

SYBASE®

SybStore Tutorials: Enterprise Modeling

Sybase® WorkSpace

1.5

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Message Format Libraries, Sybase Central, Sybase Client/Server Interfaces, Sybase Development Framework, Sybase Financial Server, Sybase Gateways, Sybase IQ, Sybase Learning Connection, Sybase MPP, Sybase SQL Desktop, Sybase SQL Lifecycle, Sybase SQL Workgroup, Sybase Synergy Program, Sybase Virtual Server Architecture, Sybase User Workbench, SybaseWare, Syber Financial, SyberAssist, SybFlex, SybMD, SyBooks, System 10, System 11, System XI (logo), SystemTools, Tabular Data Stream, The Enterprise Client/Server Company, The Extensible Software Platform, The Future Is Wide Open, The Learning Connection, The Model For Client/Server Solutions, The Online Information Center, The Power of One, TotalFix, TradeForce, Transact-SQL, Translation Toolkit, Turning Imagination Into Reality, UltraLite, UltraLite.NET, UNIBOM, Unilib, Uninull, Unisep, Unistring, URK Runtime Kit for UniCode, Viafone, Viewer, VisualWriter, VQL, WarehouseArchitect, Warehouse Control Center, Warehouse Studio, Warehouse WORKS, Watcom, Watcom SQL, Watcom SQL Server, Web Deployment Kit, Web.PB, Web.SQL, WebSights, WebViewer, WorkGroup SQL Server, XA-Library, XA-Server, XcelleNet, XP Server, XTNDAccess and XTNDConnect are trademarks of Sybase, Inc. or its subsidiaries. 05/06

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About This Book

Audience

This document is intended for developers who want to learn to use the Sybase® WorkSpace tooling to model enterprise structures.

How to use this book

This guide contains these chapters:

- **Chapter 1, “Introduction, Installation, and Setup,”** introduces the Sybase WorkSpace Enterprise Modeling tutorials, and describes the tasks you must perform before you begin the lessons.
- **Chapter 2, “Enterprise Modeling Tutorials”** shows you how to use WorkSpace tools to model various components of an application.

Related documents

Sybase WorkSpace tutorials and samples Sybase WorkSpace includes interactive tutorials and samples that show you how to use WorkSpace tools to create basic parts of a service-oriented application.

You can download the tutorial, sample files, and documentation from Sybase CodeXchange.

For more information about the tutorials and samples and instructions on how to download the files, select **Help|Tutorials** from the WorkSpace main menu bar. To get samples information, select the *Samples* Related Topic at the end of the *Tutorial* topic.

Sybase WorkSpace online bookshelf The WorkSpace online bookshelf contains all of the WorkSpace documentation. To access the WorkSpace bookshelf:

- 1 In Windows, select **Start|Programs|Sybase|Sybase WorkSpace|Sybase WorkSpace 1.5** to start Sybase WorkSpace.
- 2 Select **Help|Help Contents** from the WorkSpace main menu bar to open the main **Help** window.

The left pane displays the bookshelf contents, while the right pane displays the details of the selection in the left pane.

The WorkSpace bookshelf contains these document collections:

- *Sybase WorkSpace 1.5 What's New* – summarizes new functionality in this version.

-
- *Sybase WorkSpace Development* – includes Getting Started, and help for each major component service.
 - *Sybase WorkSpace Server Administration* – documents how to stop, start, and manage the servers included with Sybase WorkSpace.

Sybase WorkSpace Getting Started CD The Sybase WorkSpace Getting Started CD includes these documents:

- *Sybase WorkSpace 1.5 Installation Guide*
- *Sybase WorkSpace 1.5 Release Bulletin*
- *Sybase Developer Edition Servers Installation Guide*
- *Adaptive Server Enterprise 15.0 Installation Guide*
- *Unwired Accelerator 7.0 Installation Guide*

Other sources of information

Use the Sybase Getting Started CD, the SyBooks™ CD, and the Sybase Product Manuals Web site to learn more about your product:

- The Getting Started CD contains release bulletins and installation guides in PDF format, and may also contain other documents or updated information not included on the SyBooks CD. It is included with your software. To read or print documents on the Getting Started CD, you need Adobe Acrobat Reader, which you can download at no charge from the Adobe Web site using a link provided on the CD.
- The SyBooks CD contains product manuals and is included with your software. The Eclipse-based SyBooks browser allows you to access the manuals in an easy-to-use, HTML-based format.

Some documentation may be provided in PDF format, which you can access through the PDF directory on the SyBooks CD. To read or print the PDF files, you need Adobe Acrobat Reader.

Refer to the *SyBooks Installation Guide* on the Getting Started CD, or the *README.txt* file on the SyBooks CD for instructions on installing and starting SyBooks.

- The Sybase Product Manuals Web site is an online version of the SyBooks CD that you can access using a standard Web browser. In addition to product manuals, you will find links to EBFs/Maintenance, Technical Documents, Case Management, Solved Cases, newsgroups, and the Sybase Developer Network.

To access the Sybase Product Manuals Web site, go to [Product Manuals at http://www.sybase.com/support/manuals/](http://www.sybase.com/support/manuals/).

Sybase certifications on the Web

Technical documentation at the Sybase Web site is updated frequently.

❖ Finding the latest information on product certifications

- 1 Point your Web browser to [Technical Documents at http://www.sybase.com/support/techdocs/](http://www.sybase.com/support/techdocs/).
- 2 Select Products from the navigation bar on the left.
- 3 Select a product name from the product list and click Go.
- 4 Select the Certification Report filter, specify a time frame, and click Go.
- 5 Click a Certification Report title to display the report.

❖ Finding the latest information on component certifications

- 1 Point your Web browser to [Availability and Certification Reports at http://certification.sybase.com/](http://certification.sybase.com/).
- 2 Either select the product family and product under Search by Product; or select the platform and product under Search by Platform.
- 3 Select Search to display the availability and certification report for the selection.

❖ Creating a personalized view of the Sybase Web site (including support pages)

Set up a MySybase profile. MySybase is a free service that allows you to create a personalized view of Sybase Web pages.

- 1 Point your Web browser to [Technical Documents at http://www.sybase.com/support/techdocs/](http://www.sybase.com/support/techdocs/).
- 2 Click MySybase and create a MySybase profile.

Sybase EBFs and software maintenance

❖ Finding the latest information on EBFs and software maintenance

- 1 Point your Web browser to [the Sybase Support Page at http://www.sybase.com/support](http://www.sybase.com/support).
- 2 Select EBFs/Maintenance. If prompted, enter your MySybase user name and password.
- 3 Select a product.

- Specify a time frame and click Go. A list of EBF/Maintenance releases is displayed.

Padlock icons indicate that you do not have download authorization for certain EBF/Maintenance releases because you are not registered as a Technical Support Contact. If you have not registered, but have valid information provided by your Sybase representative or through your support contract, click Edit Roles to add the “Technical Support Contact” role to your MySybase profile.

- Click the **Info** icon to display the EBF/Maintenance report, or click the product description to download the software.

Conventions

The following formatting conventions are used in this document:

| Formatting example | To indicate |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>command names</code> and <code>method names</code> | When used in descriptive text, this font indicates keywords such as: <ul style="list-style-type: none"> Command names used in descriptive text C++ and Java method or class names used in descriptive text Java package names used in descriptive text |
| <i>myCounter</i> variable <i>Server.log</i> <i>myfile.txt</i> | Italic font indicates: <ul style="list-style-type: none"> Program variables Parts of input text that must be substituted Directory and file names |
| <i>sybase\bin</i> | A backward slash (“\”) indicates cross-platform directory information. A forward slash (“/”) applies to information specific only to UNIX. |
| File Save | Menu names and menu items display in bold. The vertical bar indicates how to navigate menu selections, such as from the File menu to the Save option. |
| <code>parse put get</code> <code>Name Address</code> | In syntax and code examples, the vertical bar indicates: <ul style="list-style-type: none"> Options available within code Delimiter within message examples |
| <code>create table</code> <code>table created</code> | Monospace font indicates: <ul style="list-style-type: none"> Information that you enter on a command line or as program text. Example output fragments |

| Formatting example | To indicate |
|----------------------------------------------------------------|------------------------------------------------------------------------------|
| Type the Name of the attribute. Click Apply . | GUI field or button name that is the recipient of a procedural action. |
| setup -is:tempdir <full path to alternate temp directory> | Information that must be supplied by the user is displayed between brackets. |

Accessibility features

This document is available in an HTML version that is specialized for accessibility. You can navigate the HTML with an adaptive technology such as a screen reader, or view it with a screen enlarger.

Note You might need to configure your accessibility tool for optimal use. Some screen readers pronounce text based on its case; for example, they pronounce ALL UPPERCASE TEXT as initials, and MixedCase Text as words. You might find it helpful to configure your tool to announce syntax conventions. Consult the documentation for your tool.

For information about how Sybase supports accessibility, see [Sybase Accessibility at http://www.sybase.com/accessibility](http://www.sybase.com/accessibility). The Sybase Accessibility site includes links to information on Section 508 and W3C standards.

If you need help

Each Sybase installation that has purchased a support contract has one or more designated people who are authorized to contact Sybase Technical Support. If you cannot resolve a problem using the manuals or online help, please have the designated person contact Sybase Technical Support or the Sybase subsidiary in your area.



Introduction, Installation, and Setup

This chapter introduces the Sybase WorkSpace Enterprise Modeling tutorials and describes the tasks you must perform before you can begin the lessons.

| Topic | Page |
|-------------------------------|------|
| Introduction | 1 |
| Sybase WorkSpace installation | 5 |
| Tutorial setup | 5 |

Introduction

The interactive tutorials teach you to create components for an integrated development environment, using the Sybase WorkSpace tooling.

This tutorial is based on a sample application, SybStore, which is provided as a complete, working application.

See *Sybase PowerDesigner* in the Sybase WorkSpace bookshelf for more information.

Note To open the online help, launch Sybase WorkSpace, then select **File|Help** from the main menu bar.

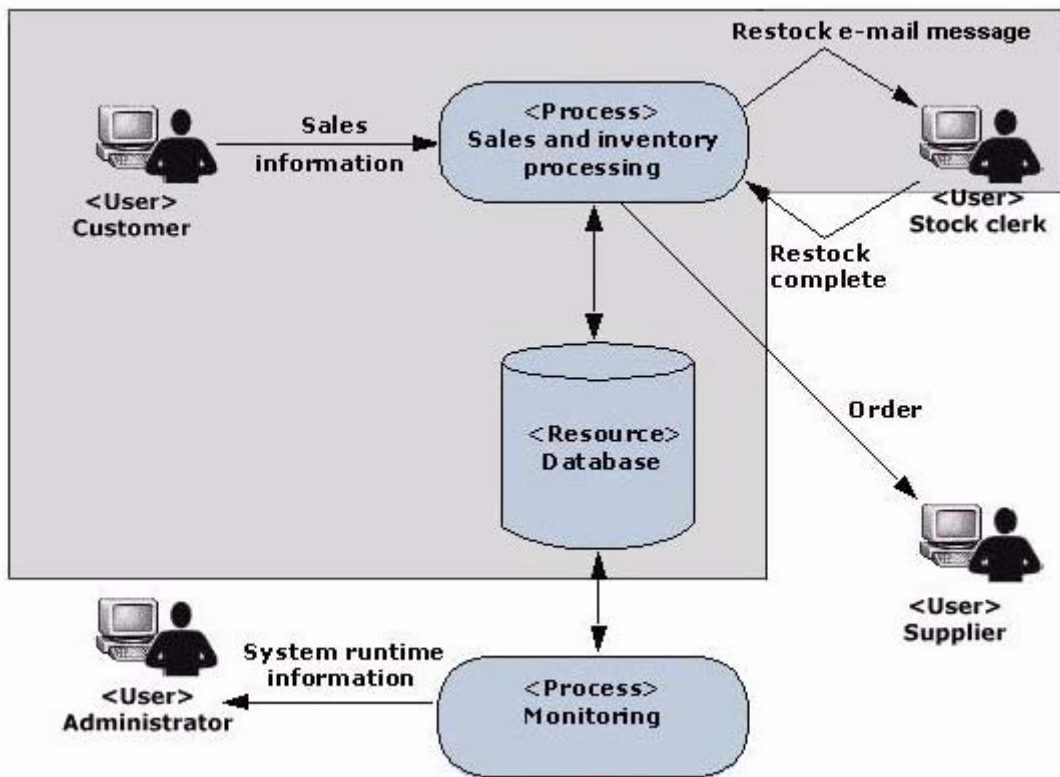
SybStore tutorials

The tutorials use the SybStore sample application, which is a sales and inventory system that automates the following retail business process.

