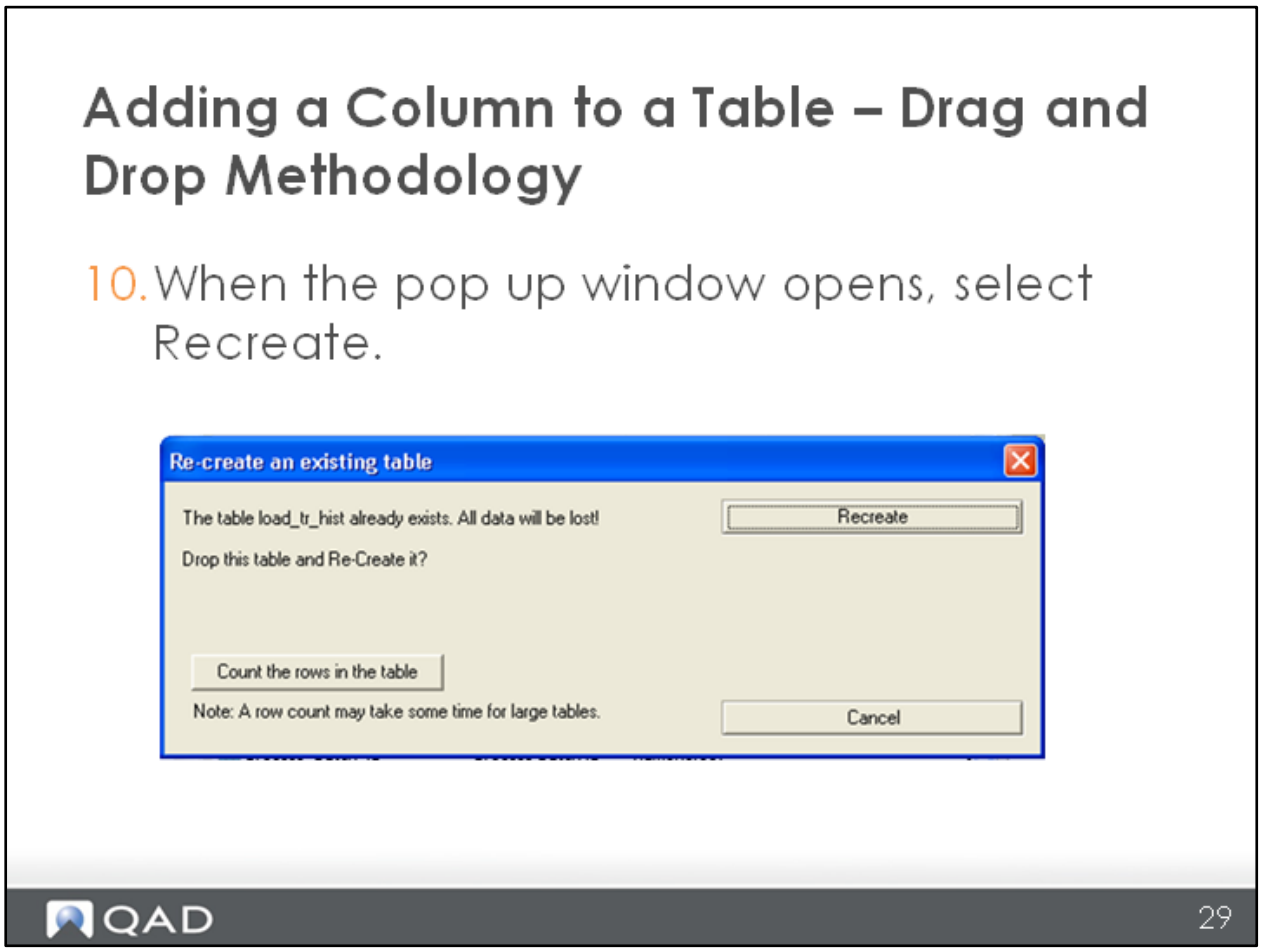
Adding a Column to a Table – Drag and Drop Methodology

9. Because this is a load table, it is fine to Create(Recreate) the table. In the Browser pane, right click on the table name and pick Create(Recreate).

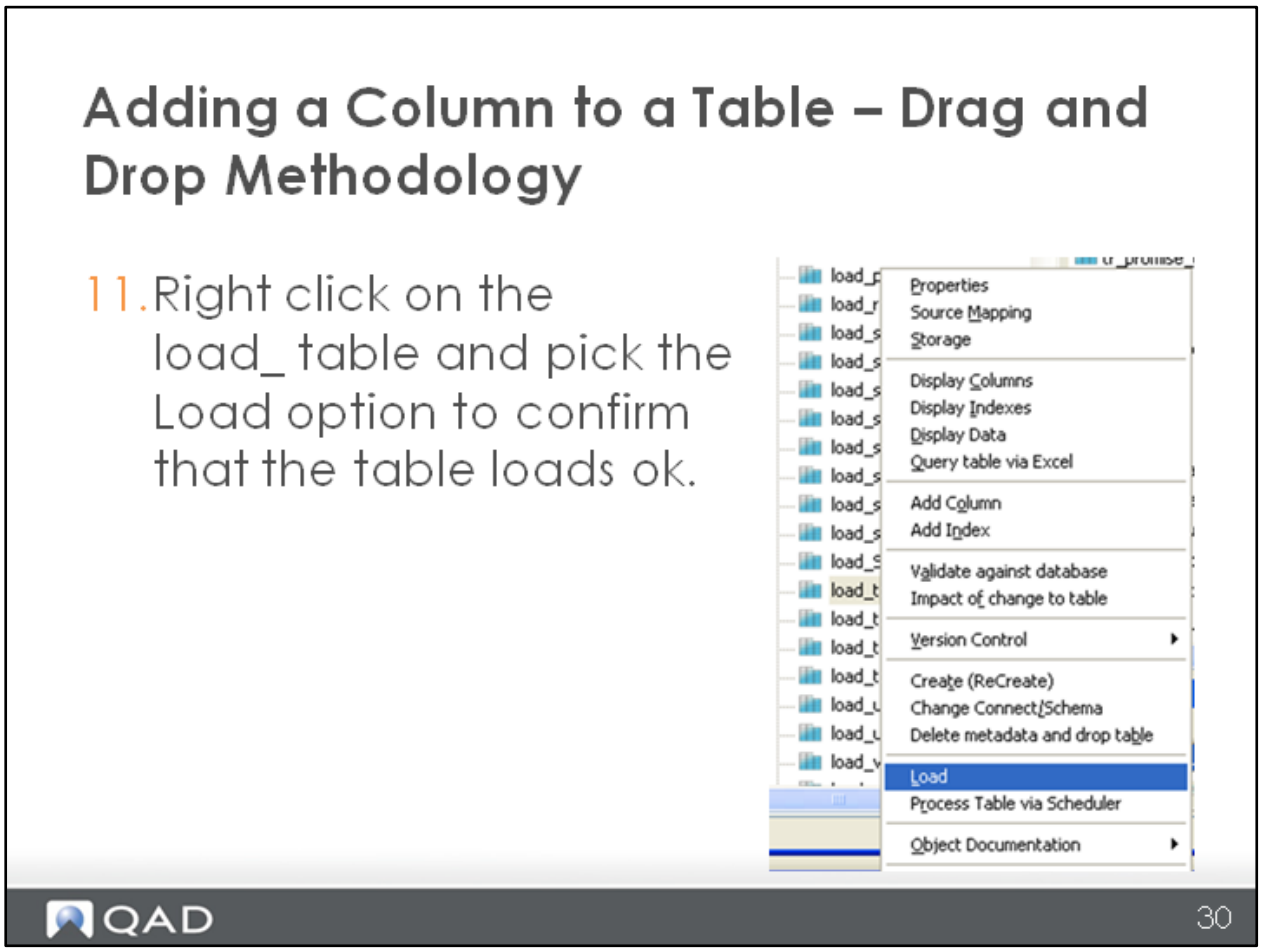


QAD 28

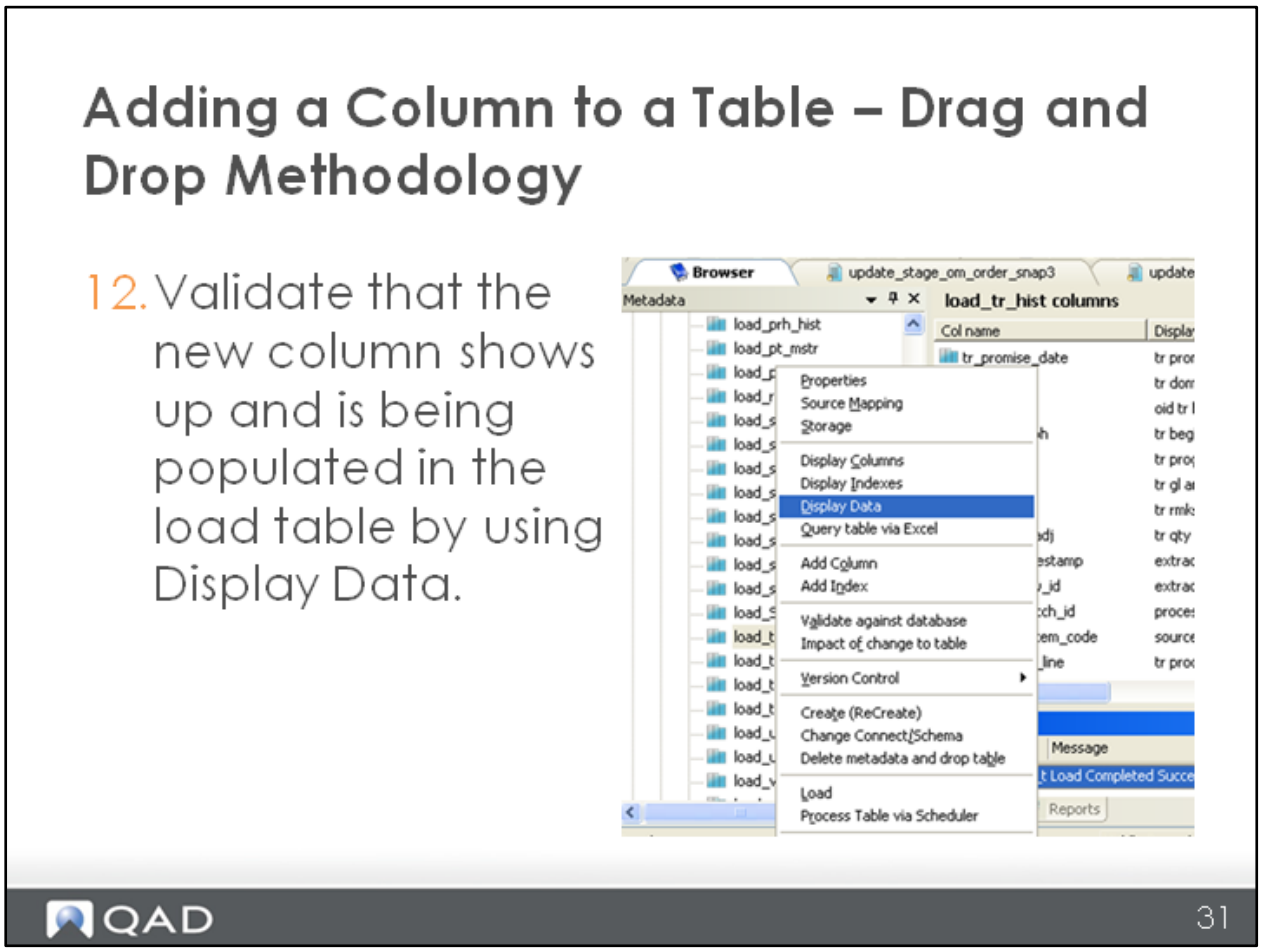
Adding a Column to a Table – Drag and Drop Methodology



Adding a Column to a Table – Drag and Drop Methodology

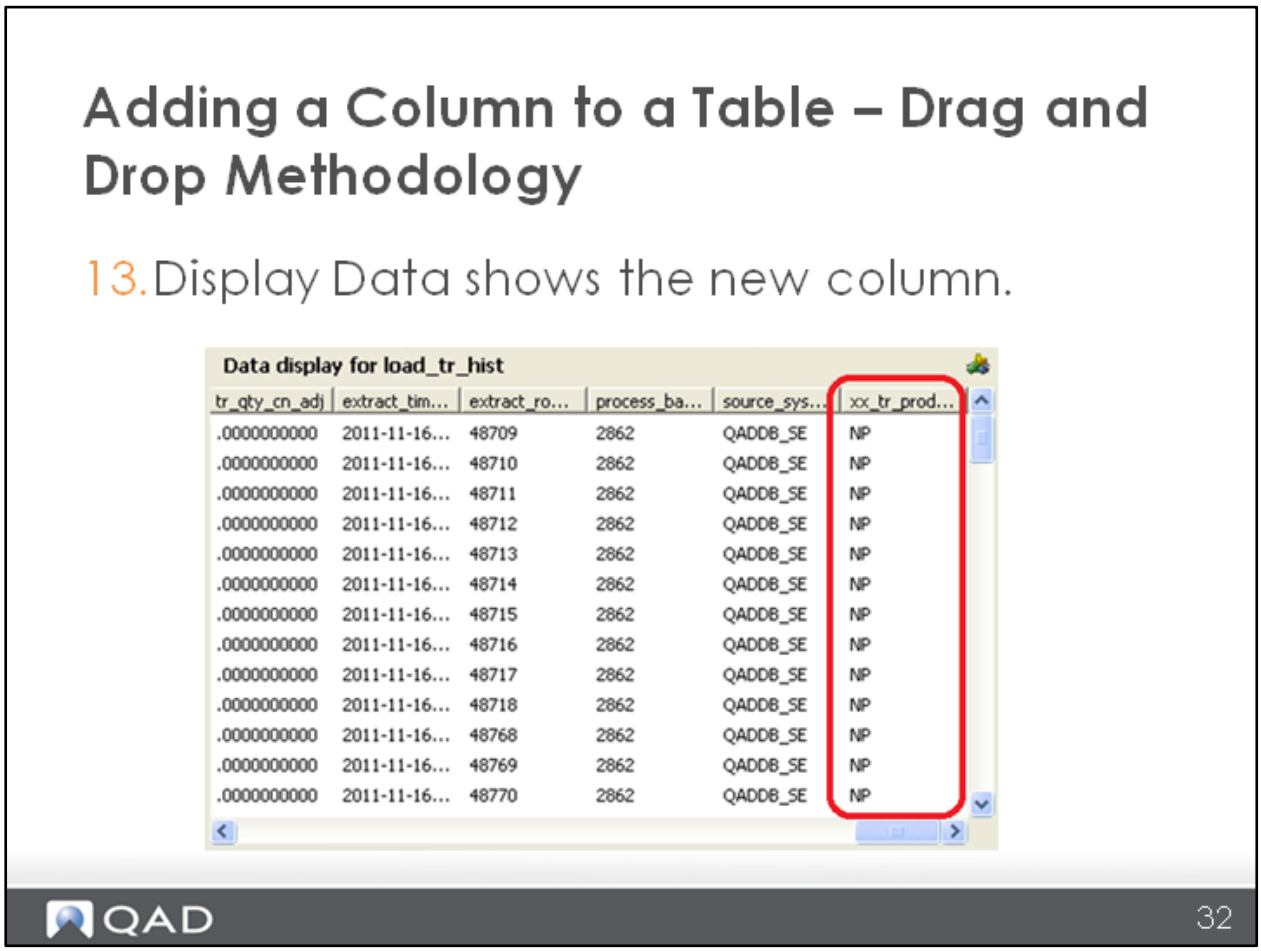


Adding a Column to a Table – Drag and Drop Methodology



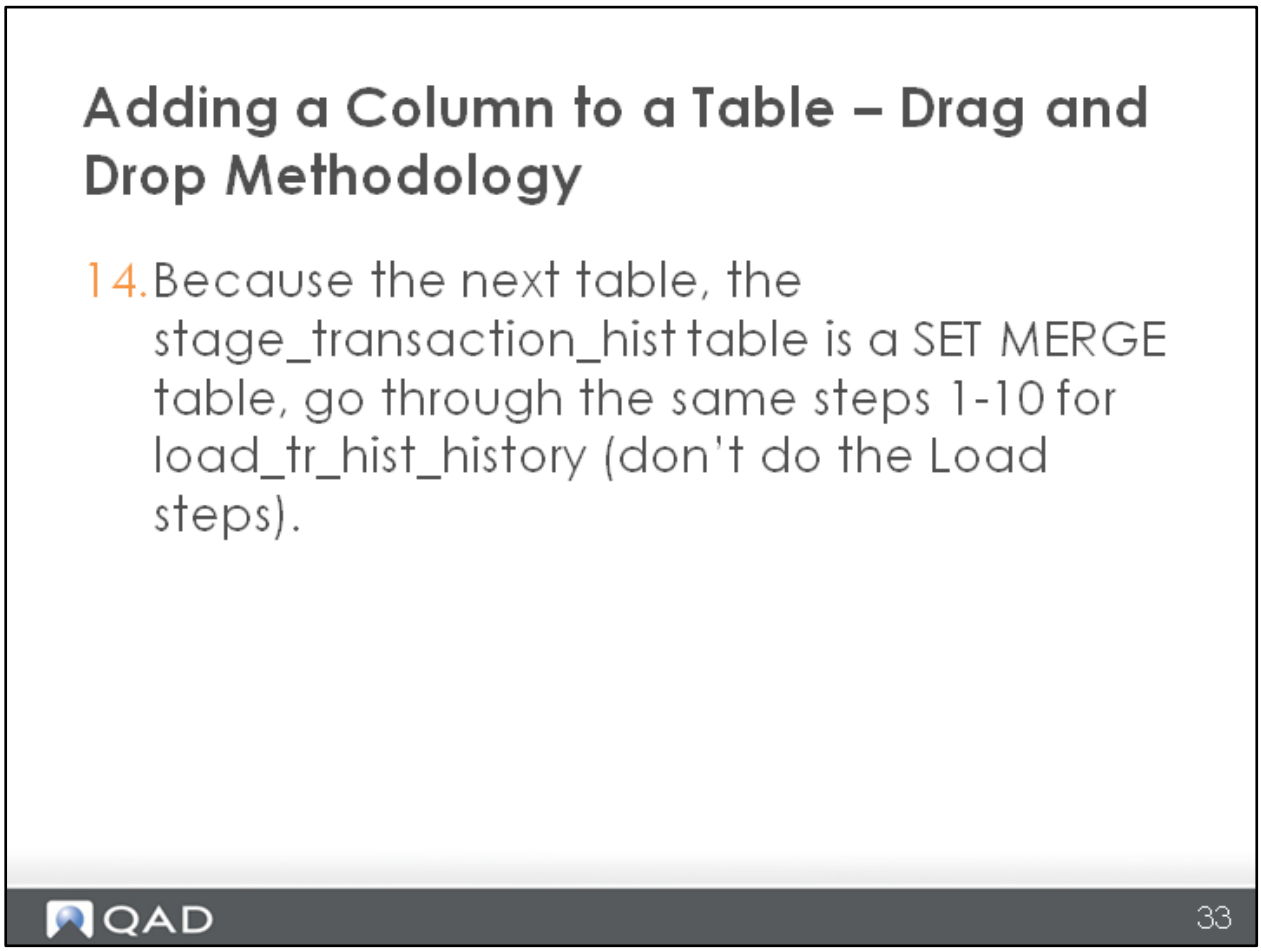
Scroll to the end of the results pane to see if the column is there and the data is populated.

Adding a Column to a Table – Drag and Drop Methodology



Scroll to the end of the results pane to see if the column is there and the data is populated.

Adding a Column to a Table – Drag and Drop Methodology

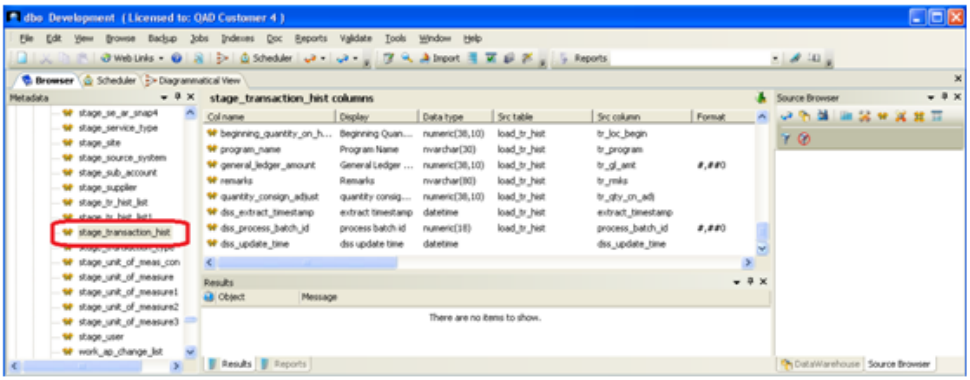


Scroll to the end of the results pane to see if the column is there and the data is populated.

Adding a Column to a Table – Drag and Drop Methodology

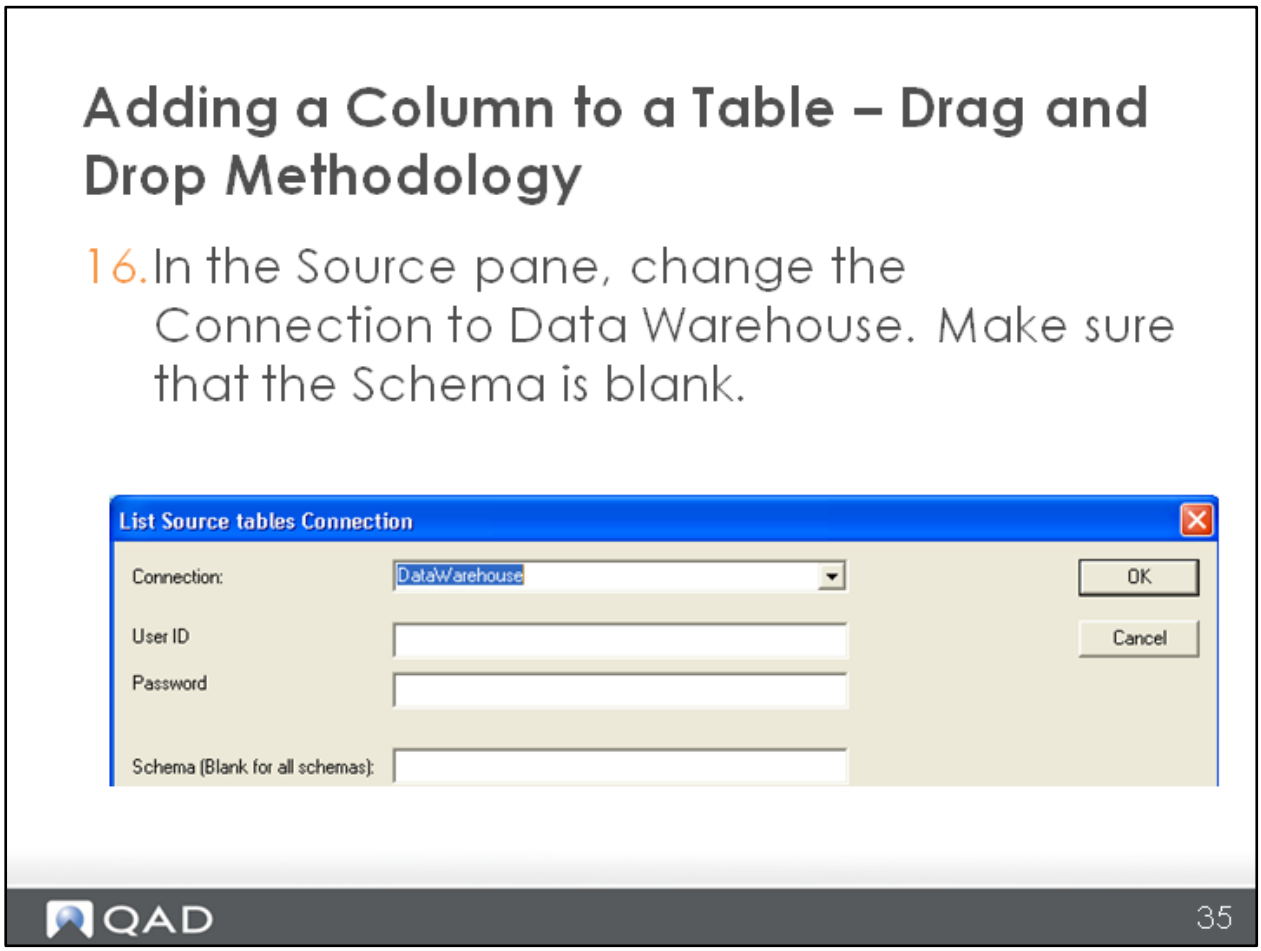
Adding a Column to a Table – Drag and Drop Methodology

15. To add the column to the staging table prior to the perm_ table, double click the stage_transaction_hist file in the Browser pane so that all column show in the Target pane.

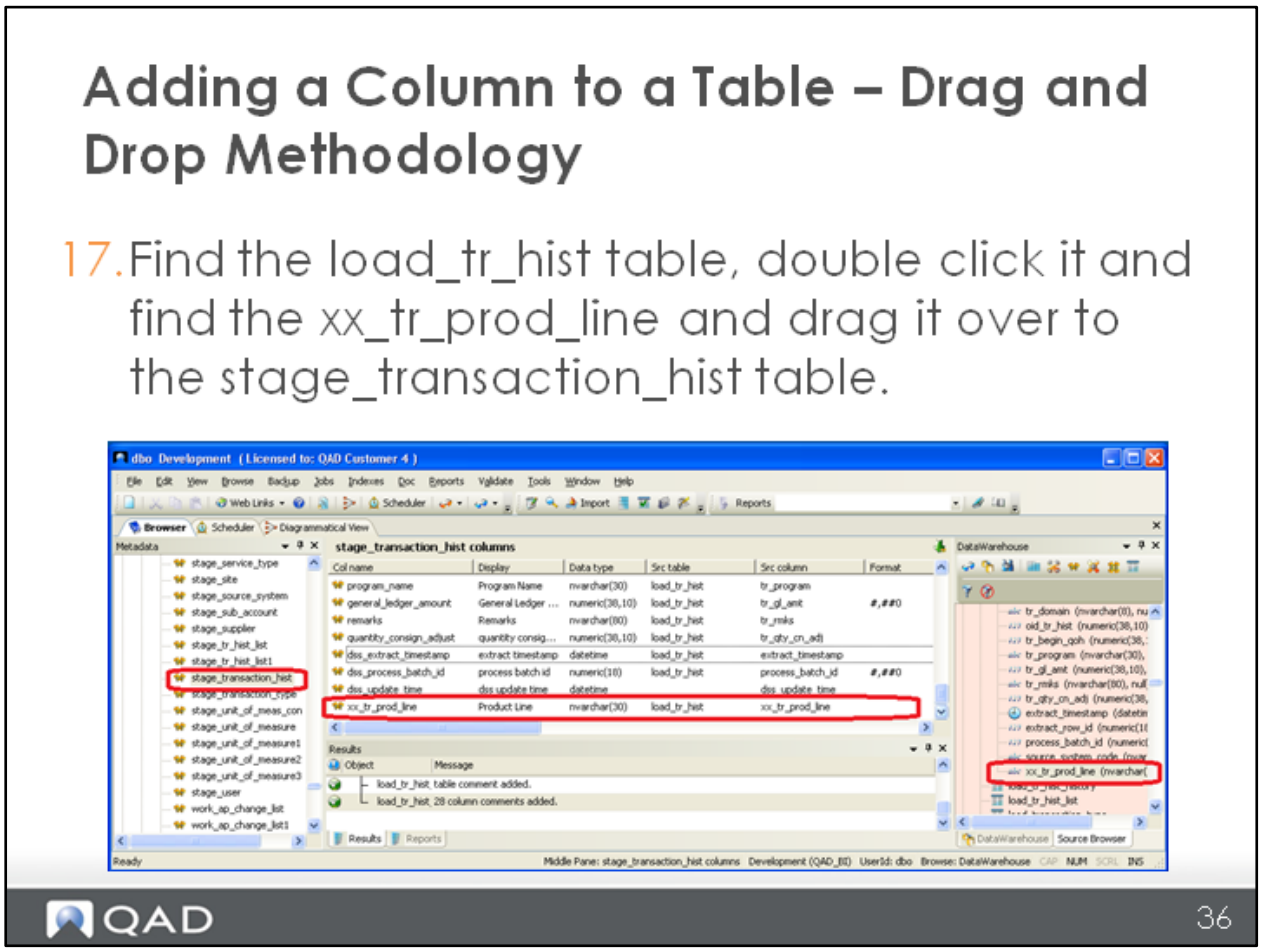


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Adding a Column to a Table – Drag and Drop Methodology

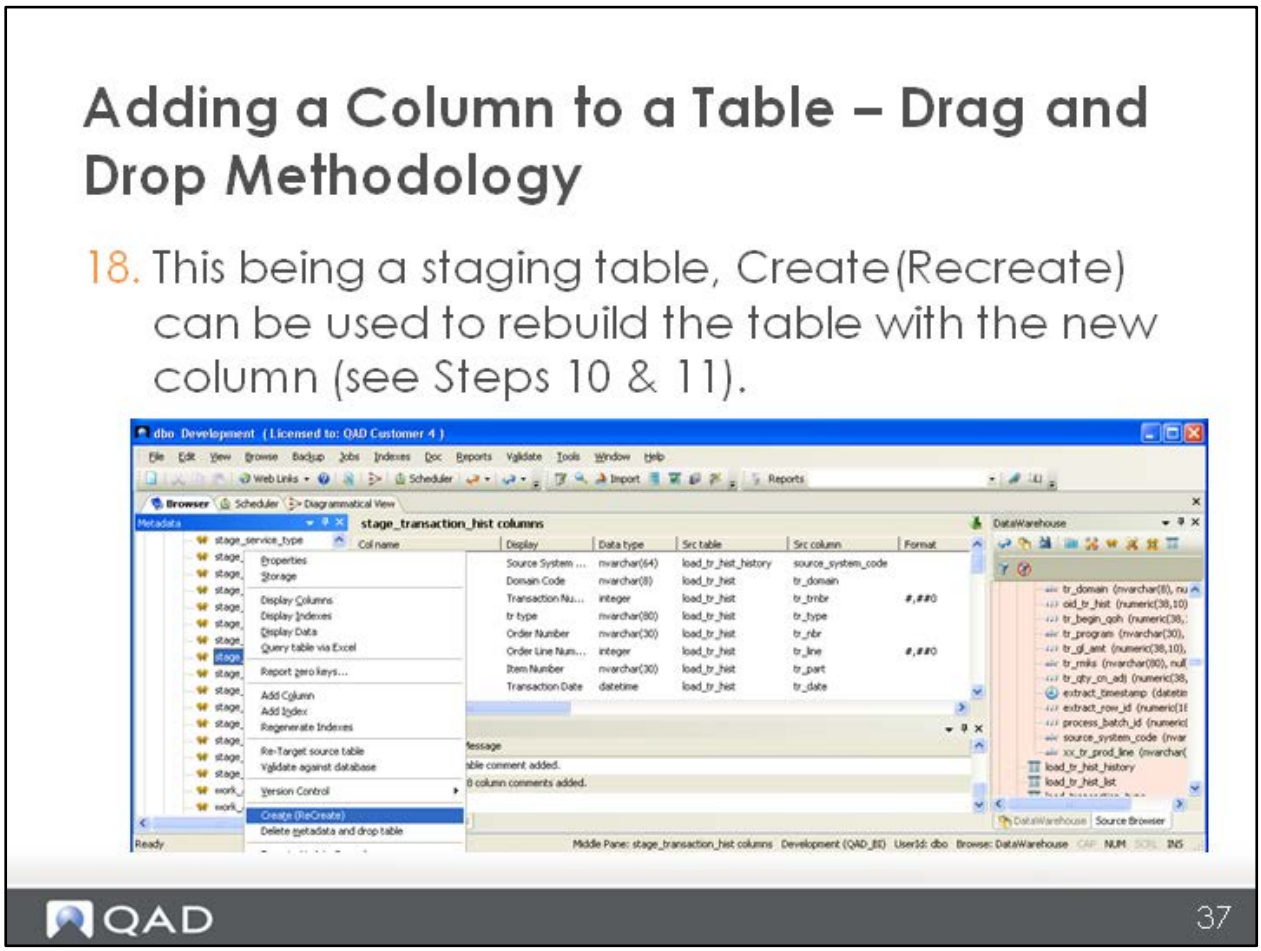


Adding a Column to a Table – Drag and Drop Methodology

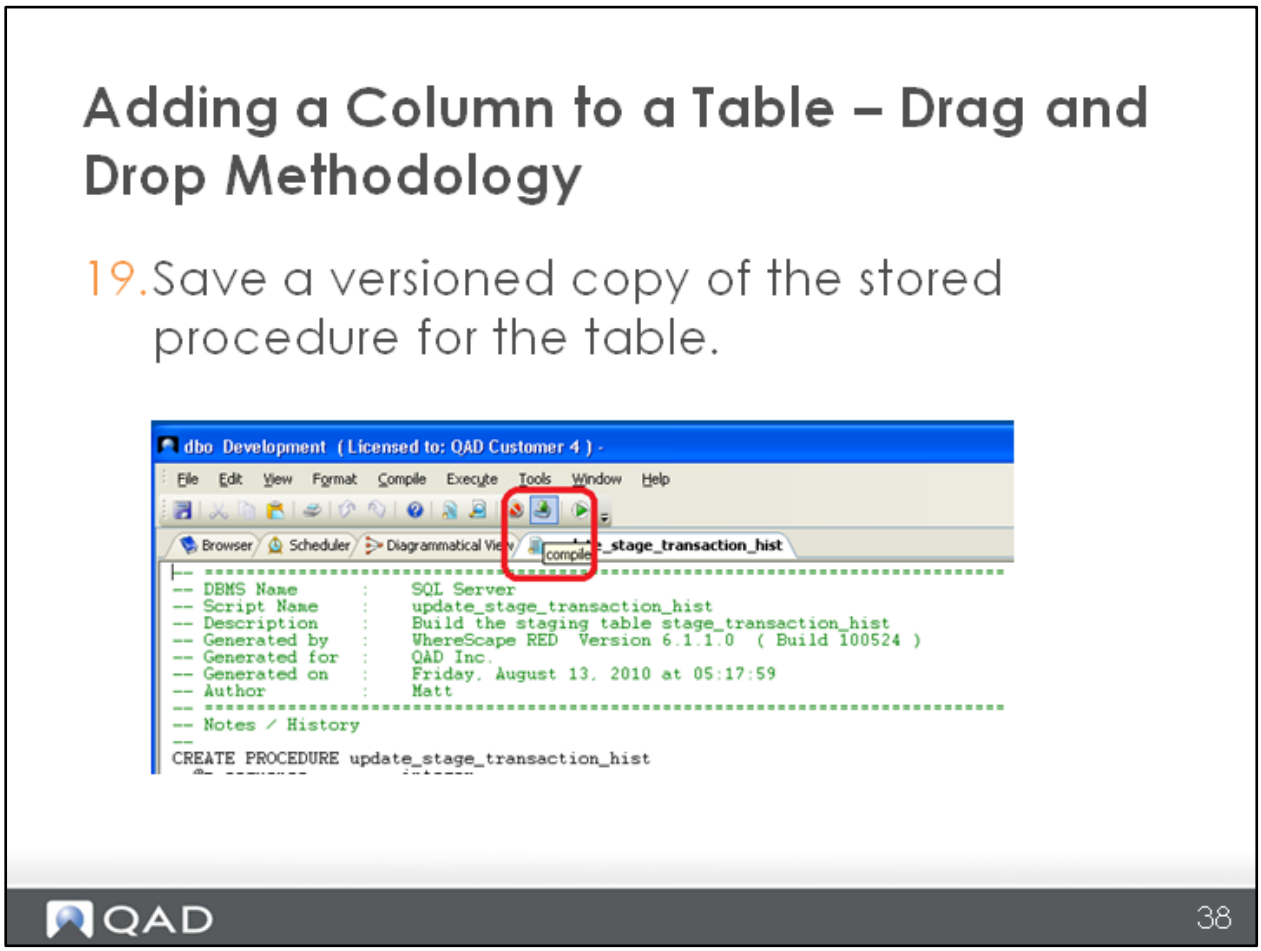


Make sure the column is last in the column list (see Step 7).