- 1 A customer buys items from the store, and the cash register records that the items were removed from the shelves.

- 2 The sales and inventory system notifies the stock clerk on a PDA to restock the items.
- 3 The stock clerk receives an e-mail message on the PDA to restock specific items when the sales and inventory system determines that restocking is required.
- 4 The stock clerk updates the sales and inventory system using the PDA when restocking is complete.

The following illustration shows the basic flow of the SybStore application.



Note The illustration includes actions that are not implemented in the SybStore tutorial application. The actions that are implemented in SybStore tutorials are in the shaded area and contain enough examples to demonstrate how to use Sybase WorkSpace.

SybStore sample

Sybase WorkSpace includes an Enterprise Modeling sample that demonstrates the end result of the completed tutorials.

You can refer to the SybStore sample application at any time—before you start a tutorial, while you are working through a tutorial, or after you complete a tutorial—to explore the application component you build in the tutorial, or to compare your results with the sample.

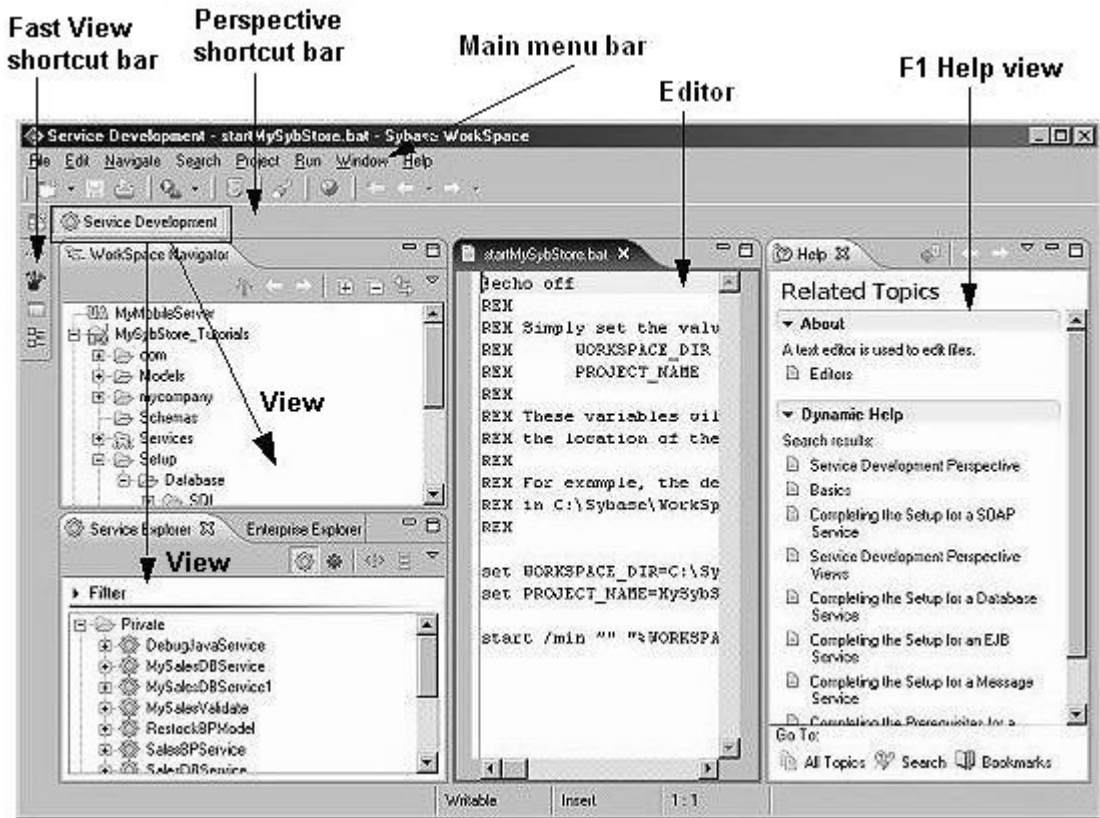
To download and use the component-based samples and documentation, see the online help topic *Samples* in the Sybase WorkSpace Development collection.

Note To open the online help, launch Sybase WorkSpace, then select **File|Help** from the main menu bar.

WorkSpace user interface

The Sybase WorkSpace window is called the **Workbench**. The Workbench opens displaying a **perspective**. A perspective contains views and editors that provide a set of capabilities that enable you to work with resources to perform a task.

The following screen is an example of the Sybase WorkSpace Workbench with the Service Development perspective open.



Becoming familiar with the Eclipse environment

If you are new to Eclipse, take time to review the Sybase WorkSpace and Eclipse online help on the Sybase WorkSpace bookshelf.

To open the help, select **Help|Help Contents** from the main menu bar of the perspective. In the **Contents** pane:

- To learn Eclipse basics, select **Sybase WorkSpace|Getting Started|Basics**.
- To review all Eclipse functionality, select **Workbench User Guide**.

Sybase WorkSpace installation

To use the Enterprise Modeling tutorials, install either Sybase WorkSpace version 1.5 or Sybase WorkSpace 1.5 Evaluation software.

You must have Sybase WorkSpace Enterprise Modeling tooling and the ASA 9.0.2 Developer Edition server installed before you begin the tutorial.

See the *Sybase WorkSpace Installation Guide* and *Sybase Developer Edition Servers Installation Guide*.

Tutorial setup

To prepare your Sybase WorkSpace installation to run the Enterprise Modeling tutorial, complete the setup procedures in this section:

- 1 Downloading the MySybStore_Tutorials project.
- 2 Importing the tutorial into Sybase WorkSpace.
- 3 Starting and connecting to the MySybStore database.
- 4 Initializing the tutorial database.

Downloading the MySybStore_Tutorials project

Before you begin the tutorial, download and import the files that create the MySybStore_Tutorials project, which contains resources you use in the tutorial.

- 1 In a Web browser, go to the [:Sybase Web site at https://workspace.codexchange.sybase.com](https://workspace.codexchange.sybase.com).
- 2 If you have a MySybase account, enter your **E-mail Address** and **Password**, click **Login**, and go to step 3.

If you do not have a MySybase account, click **Register now!** and follow the steps to create an account.

After you log in, the workspace Project homepage opens.

- 3 In the **Popular Folders** table, click **SybStore** in the **Tutorials v1.5** column.

The **WorkSpace Documents & files: SybStore** page opens.

- 4 Right-click **SybStore Tutorials Project Zip** and select **Save Target As** from the context menu.

The **Save As** dialog box opens.

- 5 Navigate to the location where you want to save the file and click **Save**.

A progress bar indicates that the file is downloading to the selected location.

Next, import the tutorial file into Sybase WorkSpace.

Importing the tutorial into Sybase WorkSpace

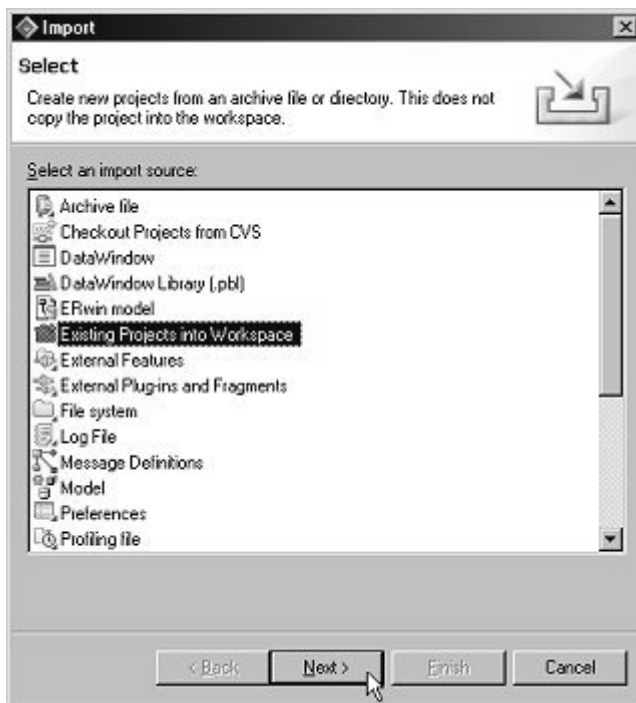
- 1 From the Windows Start menu, select **Start|Programs|Sybase|Sybase WorkSpace|Sybase WorkSpace 1.5** to start Sybase WorkSpace.

- 2 If the Sybase WorkSpace **Welcome** page displays, click the **Close** icon in its title bar.

The default Service Development perspective is open.

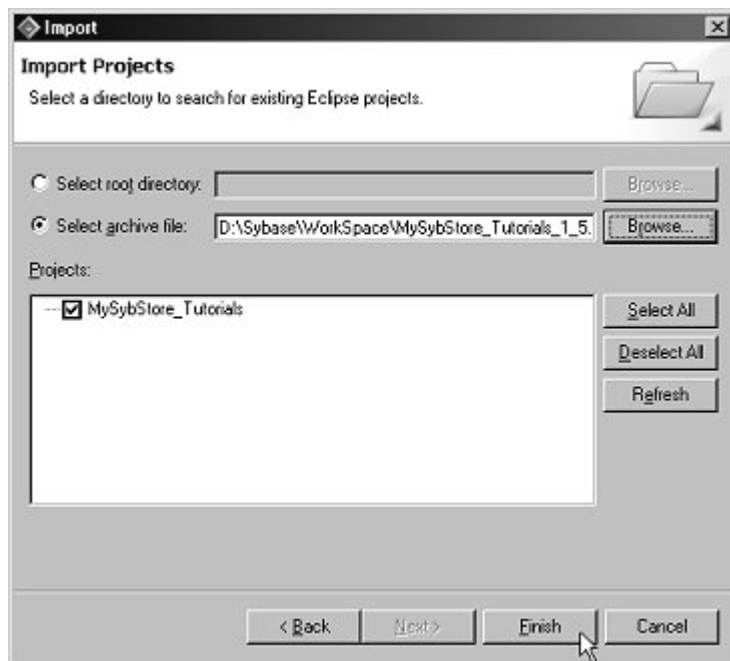
- 3 Select **File|Import** from the main menu bar of the perspective.

- 4 When the **Import** wizard opens, select **Existing Projects into Workspace** and click **Next**.



- 5 From **Import Projects**, select **Select archive file**, and click **Browse**.
- 6 When the file selection page opens, navigate to the *MySysStore_Tutorials_1.5.zip* file and click **Open**.