Adding a Column to a Table – Drag and Drop Methodology



Adding a Column to a Table – Drag and Drop Methodology

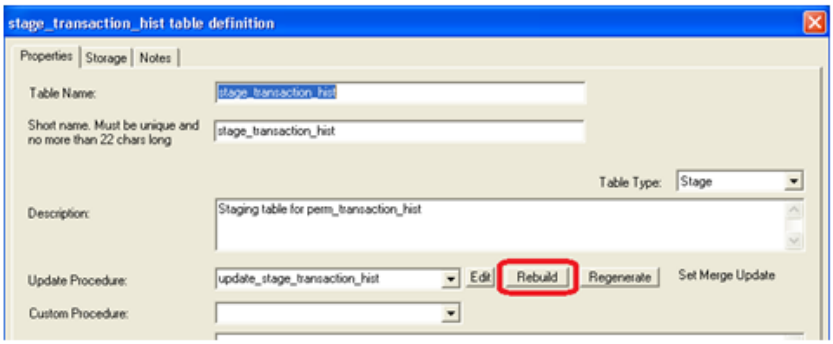


Double click the table in the Browser table. When the pop-up window appears, click the Edit button. When the procedure window opens, click the Compile button. Close the window.

Adding a Column to a Table – Drag and Drop Methodology

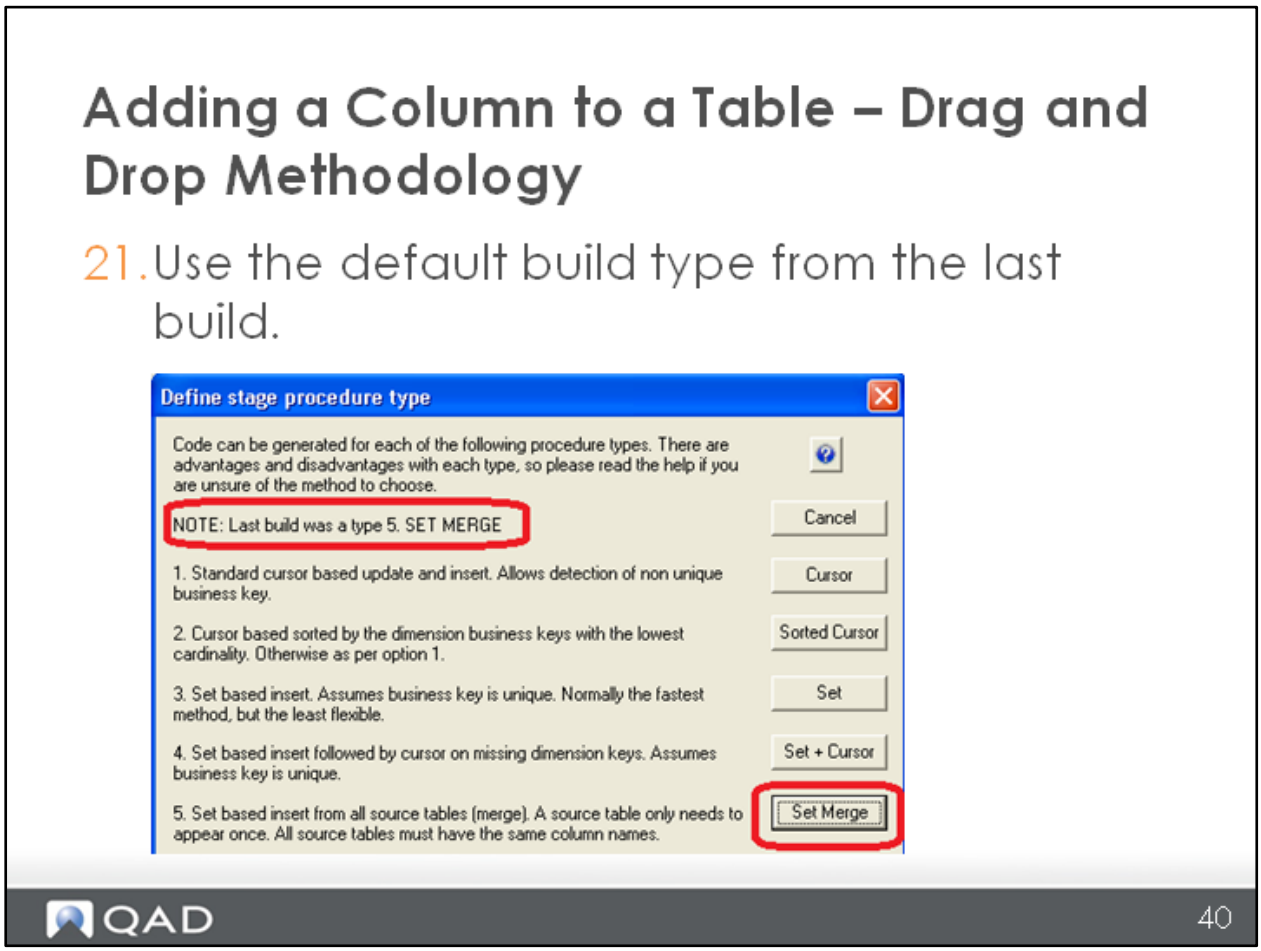
Adding a Column to a Table – Drag and Drop Methodology

20. Double click the table name in the Browser pane again. When the pop-up window opens, click Rebuild.

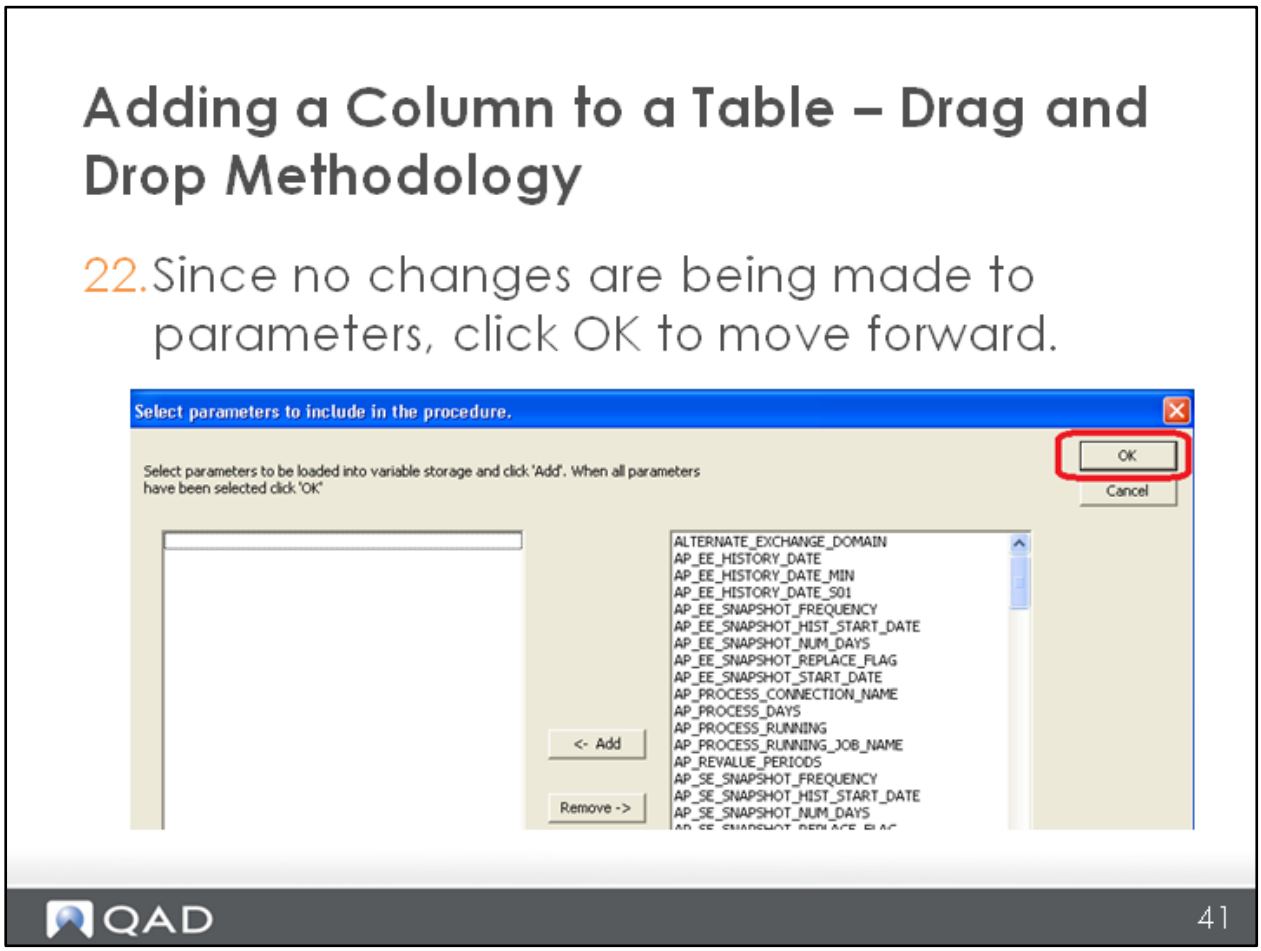


QAD 39

Adding a Column to a Table – Drag and Drop Methodology

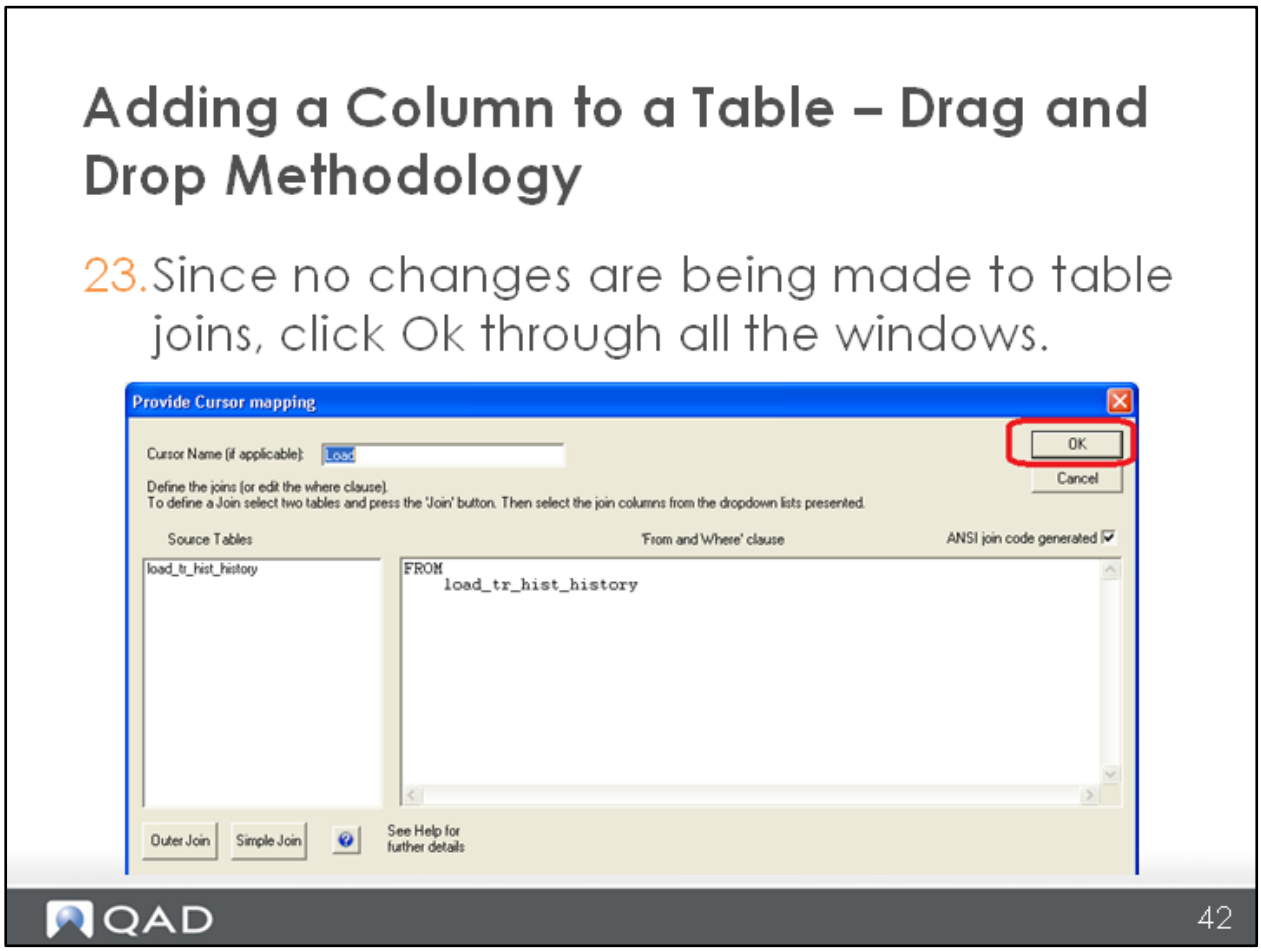


Adding a Column to a Table – Drag and Drop Methodology

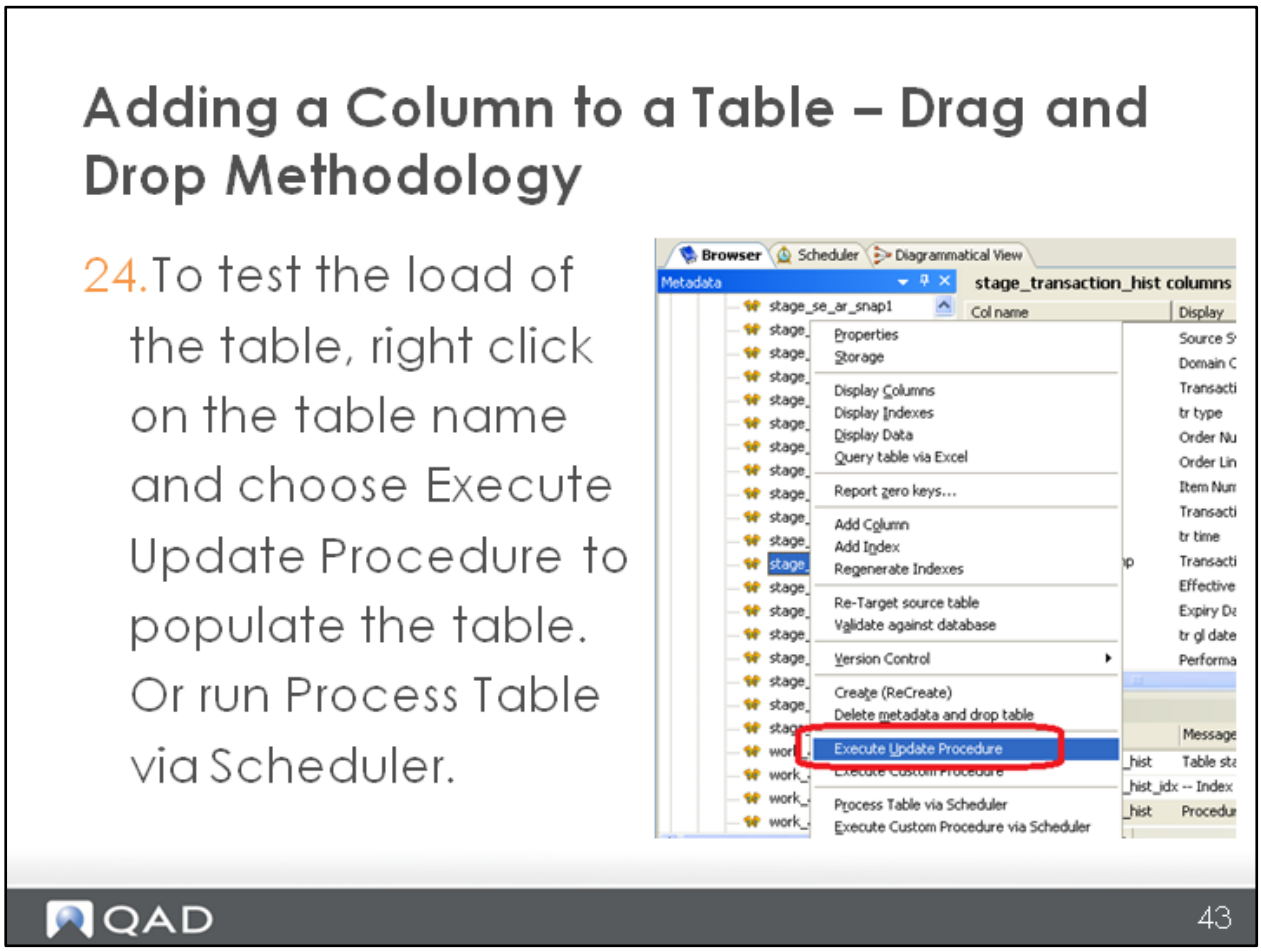


Any new parameters to be picked up would be added here.

Adding a Column to a Table – Drag and Drop Methodology



Adding a Column to a Table – Drag and Drop Methodology

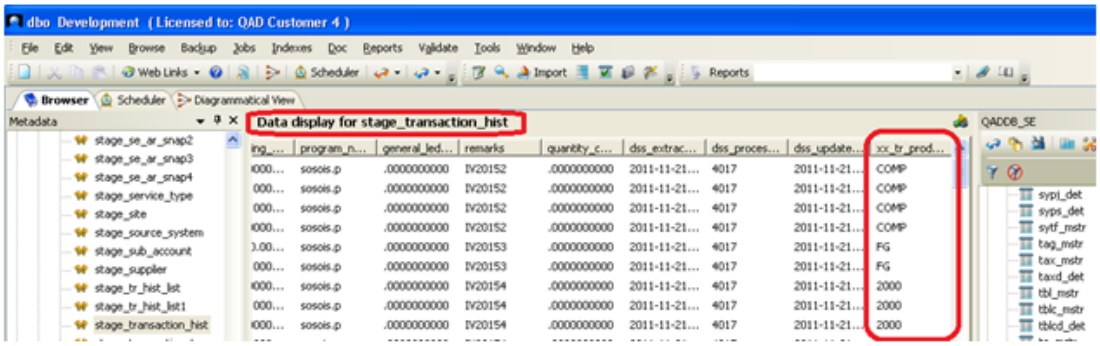


Running Process Table via Scheduler ensures resources are freed up to be run. If you run Execute Update Procedure for a very large table, it will put the DWD into Not Responding mode. For small tables it works great to Exeucte Update Procedure, but for large tables, always use Process Table via Scheduler.

Adding a Column to a Table – Drag and Drop Methodology

Adding a Column to a Table – Drag and Drop Methodology

25. Validate the data load. Right click on stage_transaction_hist in the Browser pane and Display data. Confirm new column populated.



QAD 44

Adding a Column to a Table – Drag and Drop Methodology

Adding a Column to a Table – Drag and Drop Methodology

26. Add the custom column to the perm_transaction_hist table by drag and drop using the same methodology as last two tables. ***Do NOT** proceed to CreateRecreate the table. See next step.***

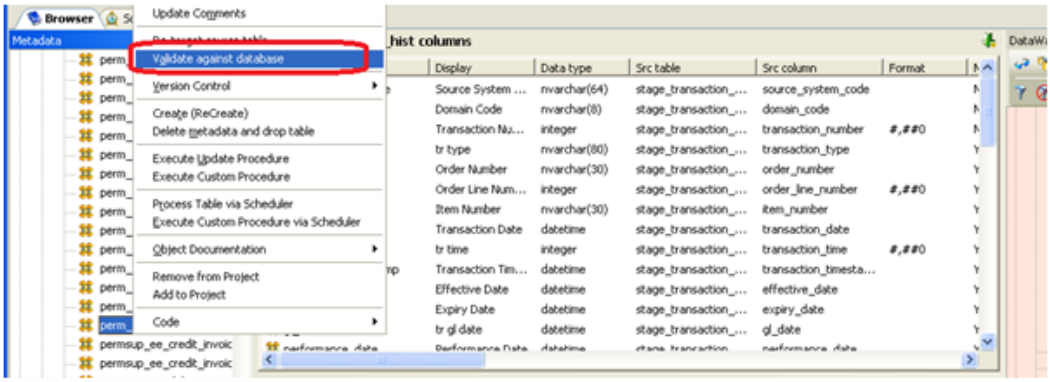


QAD 45

Adding a Column to a Table – Drag and Drop Methodology

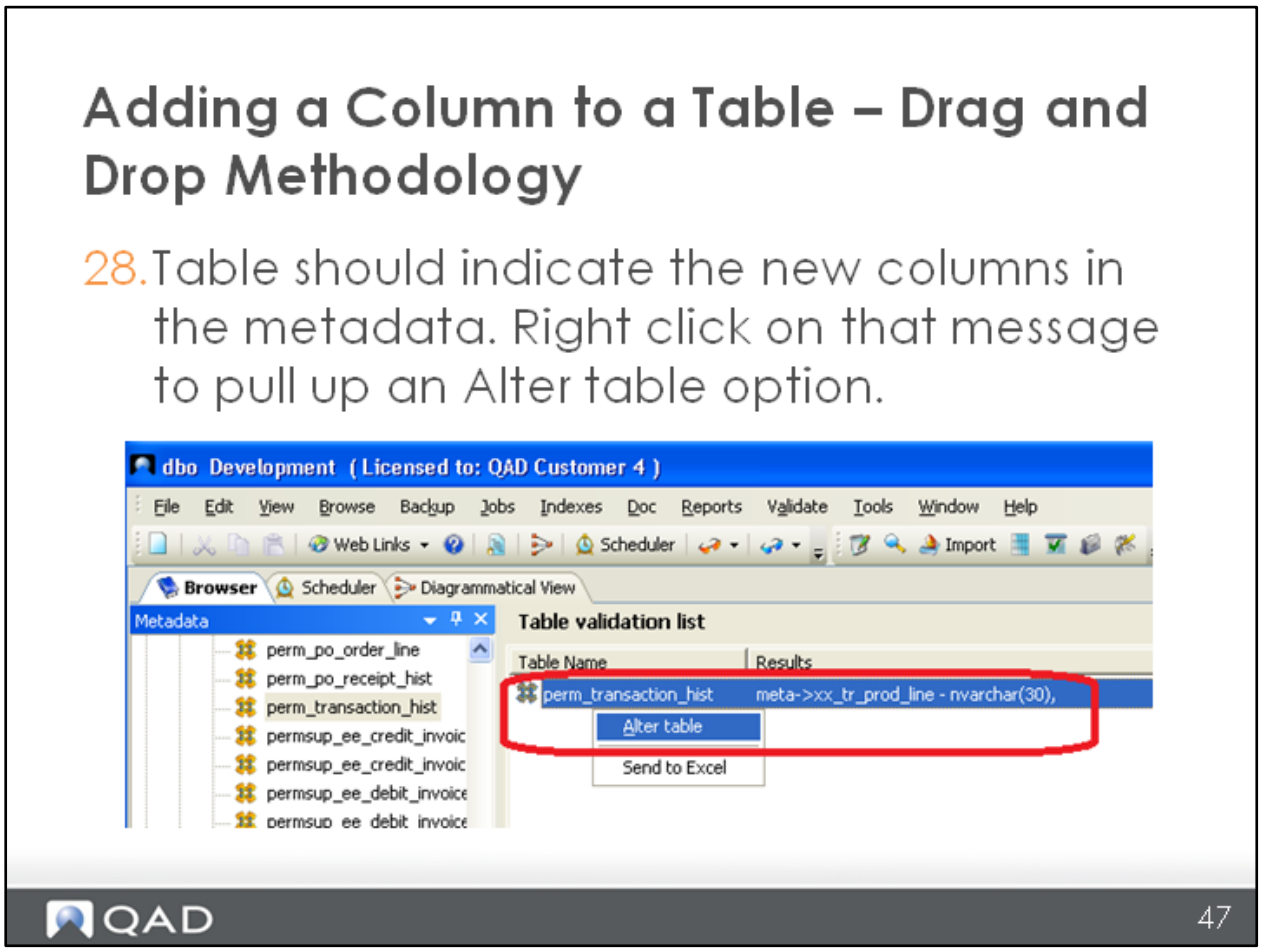
Adding a Column to a Table – Drag and Drop Methodology

27. Because this is a perm_ table, caution must be used when adding an extra column. Right click on the perm_ table in the Browser pane and click Validate against database.