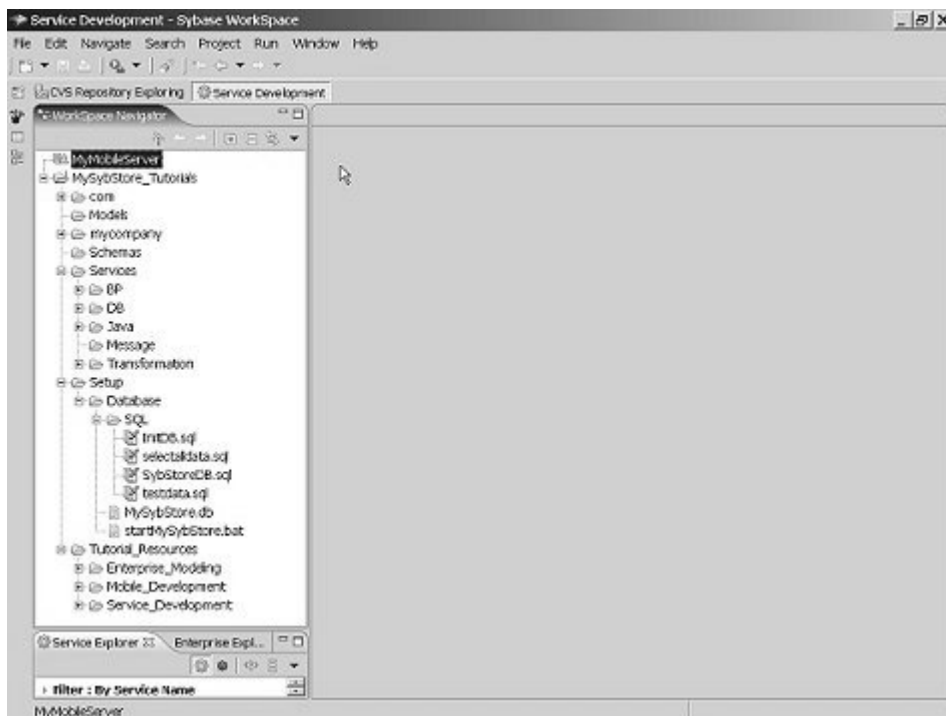
- 7 In the **Projects** list box, verify **MySybStore_Tutorials** is selected and click **Finish**.



The project imports and displays in the WorkSpace Navigator.

Reviewing the MySybStore_Tutorials project

Tutorial resources are stored in the MySybStore_Tutorials project. To view the project resources, expand the MySybStore_Tutorials project in the WorkSpace Navigator.



The following table describes the top-level MySybStore_Tutorials folders:

| Folder | Description |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>com</i> | Automatically generated based on package names contained in services and schemas. |
| <i>Models</i> | Location to which you should save tutorial models. |
| <i>mycompany</i> | Location in which the database service proxy files are stored when they are generated. |
| <i>Services</i> | Folder to which service files are saved. This folder contains subfolders for each service type, such as BP (Business Development), DB (Database), Java , Message , and Transformation , to help categorize the services. |
| <i>Setup</i> | Contains the tutorial database and SQL scripts. Use the files in this folder to re-create the original database. |

| Folder | Description |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Tutorial_Resources</i> | Contains examples of resources created by the tutorial and miscellaneous resources, such as XSD files, required by the tutorial. This folder contains subfolders related to other tutorials. |

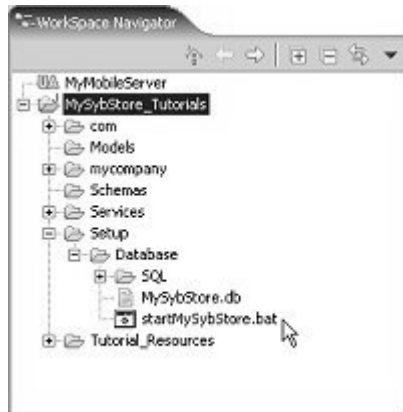
As you work through each lesson, you add new resources to the project.

Starting and connecting to the *MySybStore* database

The *MySybStore* database is a Sybase Adaptive Server Anywhere database, located in the *MySybStore_Tutorials* tutorial project you created. Because the tutorial database is required, you must start and connect to the *MySybStore* tutorial database.

Starting the *MySybStore* database

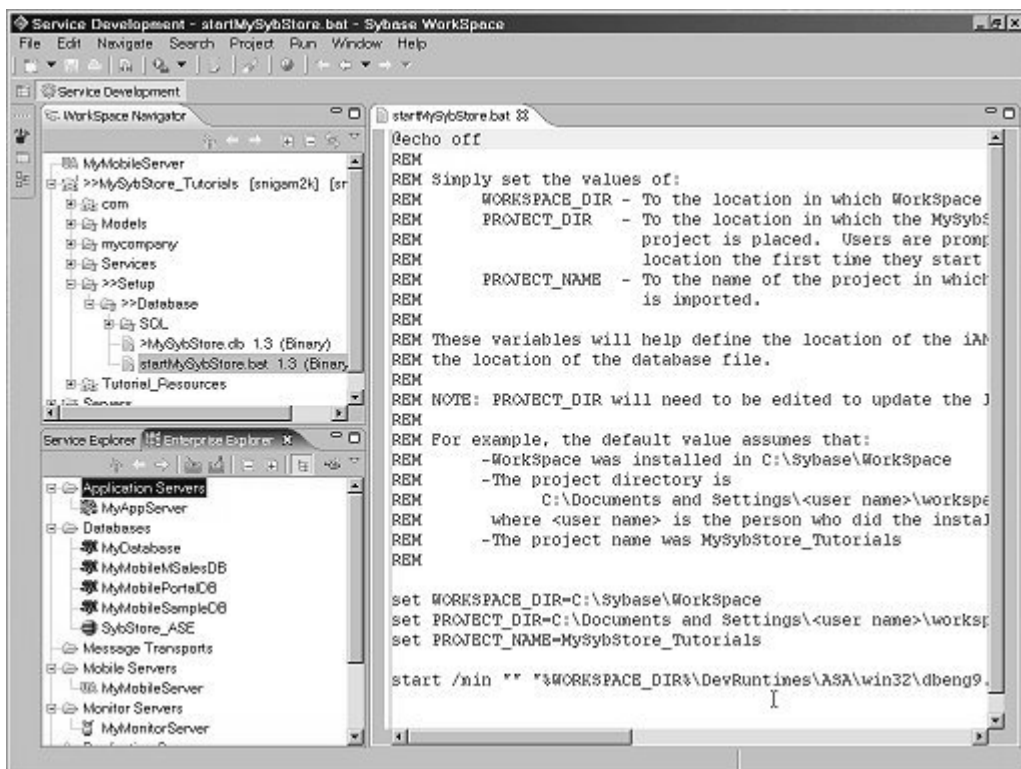
- 1 In the **WorkSpace Navigator**, expand **MySybStore_Tutorials**, **Setup**, and **Database**.



- In the **WorkSpace Navigator**, right-click *startMySybStore.bat*, and select **Open With|Text Editor** from the context menu.



The batch file opens in the text editor.



- 3 Edit the following lines in *startMySybStore.bat* to set the variable values for your installation and project name:

```
set WORKSPACE_DIR=C:\Sybase\WorkSpace  
set PROJECT_DIR=C:\Documents and Setting\\workspace
```

- **WORKSPACE_DIR** must point to the directory in which Sybase WorkSpace is installed; for example, *D:\Sybase\Workspace*.
- **PROJECT_DIR** must point to the directory in which you want your project files stored. The default is C:\Documents and Settings\\workspace. If you created your workspace elsewhere, change the variable value.

For example, if you had the installation create your workspace on D:\Sybase\\workspace, change the value to match that path.

- 4 Select **File|Save** from the main menu bar to save the changes.
- 5 Select **File|Close** from the main menu bar to close the editor.
- 6 To start the database, right-click **startMySybStore.bat** in the WorkSpace Navigator and select **Open With|System Editor** from the context menu.

The Adaptive Server Anywhere, Developer Edition pop-up appears for a few seconds. The Adaptive Server Anywhere icon then displays in your system tray, indicating that the database is running.

Creating a database connection profile

A connection profile must exist for the **MySybStore** tutorial database. The connection profile allows Sybase WorkSpace to connect to the database after the database is started.

Note The first time you execute a SQL file, you must specify the connection profile. Subsequently, you do not have to specify the connection profile unless you want to change it. You can create multiple connection profiles for the same database by saving each profile to a different file, which allows you to use different ports or user names and passwords.

A connection profile contains the connection information, for example, host name and port, that Sybase WorkSpace uses to connect to a server resource. Create and configure connection profiles in the Enterprise Explorer.

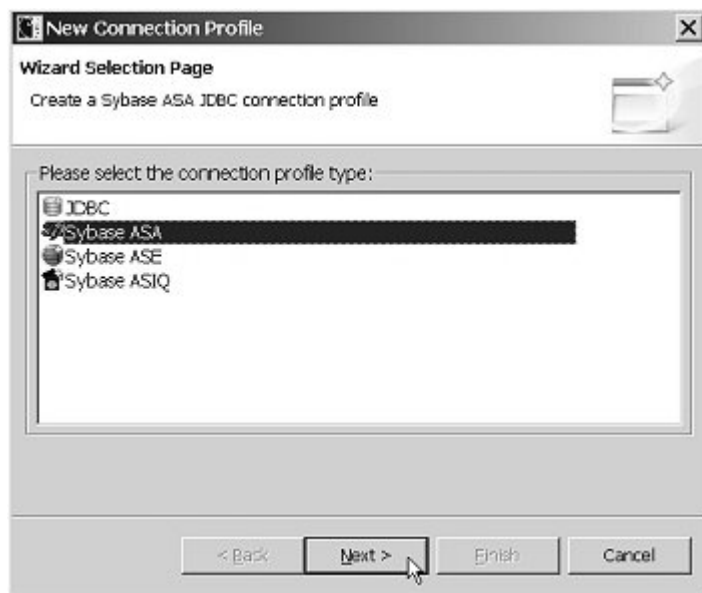
- 1 Select the **Enterprise Explorer** tab, which displays in the perspective if the view is open. If the view is not open, select **Window|Show View|Enterprise Explorer** to open the view.



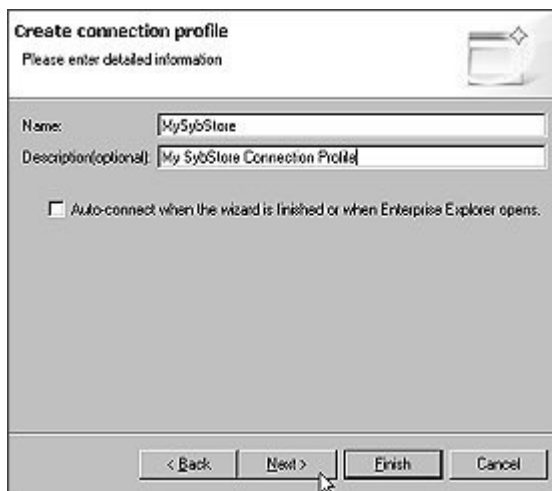
- 2 In the **Enterprise Explorer**, right-click **Databases** and select **New** from the context menu.



- When the **New Connection Profile** wizard opens, select **Sybase ASA** from the connection profile type list and click **Next**.



- Do the following: Type **MySybStore** in the **Name** field, and **MySybStore Connection Profile** in the **Description** field. Click **Next**.



- On the **Driver and Connection Details** page:
 - Verify **Port** is set to **2658**.

- Change **Password** to [SQL](#).

Specify a Driver and Connection Details

Select a driver from the drop-down and provide login details for the connection.

Connection | Filters | Other Properties

Select a driver from the drop-down:

Sybase ASA Default

Host: localhost

Port: 2608

Database name:

User name: dba

Password: ****

Test connection

< Back Next > Finish Cancel

- 6 Click **Test Connection** to ensure the values are correct.

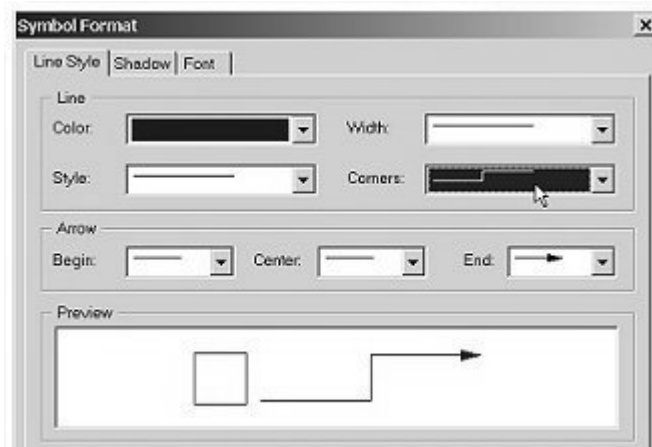
The following prompt displays: [Ping Succeeded](#).

Note If the [ping](#) fails, verify that the [MySybStore](#) database is running and that the values entered for **Driver and Connection Details** are correct.

- 7 Click **OK**.
- 8 Click **Finish**.

Next, test the connection profile.