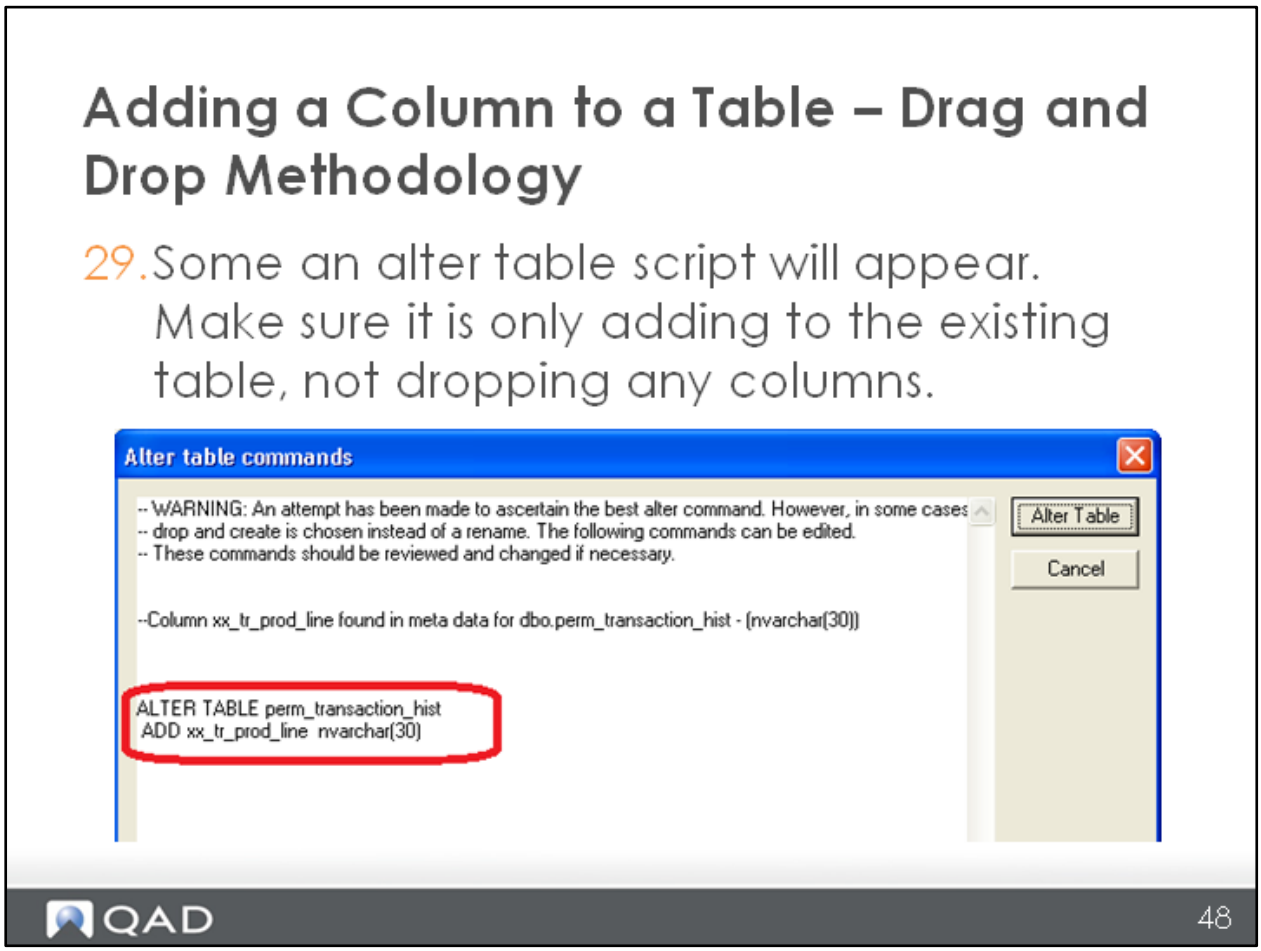


QAD 46

Adding a Column to a Table – Drag and Drop Methodology

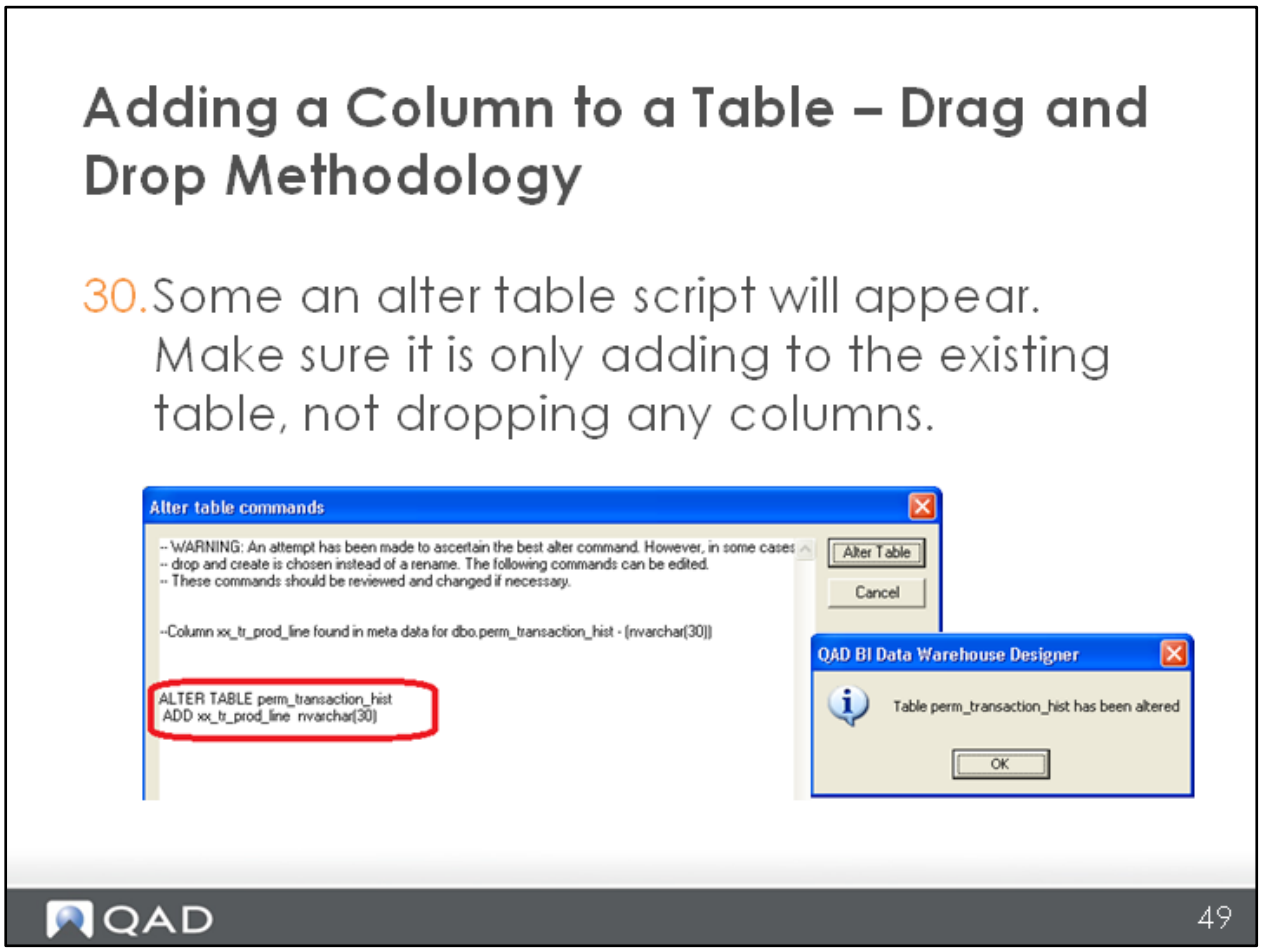


Adding a Column to a Table – Drag and Drop Methodology



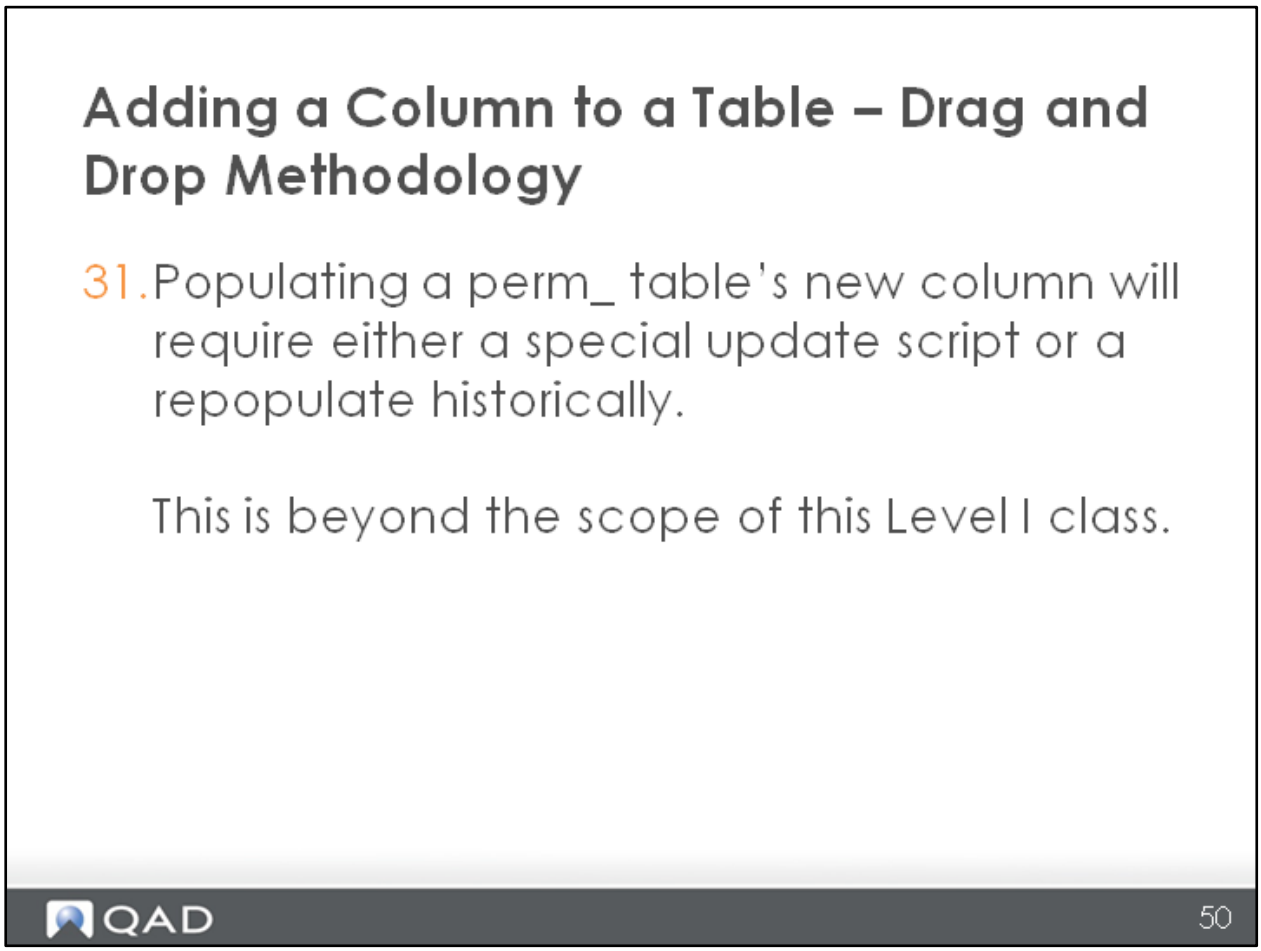
As an alternate

Adding a Column to a Table – Drag and Drop Methodology

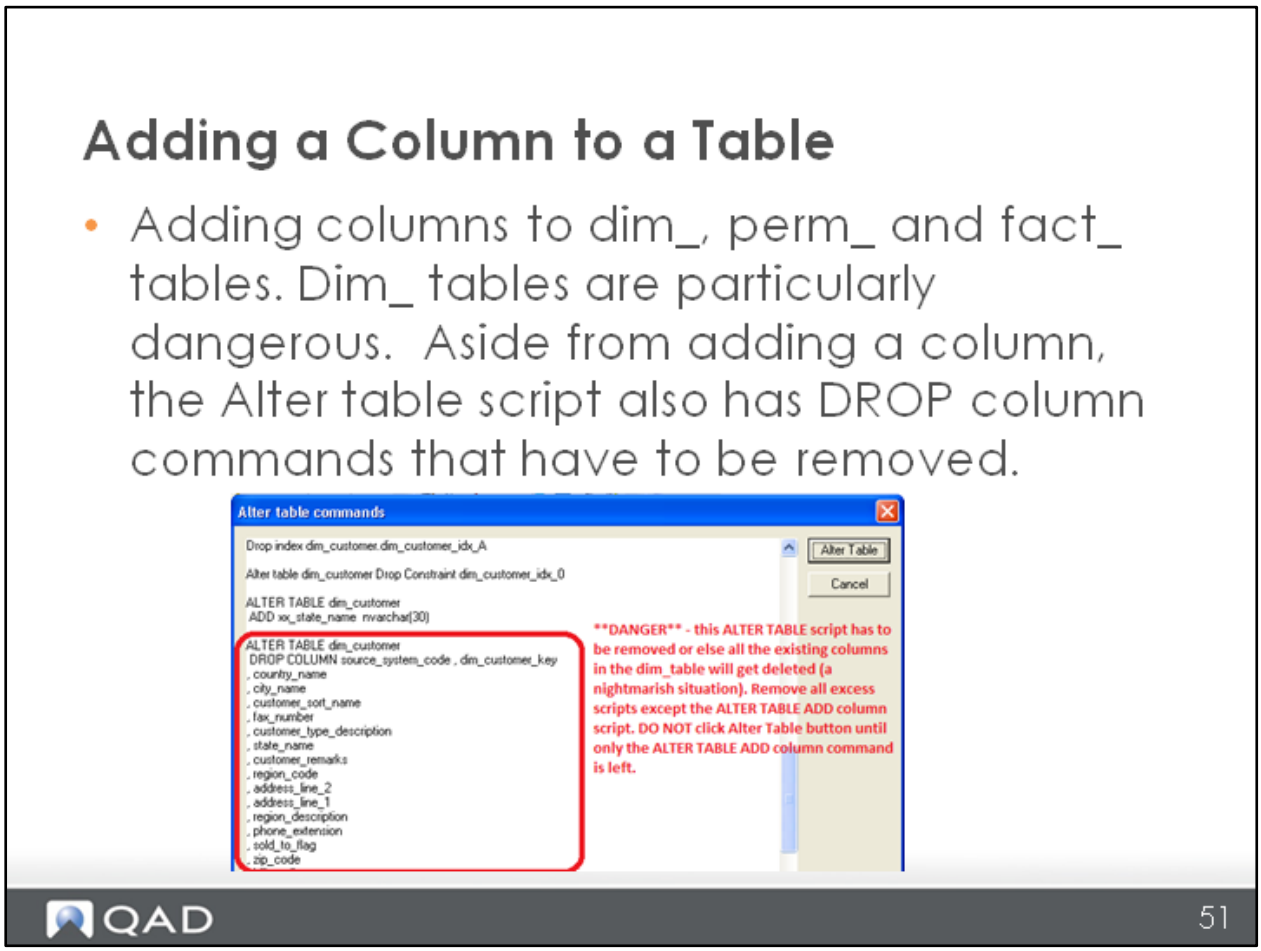


Dim_ tables add a drop column script that is very dangerous.

Adding a Column to a Table – Drag and Drop Methodology

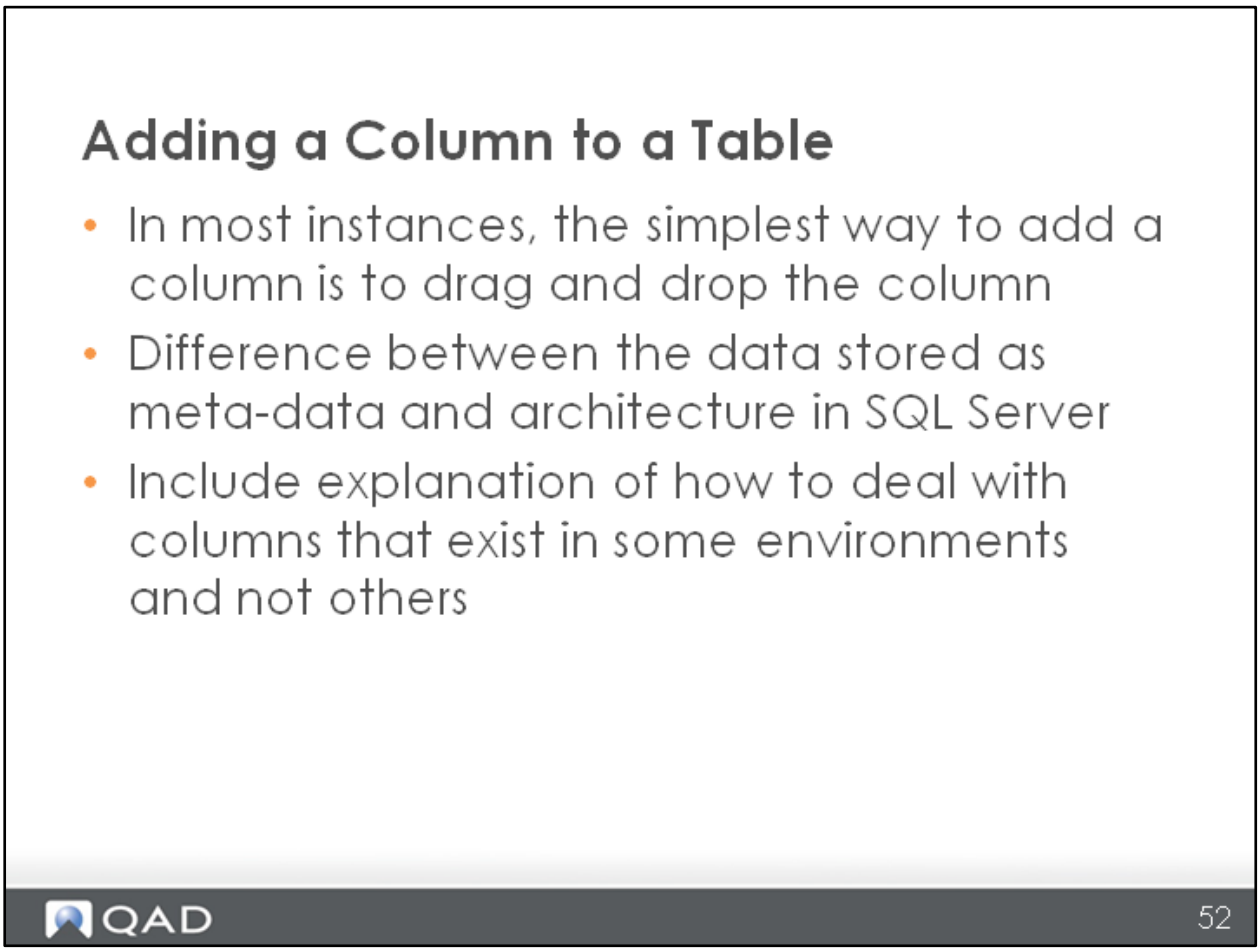


Adding a Column to a Table

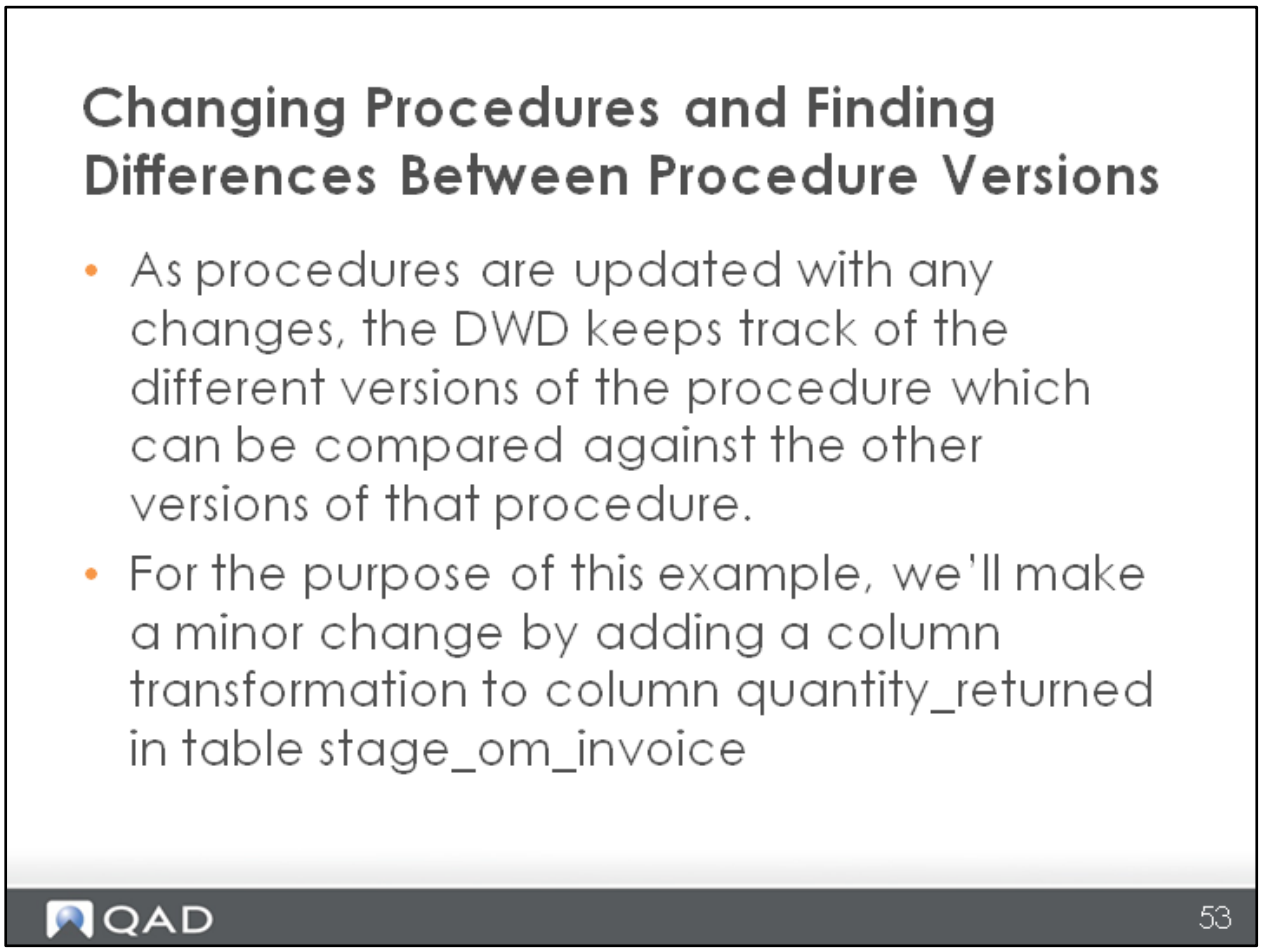


Any of the three tables that data is to be permanently stored in should use the Validate database option to alter the table.

Adding a Column to a Table

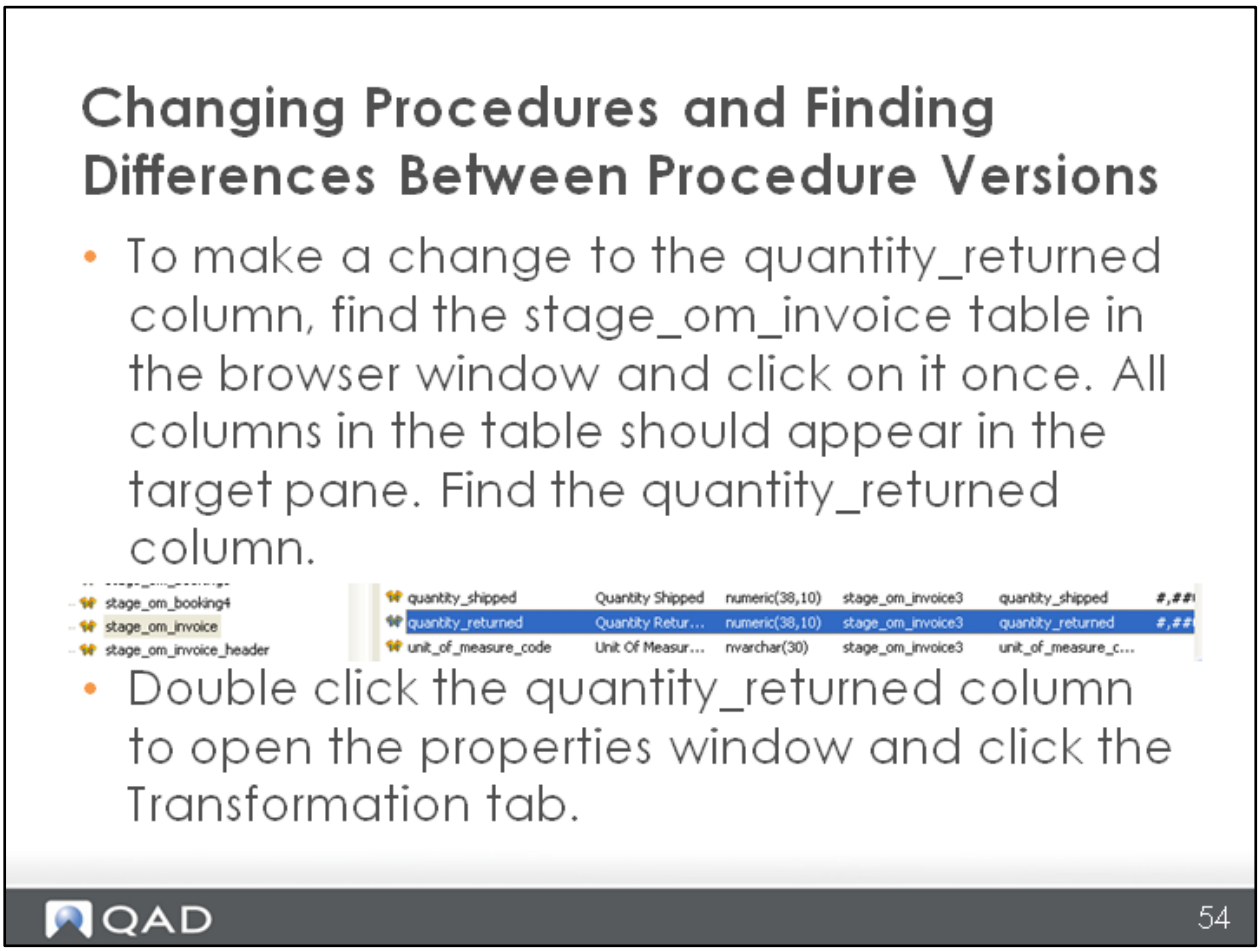


Changing Procedures and Finding Differences Between Procedure Versions



An example of a procedure change can also be shown by looking at stage_transaction_hist from the prior exercise, presuming that the class took the step of compiling the existing procedure before rebuilding it.

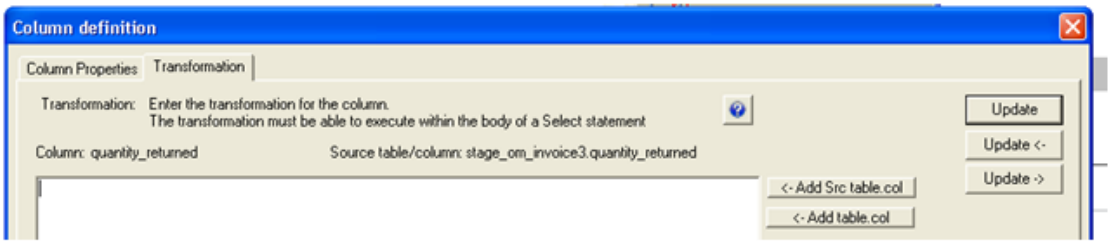
Changing Procedures and Finding Differences Between Procedure Versions



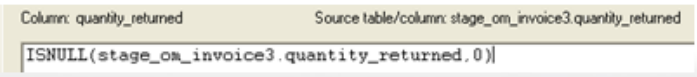
Changing Procedures and Finding Differences Between Procedure Versions

Changing Procedures and Finding Differences Between Procedure Versions

- Double click the quantity_returned column to open the Column definitions window and click the Transformation tab.



- Click the Add Src table.col button and then add ISNULL(,0) logic to it. Be sure to click Update to save.



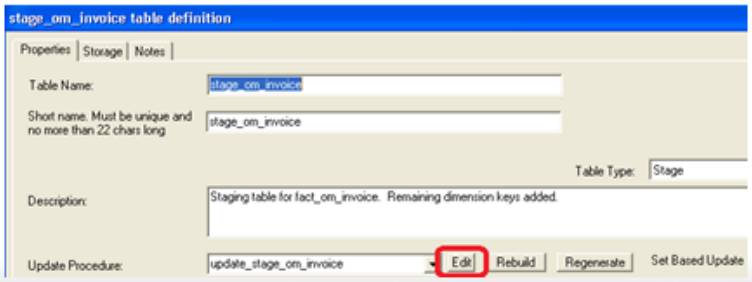
QAD 55

Changing Procedures and Finding Differences Between Procedure Versions

Changing Procedures and Finding Differences Between Procedure Versions

With changes to a column, proceed to creating a new version of the procedure.

1. First save a version of the existing procedure. In the browser pane, double click on the table name to see properties, then click on the Edit button to open the procedure.

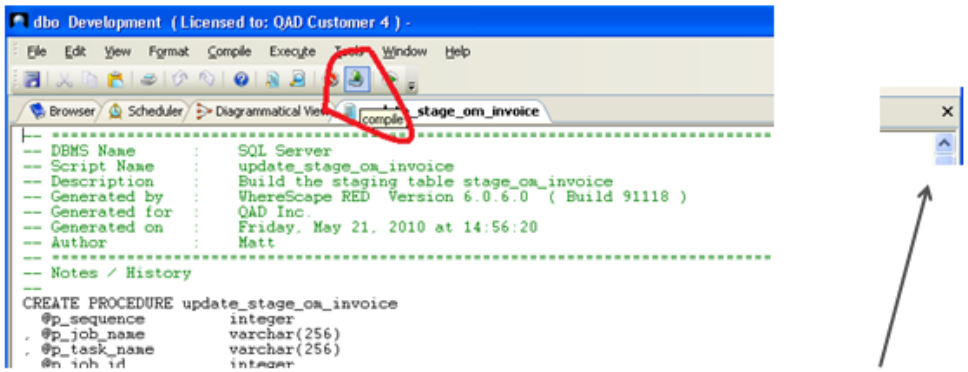


QAD 56

Changing Procedures and Finding Differences Between Procedure Versions

Changing Procedures and Finding Differences Between Procedure Versions

2. With the existing original procedure open, click on the compile button to save a version of it.



3. Close the procedure window using the x in the far right corner of the window.

QAD 57

Changing Procedures and Finding Differences Between Procedure Versions

Changing Procedures and Finding Differences Between Procedure Versions

4. Depending on the extent of the changes to be made, you can either Rebuild or Regenerate the procedure. This was a simple column change with no new data sources added that would require parameter additions or table joins, so just Regenerate. Double click on the table name again to open it. Click the Regenerate button.

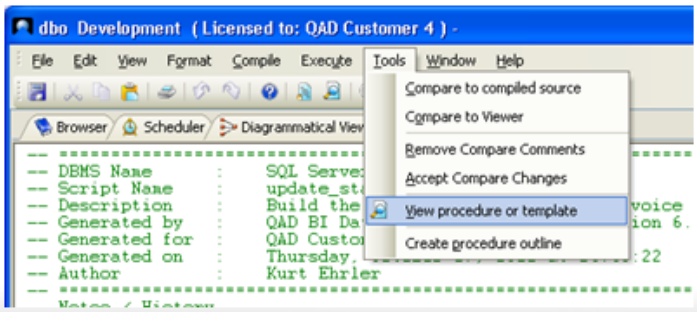


QAD 58

Changing Procedures and Finding Differences Between Procedure Versions

Changing Procedures and Finding Differences Between Procedure Versions

5. To now do a procedure comparison among version, double click on the table name again to get to the Edit button and open the procedure again. Go to Tools and click View procedure or template.

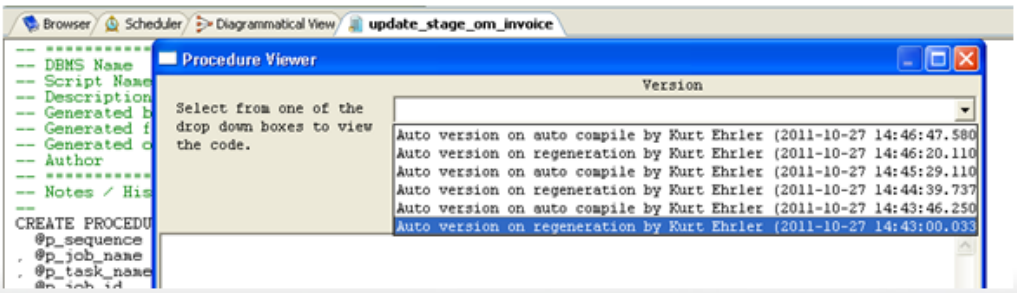


QAD 59

Changing Procedures and Finding Differences Between Procedure Versions

Changing Procedures and Finding Differences Between Procedure Versions

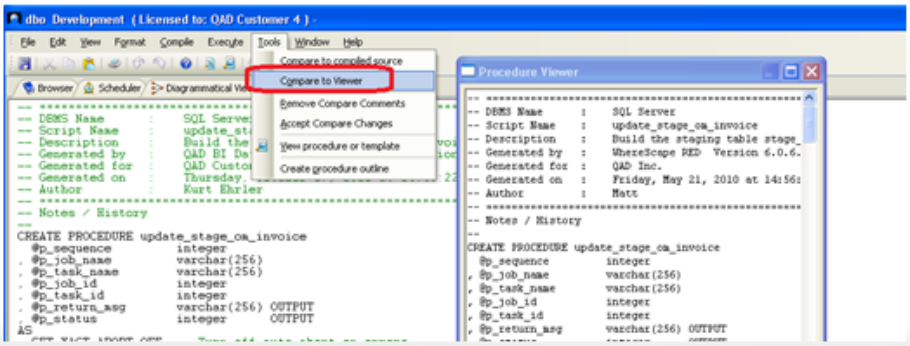
6. A view window will appear. Click the Version drop down menu and pick which version you want to compare against. The most recent version is the current version of the procedure so pick one older than that.



Changing Procedures and Finding Differences Between Procedure Versions

Changing Procedures and Finding Differences Between Procedure Versions

7. The selected version of the procedure should now appear in the Procedure View window. Leave that window open and go to the Tools menu again and select Compare to viewer.

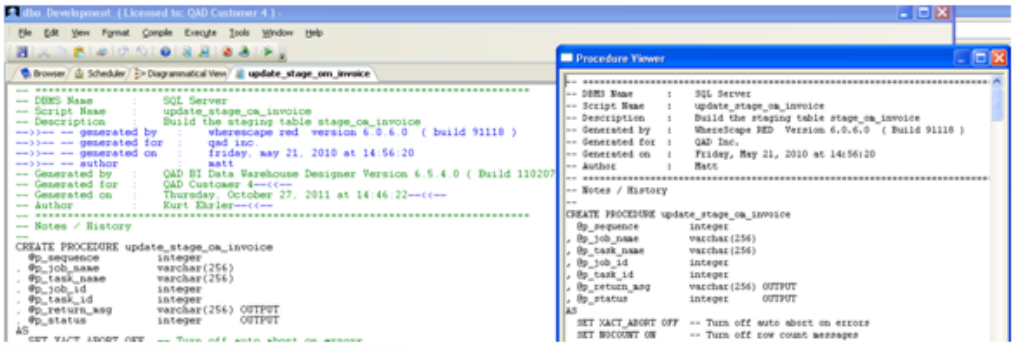


QAD 61

Changing Procedures and Finding Differences Between Procedure Versions

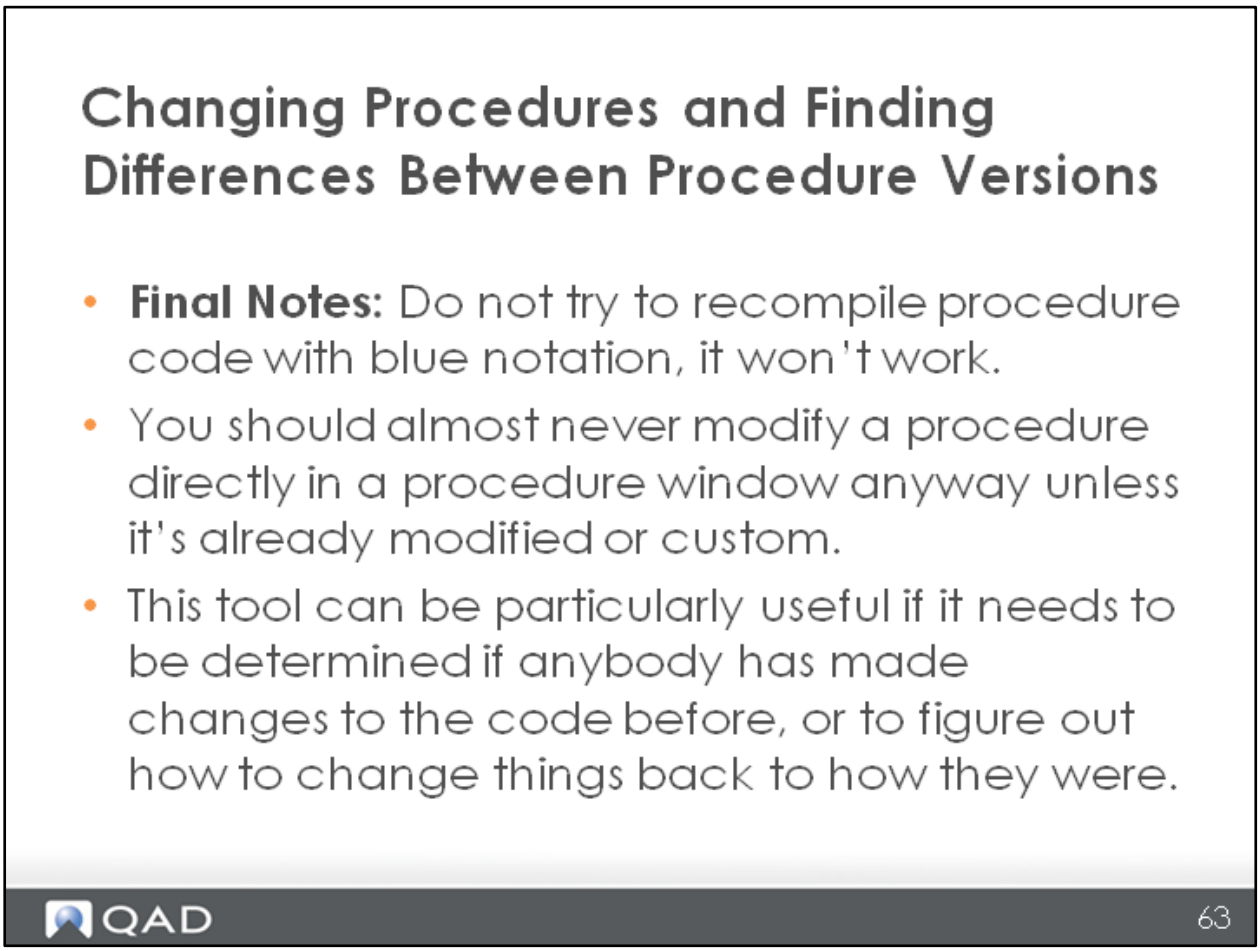
Changing Procedures and Finding Differences Between Procedure Versions

8. Any differences between the current version of the procedure and what is in the viewer will be displayed in the procedure window (not the Viewer) in blue.

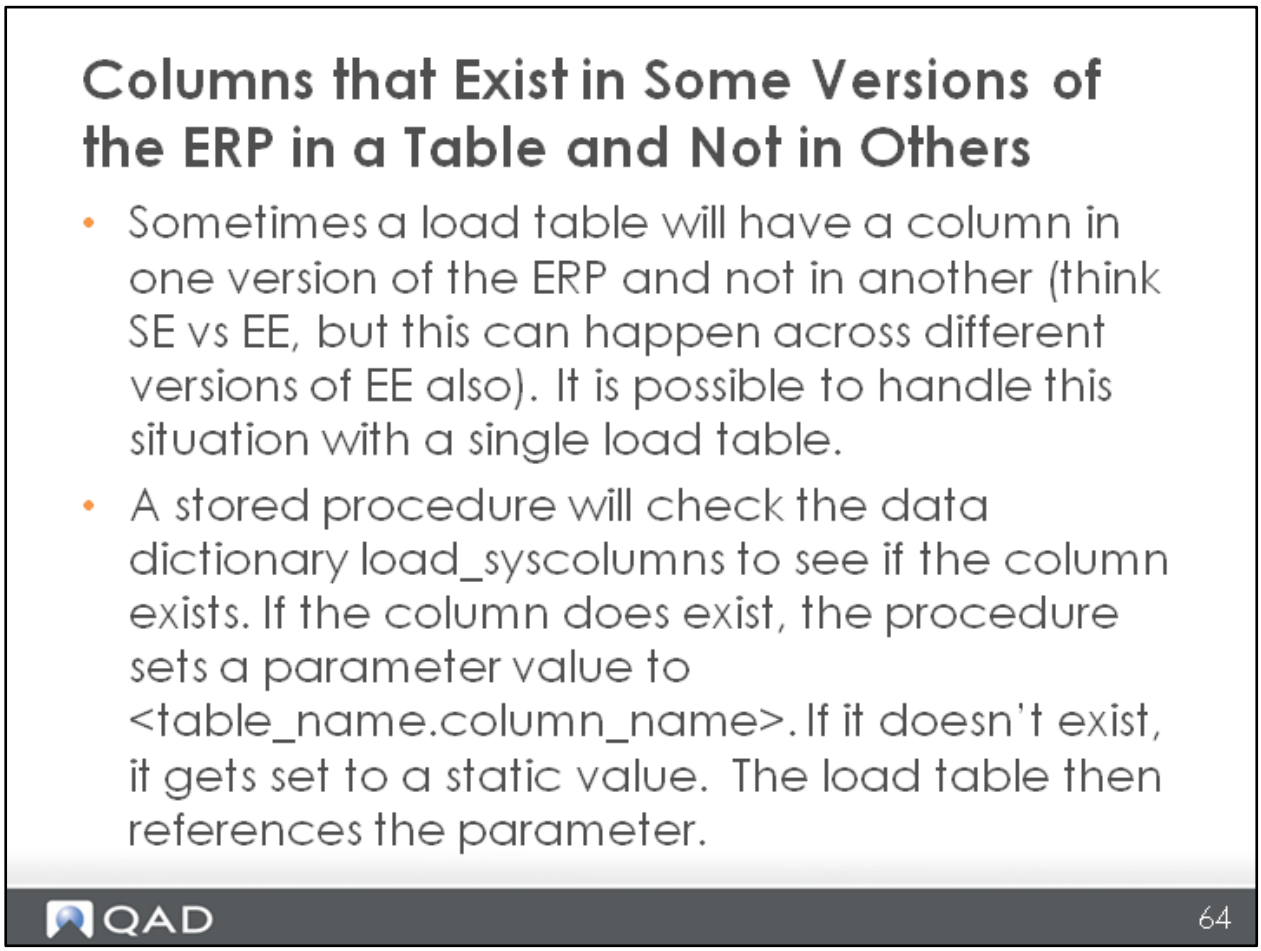


QAD 62

Changing Procedures and Finding Differences Between Procedure Versions



Columns that Exist in Some Versions of the ERP in a Table and Not in Others



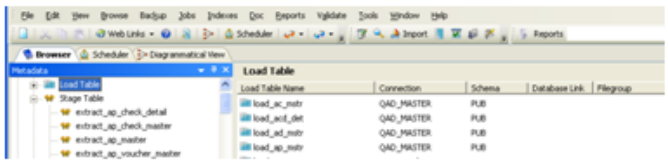
Examples of this are tr_qty_cn_adj and ih_invoicetype.

Adding a Table from QAD's ERP Progress Database

Adding a Table from QAD's ERP Progress Database

If we don't already pull in data from a specific table in the ERP, it can be added quite simply using a drag and drop methodology.

1. In the browser pane, double click the Load Table option so that load tables are displayed in the target pane. This is done because a new load table is desired.

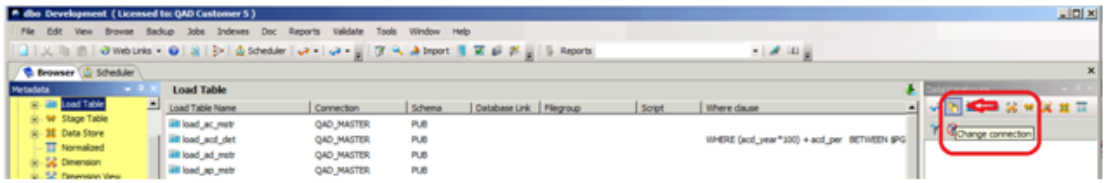


QAD 65

Adding a Table from QAD's ERP Progress Database

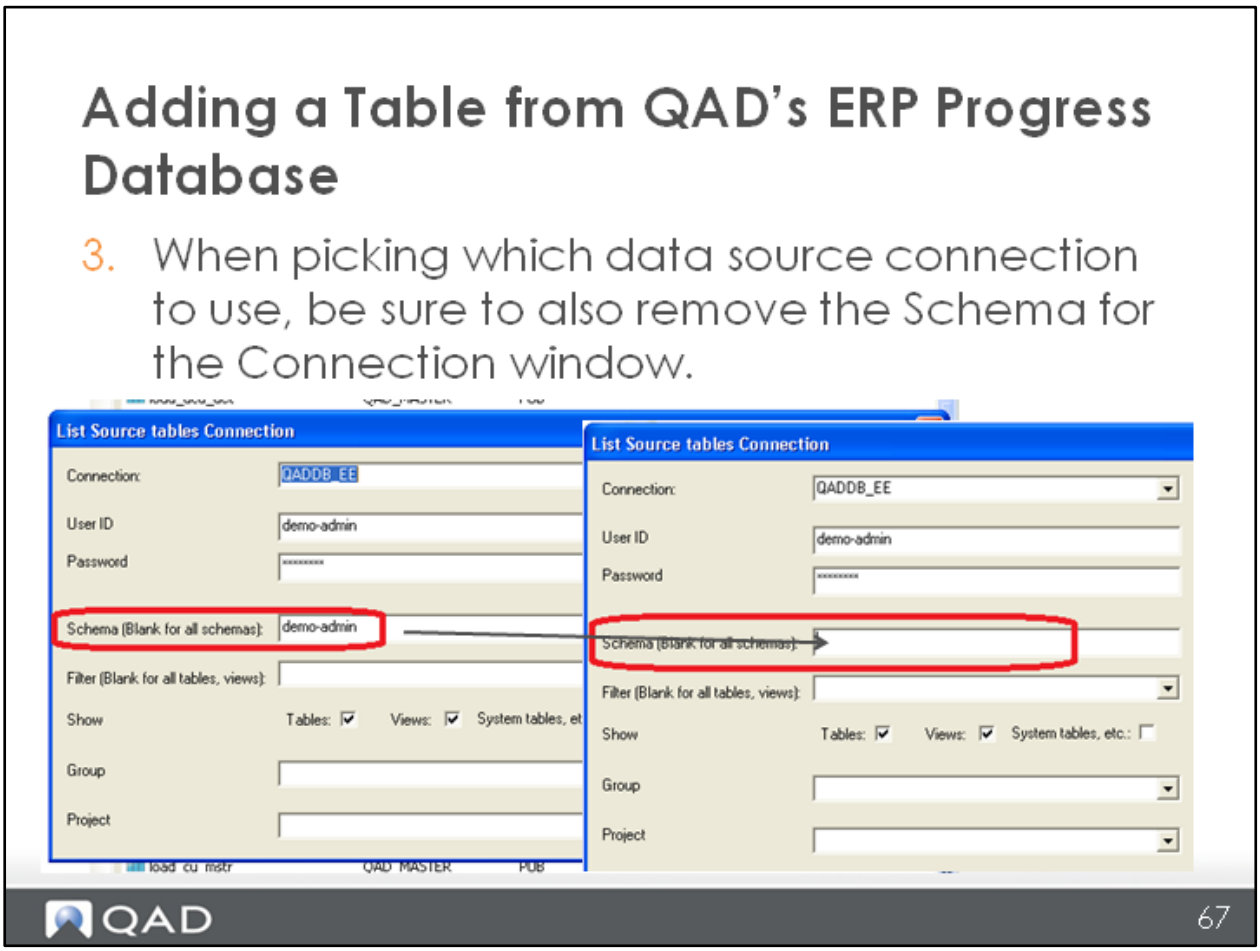
Adding a Table from QAD's ERP Progress Database

2. On the right hand side of the DWD, click on the yellow change connection icon to choose which data source you want to reference.



QAD 66

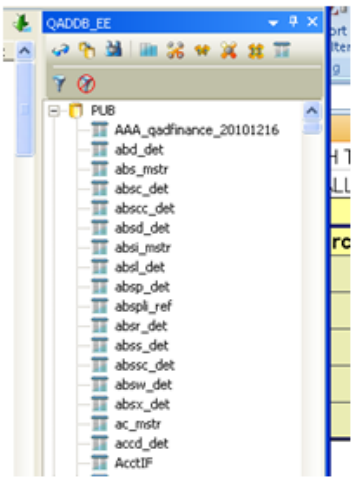
Adding a Table from QAD's ERP Progress Database



Adding a Table from QAD's ERP Progress Database

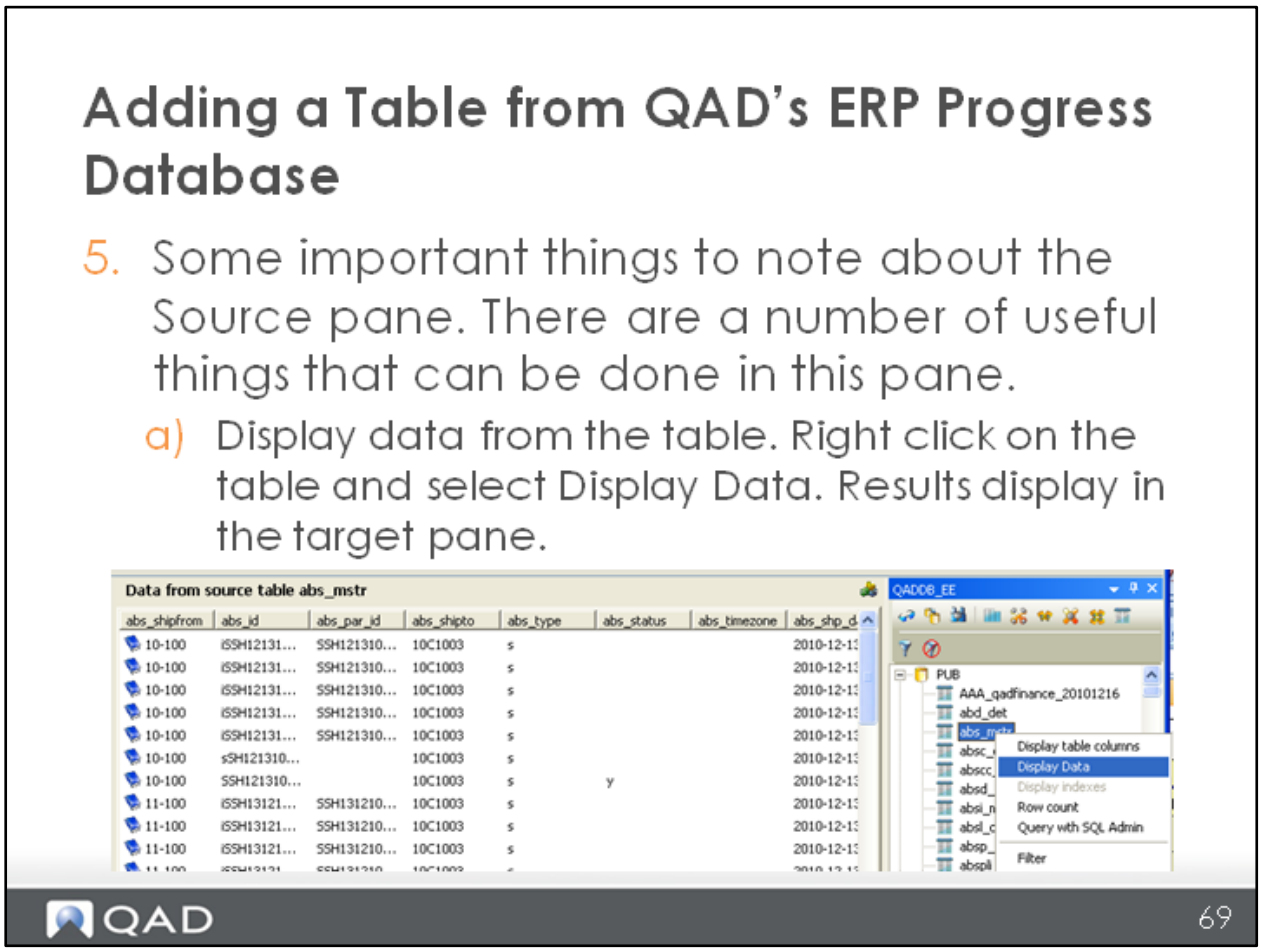
Adding a Table from QAD's ERP Progress Database

4. When the +PUB option appears in the source pane, open it and find the table you want to add in the list.

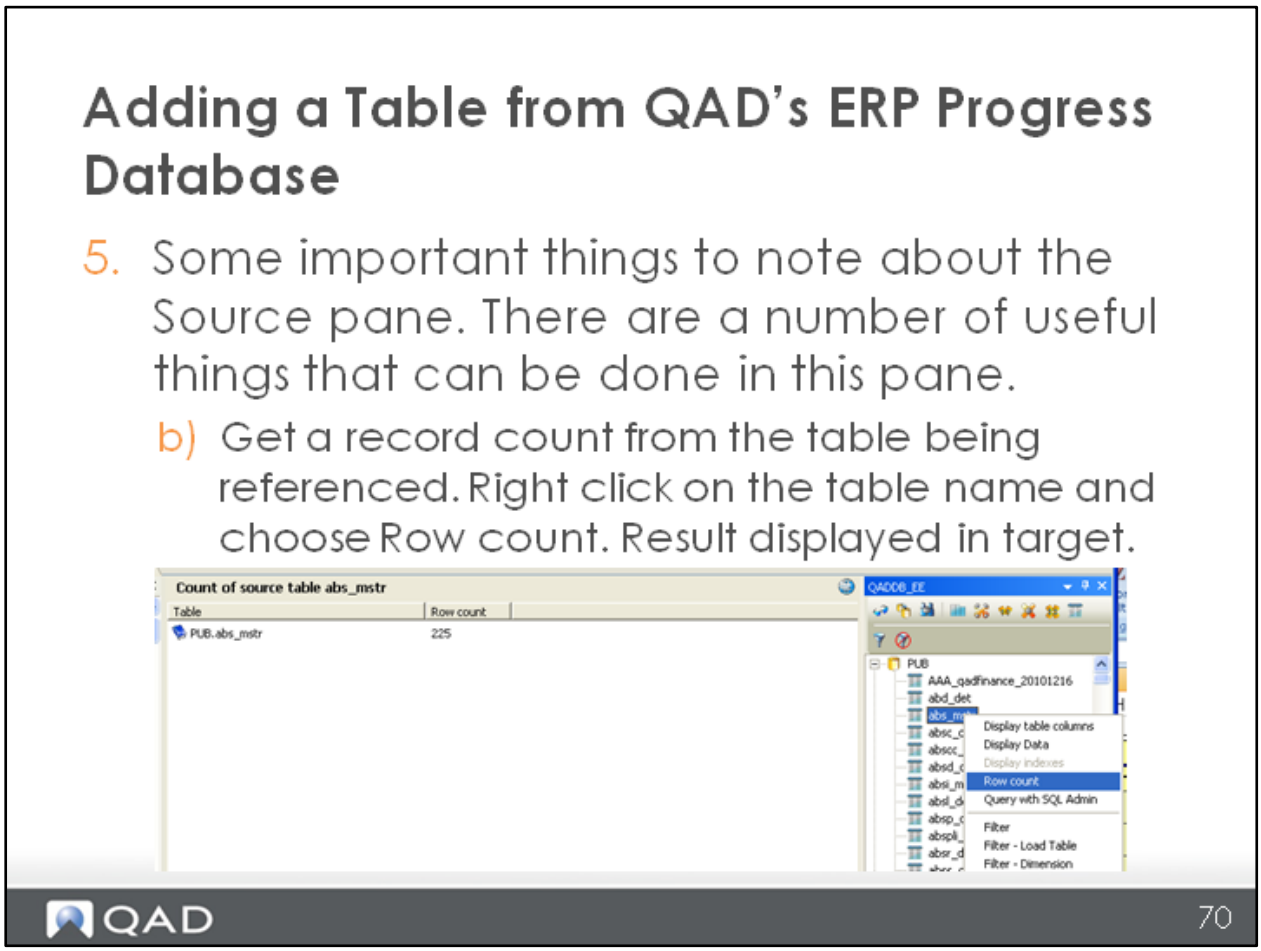


QAD 68

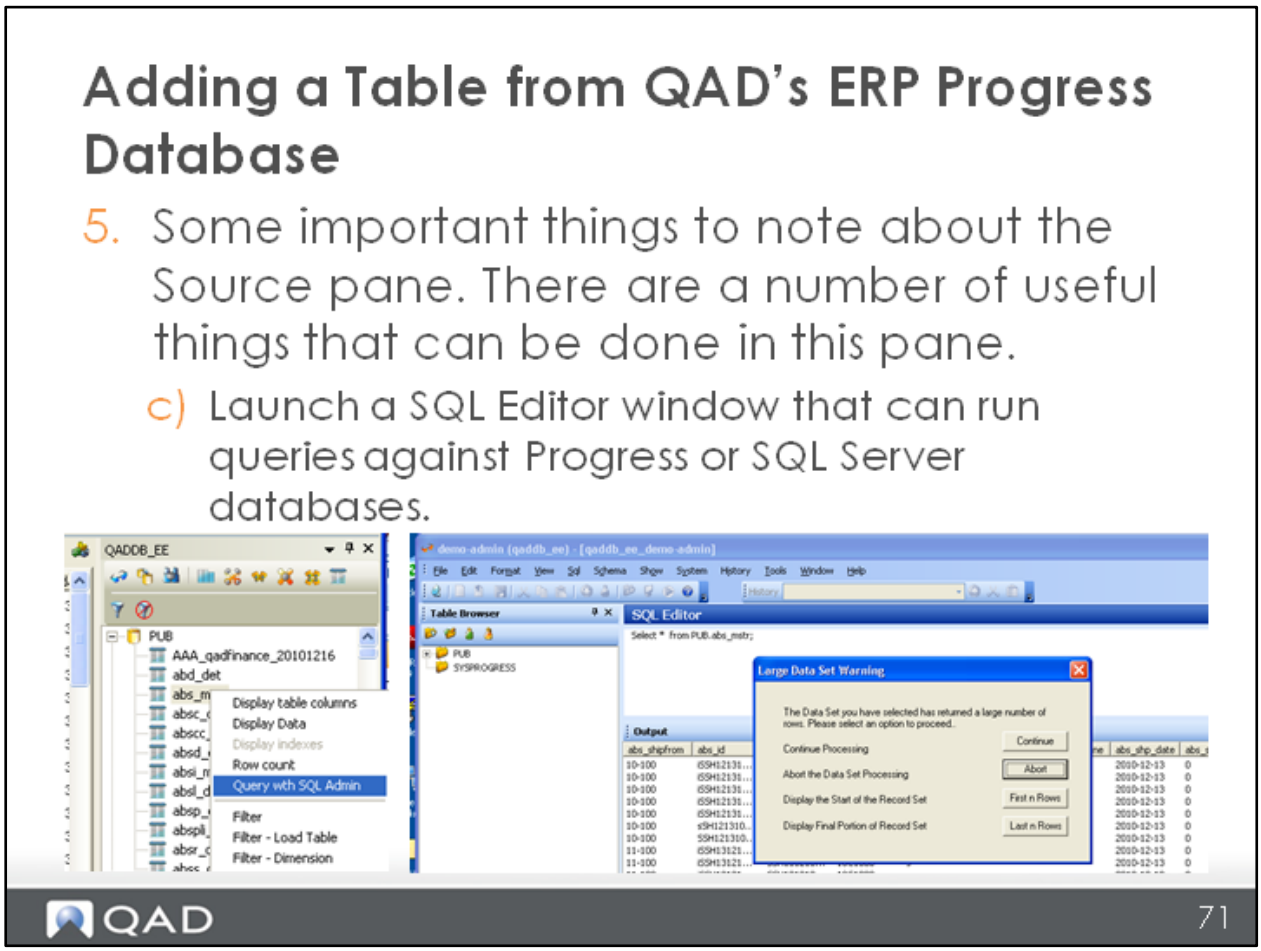
Adding a Table from QAD's ERP Progress Database



Adding a Table from QAD's ERP Progress Database



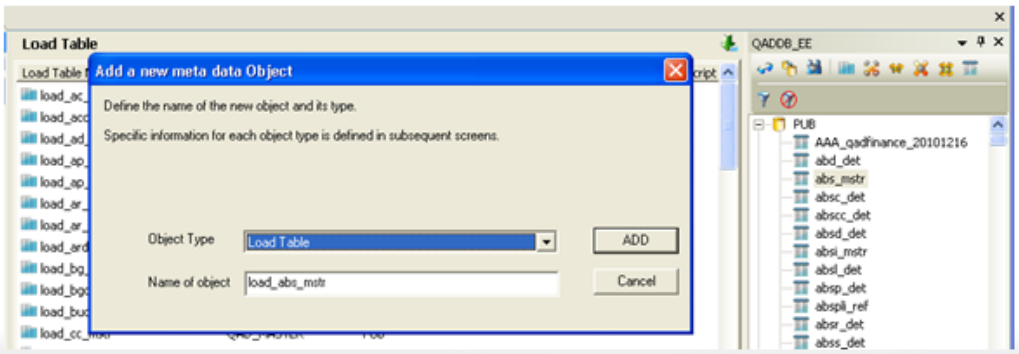
Adding a Table from QAD's ERP Progress Database



Adding a Table from QAD's ERP Progress Database

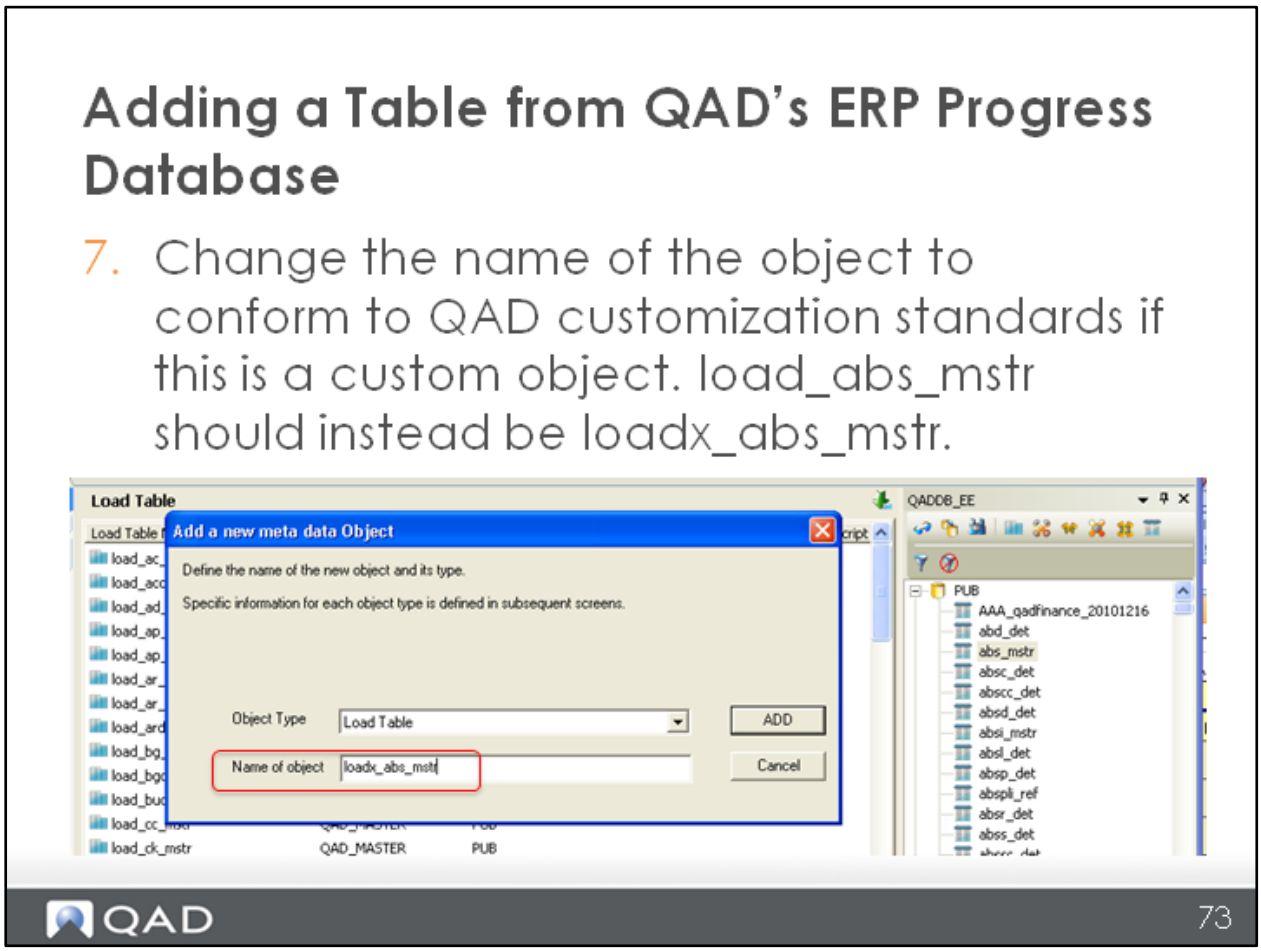
Adding a Table from QAD's ERP Progress Database

6. To create a new load table from the list of Progress table, left click on the table name in the Source pane and drag it into the Target pane (while all the load tables are displayed in the Target pane).

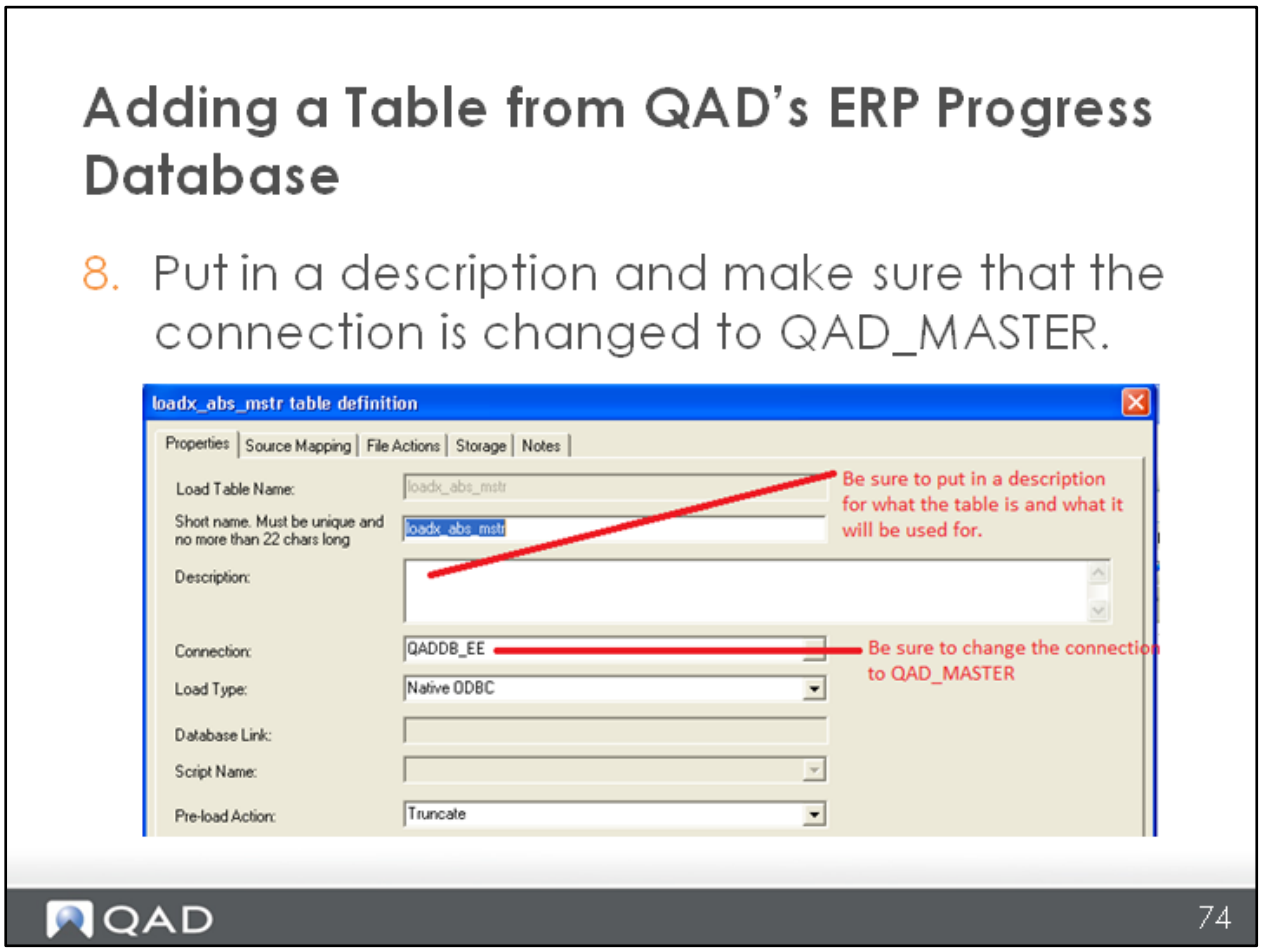


QAD 72

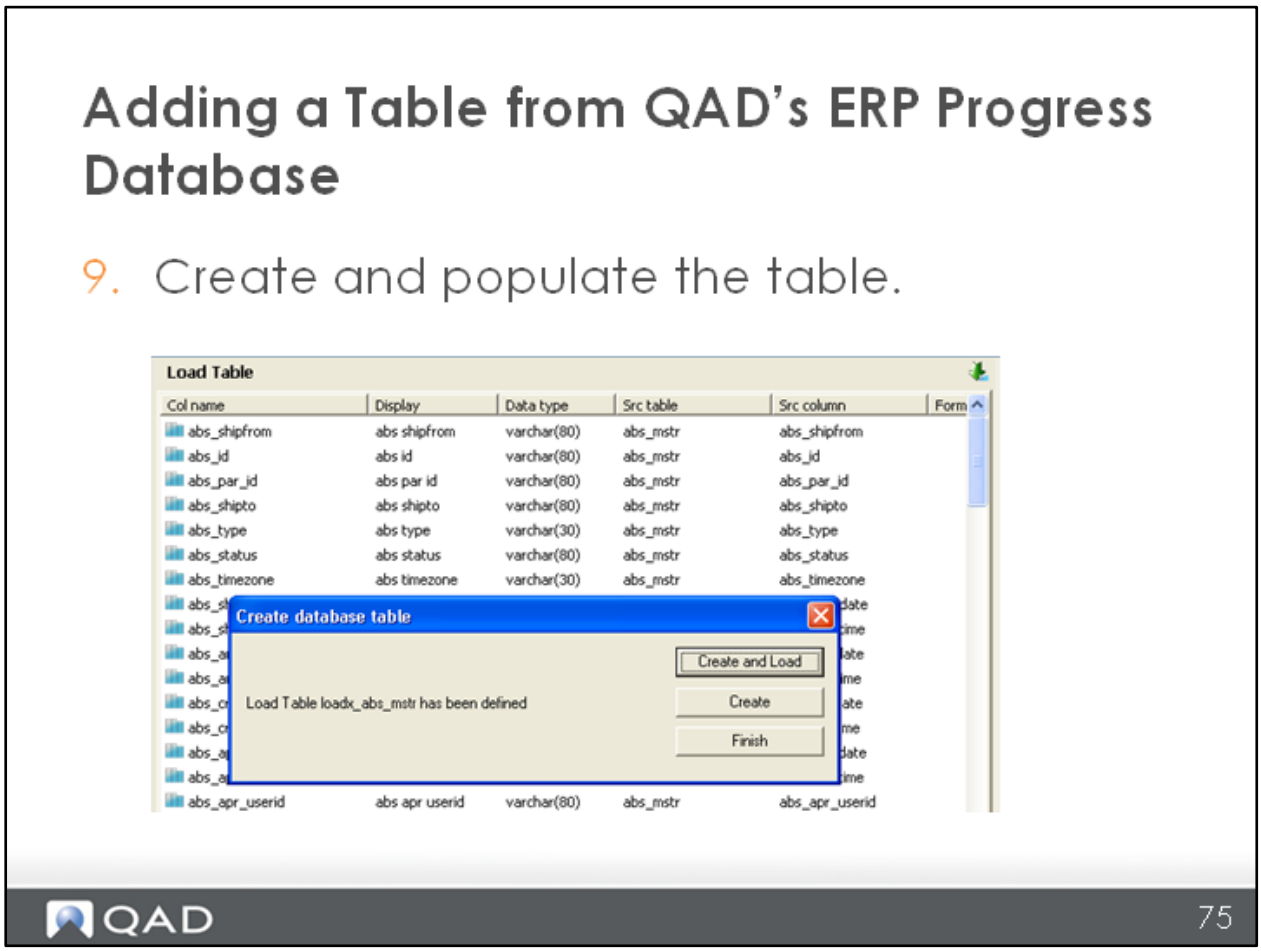
Adding a Table from QAD's ERP Progress Database



Adding a Table from QAD's ERP Progress Database



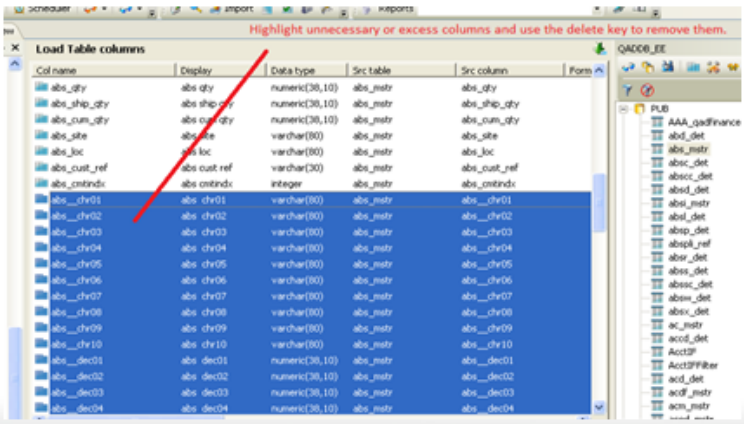
Adding a Table from QAD's ERP Progress Database



Adding a Table from QAD's ERP Progress Database

Adding a Table from QAD's ERP Progress Database

10. Delete any columns that are unnecessary. In most cases, we try to keep all columns, but some tables have dozens of columns unimportant for the warehouse.

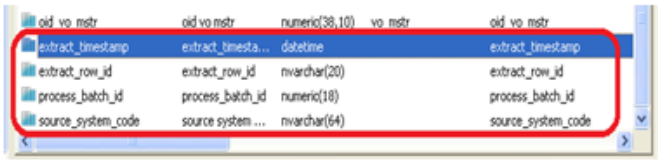


QAD 76

Adding a Table from QAD's ERP Progress Database

Adding a Table from QAD's ERP Progress Database

11. Add additional necessary columns. The elements of these can be copied from other existing load tables. Be sure to assign the right data types and that the columns are last in the list.
    - extract_timestamp
    - extract_row_id
    - process_batch_id
    - source_system_code



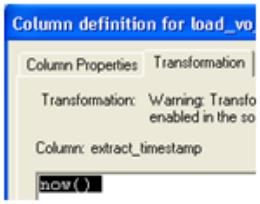
- Be sure to also add the proper transformations for each (see next slide).