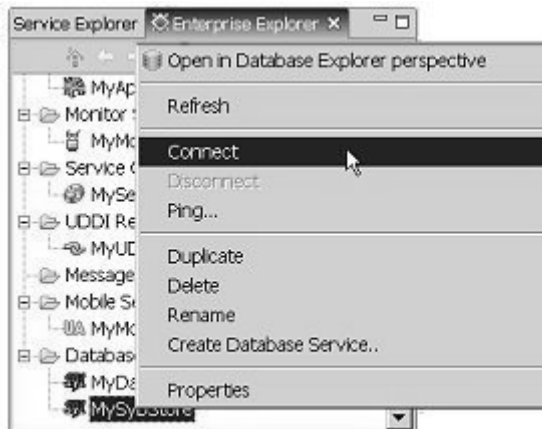
- 9 In the **Enterprise Explorer**, expand **Databases**, right-click the **MySybStore** connection profile, and select **Ping** from the context menu.



- 10 When a prompt indicates **Ping Succeeded**, click **OK**.

The final step in this procedure is to connect to the database.

- 11 In the **Enterprise Explorer**, right-click the **MySybStore** connection profile in **Databases** and select **Connect** from the context menu.



A successful connection is indicated when the database version appears beside the database name in the **Enterprise Explorer** and a database icon displays under the connection profile.

You have created a connection profile and connected to a running database. The **MySybStore** database is used in many of the Sybase WorkSpace tutorials.

Initializing the tutorial database

- 1 Complete the steps in “Tutorial setup” on page 5.

WorkSpace must be running, the SybStore tutorial files must be installed, the SybStore database must be running, and you must be connected to the database using the SybStore connection profile.

- 2 If the **Database Development** perspective is open, continue to the next step.

If the **Database Development** perspective is not open, select **Window|Open Perspective|Database Development** from the main menu bar.

- 3 Execute the *InitDB.sql* script:

- a In the **WorkSpace Navigator**, expand **MySybStore_Tutorials, Setup, Database, SQL**, select and right-click *InitDB.sql*, and select **Execute SQL File** from the context menu.
- b When the **Select Profile for the Editor** dialog box opens, select the following values.

| Field | Select |
|-------------------------|-------------------------------------|
| Database type | Adaptive Server Anywhere_9.x |
| Connection Profile name | MySybStore |

- c Click **OK**.

A progress window indicates that the script is executing. When the script finishes running, the SQL Results view displays in the perspective.

- 4 Execute the *testdata.sql* script:

- a In the **WorkSpace Navigator**, expand **MySybStore_Tutorials, Setup, Database, SQL**, select and right-click *testdata.sql*, then select **Execute SQL File** from the context menu.
- b When the **Select Profile for the Editor** dialog box opens, select the following values.

| Field | Select |
|-------------------------|-------------------------------------|
| Database type | Adaptive Server Anywhere_9.x |
| Connection Profile name | MySybStore |

c Click **OK**.

A progress window indicates that the script is executing. When the script finishes running, the SQL Results view displays in the perspective.

Enterprise Modeling tutorials show you how to use Sybase WorkSpace tools to model various components of an application.

| Topic | Page |
|-----------------------------------------------------|------|
| Overview | 19 |
| Database Modeling tutorials | 20 |
| Business Process Modeling tutorials | 40 |
| XML modeling tutorials | 61 |

Overview

After you complete these tutorials, you will know how to:

- Create a database model, and use the model to generate SQL scripts that create database objects on a database server
- Create a Business Process Model (BPM) for analysis, and use the analysis model to generate a Sybase WorkSpace BPM and a Business Process service
- Create an XML model, and use the model to generate XML schemas (XSD) for XML messages that can be used by services and applications

The Enterprise Modeling tutorials are divided into three groups, each containing one or more tutorials:

- [Database Modeling tutorials](#)
- [Business Process Modeling tutorials](#)
- [XML modeling tutorials](#)

Each tutorial consists of several lessons.

Prerequisites

Before you can use the Enterprise Modeling tutorials, you must complete all procedures in [Chapter 1, “Introduction, Installation, and Setup.”](#)

Database Modeling tutorials

The Database Modeling tutorials show you how to:

- Create a database model (a physical data model) that defines database schema objects, such as tables, indexes, constraints, and stored procedures
- Use a database model to generate a SQL script that creates database objects on a database server

Creating a database model

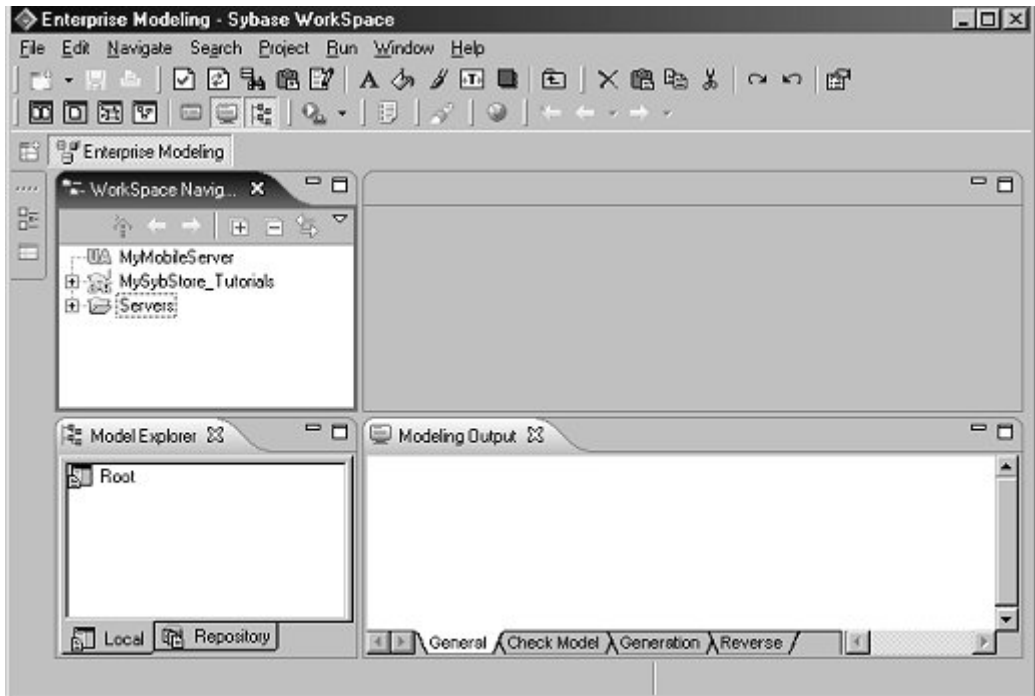
Database schema definition is an integral part of any application design. You can use the physical data model to define database schema objects, such as databases, tables, keys, referential constraints, indexes, stored procedures, and triggers.

This tutorial teaches you how to create a database model using Sybase WorkSpace tools. After you complete this tutorial, you will know how to create a database model with tables, indexes, and referential integrity constraints. You will have a complete physical data model, which is a working subset of the SybStore database model.

Note The complete SybStore database model can be found in the Sybase WorkSpace samples.

Lesson 1: Creating a database model

- 1 Select **Window|Open Perspective|Enterprise Modeling** from the WorkSpace main menu bar to open the **Enterprise Modeling** perspective.



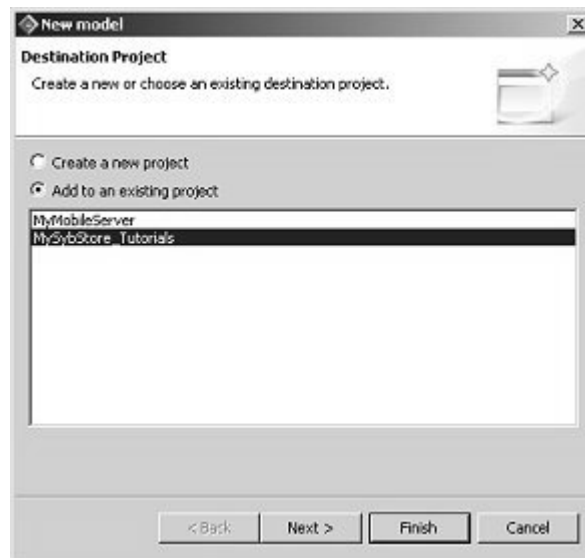
The Enterprise Modeling perspective exposes four views:

- **Model Explorer** view – allows you to manage the objects you use to perform a modeling task. It displays your models and the objects belonging to them in a tree view, and allows you to rapidly navigate between them. The Model Explorer also has a tab that gives you access to a repository, where you can store all your models and associated files.
- **WorkSpace Navigator** view – displays a tree view of all the resource files attached to Eclipse projects open in the workbench window. These resource files can be model files, diagram files, source code files, specification files, or any type of file. You can use the WorkSpace Navigator to open models, create new projects and models, or even open object property sheets.

- **Editor** area – is the primary pane that displays your present model diagram or report outline. When you first open the perspective, the editor area is blank.
- **Modeling Output** – shows the progress of any process, such as checking a model or generating a database.

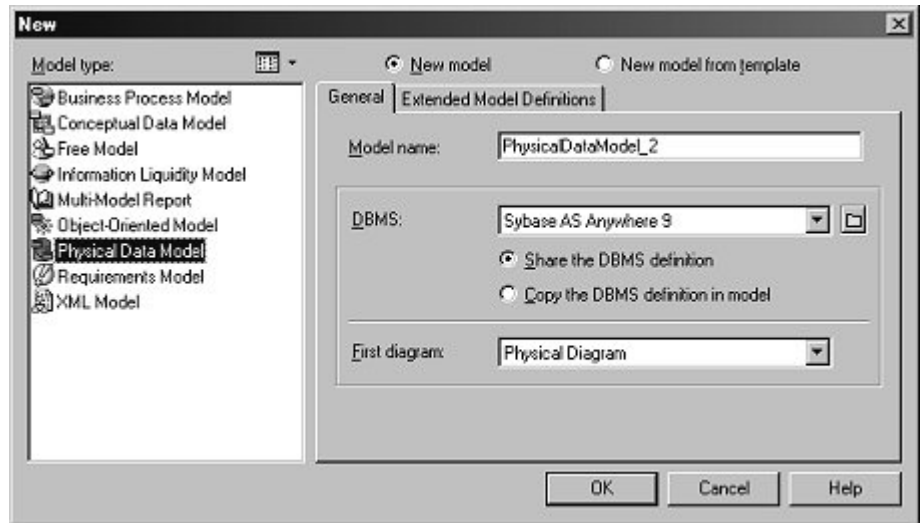
For more information about Enterprise Modeling see the online help topic *Sybase PowerDesigner®/PowerDesigner General Features Guide*.

- 2 Select **File|New|Model** from the main menu bar.



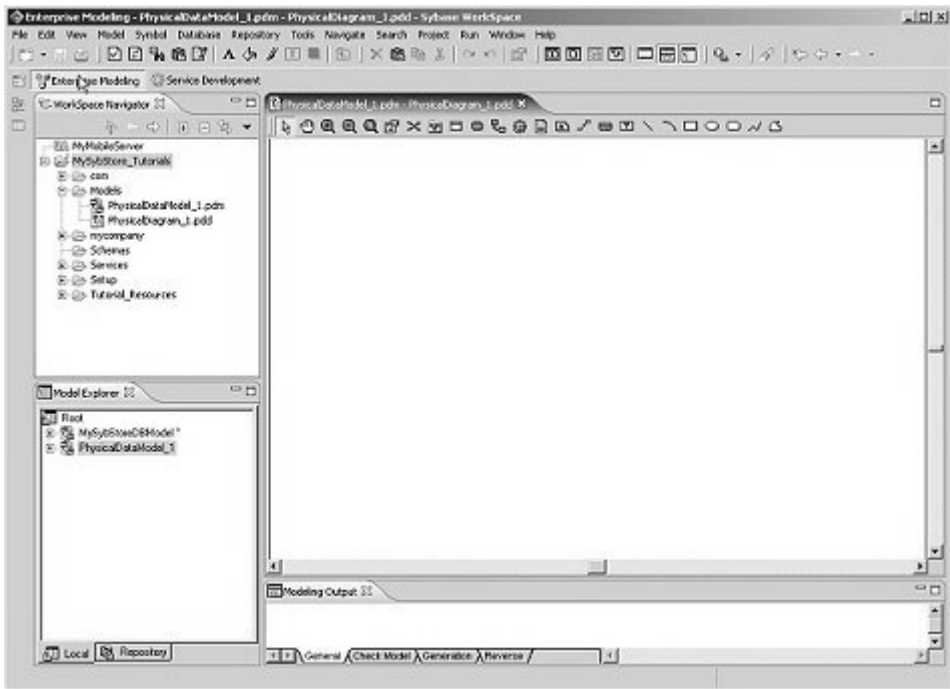
- 3 When the **New Model** wizard appears, select **Add To An Existing Project**, select **MySybStore_Tutorials**, and click **Next**.
- 4 In the **Destination Folder** window, expand the **MySybStore_Tutorials** folder, select **Models**, and click **Finish**.
- 5 When the **New** dialog box appears, make these selections:
 - Model Name – accept the default name
 - Model type – **Physical Data Model**
 - **New Model**
 - DBMS – **Sybase ASA Anywhere 9**
 - **Share the DBMS definition**

- First Diagram – **Physical Diagram**



- 6 Click **OK**.