QAD 77

Adding a Table from QAD's ERP Progress Database

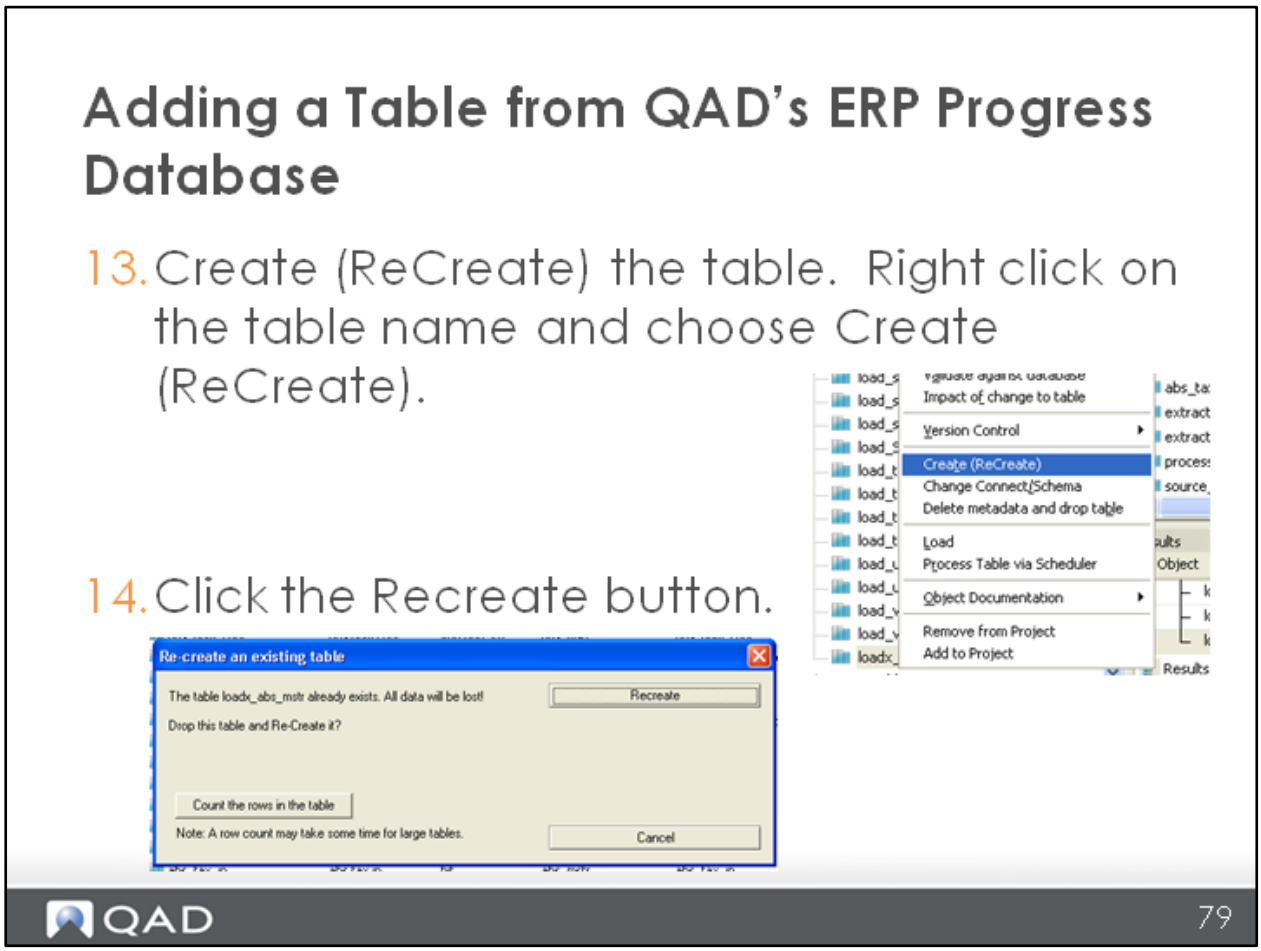
Adding a Table from QAD's ERP Progress Database

12. Assign transformations to the columns in question.
    - extract_timestamp -> now()
    - extract_row_id -> rowid
    - process_batch_id -> $PJOB_COM_PROCESS_BATCH_ID$
    - source_system_code -> '$PCOM_PROCESS_CONNECTION_NAME$'
    - (be careful copy '' s from powerpoint….. They need to be retyped)

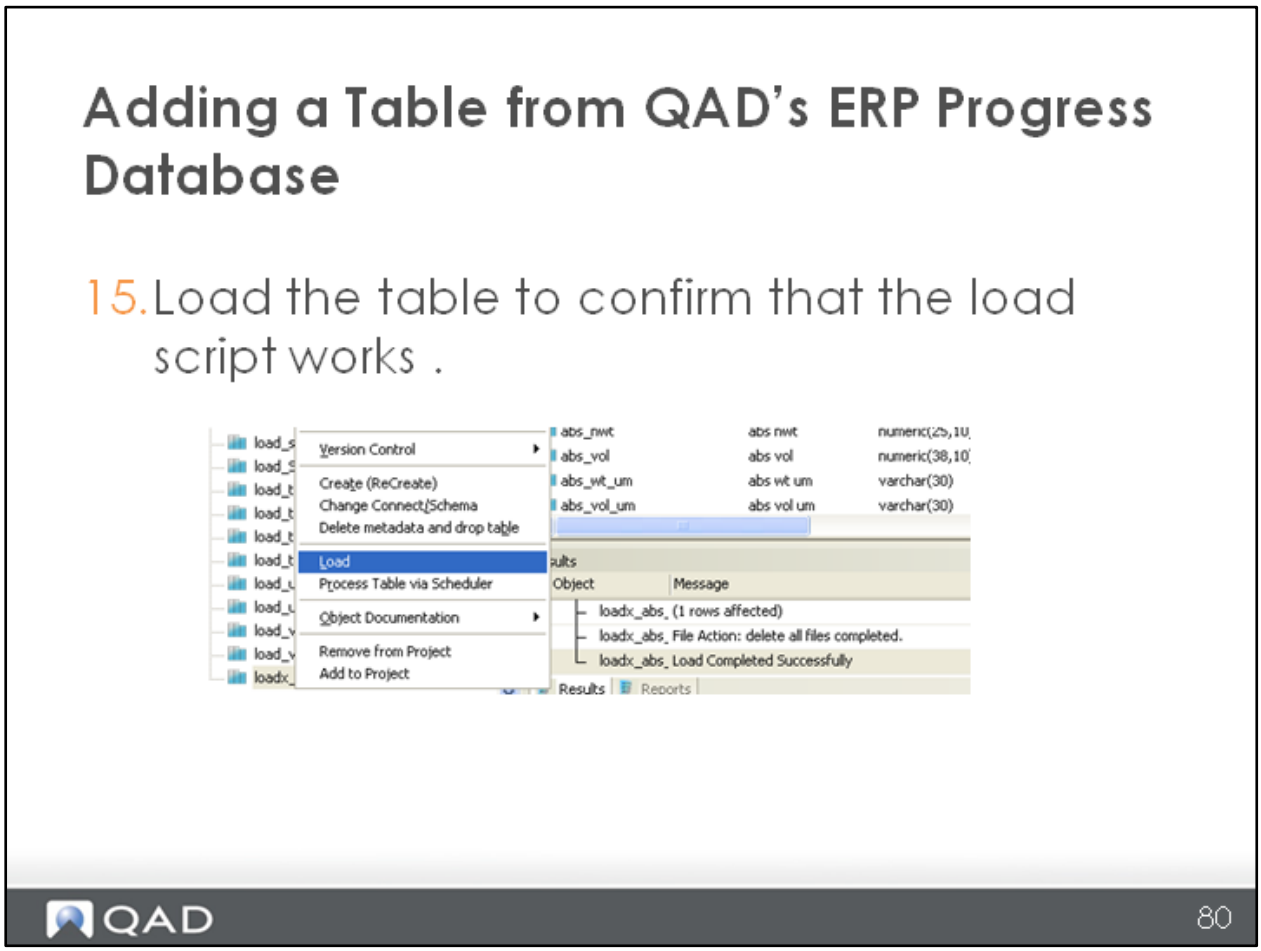


QAD 78

Adding a Table from QAD's ERP Progress Database



Adding a Table from QAD's ERP Progress Database

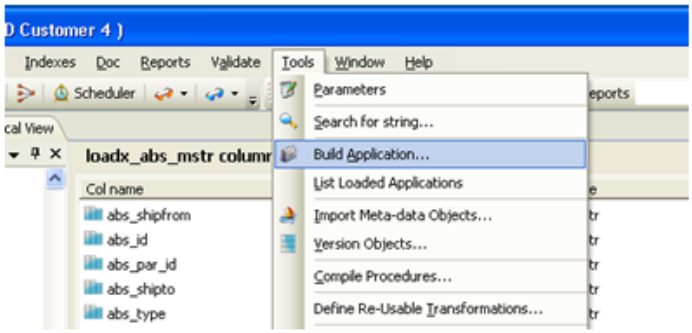


Creating a Patch/Installing a Patch

Creating a Patch/Installing a Patch

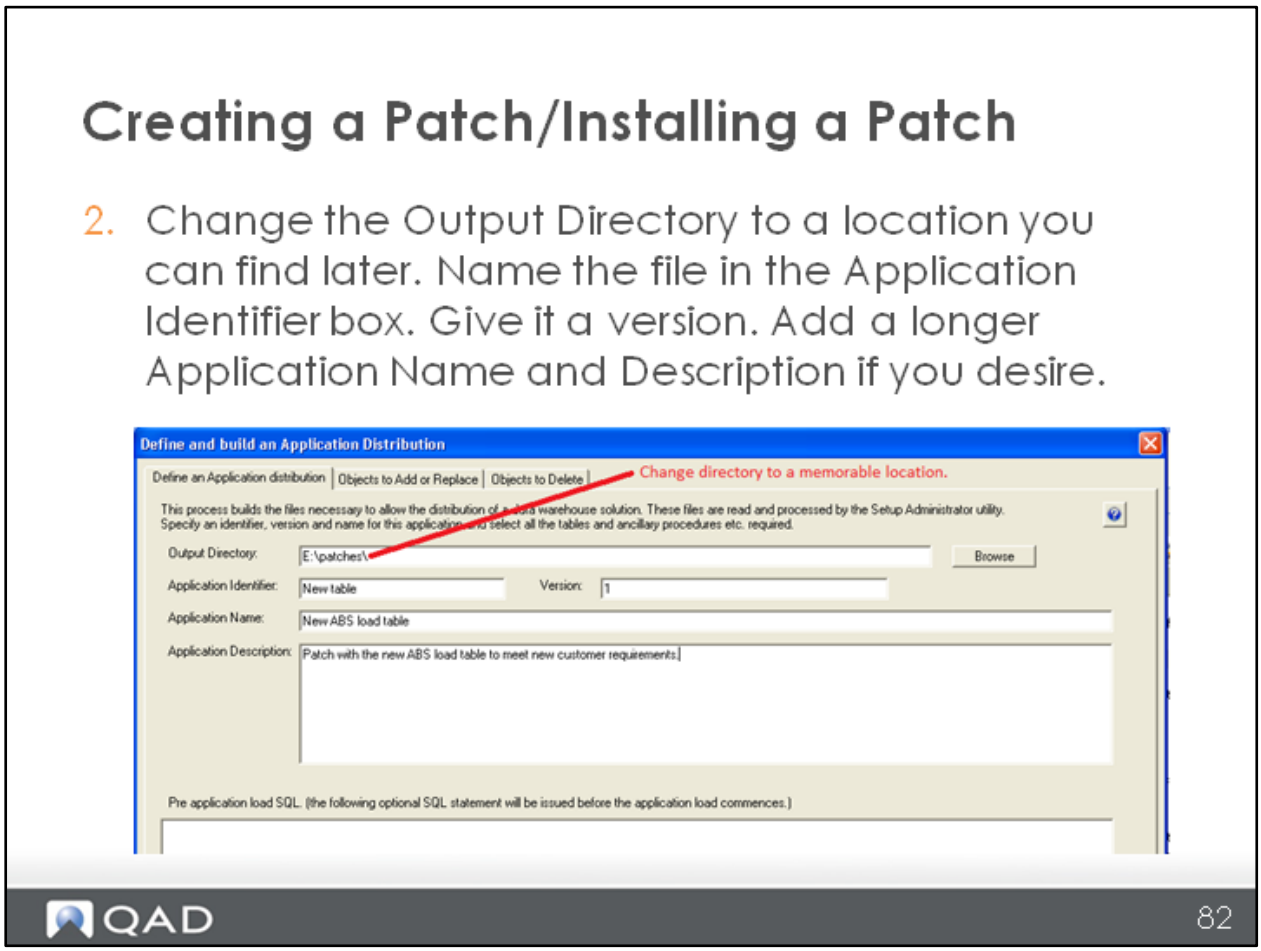
Single patches and complete application suites can be created from the DWD.

1. In the DWD, with the Browser Tab open, go to Tools, Build Application.



QAD 81

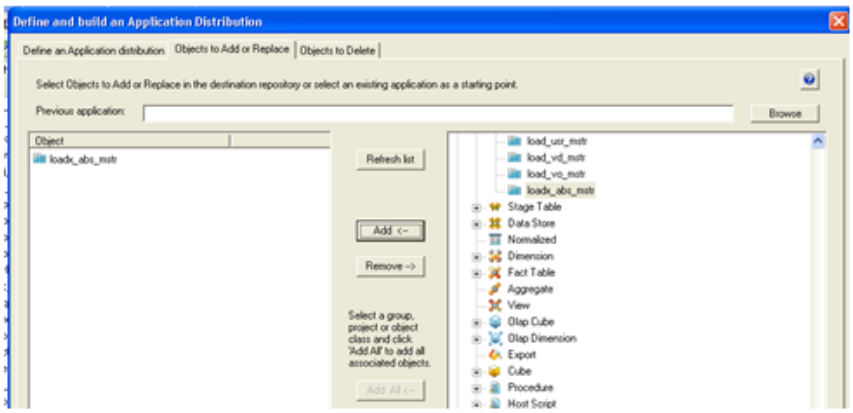
Creating a Patch/Installing a Patch



Creating a Patch/Installing a Patch

Creating a Patch/Installing a Patch

3. Click on the Objects to Add or Replace tab. In the right hand pane, find the items to be added to the patch, in this case the loadx_abs_mstr table and click the Add <- button.

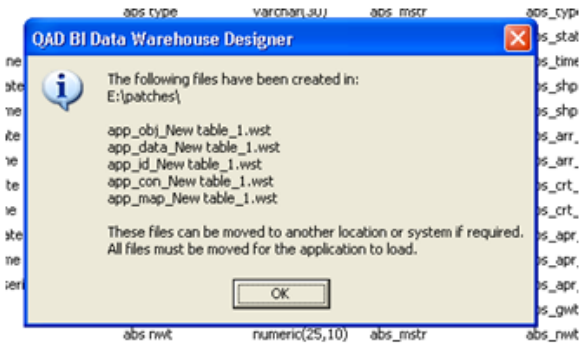


QAD 83

Creating a Patch/Installing a Patch

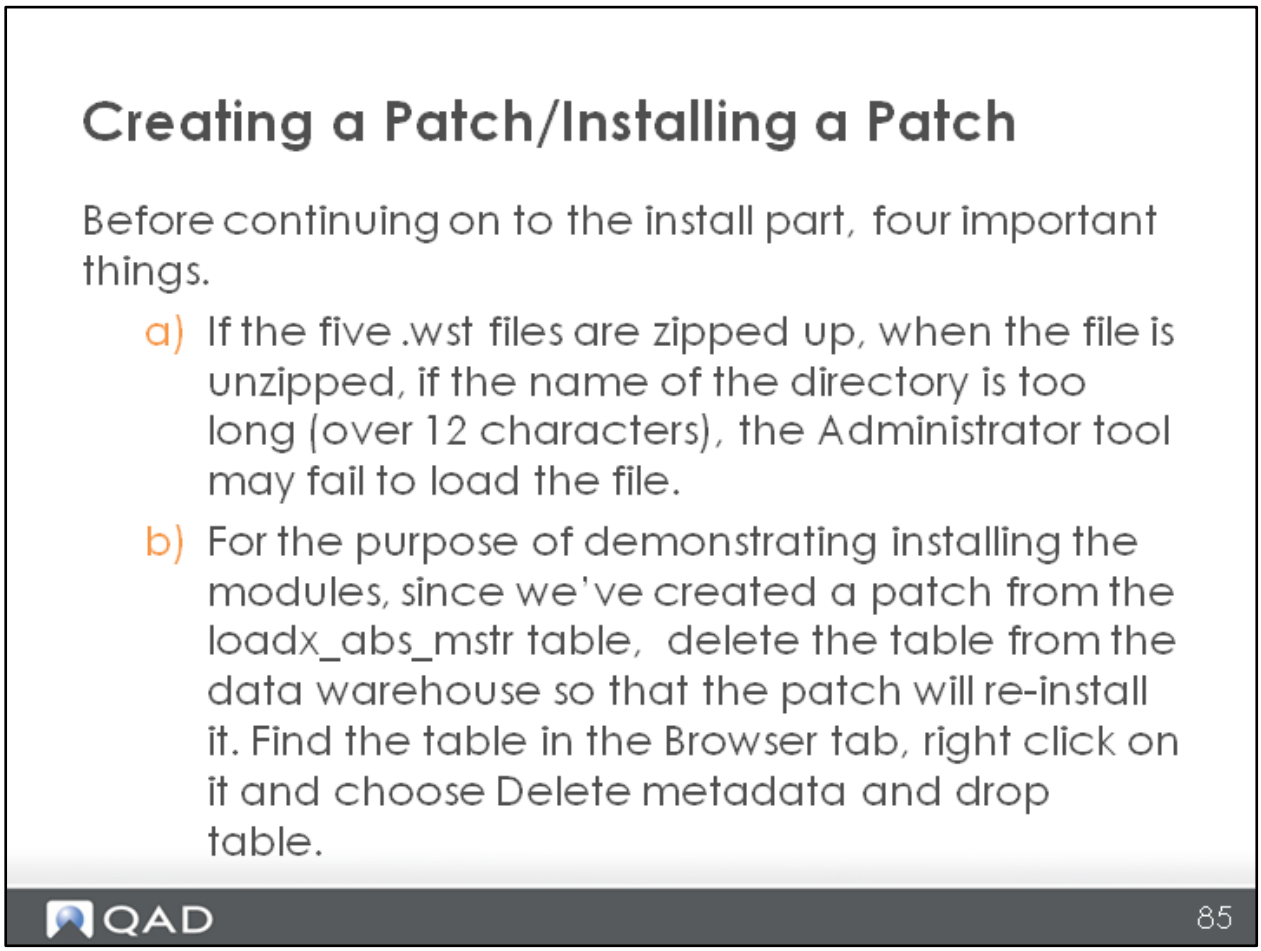
Creating a Patch/Installing a Patch

4. When finished, click OK button to complete patch. The patch will be generated by creating five .wst files. These can be zipped up and mailed or FTPed elsewhere for implementation into another system.

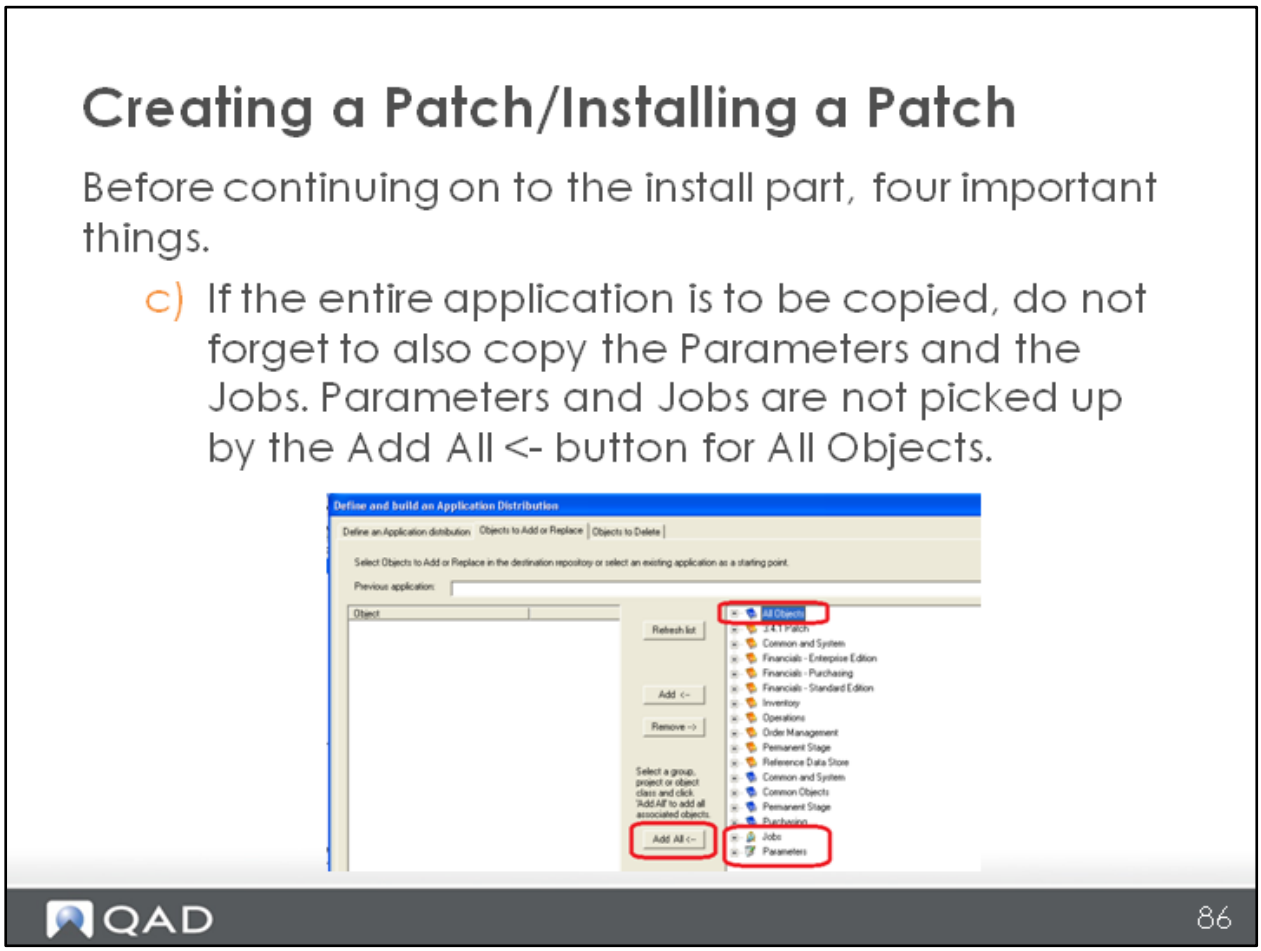


QAD 84

Creating a Patch/Installing a Patch

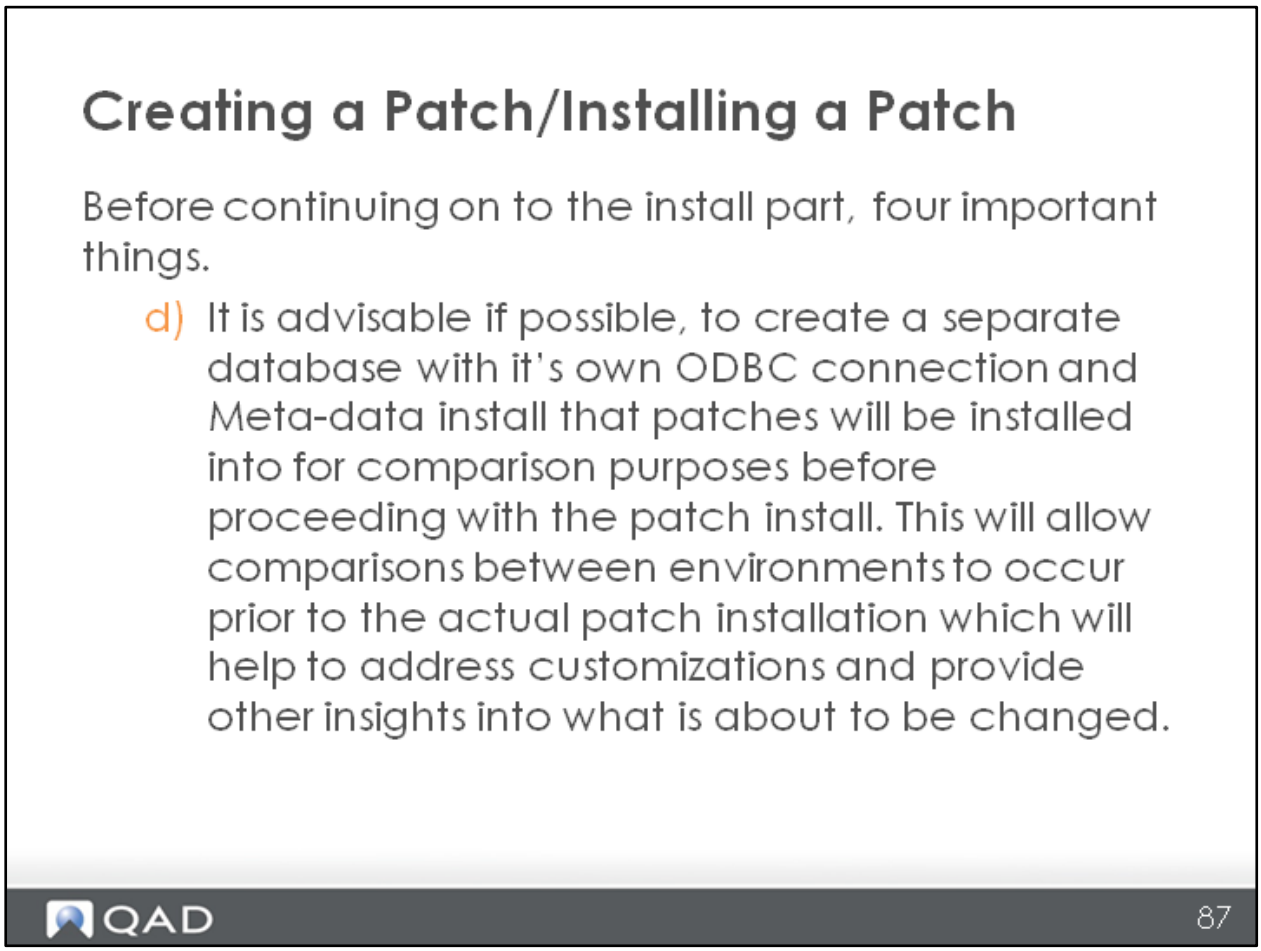


Creating a Patch/Installing a Patch



At one customer site, they believed they had a complete extract of their modules by clicking on All Objects and clicking the Add All <- button. They did not capture their parameters or jobs, so later when their system crashed, they thought they were ready to simply re-install the application suite. Unfortunately with no parameters or jobs, the extract ended up being useless.

Creating a Patch/Installing a Patch

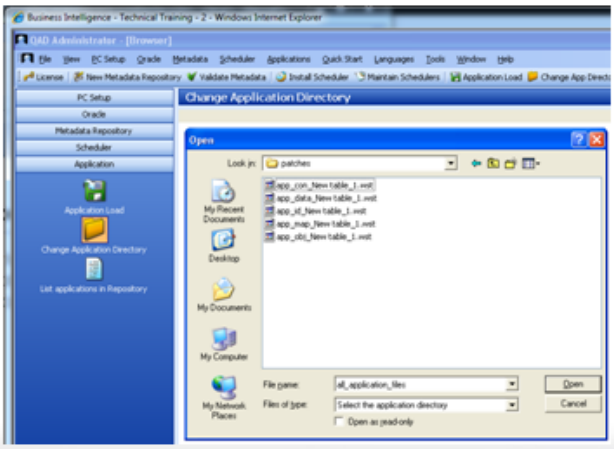


This hasn't yet been done in class, but if there is time, it would be a good exercise. It shouldn't take very long and would ensure that students review materials from day one.

Creating a Patch/Installing a Patch

Creating a Patch/Installing a Patch

5. To install the patch that was created, presuming that the file is now on the server that it needs to be, open the Administrator tool, go to the Applications tab, change to the directory where the files are.

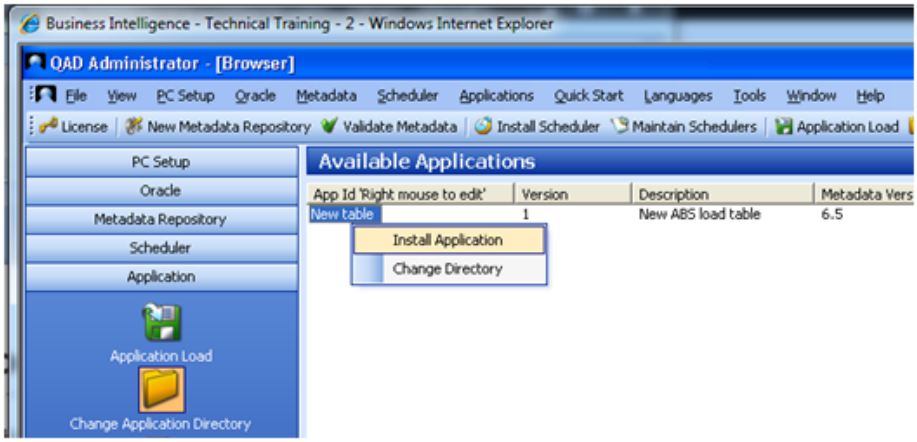


QAD 88

Creating a Patch/Installing a Patch

Creating a Patch/Installing a Patch

6. With the new directory open, find the file to be loaded. Right click on the file and click on Install Application .

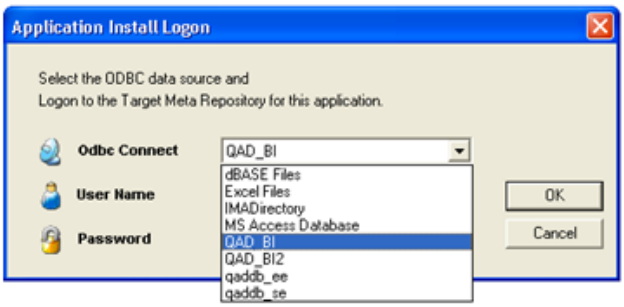


QAD 89

Creating a Patch/Installing a Patch

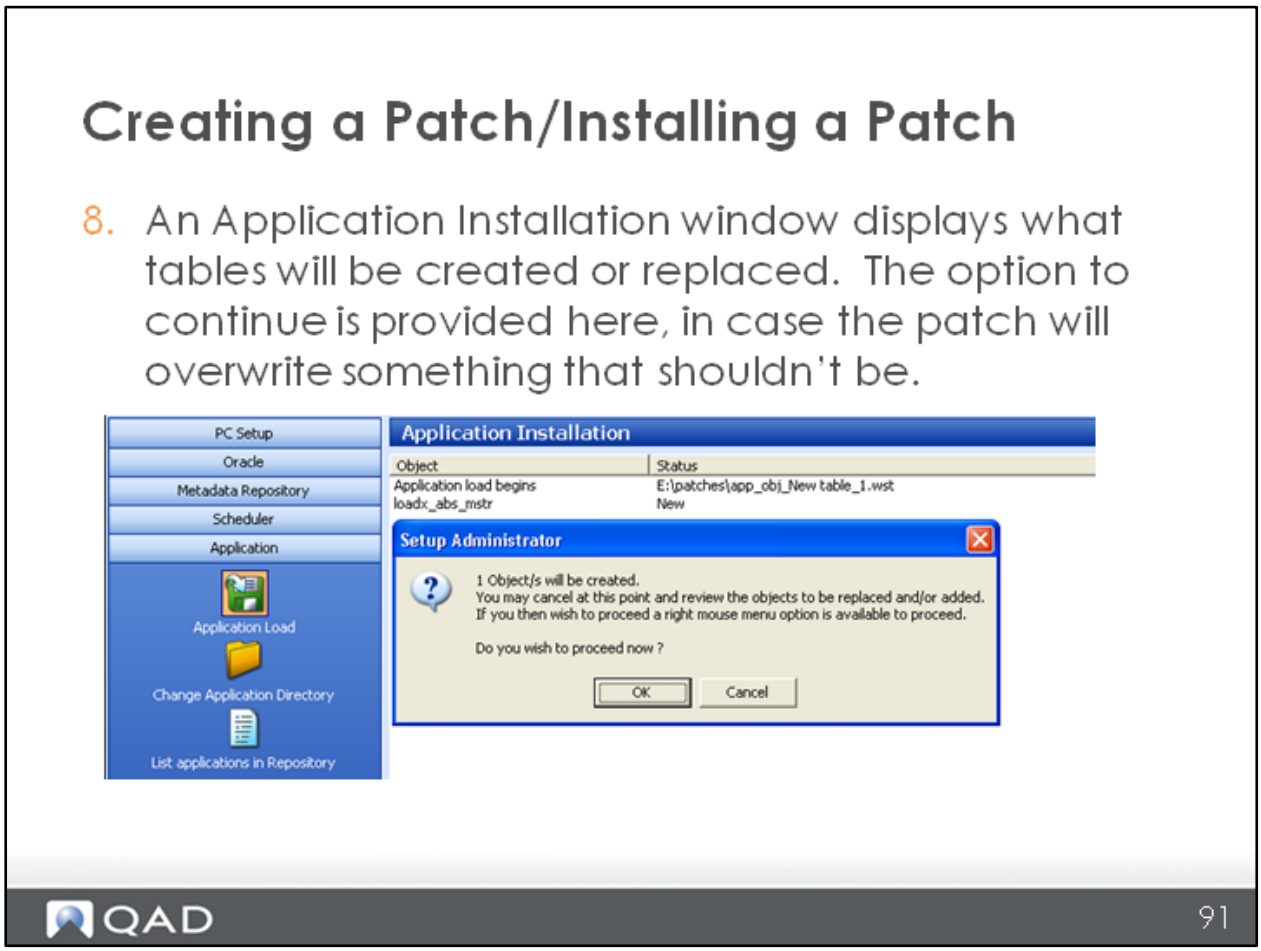
Creating a Patch/Installing a Patch

7. Pick the warehouse database in the Application Install Logon window in the Odbc Connect drop down box. Enter User Name and Password if required.