The Physical Data Model (PDM) editor displays an empty diagram and a toolbar. The **Modeling Output** view appears.



You have created a new database model with the default name `PhysicalDataModel_1`.

Lesson 2: Adding tables to the model

In this lesson, you will add two tables to a new database model. Before you begin, complete [“Lesson 1: Creating a database model”](#) on page 21.

- 1 Click the **Table** tool in the palette, then click inside the editor, which is below the palette.



A table symbol appears where you clicked in the editor.

- 2 Click inside the editor again to add another table.

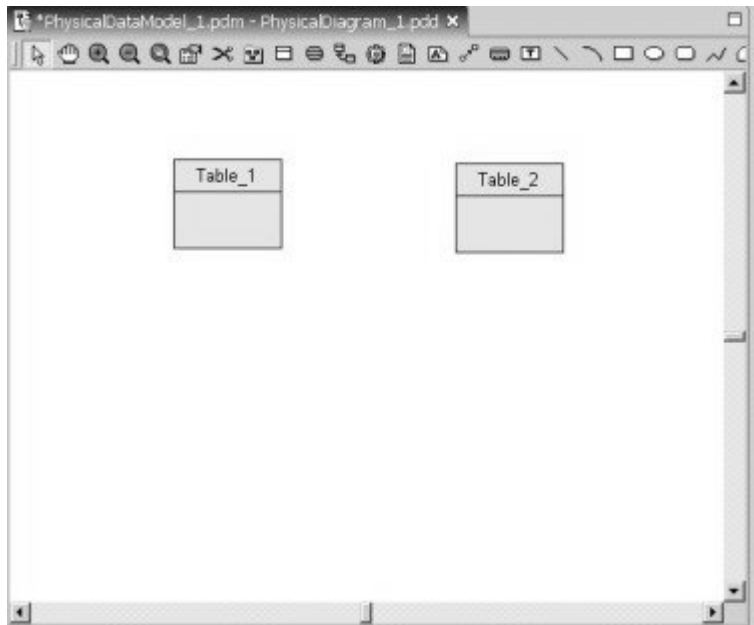
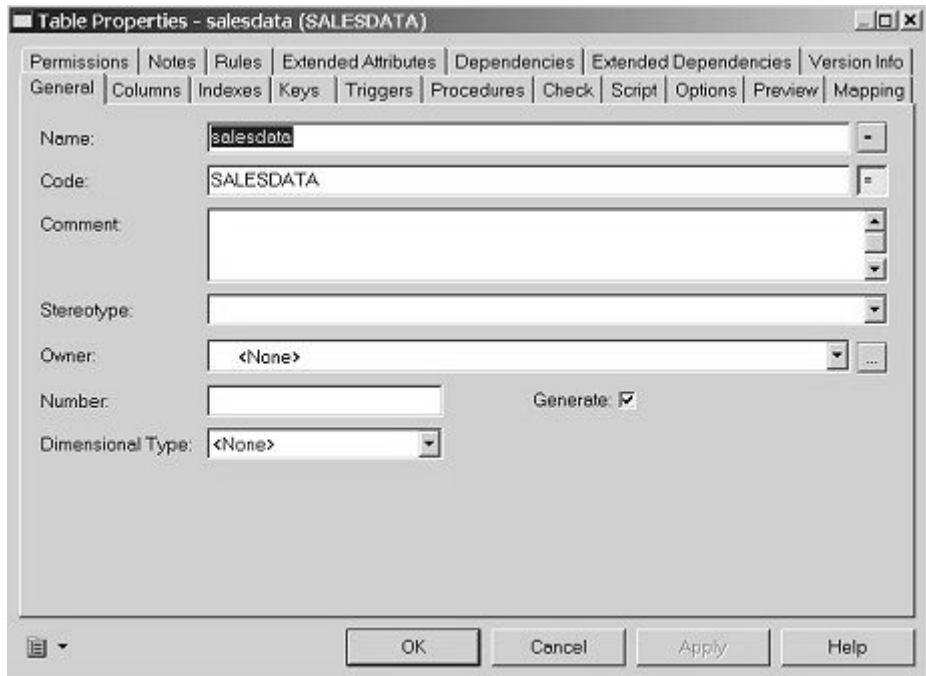


Table names appear as **Table_1** and **Table_2**, using system-assigned sequential numbers that indicate the sequence in which the objects are created.

- 3 Click the **pointer** tool on the editor toolbar, then complete these steps to rename both tables:
 - a Double-click **Table_1** in the editor.

- b In the **Table Properties** dialog box, enter `salesdata` in the **Name** field and click **OK**.



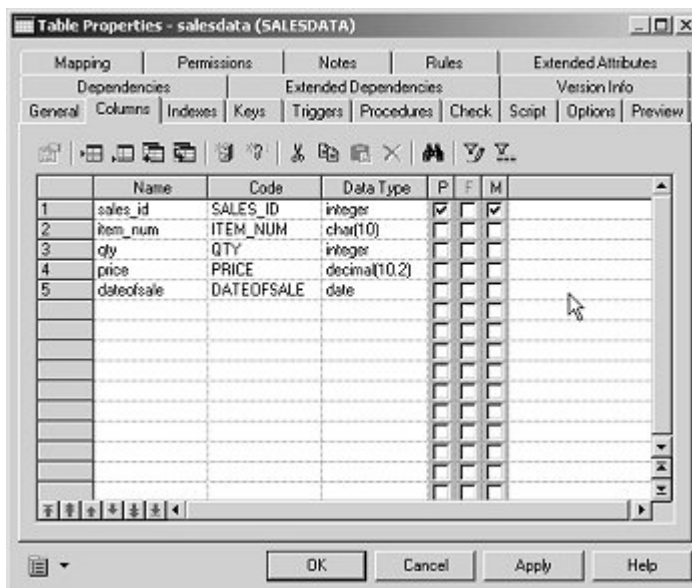
- c Double-click **Table_2** in the editor.
- d In the **Table Properties** dialog box, enter `warehouse_inventory` in the **Name** field, then click **OK**.
- 4 Double-click the `salesdata` table in the editor.
- 5 Select the **Columns** tab in the **Table Properties** dialog box.
- 6 On the **Columns** page, enter the information from the table below to create six columns. When you enter the column **Name**, the **Code** field is filled in automatically.

Note To enter the `char(10)` datatype, select `char(%n)` from the drop-down list, then overwrite the “%n” with “10”.

To enter the `decimal(10.2)` datatype, select `decimal(%n)` from the drop-down list, then overwrite the “%n” with “10.2”.

| Name | Datatype | P |
|------------|---------------|---|
| sales_id | integer | X |
| item_num | char(10) | |
| qty | integer | |
| price | decimal(10.2) | |
| dateofsale | date | |

Verify that the **P** option is selected for the `sales_id` column to identify that column as an element of the primary key.



- 7 Click **OK**.
- 8 Double-click the `warehouse_inventory` table in the editor.
- 9 Select the **Columns** tab in the **Table Properties** dialog box.

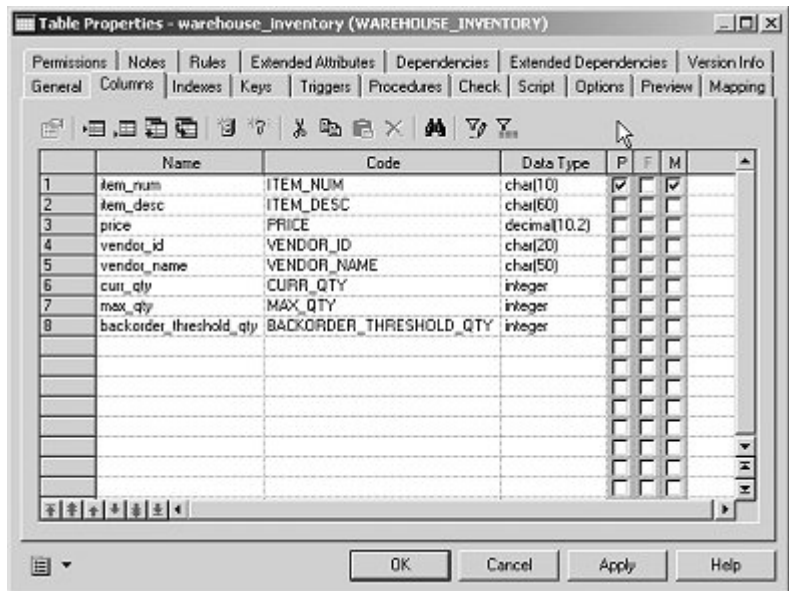
- 10 On the **Columns** page, enter the information from the table below to create eight columns. When you enter the column **Name**, the **Code** field is filled in automatically.

Note To enter the `char(10)`, `char(60)`, and `char(50)` data types, select `char(%n)` from the drop-down list, then overwrite the “%n” with the number that represents the maximum characters this field accepts.

To enter the `decimal(10.2)` datatype, select `decimal(%n)` from the drop-down list, then overwrite the “%n” with “10.2”.

| Name | Datatype | P |
|--------------------------------------|----------------------------|----------|
| <code>item_num</code> | <code>char(10)</code> | X |
| <code>item_desc</code> | <code>char(60)</code> | |
| <code>price</code> | <code>decimal(10.2)</code> | |
| <code>vendor_id</code> | <code>char(20)</code> | |
| <code>vendor_name</code> | <code>char(50)</code> | |
| <code>curr_qty</code> | <code>integer</code> | |
| <code>max_qty</code> | <code>integer</code> | |
| <code>backorder_threshold_qty</code> | <code>integer</code> | |

Verify that you selected the **P** option for the `item_num` column to identify that column as an element of the primary key.



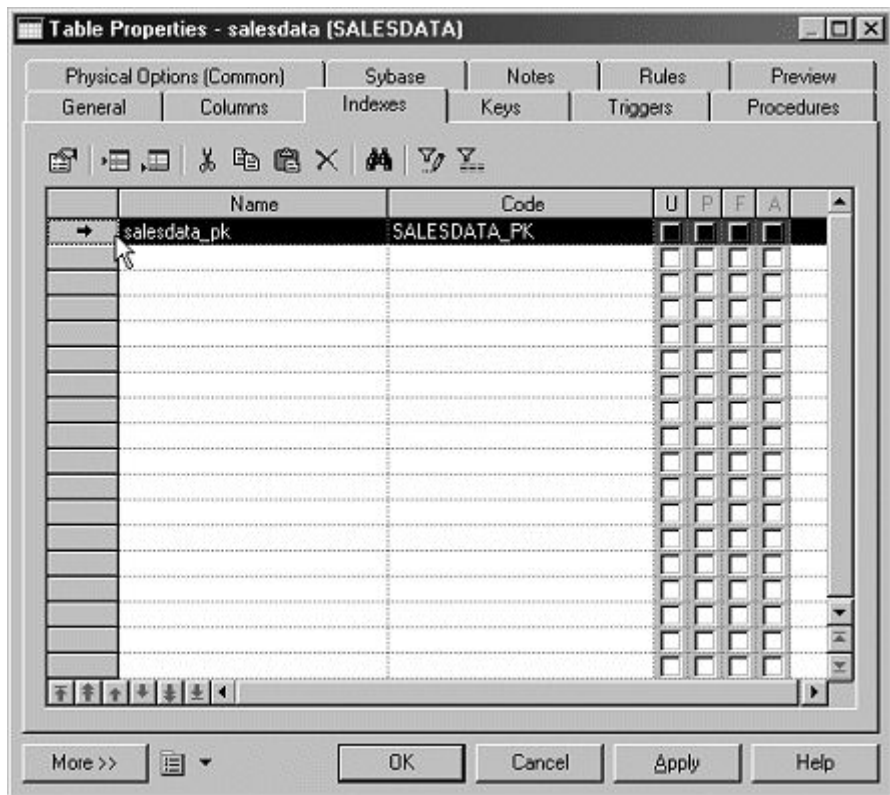
- 11 Click **OK**.
- 12 Select **File|Save** to save the tables. You have finished adding tables to the database model.

Lesson 3: Adding indexes to the model

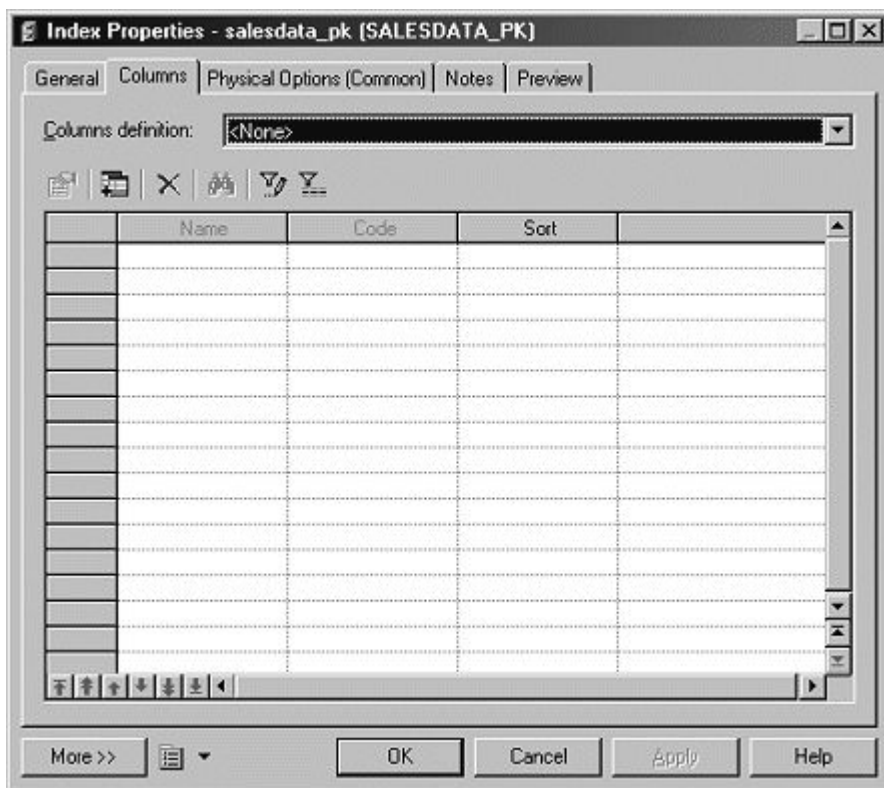
In this lesson, you will add indexes to both the `salesdata` and `warehouse_inventory` tables in a database model. Before you begin, complete “Lesson 2: Adding tables to the model” on page 24.

- 1 Double-click the `salesdata` table in the editor.
- 2 Select the **Indexes** tab in the **Table Properties** dialog box.
- 3 Click the first blank line in the index list. An arrow appears to the left of the line; a default index name and code also appear.
- 4 Overwrite the default name and enter the `salesdata_pk` in the **Name** field. After you enter the index **Name**, it automatically appears in the **Code** field.
- 5 Click **Apply**.

- 6 Add columns to each index for the table. Select the `salesdata_pk` line, and double-click the arrow to the left of the `salesdata_pk` line.



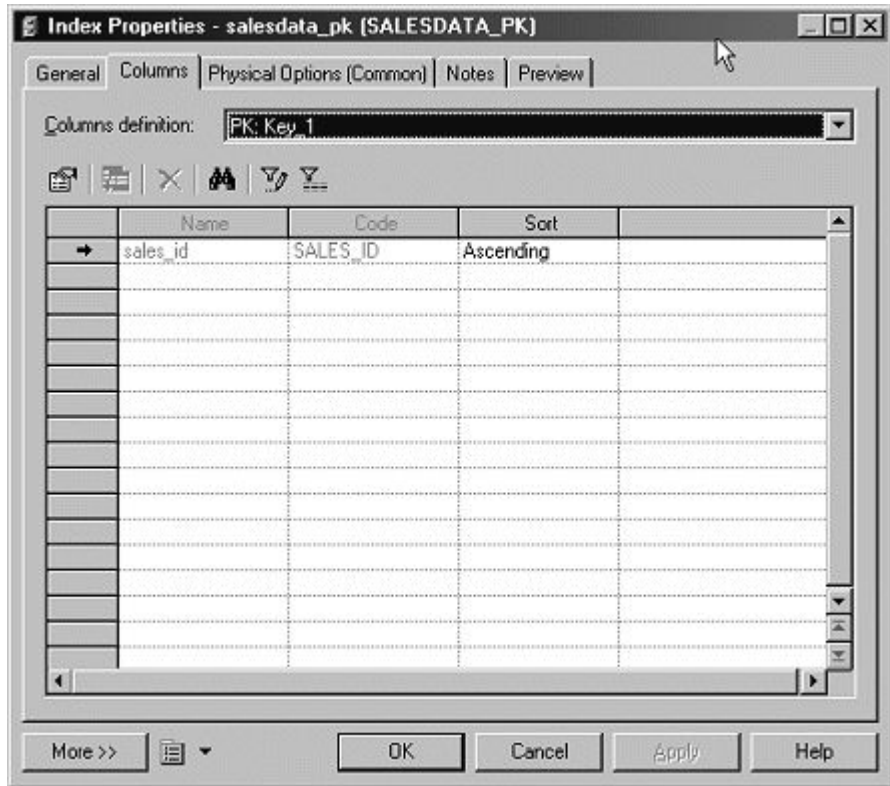
- 7 When the **Index Properties** page opens, select the **Columns** tab, which currently contains no columns.



The **Columns definition** list box shows the primary and alternate keys defined for the table. When you select a key in the **Columns definition** list box, that key's columns display in the list.

- 8 Select **PK: Key_1** from the **Columns definition** drop-down list.

The primary-key column appears in the list.



- 9 Click **Apply**.
 - 10 Click **OK** on the **Index Properties** page to return to the **Table Properties** page. The **P** option is selected on the line in the index list, indicating that the indexed column is a primary-key column.
 - 11 Click **OK** on the **Table Properties** sheet to return to the table diagram in the Physical Data Model editor.
- Now, add an index for the *warehouse_inventory* table.
- 12 Double-click the *warehouse_inventory* table in the editor.
 - 13 Select the **Indexes** tab in the **Table Properties** dialog box.
 - 14 Click the first blank line in the index list.
 - 15 Overwrite the default name and enter *warehouse_inventory_pk* in the **Name** field.

- 16 Click **Apply**. Now, add columns to each index for the table.
- 17 Click the `warehouse_inventory_pk` line to select it.
- 18 Double-click the arrow to the left of the `warehouse_inventory_pk` line.
- 19 When the **Index Properties** page opens, select the **Columns** tab, which currently contains no columns.

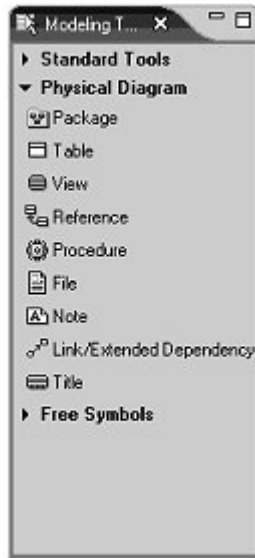
The **Columns definition** list box shows the primary and alternate keys defined for the table. When you select a key in the **Columns definition** list box, that key's columns display in the list.
- 20 Select **PK: Key_1** from the **Columns definition** list box. The primary-key column appears in the list.
- 21 Click **Apply**.
- 22 Click **OK** on the **Index Properties** page to return to the **Table Properties** page. The **P** option is selected on the line in the index list, indicating that the indexed column is a primary-key column.
- 23 Click **OK** on the **Table Properties** sheet to return to the table diagram in the Physical Data Model editor.
- 24 Select **File|Save** from the WorkSpace main menu bar. You have finished adding indexes to the `salesdata` and `warehouse_inventory` tables in the database model.

Lesson 4: Adding a referential constraint to the model

In this lesson, you will add a reference between tables in a database model. Before you begin, complete: “[Lesson 3: Adding indexes to the model](#)” on page 29.

- 1 Open the Modeling Tool Palette. Select **Window|Show View|Other**. When the **Show View** dialog box opens, select **Sybase|Modeling Tool Palette** and click **OK**.

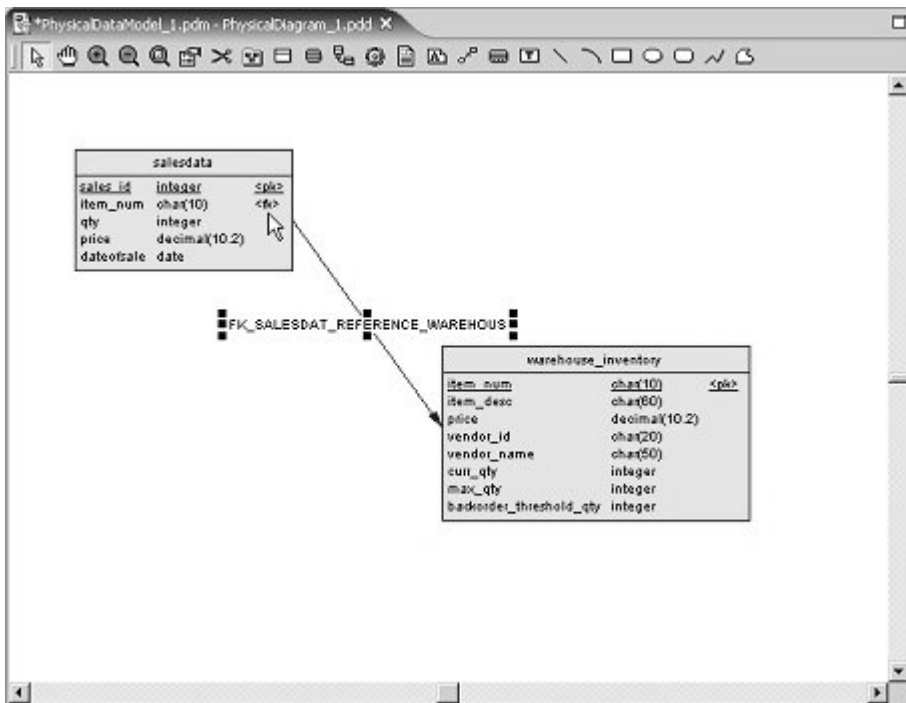
- 2 Click the **Reference** tool to select it in the **Tool Palette**, which is located on the WorkSpace main window.



Note You can also find the options available on the Modeling Tool Palette at the top of the editor in a toolbar.

- 3 Click the `salesdata` table in the editor diagram, hold down the mouse button and drag the cursor to the `warehouse_inventory` table, then release the mouse button.

This creates a reference link from the `salesdata` table to the `warehouse_inventory` table. The `salesdata` table is the child and the `warehouse_inventory` table is the parent.