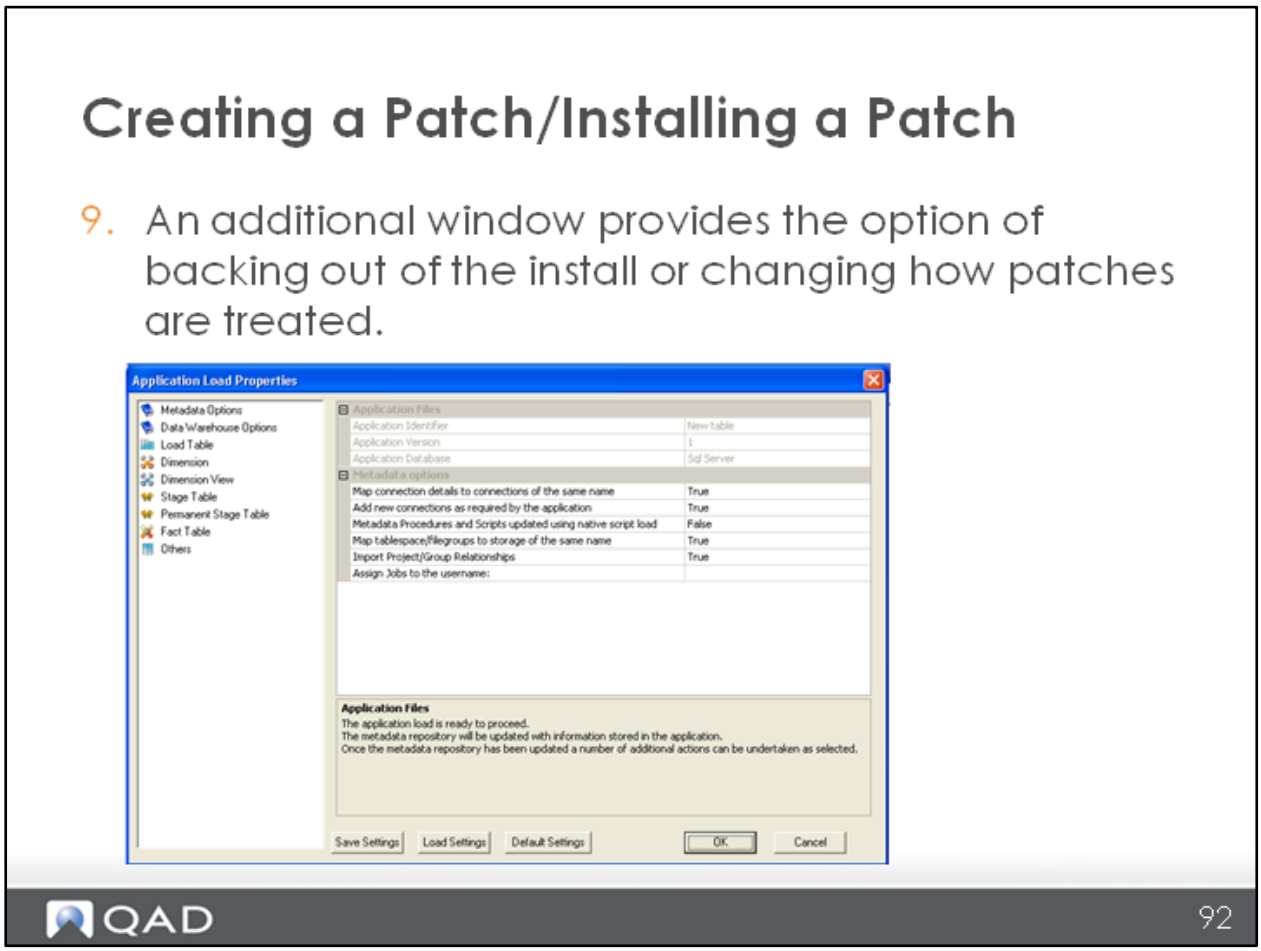


QAD 90

Creating a Patch/Installing a Patch



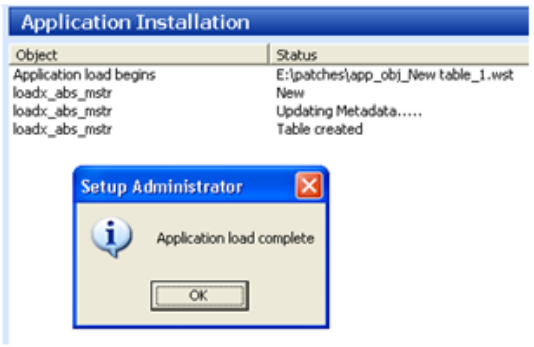
Creating a Patch/Installing a Patch



Creating a Patch/Installing a Patch

Creating a Patch/Installing a Patch

10. Patch is installed. Results are posted in the Application Installation window.



11. In the DWD, the table should now appear if the Browser pane is refreshed.

QAD 93

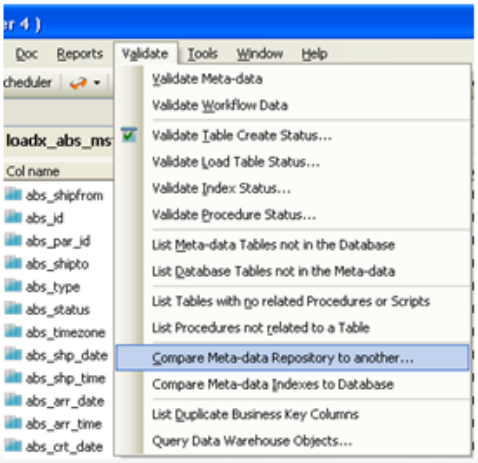
Environment Comparisons



Environment Comparisons

Environment Comparisons

1. With the Browser pane open, click on the Validate menu, then the Compare Meta-data Repository to another... option.

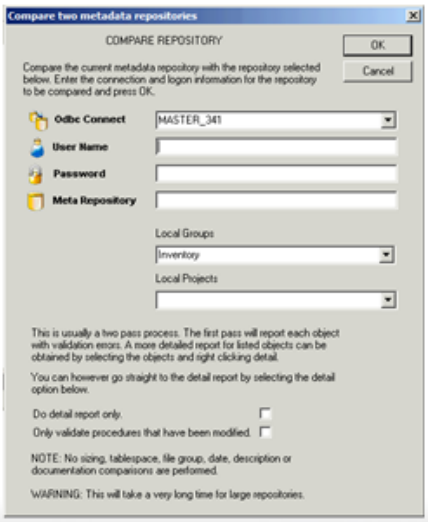


QAD 95

Environment Comparisons

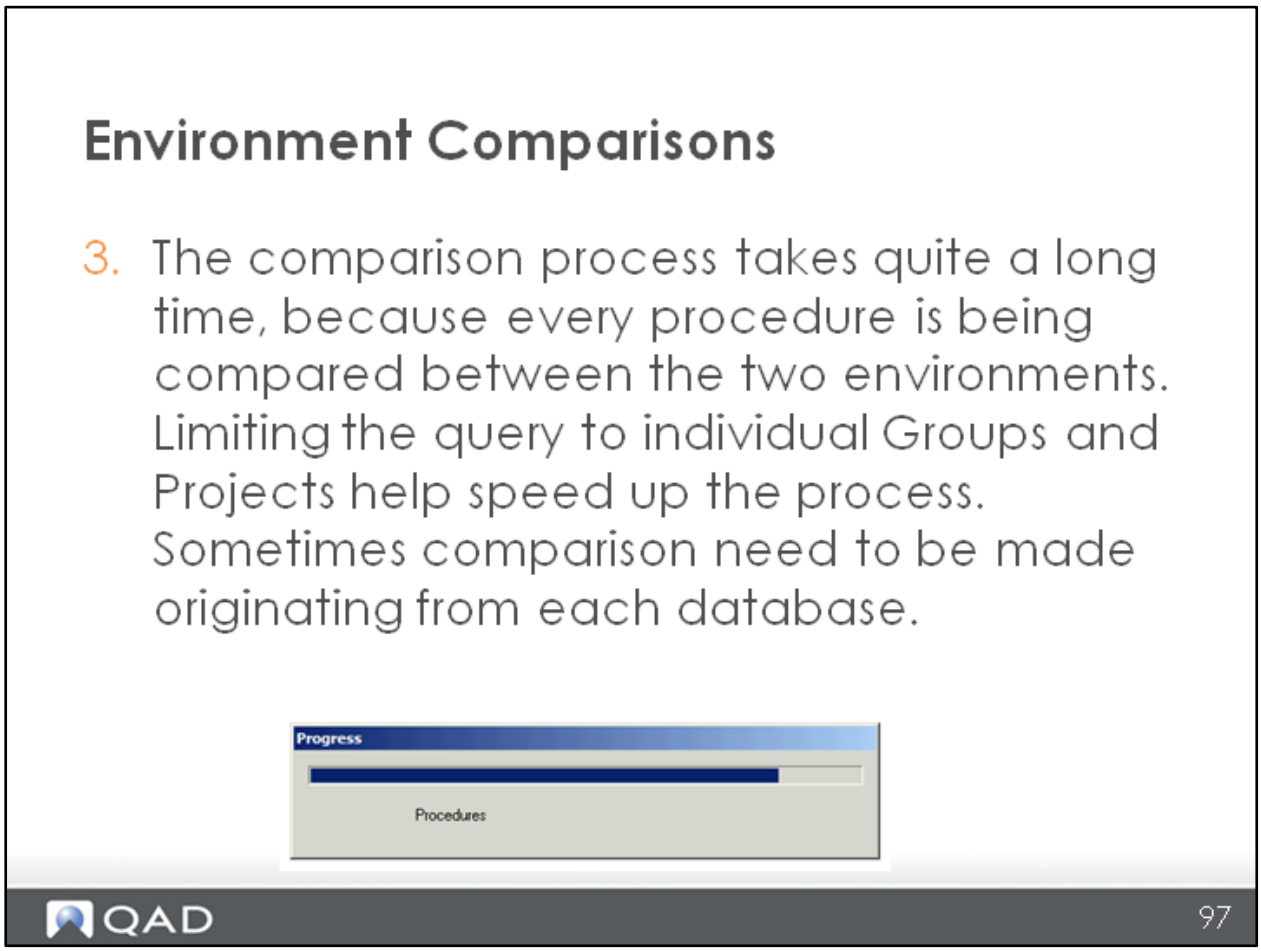
Environment Comparisons

2. When the Compare two metadata respositories window opens, choose Odbc Connect drop down and pick the database to compare to. Narrow down the comparison to just local groups and projects if a faster narrower result is desired.



QAD 96

Environment Comparisons



If there are tables or procedures that are in one database and not another, for the comparison process to work, the database that has the table or procedure needs to be the originator of the comparison. In instances where there are databases that just hold patches, it's best to do the comparison from the patch database against the bigger database. If the comparison were to be done the other direction from the bigger database against the patch database, every single item in the bigger database that didn't exist in the patch database would show up as missing or different.

Environment Comparisons

Environment Comparisons

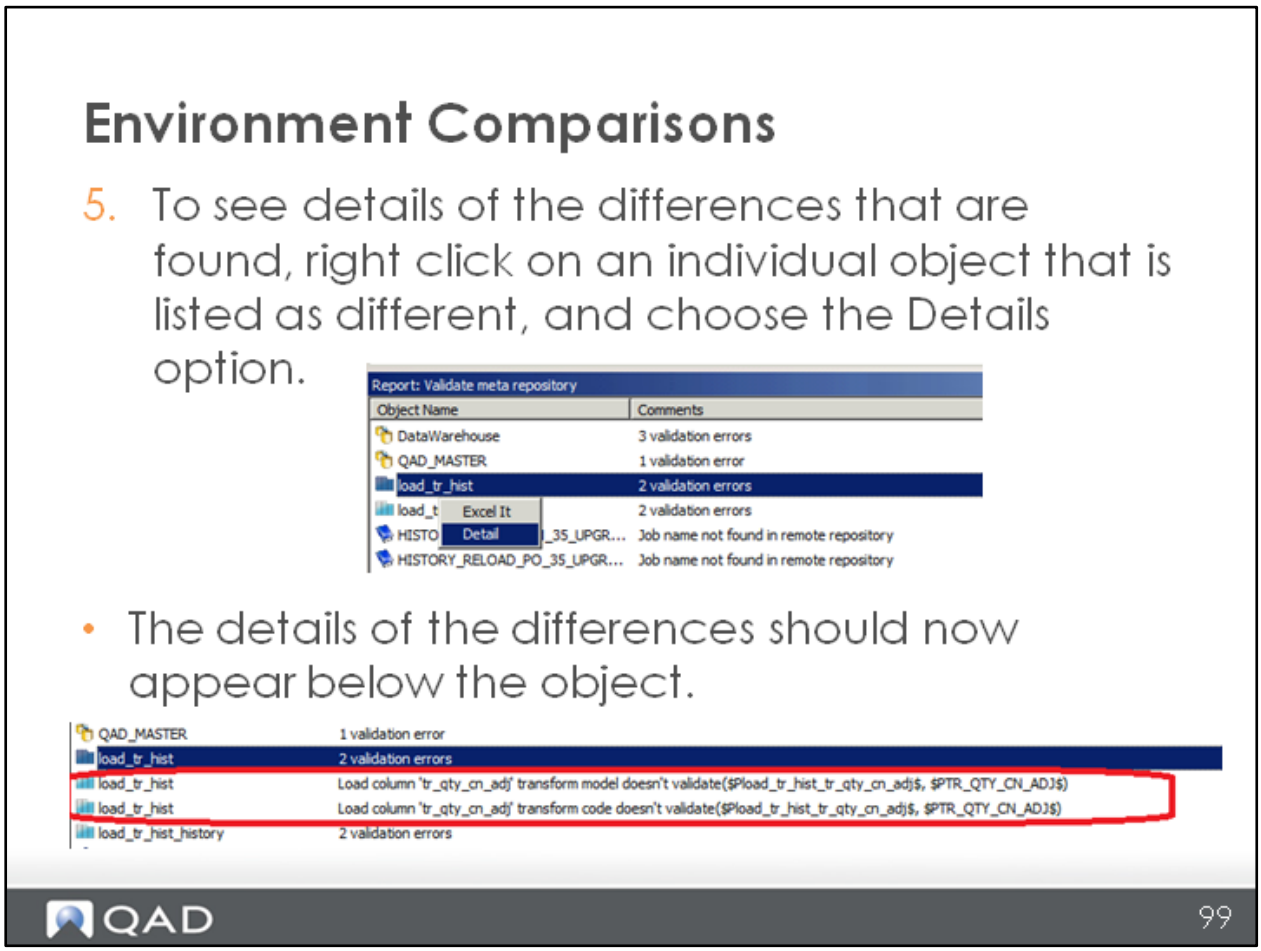
4. Any procedures or tables or jobs that have differences will be displayed, including the number of differences.

Report: Validate meta repository

Object Name	Comments
DataWarehouse	3 validation errors
QAD_MASTER	1 validation error
load_tr_hist	2 validation errors
load_tr_hist_history	2 validation errors
HISTORY_RELOAD_OM_35_UPGR...	Job name not found in remote repository
HISTORY_RELOAD_PO_35_UPGR...	Job name not found in remote repository
RELOAD_SE_AP_AR_FROM_PERM	Job name not found in remote repository
SET_CONNECTION_XXXXXXXX	Job name not found in remote repository
UPGRADE_FACT_PO_ORDER_PE...	Job name not found in remote repository
UPGRADE_FACT_PO_RECEIPT_3...	Job name not found in remote repository
CLEANUP_LOAD_TABLES	Job task 'load_shop_cal' not found in remote repository

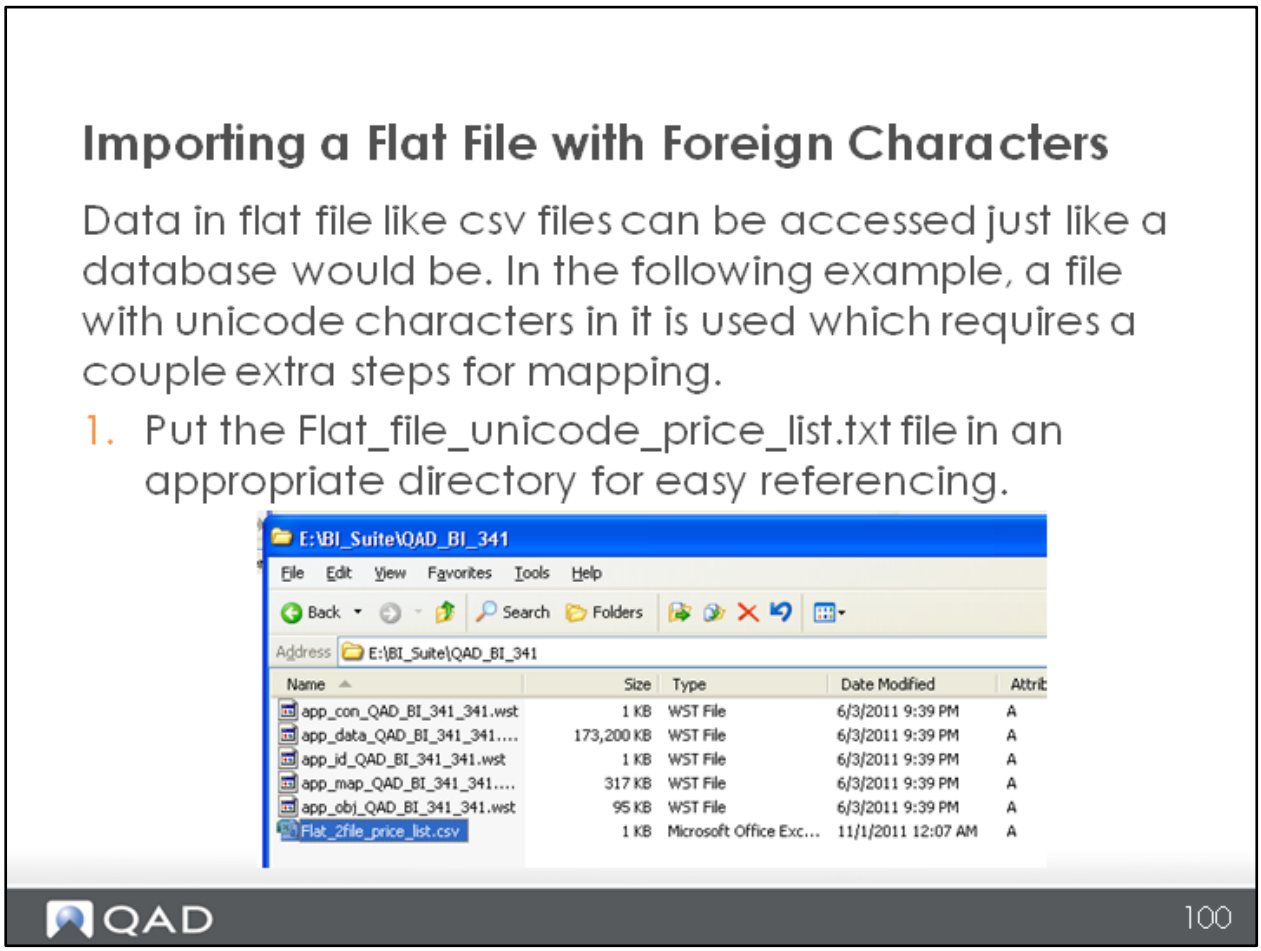
QAD 98

Environment Comparisons



There is also the option to Excel all the results.

Importing a Flat File with Foreign Characters

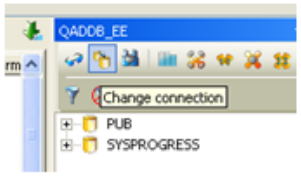


Flat_file_unicode_price_list.txt should be provided to the students via email to be retrieved into their training environment so they can use it for this part of the class.

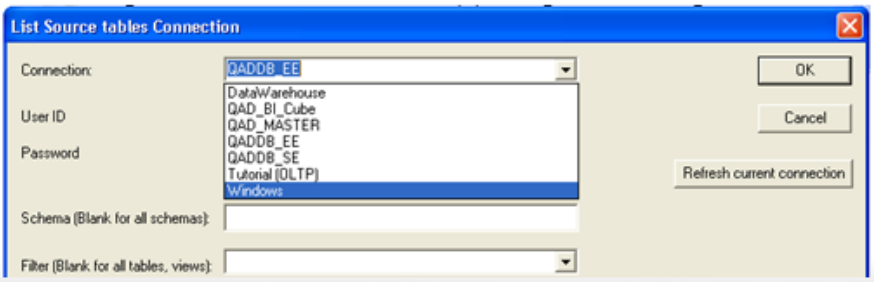
Importing a Flat File with Foreign Characters

Importing a Flat File with Foreign Characters

2. In the Source pane, click the change the connection button to bring up the source connection window.



3. Choose a Connection of Windows

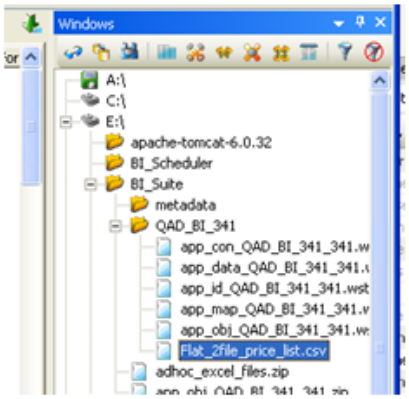


QAD 101

Importing a Flat File with Foreign Characters

Importing a Flat File with Foreign Characters

4. In the Source pane, there should now be the various drives of the computer just added. Find the file to be loaded.

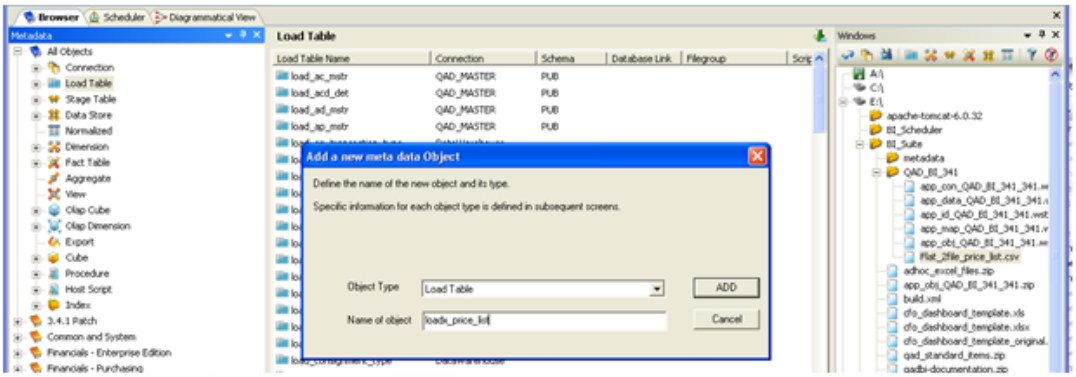


QAD 102

Importing a Flat File with Foreign Characters

Importing a Flat File with Foreign Characters

5. In order to create a new load table from the flat file, first double click on the Load table folder in the Browser pane to get all the load tables to appear in the Target pane. Then, to create the table from the flat file, drag and drop it into the Target pane. Be sure to properly name the table.

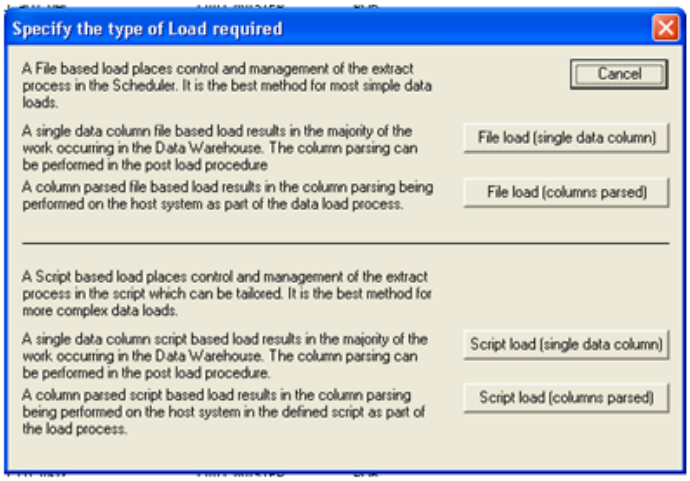


QAD 103

Importing a Flat File with Foreign Characters

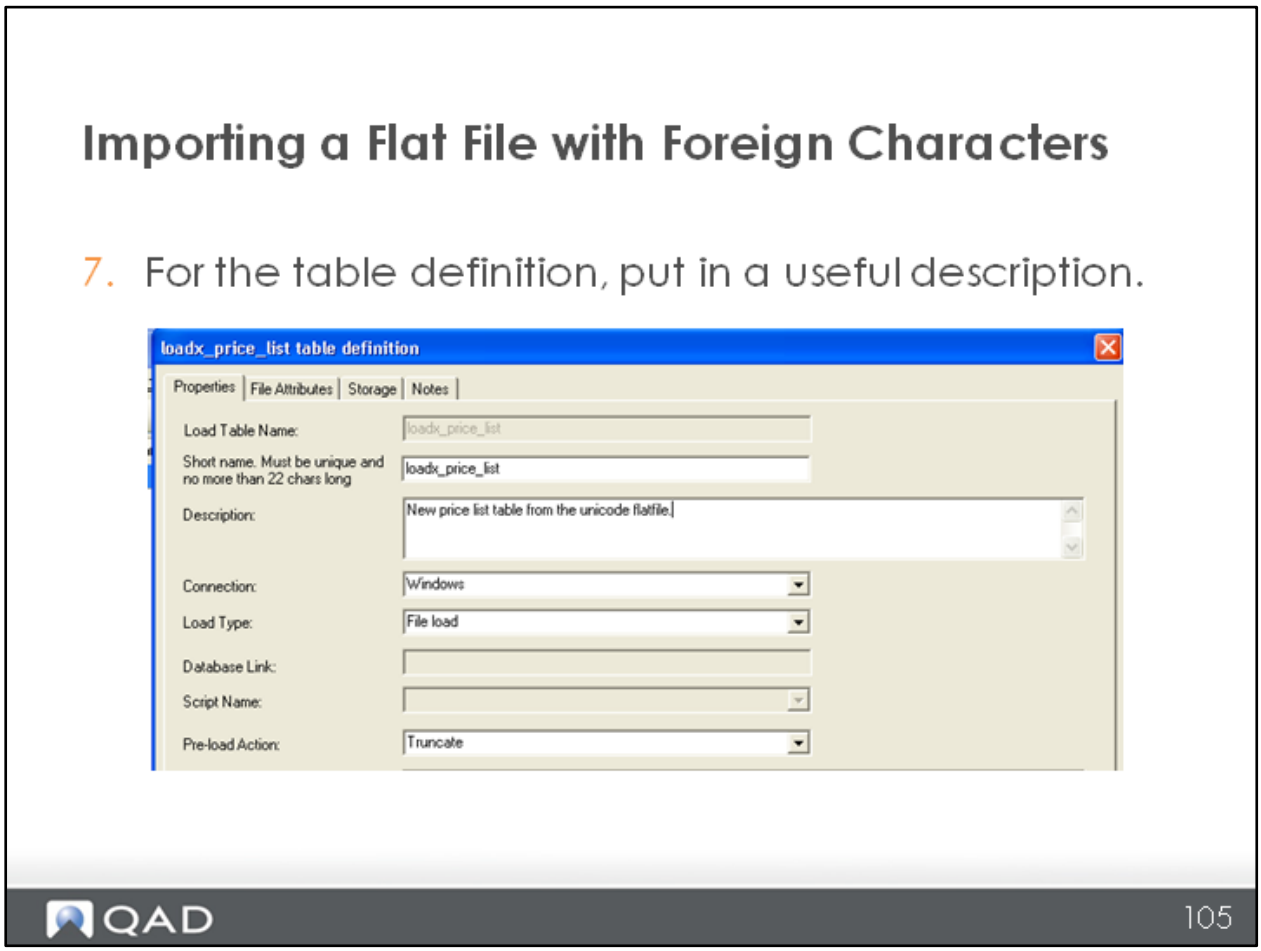
Importing a Flat File with Foreign Characters

6. When asked to Specify the type of Load required, choose the File load (columns parsed) option (for this file).

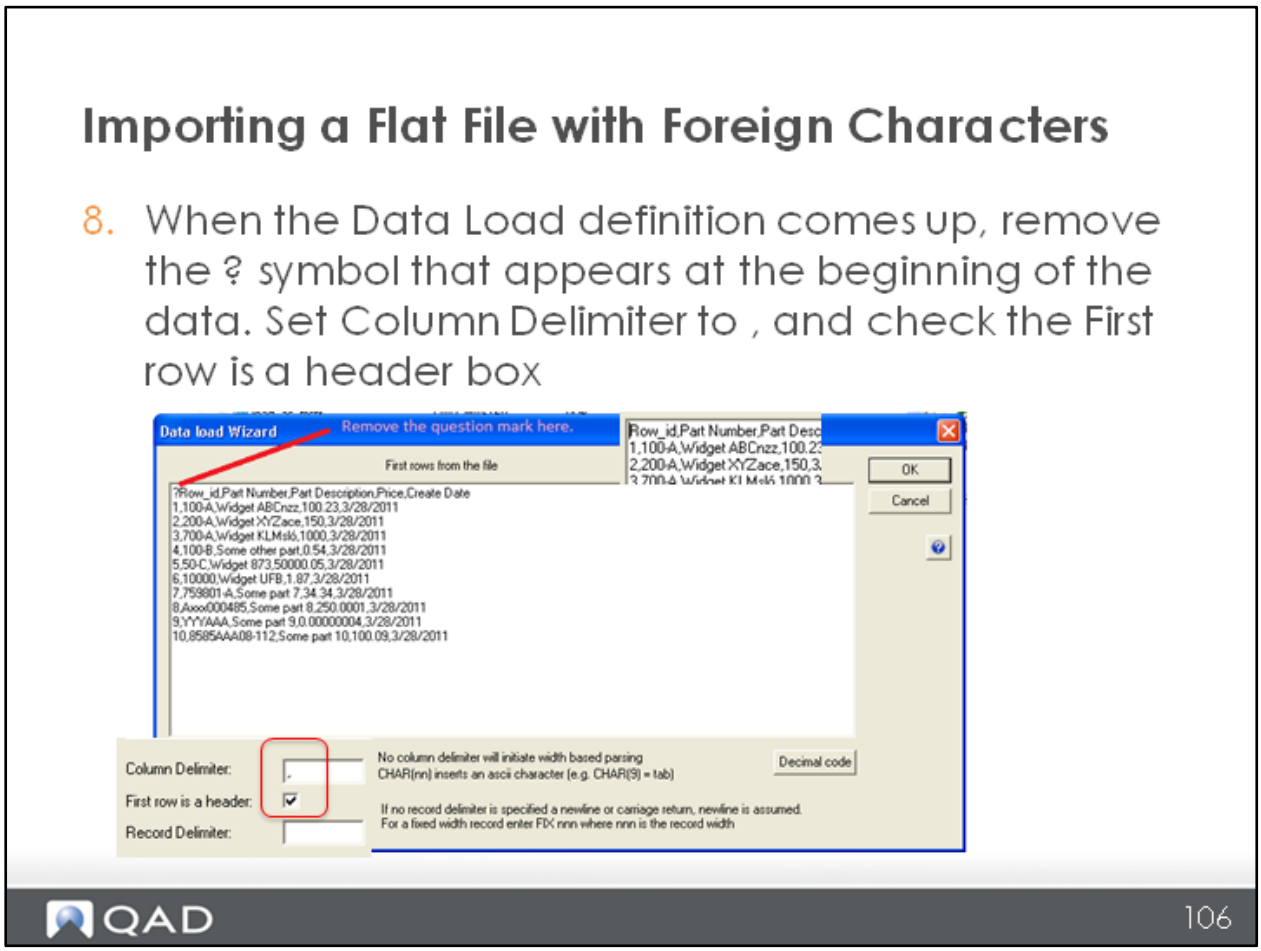


QAD 104

Importing a Flat File with Foreign Characters



Importing a Flat File with Foreign Characters

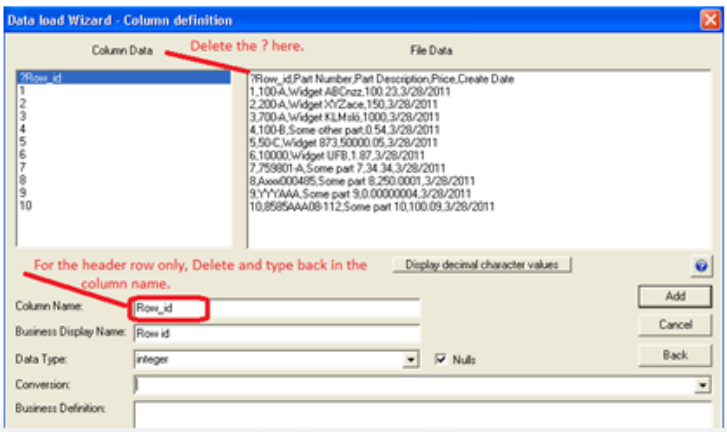


Recently in a class where Chinese characters were added to the flat file, all of the rows ended up being in double quotes for the whole row. This will cause various problems with the load. Make sure that the files the customer are presenting are not in double quotes.