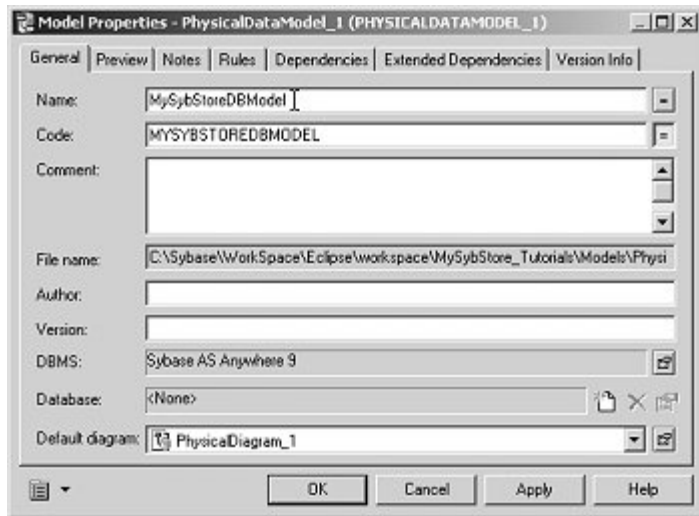


The `item_num` column in the `warehouse_inventory` table appears as a foreign key in the `salesdata` table. This is indicated by the symbol `<fk>`, shown in the preceding graphic.

- 4 Save the Physical Data Model with a new name:
 - a Click the **pointer** tool (arrow cursor) on the Table editor toolbar to release the **Reference** tool.
 - b In the **Model Explorer** view, select the **Local** tab, then double-click the icon next to the default model name, **PhysicalDataModel_1**.

The **Model Properties** dialog box appears.

- c Enter **MySybStoreDBModel** in the **Name** field and click **OK** to close the **Model Properties** dialog box.



- d Select the **MySybStoreDBModel** on the **Model Explorer Local** tab, then select **File|Save** to save the model. You have added a reference between tables to a database model.

Generating a SQL script from a database model

This tutorial teaches you how to generate a SQL script from a database model using Sybase WorkSpace tools. After you complete this tutorial, you will know how to generate a SQL script from a database model, which you can then use to create database objects on a database server. You will have a SQL script that is a working subset of the SybStore SQL script.


Before you start this lesson, you must have completed the previous tutorial “Creating a database model” on page 20.

Lesson 1: Generating a SQL script from a database model

In this lesson, you will generate a SQL script from a database model.

- 1 If the tutorial database is already running, go to step 2.

If the tutorial database is not running, in the **WorkSpace Navigator**, expand the folder **MySybStore_Tutorials/Setup/Database**. Right-click *startMySybStore.bat* and select **Open With|System Editor** to start the tutorial database.

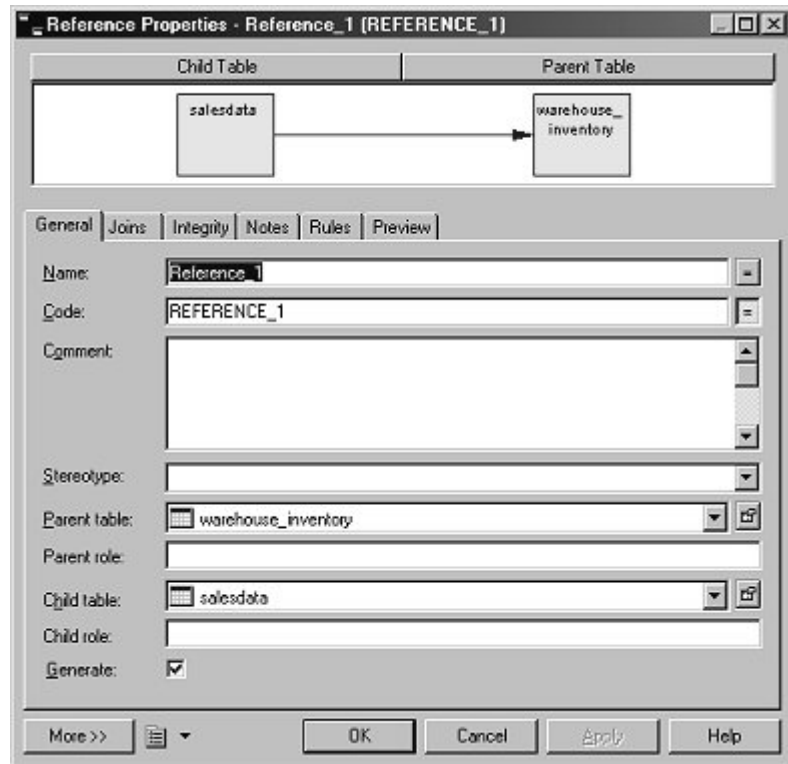
You should see the Adaptive Server Anywhere icon in your Windows system tray. 

- 2 If a connection to the SybStore tutorial database is already established, skip to step 3. When there is a successful connection, you see a database icon below the SybStore connection profile in the Enterprise Explorer.

If you are not connected, in the **Enterprise Explorer**, right-click the **MySybStore** connection profile, which you created in the tutorial setup, and select **Connect** to connect WorkSpace to the tutorial database.

- 3 Select **Window|Open Perspective|Enterprise Modeling** from the main menu bar to open the **Enterprise Modeling** perspective.
- 4 In the **WorkSpace Navigator**, expand the **Models** folder and double-click **MySybStoreDBModel** to open the database model file.

- 5 When the database model opens in the editor, double-click the arrow between the two table diagrams to open the **Reference Properties** window.



No action is required; after reviewing the properties, click **OK** to close the dialog box.

- 6 Select **Database|Generate Database** from the main menu bar.
- 7 When the **Database Generation** dialog box opens, complete these options:

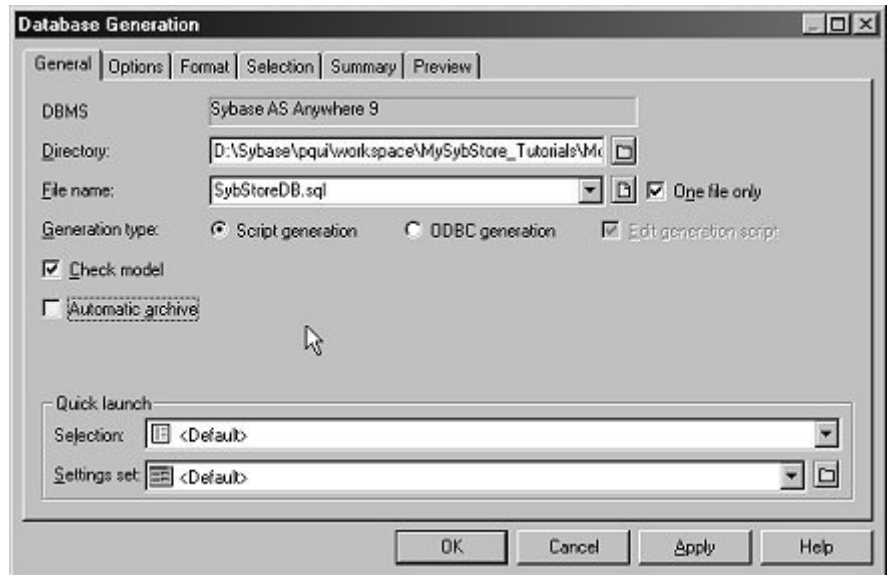
- Directory – verify that the path is:

`%WS_INSTALL_DIR%\<user name>\MySybStore_Tutorials\Models`

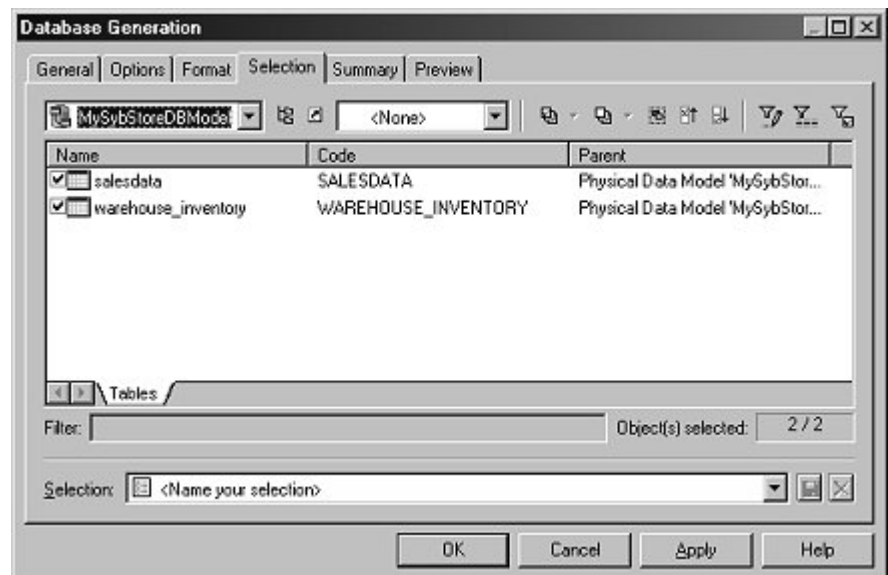
where *<user name>* is your personal Workspace directory.

- File Name – enter `SybStoreDB.sql`
- Select the **Script Generation** option.

- Select the **One File Only** and **Check Model** options.

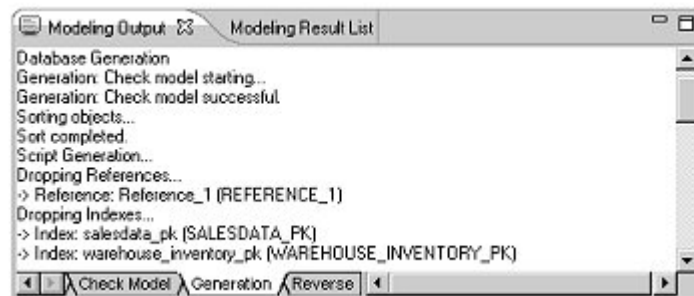


- 8 Choose the **Selection** tab.



The **Tables** page lists all of the tables available for selection in the model. By default, all tables are selected.

- Click **OK**. Progress of the script-generation process is shown in the **Modeling Output** view, below the modeling editor.



- When the script-generation process finishes, a **Generated Files** result box appears, showing the path of the generated script file. Click **Close** to remove the result box.
- To view the generated script, in the **WorkSpace Navigator**, expand the folder **MySybStore_Tutorials/Models**. Double-click the *SybStoreDB.sql* script file. The SQL Editor displays the generated script.
- Review the script. No action is required. Once you have reviewed the script, select **File|Close** on the WorkSpace main menu to close the SQL editor.
- To close the perspective, select **Window|Close Perspective** from the WorkSpace main menu bar. You have generated the SQL script to create the database and the database objects you defined in the database model.

Business Process Modeling tutorials

The Business Process Modeling tutorials show you how to:

- Create a Business Process Model (BPM) for analysis, and define some BPM objects
- Generate a Sybase WorkSpace Business Process Model (WorkSpace BPM) from the analysis model
- Generate a Business Process service from the WorkSpace BPM, and implement the service using the Business Process Service Editor

Sybase WorkSpace tools enable you to create the following types of BPMs:

- Conceptual BPM (analysis BPM, using the Analysis process language) — so you can focus on high-level design issues. The conceptual BPM describes the business logic and rules from a business partner's point of view.
- Executable BPM (such as a WorkSpace BPM, using the Sybase WorkSpace Business Process language) — so you can focus on the physical implementation details. The Sybase WorkSpace Business Process language is particularly suited to designing processes internal to an organization. The WorkSpace BPM enables you to implement business processes defined in an analysis BPM as Business Process services.

Sybase WorkSpace provides two types of diagrams that help you design a BPM:

- Process hierarchy diagram — shows the static structure of the model. For more information on how to use a process hierarchy diagram, see the *PowerDesigner Business Process Modeling User's Guide, Chapter 4, "Building a Process Hierarchy Diagram"* on the Sybase WorkSpace bookshelf in the Sybase PowerDesigner collection.
- Business process diagram — shows interactions between model objects, from one or several start points to several potential endpoints.