Importing a Flat File with Foreign Characters

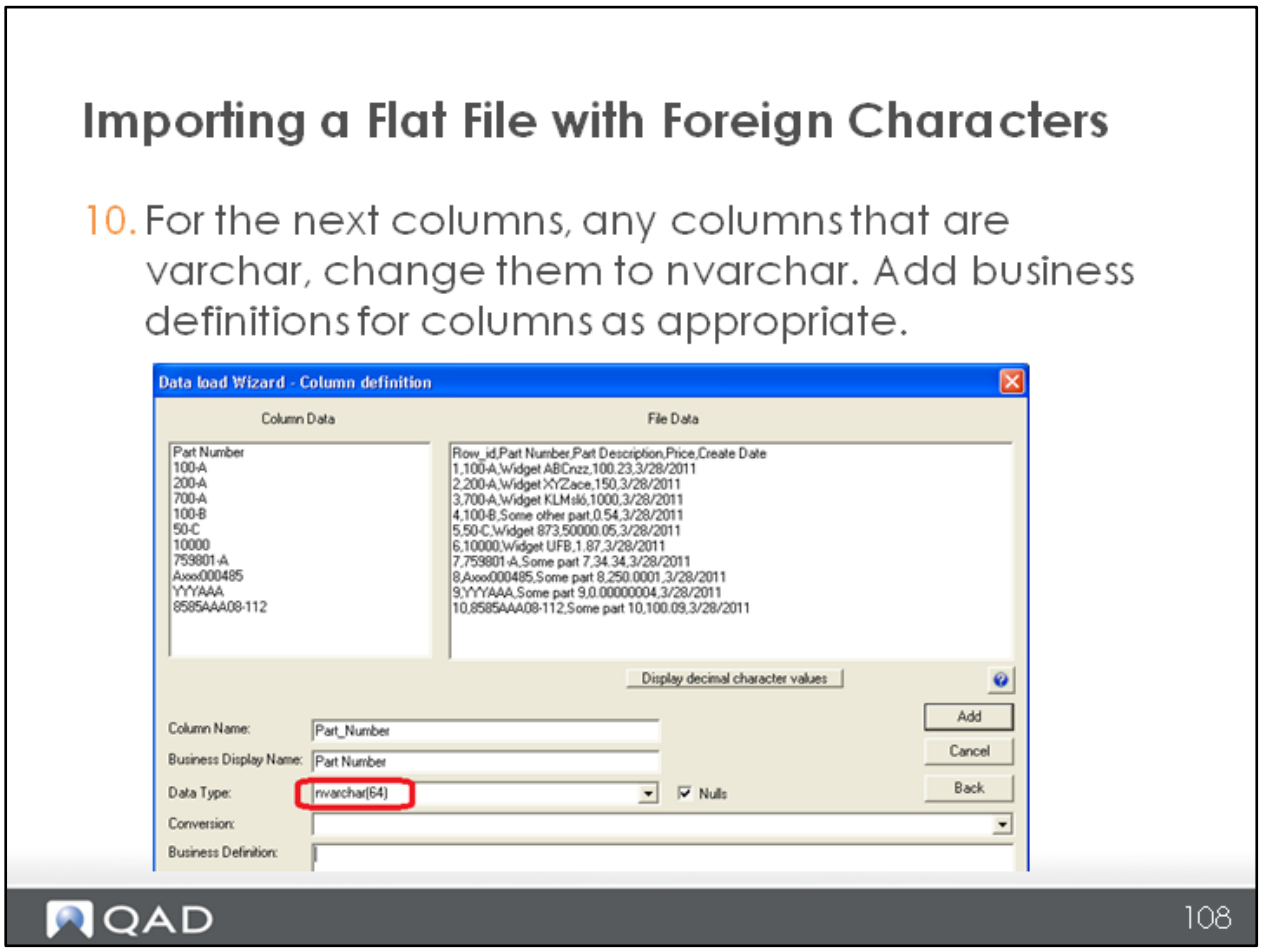
Importing a Flat File with Foreign Characters

9. For the header row, delete the ? in the File Data box. Also, for the Column Name, remove the Row_id and type it back in. There is an invisible character here that needs to be deleted. Click the Add button to get to the next column.

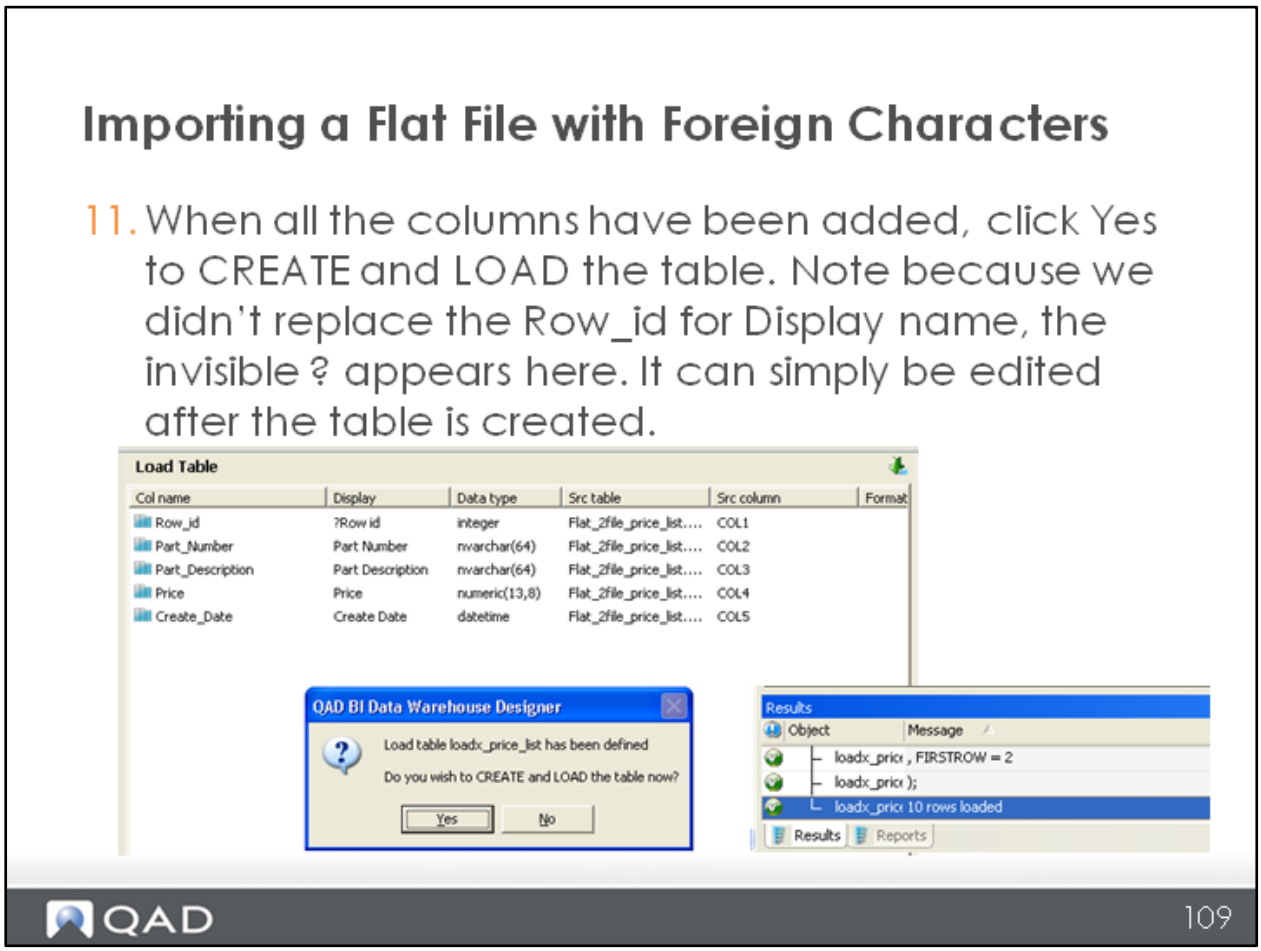


QAD 107

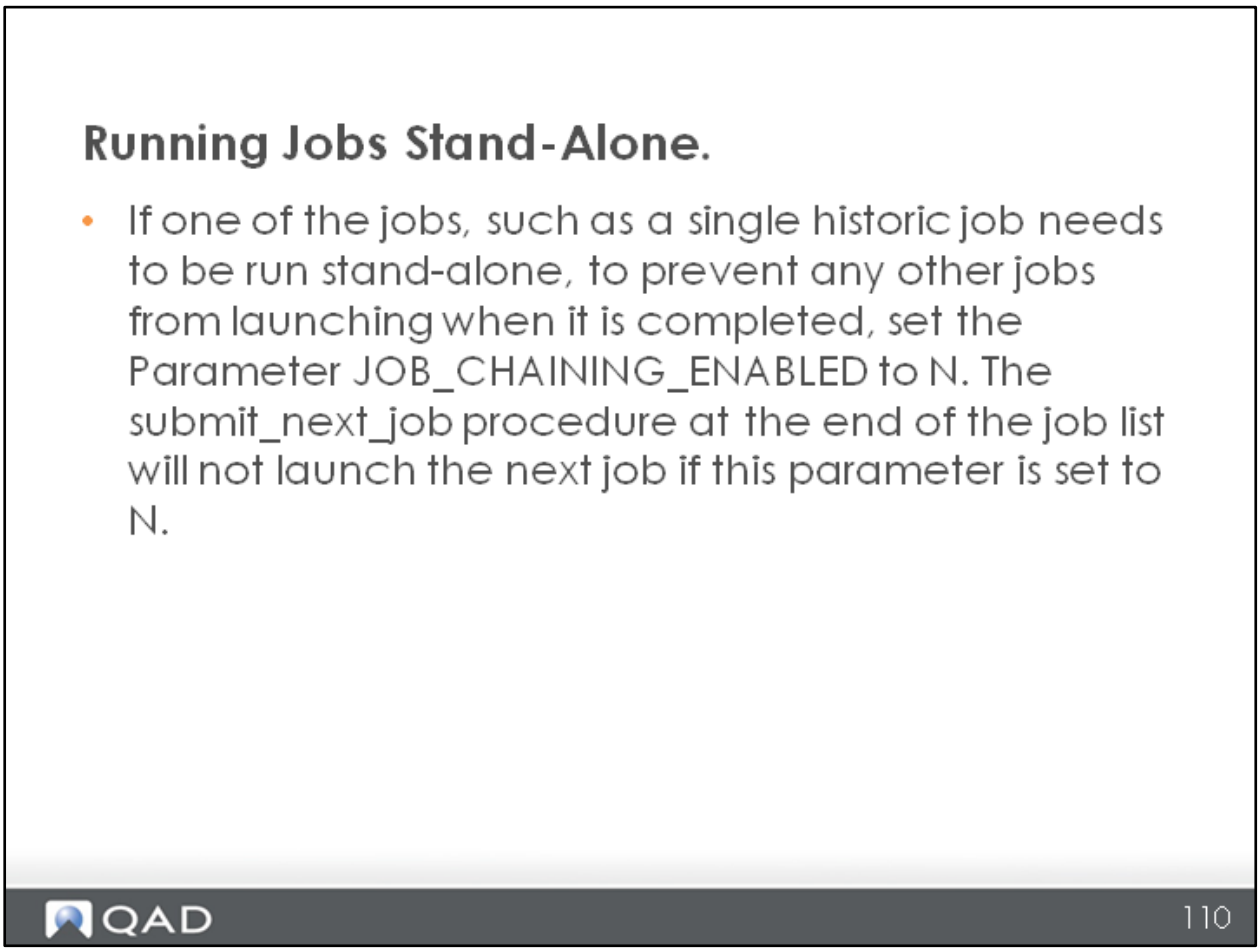
Importing a Flat File with Foreign Characters



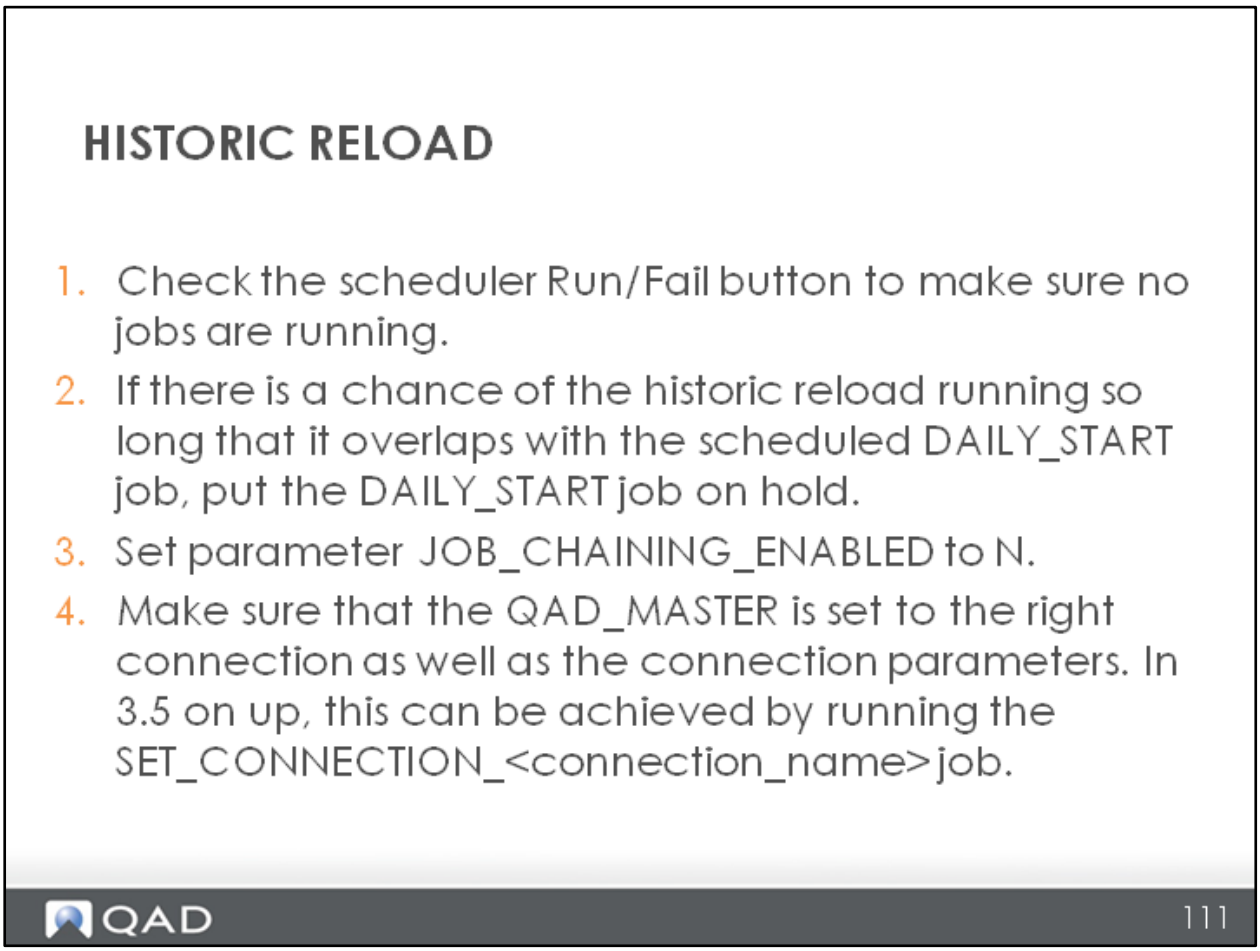
Importing a Flat File with Foreign Characters



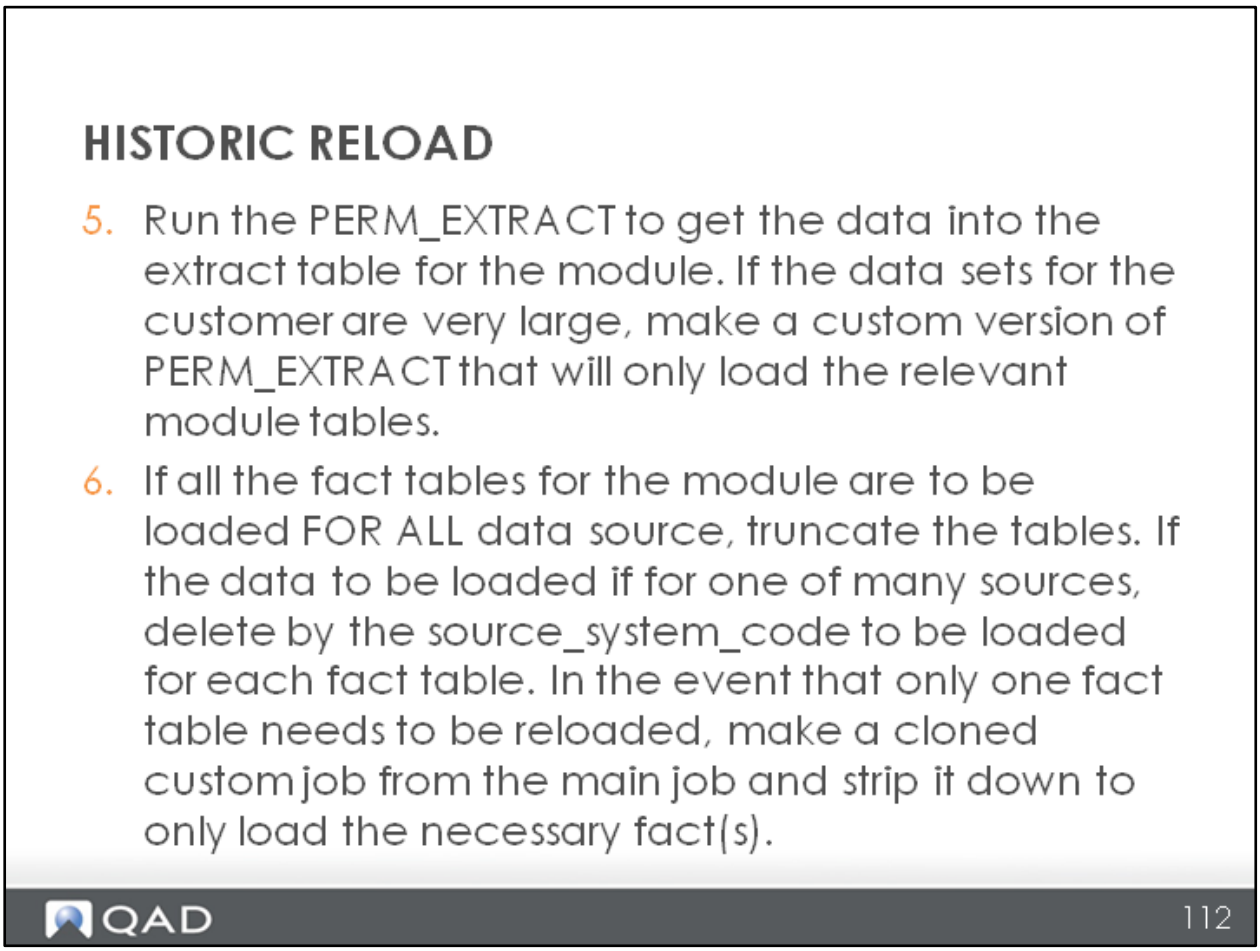
Running Jobs Stand-Alone.



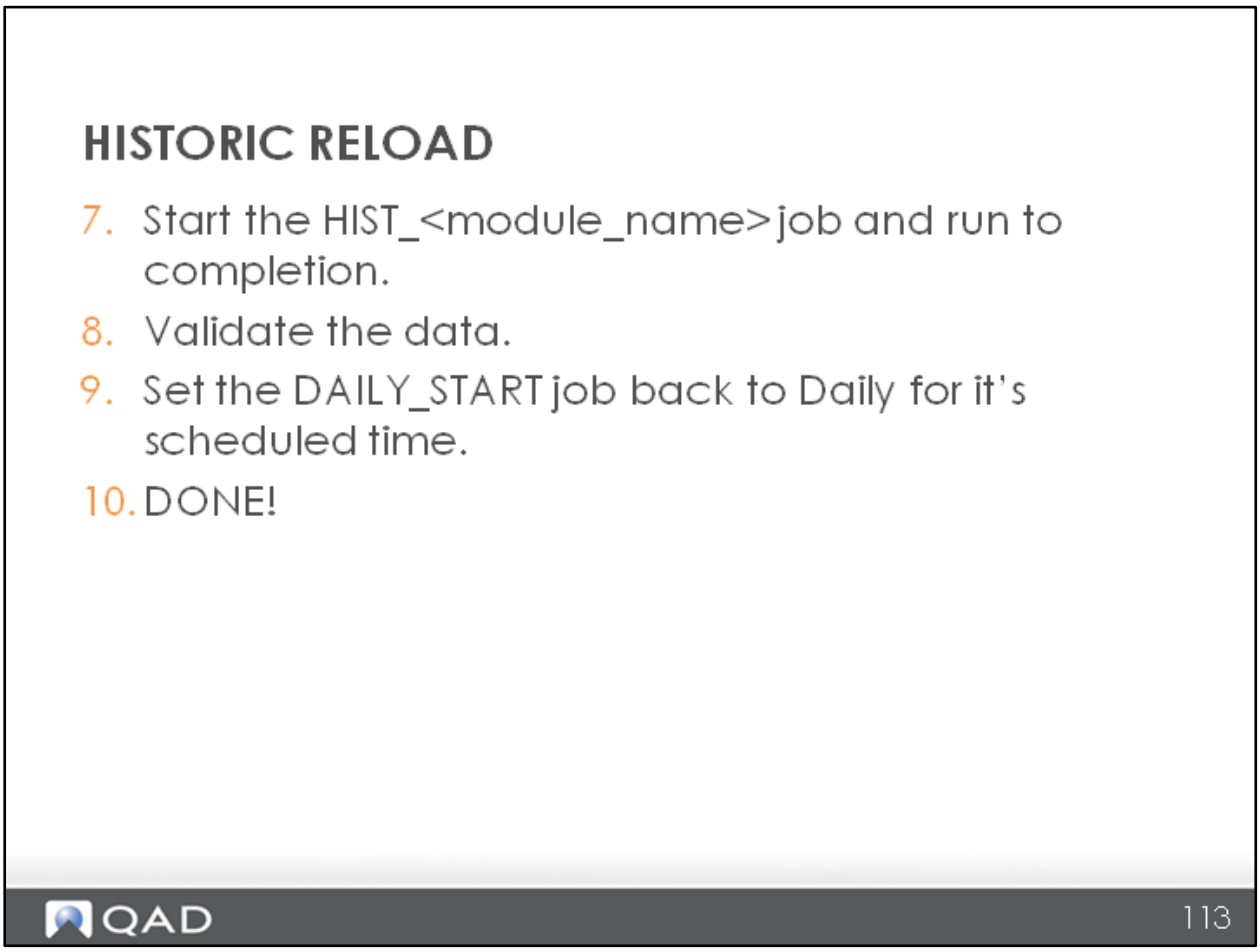
HISTORIC RELOAD



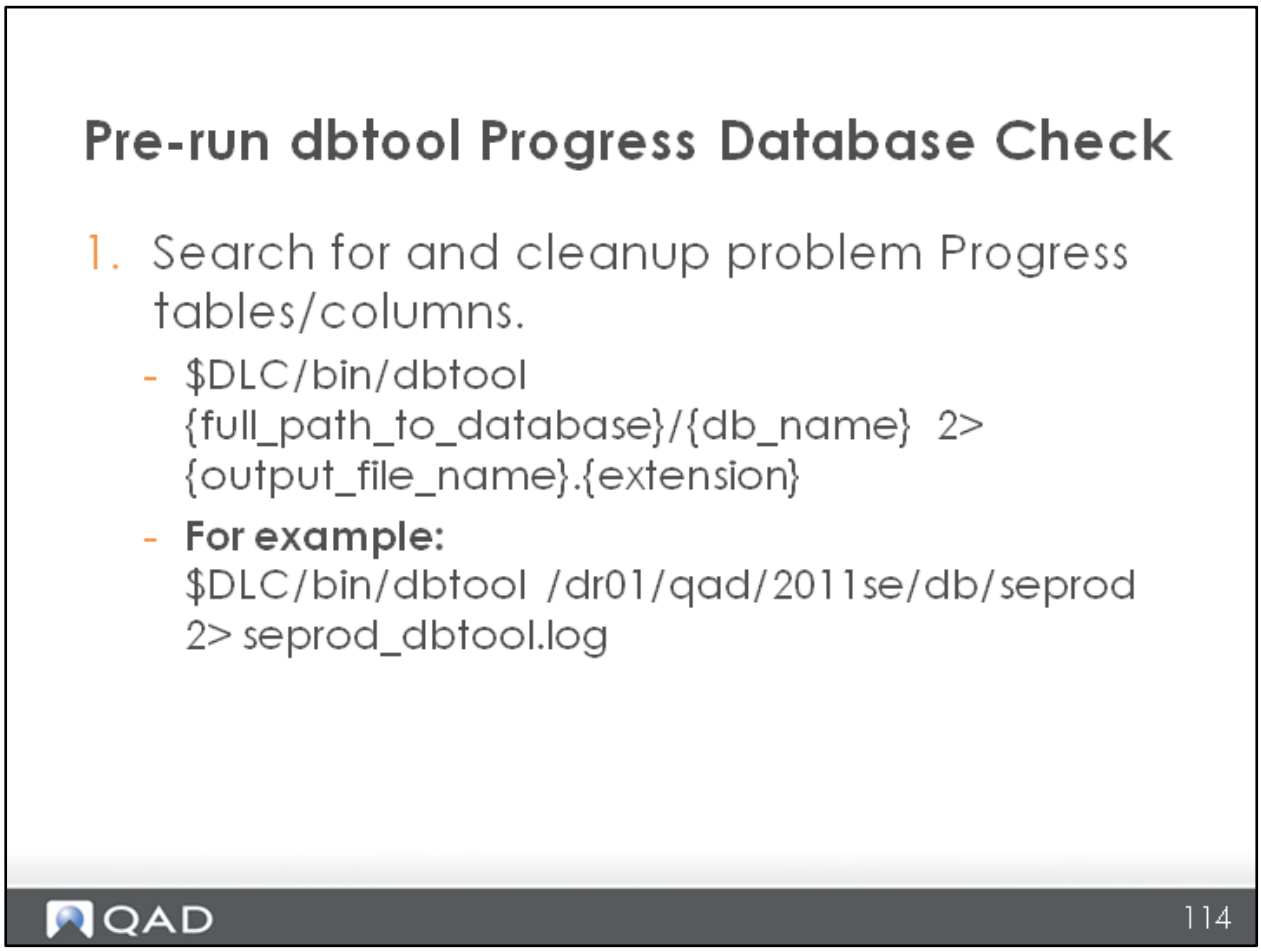
HISTORIC RELOAD



HISTORIC RELOAD



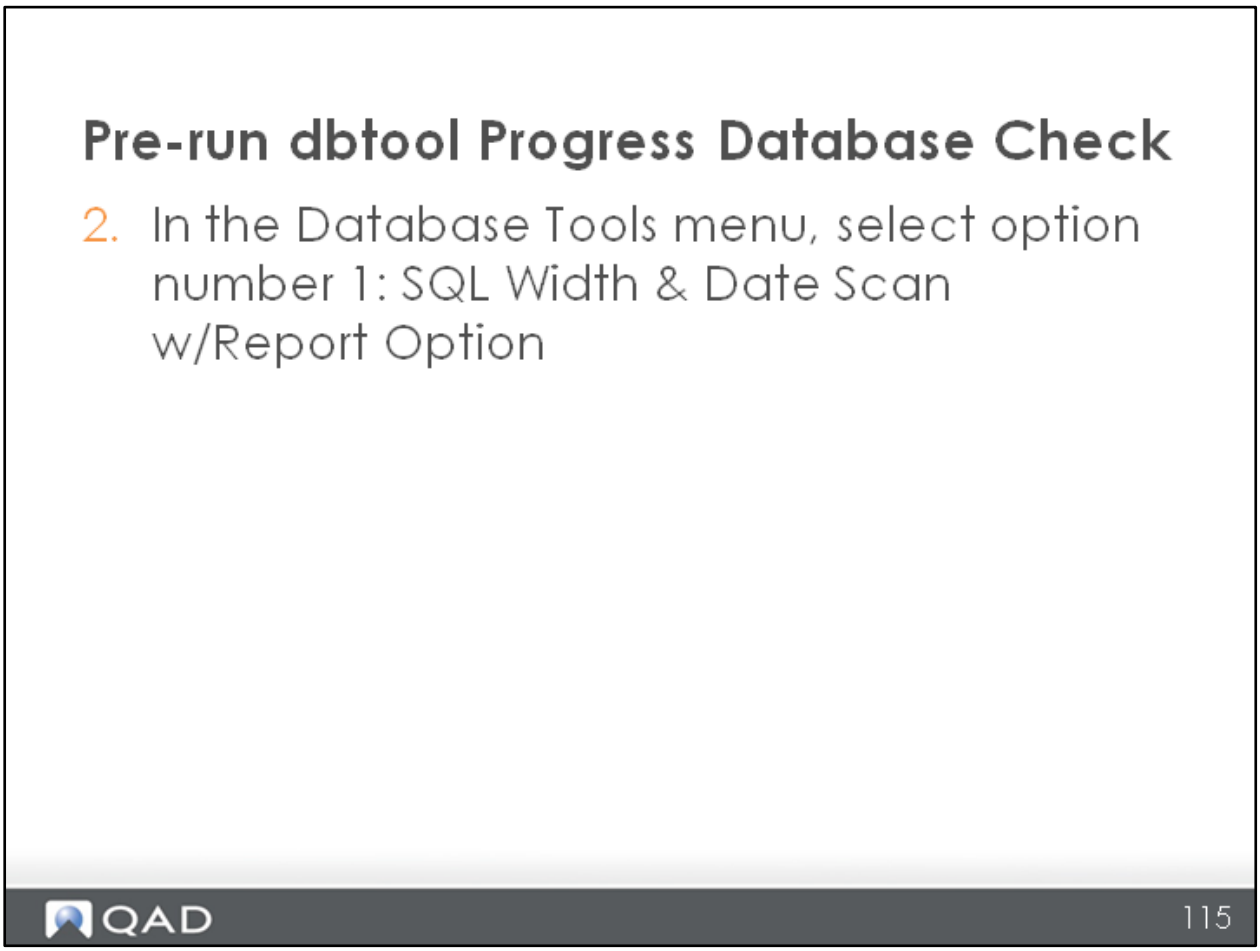
Pre-run dbtool Progress Database Check



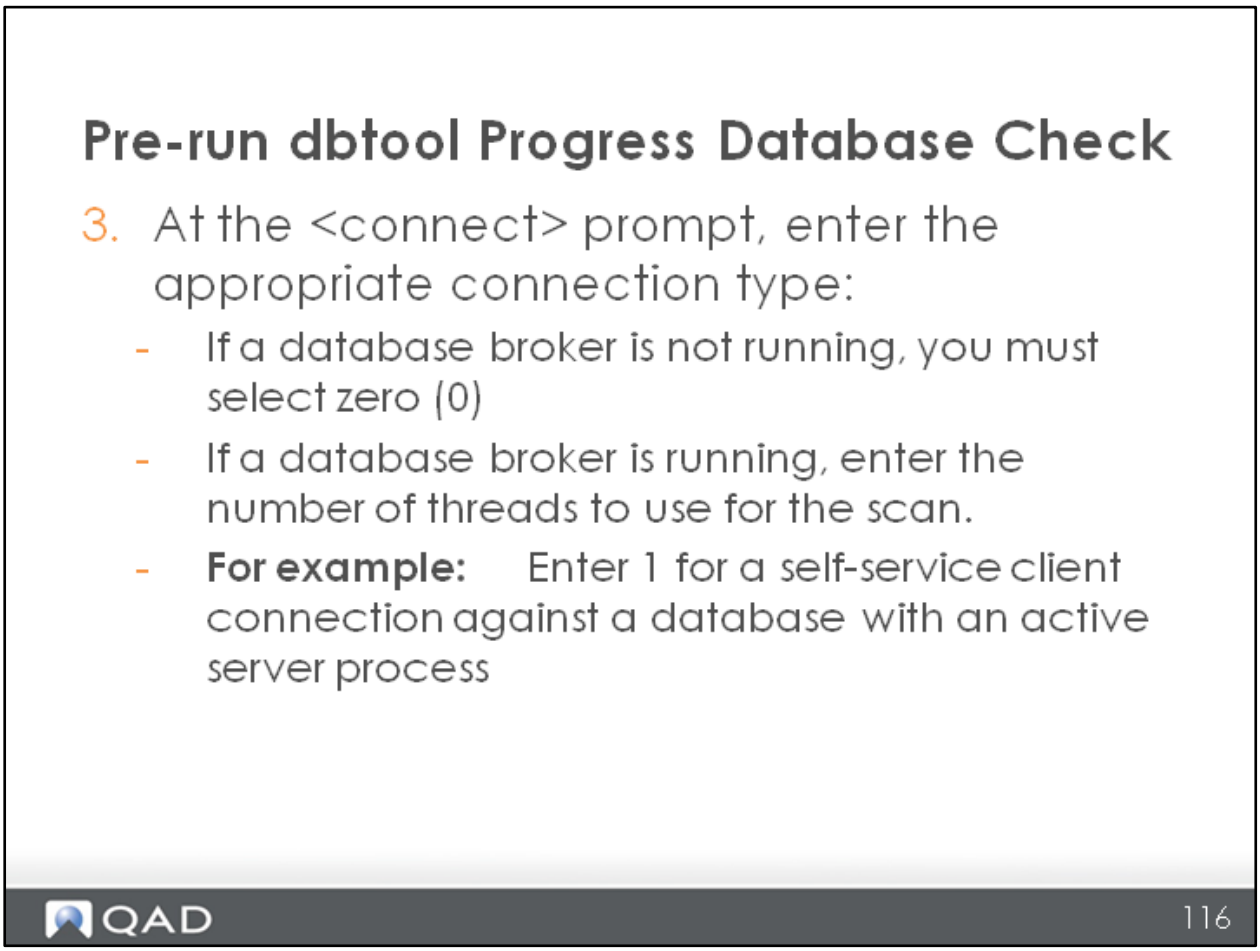
The dbtool portion of the class is for advanced technical users of Progress, to better explain how to track down overpacked columns that may cause the data load to hang.

This is usually handled by a customer's Progress DBA, and can be skipped over in the class if the audience is inappropriate, but it should at least be noted that this tool exists and it is how a customer's Progress DBA would go about finding overpacked columns. It should be run by the Progress DBA prior to doing the Warehouse implementation.

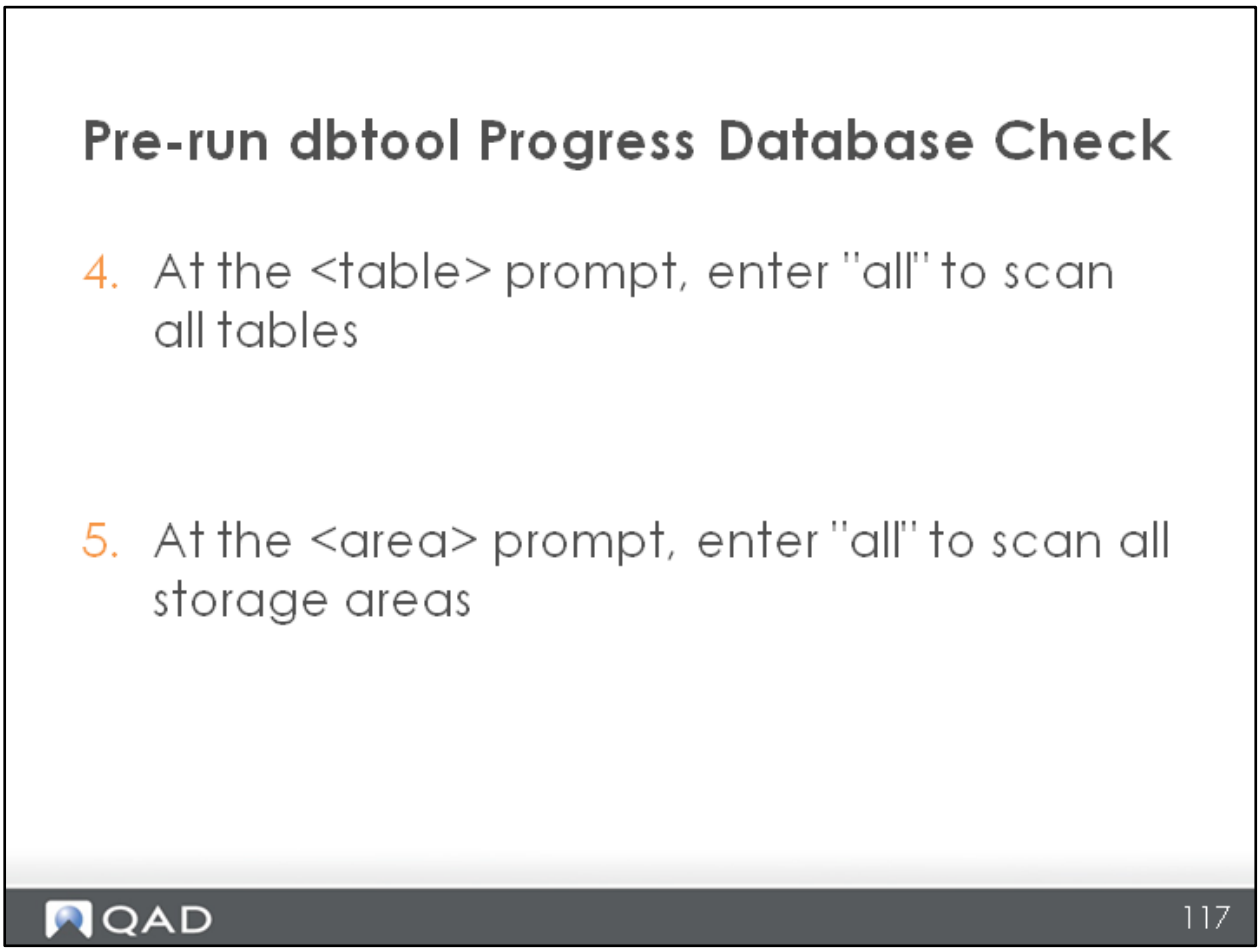
Pre-run dbtool Progress Database Check



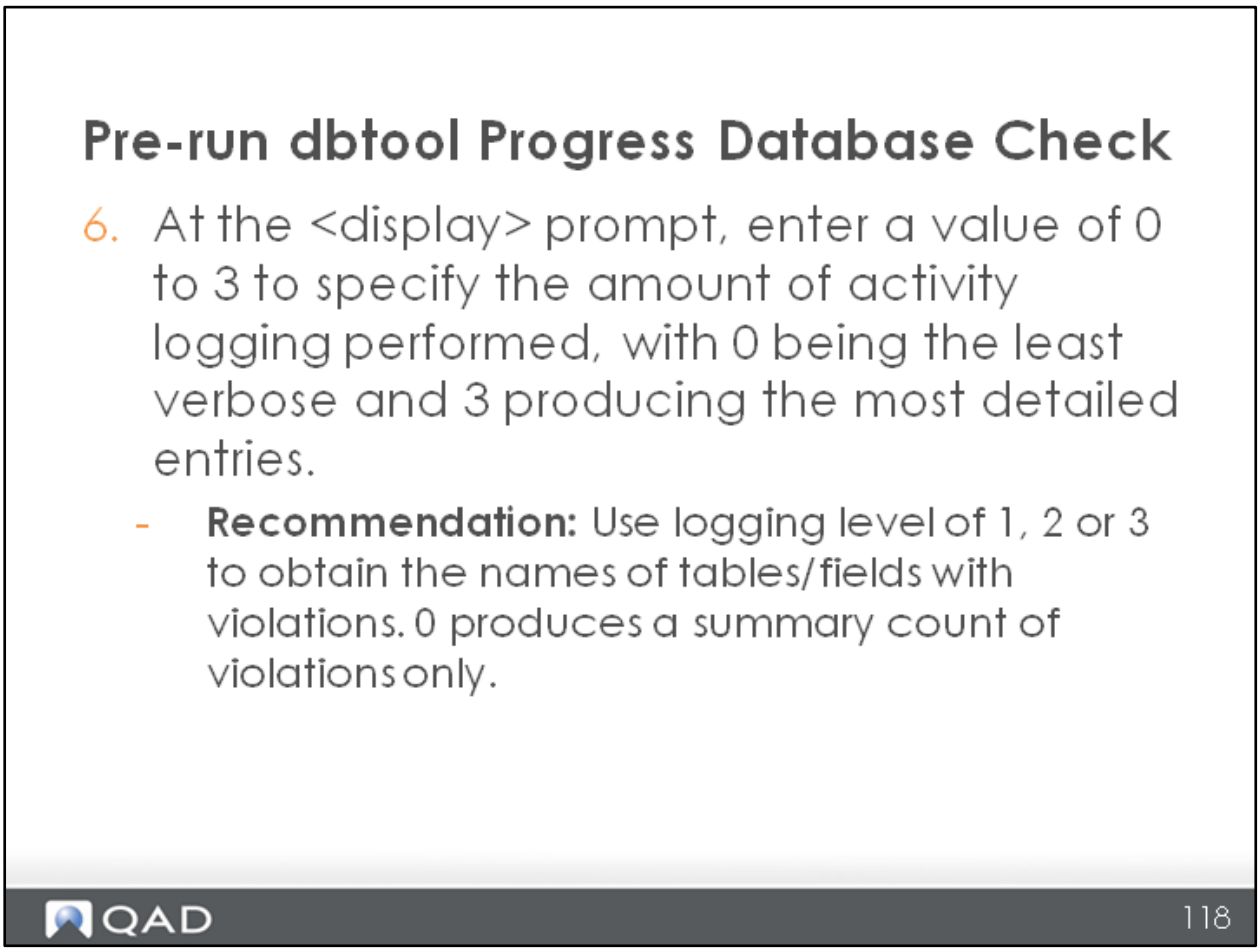
Pre-run dbtool Progress Database Check



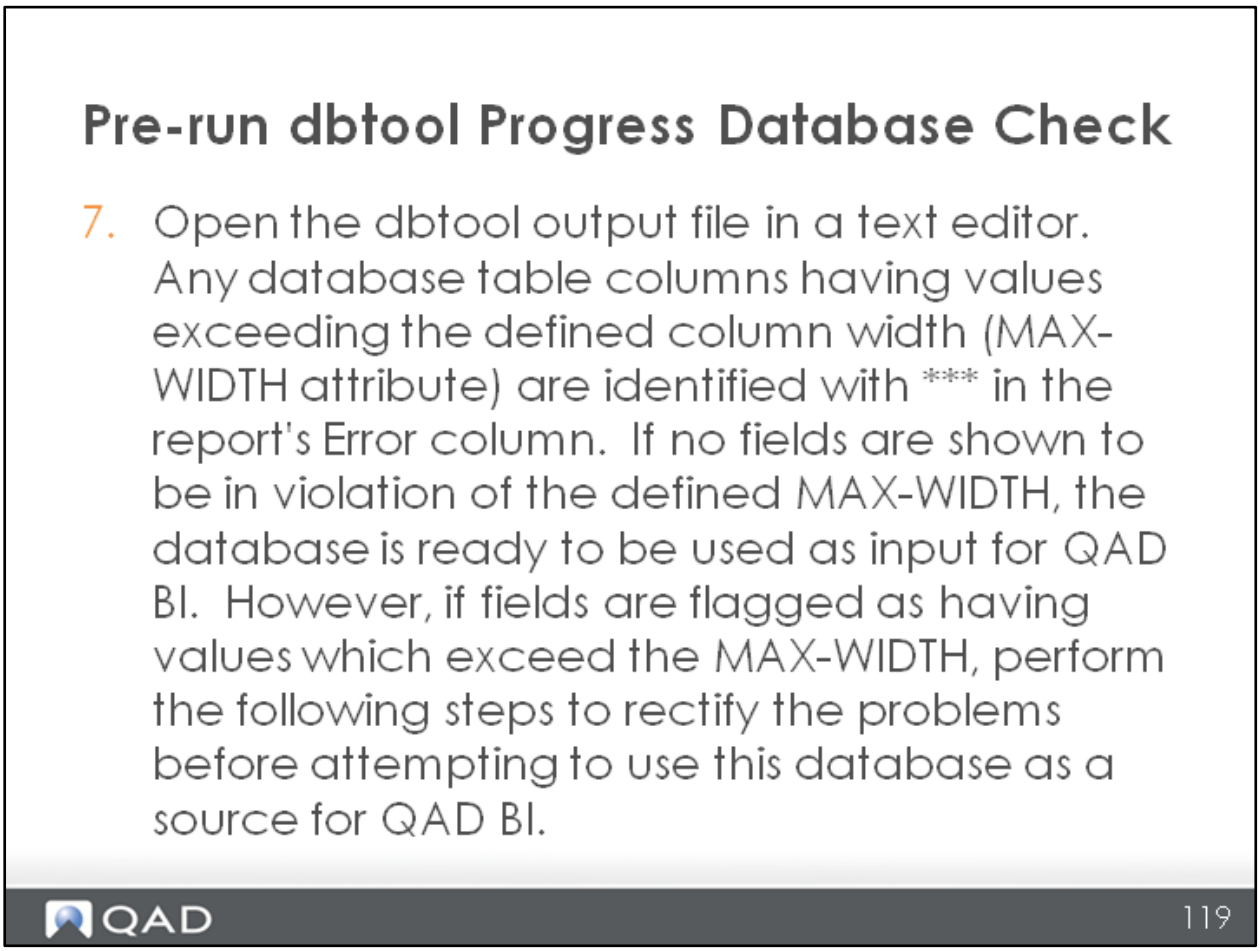
Pre-run dbtool Progress Database Check



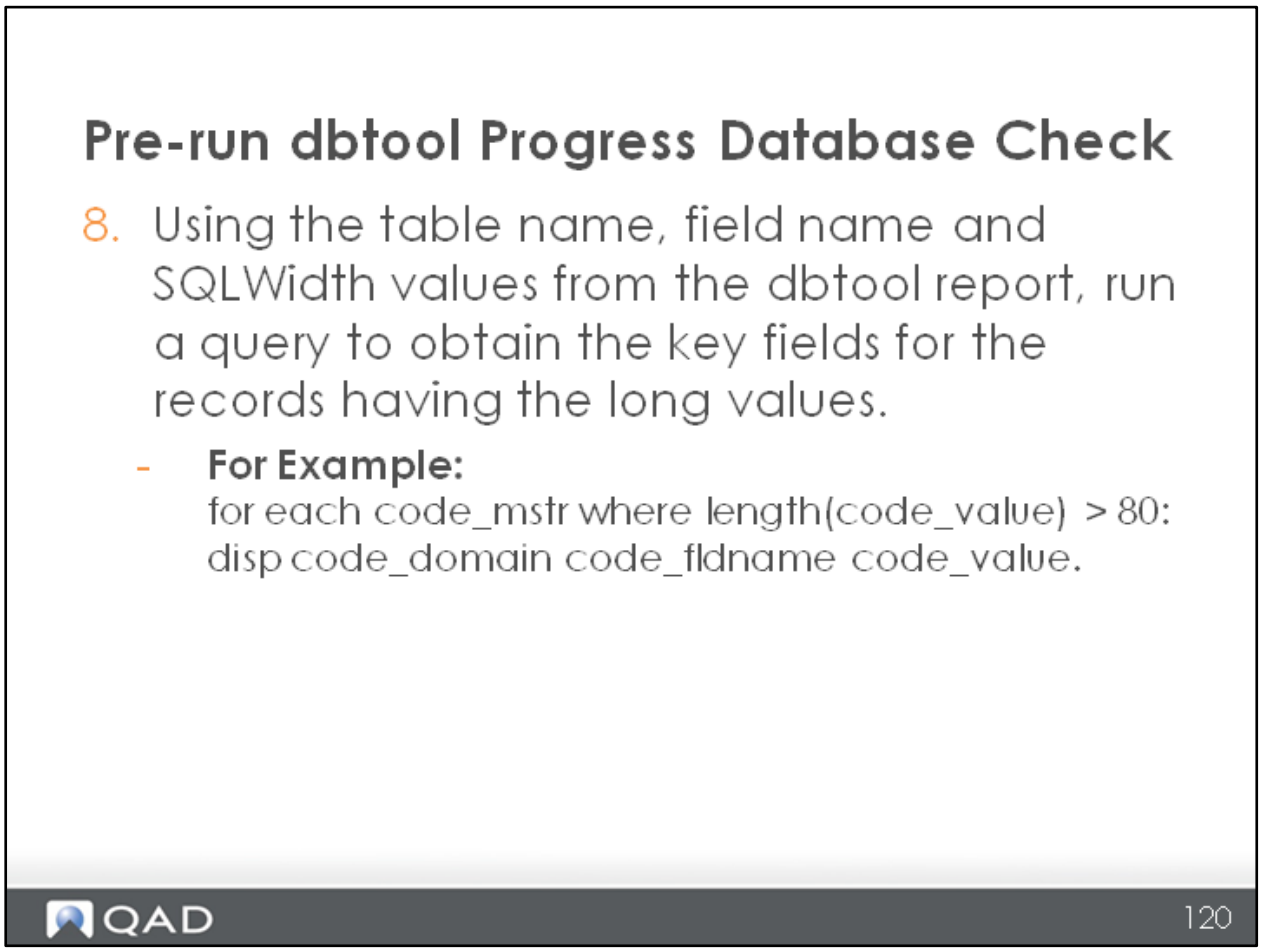
Pre-run dbtool Progress Database Check



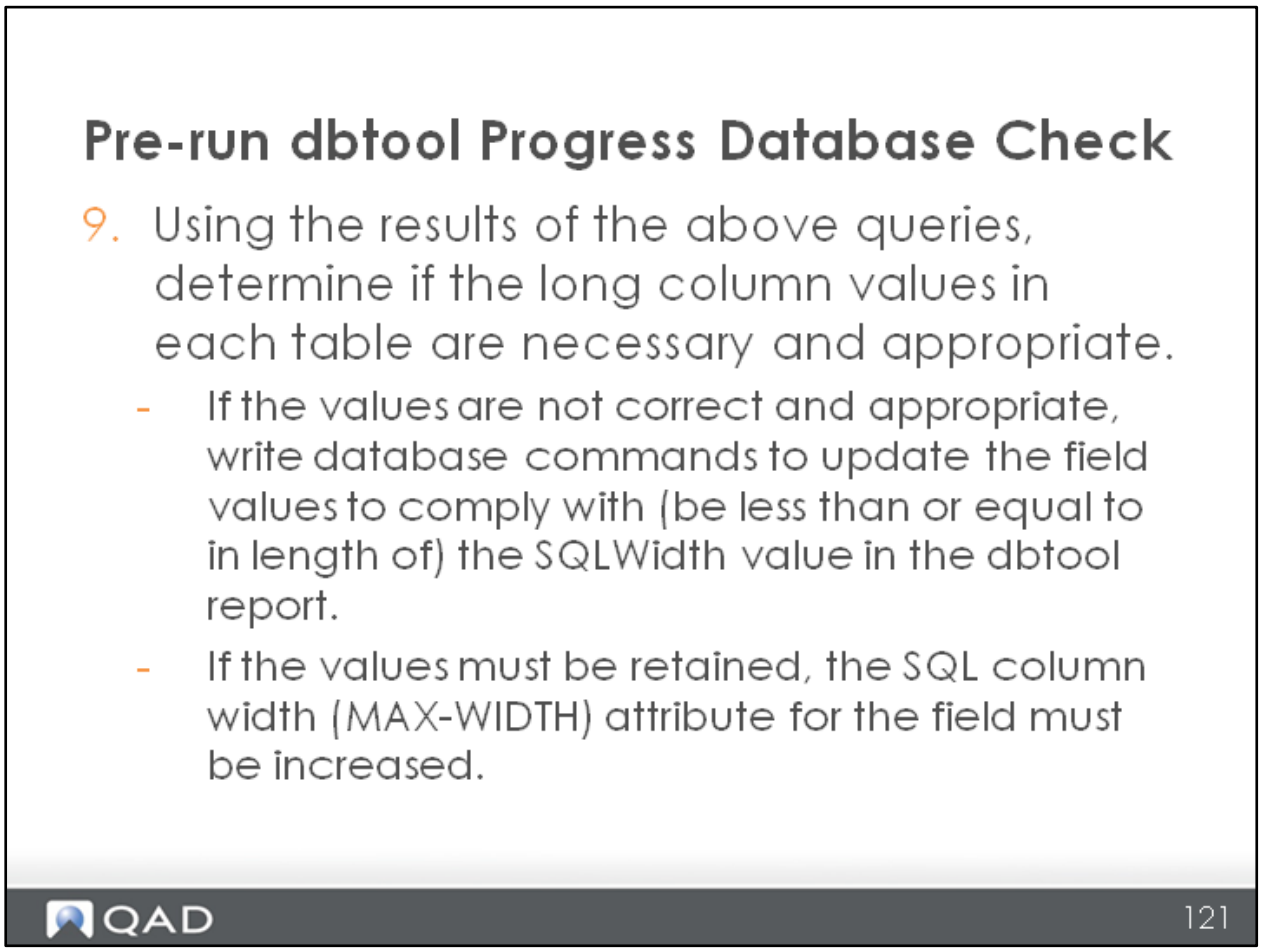
Pre-run dbtool Progress Database Check



Pre-run dbtool Progress Database Check



Pre-run dbtool Progress Database Check



Using the results of the above queries, determine if the long column values in each table are necessary and appropriate.

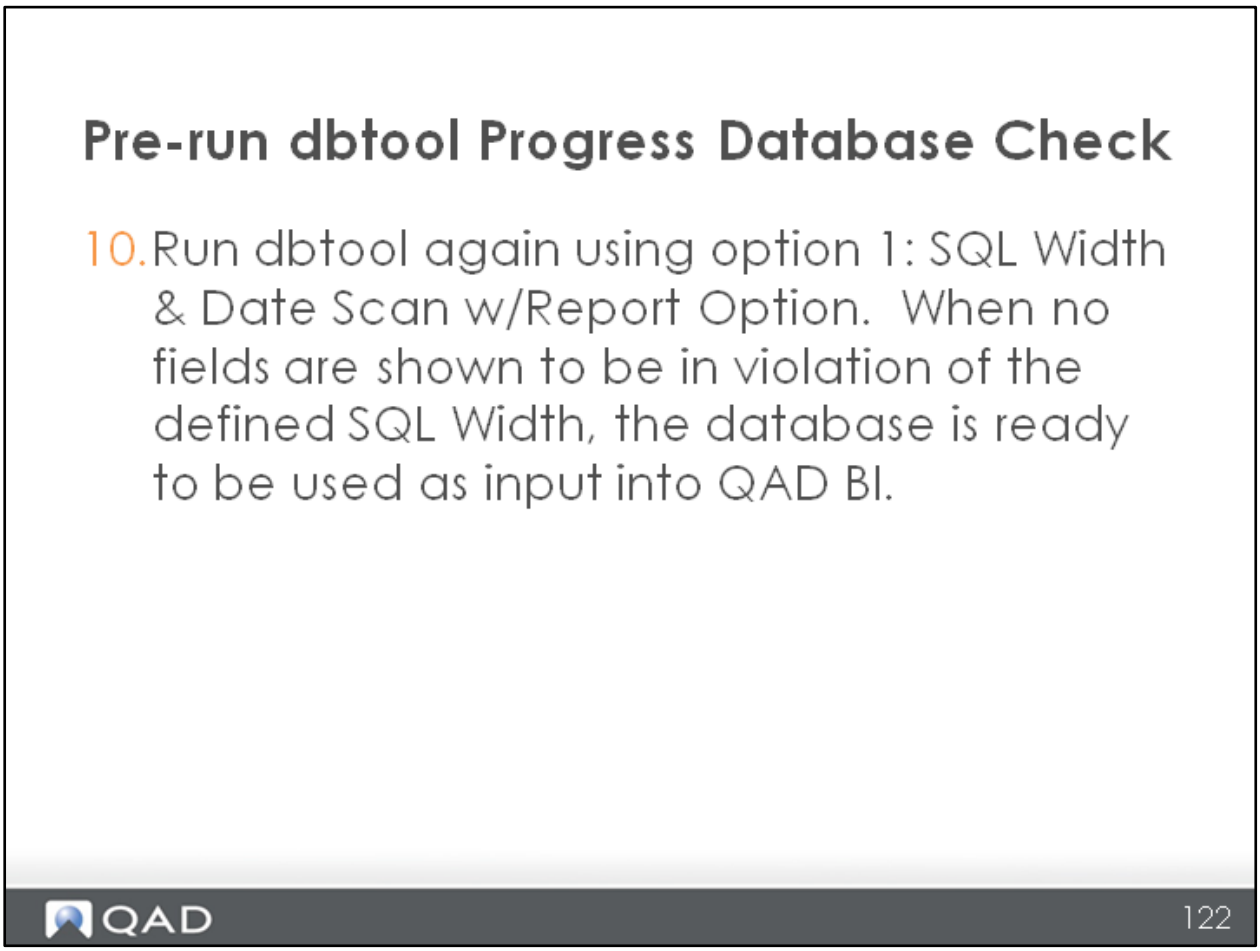
If the values are not correct and appropriate, write database commands to update the field values to comply with (be less than or equal to in length of) the SQLWidth value in the dbtool report.

If the values must be retained, the SQL column width (MAX-WIDTH) attribute for the field must be increased.

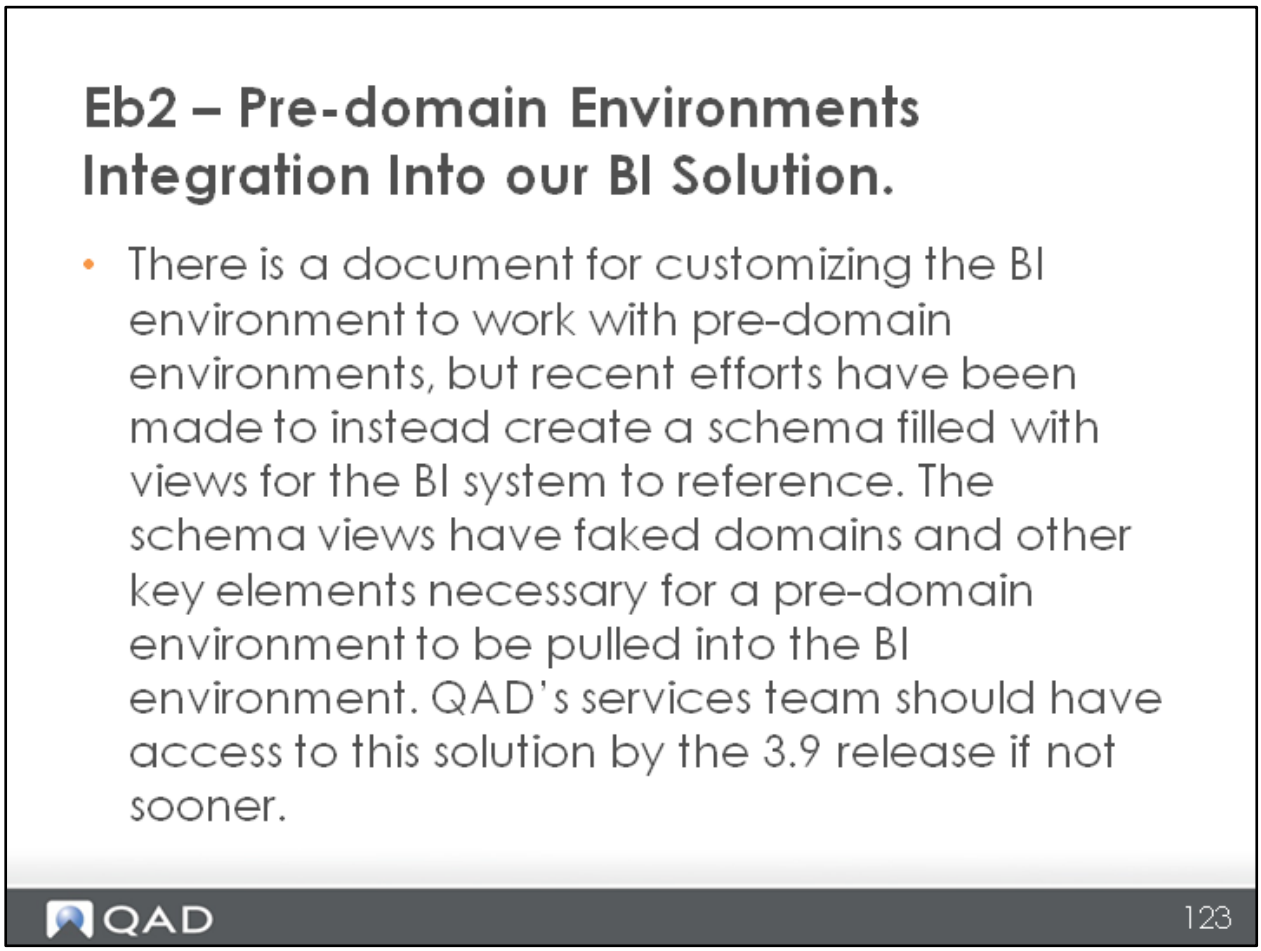
This can be done by dumping the table's data definitions into a .df file and altering the file to include a MAX-WIDTH attribute which meets or exceeds the length of the longest value in the field.

Alternatively, run dbtool again but this time select option 2, SQL Width Scan w/Fix Option and specify an appropriate padding percentage (5 is recommended). This option updates the field to have a SQL Width (MAX-WIDTH) value of the longest data value in the field plus the padding percentage.

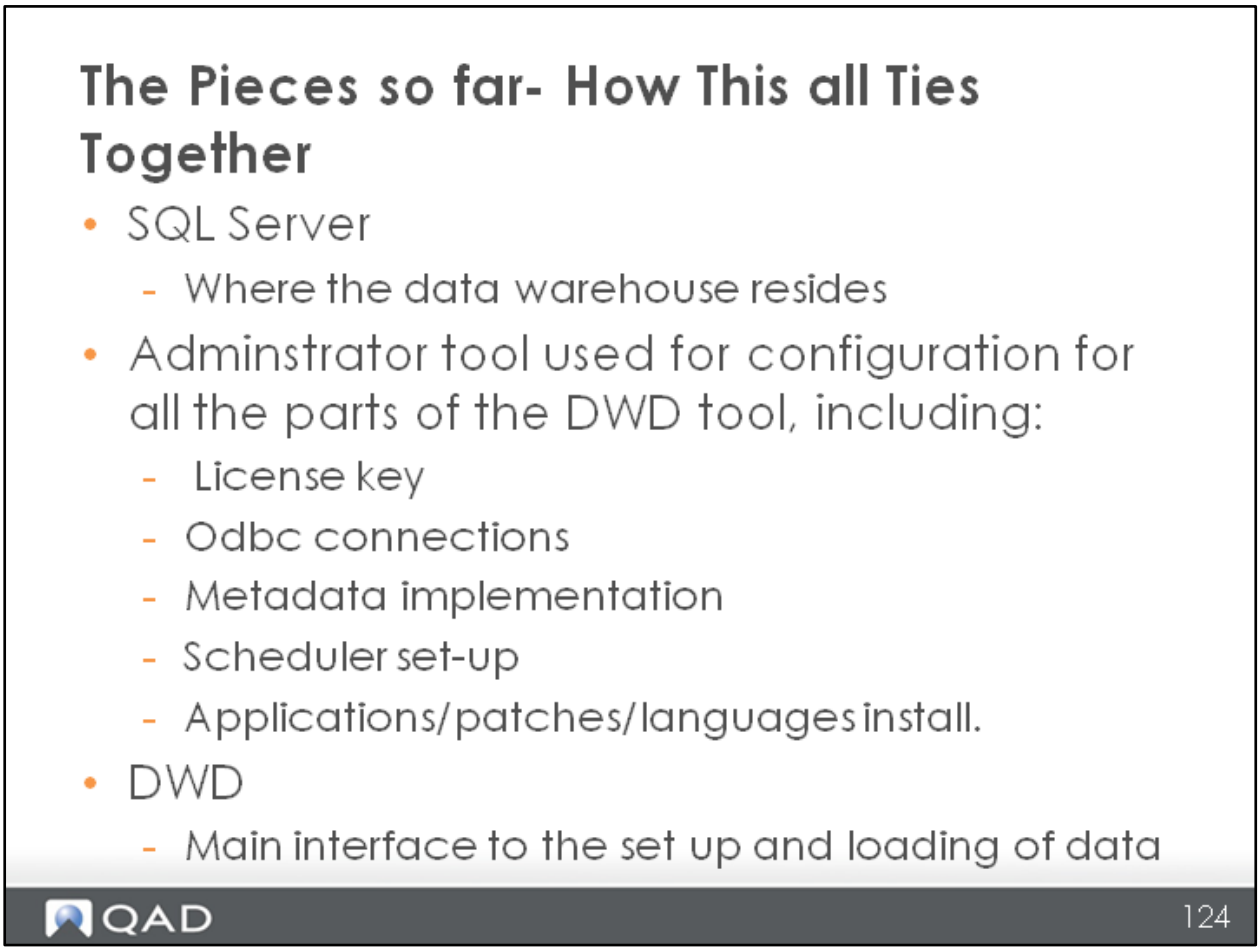
Pre-run dbtool Progress Database Check



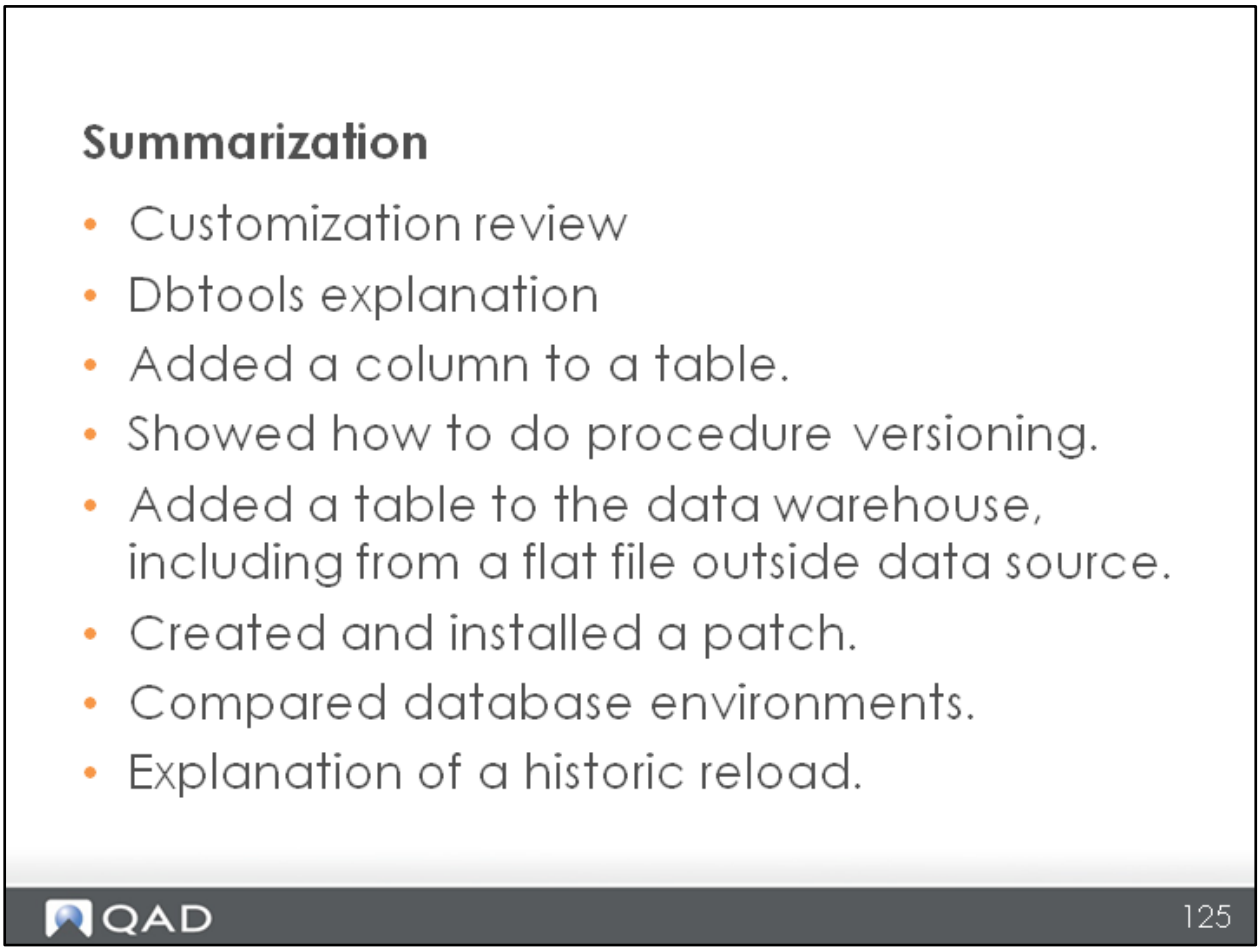
Eb2 – Pre-domain Environments Integration Into our BI Solution.



The Pieces so far- How This all Ties Together



Summarization



Parking Lot Review ?



Upon completion of Level 1 Certification you will be able to do the following:

1. Demonstrate core functionality – while you will not yet be a SME knowing all the subtle nuances of the product, you will be able to utilize the product being taught and demonstrate its high level functionality.
2. Guide customers to Best Practices – this program will help you to understand what are best practices around the particular product you are studying and why they are best practices. This will enable you to speak confidently in making recommendations for business improvements.
3. Recommend an appropriate Solution – perhaps worse than never recommending one of our products is recommending a product to address an issue it was never designed to address. Following your certification, you should be able to identify appropriate opportunities for solutions.
4. Execute upon a SME Guided Project Plan - following Level 1 certification you should not just start working with EAM all by yourself. You should be able, though, to take direction and guidance from a SME and then execute upon that mentoring.

5. Begin customer facing activities – whether you are in support, pre-sales, services, or some other area of expertise, following your Level 1 Certification you will be equipped to begin working face-to-face with customers and properly represent the solution. You should begin using your education immediately! In general:

- Support Resources will be able to address T1 and T2 issues with some assistance from a SME

- Services Resources will be able to be primary resources on Implementations working alongside a Mentor

- Pre-Sales Resources will be able to provide customer-specific product demonstrations with support from a Mentor


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