Creating a Business Process Model

This tutorial teaches you how to create an analysis Business Process Model (BPM) using Sybase WorkSpace tools. After you complete this tutorial, you will know how to create an analysis BPM and design some BPM objects. You will have a complete analysis BPM, which is a working subset of the SybStore analysis BPM.

Lesson 1: Creating a Business Process Model for analysis

In this lesson, you will create an analysis BPM and define some BPM objects in the model. Before you begin, complete all lessons in ["Creating a database model"](#) on page 20.

- 1 If the tutorial database is already running, go to step 2.

If the tutorial database is not running, in the **WorkSpace Navigator**, expand the folder **MySybStore_Tutorials/Setup/Database**. Right-click *startMySybStore.bat* and select **Open With|System Editor** to start the tutorial database.

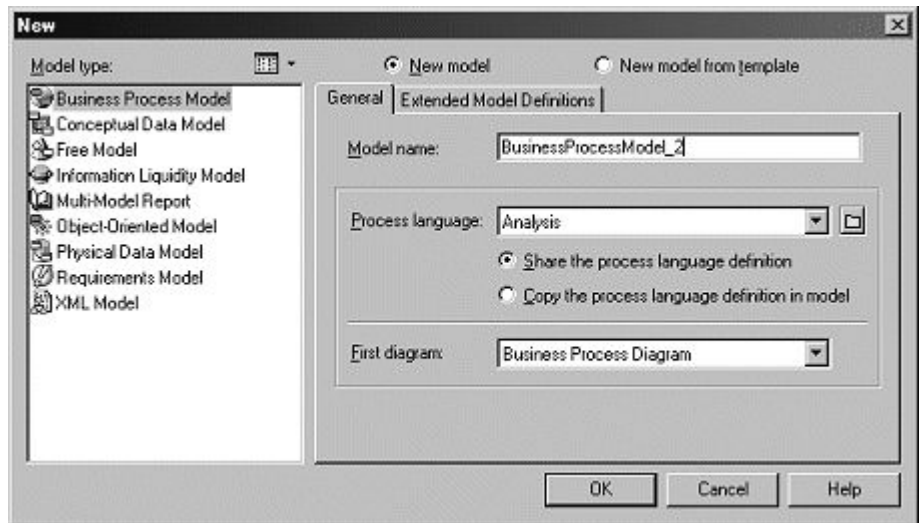
You should see the Adaptive Server Anywhere icon in your Windows system tray.

- 2 If a connection to the SybStore tutorial database is already established, skip to step 3. When there is a successful connection, you see a database icon below the SybStore connection profile in the Enterprise Explorer.

If you are not connected, in the **Enterprise Explorer**, right-click the **MySybStore** connection profile, which you created in the tutorial setup, and select **Connect** to connect WorkSpace to the tutorial database.

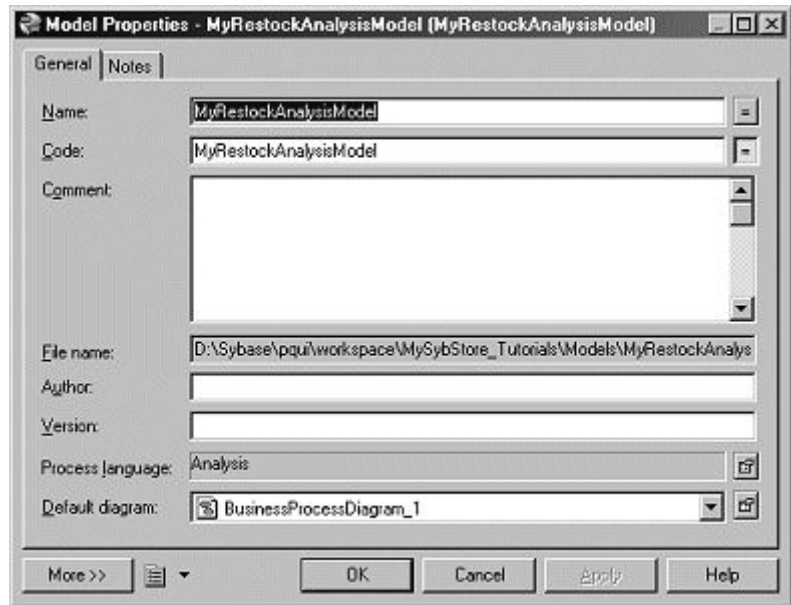
- 3 If the **Enterprise Modeling** perspective is not open, select **Window|Open Perspective|Enterprise Modeling** from the main menu bar.
- 4 Select **File|New|Model** from the main menu bar.
- 5 When the **New Model** wizard appears, select **Add To An Existing Project**, click **MySybStore_Tutorials** to select that project, then click **Next**.
- 6 In the **Destination Folder** window, select the **MySybStore_Tutorials/Models** folder and click **Finish**.
- 7 In the **New** dialog box, define the following:
 - Model Type – select **Business Process Model**
 - Select **New Model**
 - Model name – accept the default
 - Process language – select **Analysis**
 - Select **Share the Process Language Definition**

- First Diagram – select **Business Process Diagram**.

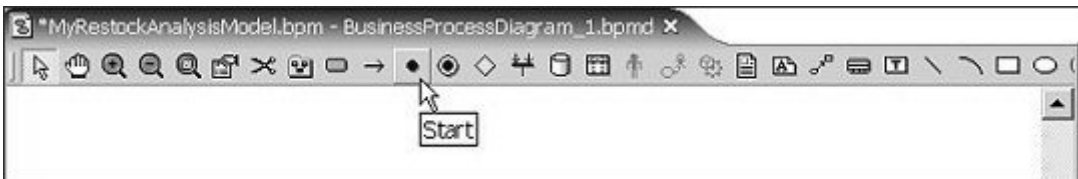


- 8 Click **OK**. The Business Process Model editor displays an empty diagram and a toolbar. The **Modeling Output** view appears below the editor.
- 9 Select **Model|Model Properties** from the WorkSpace main menu bar.

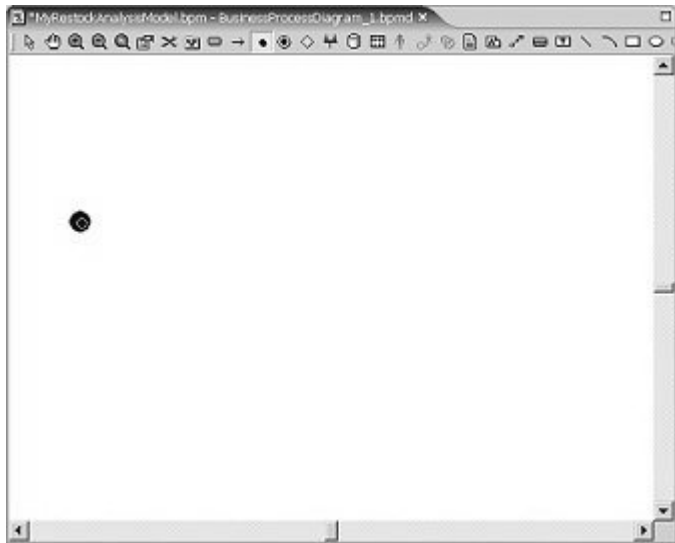
- 10 When the **Model Properties** dialog box opens, change the model name to `MyRestockAnalysisModel` and click **OK**.



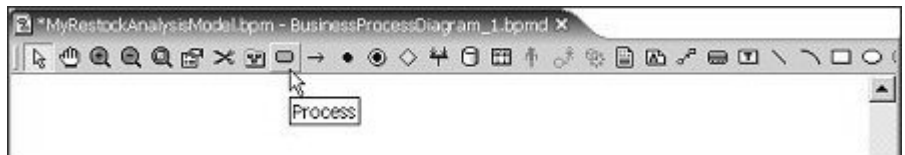
- 11 Click **Start** on the editor toolbar.



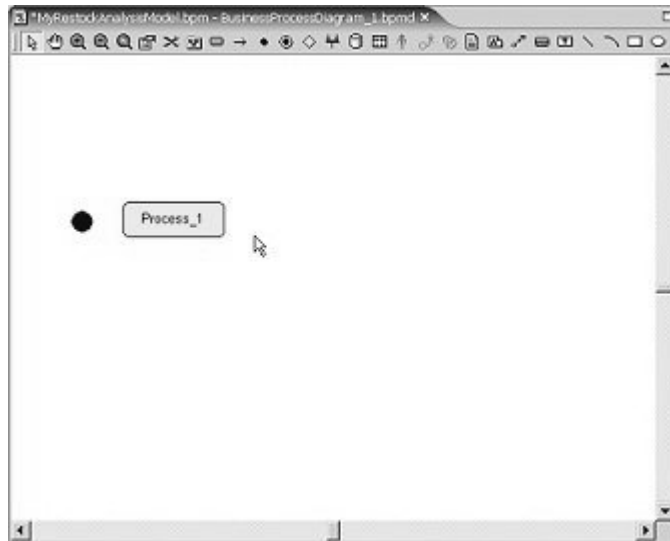
- 12 Click in the editor. A start symbol appears where you clicked.



- 13 Right-click in the editor to restore the **pointer** tool.
- 14 Click **Process** on the editor toolbar.



- 15 Click in the editor. A process symbol appears where you clicked.



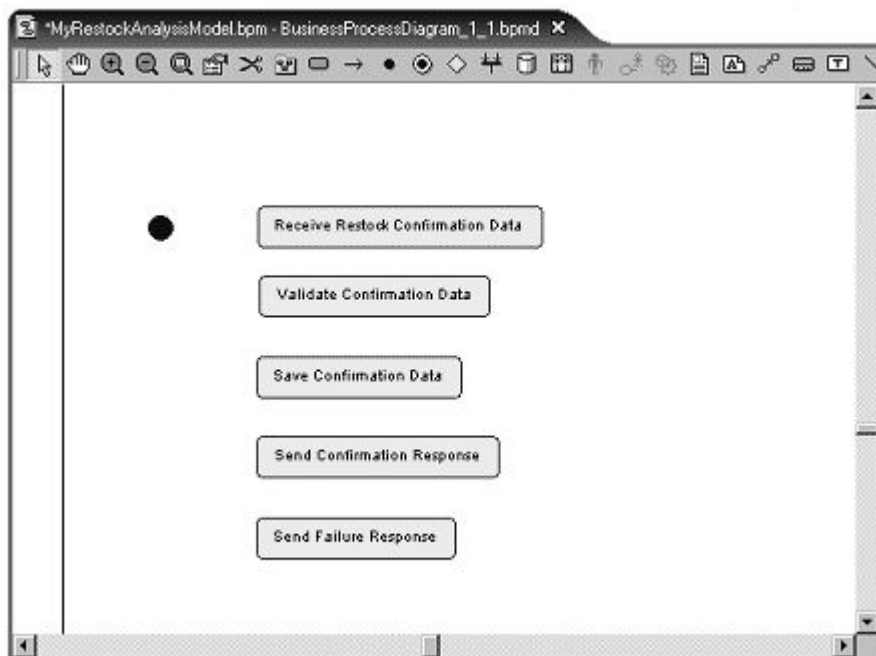
- 16 Right-click in the editor to restore the **pointer** tool.
- 17 Double-click the **Process_1** symbol in the editor.
- 18 When the **Process Properties** dialog box opens, change the process **Name** to **Receive Restock Confirmation Data**, then click **OK**.

Note If the start symbol seems to disappear, use the pointer to move the process symbol. The start symbol may be hidden behind the process symbol.

- 19 Repeat steps 13 through 18 to create these processes:
 - **Validate Confirmation Data**
 - **Save Confirmation Data**
 - **Send Confirmation Response**

- **Send Failure Response**

Note To remove the horizontal and vertical black page lines (shown to the left of the start symbol in the graphic below), select **Tools|Display Preferences** from the Workspace main menu. When the **Display Preferences** dialog box opens, select **General** in the **Category** list, then deselect the **Show Page Delimiter** option in the **Diagram** section. Click **OK** to close the dialog box.



20 Save your work. Select **File|Save** from the Workspace main menu.

21 Click **Resource** on the editor toolbar.

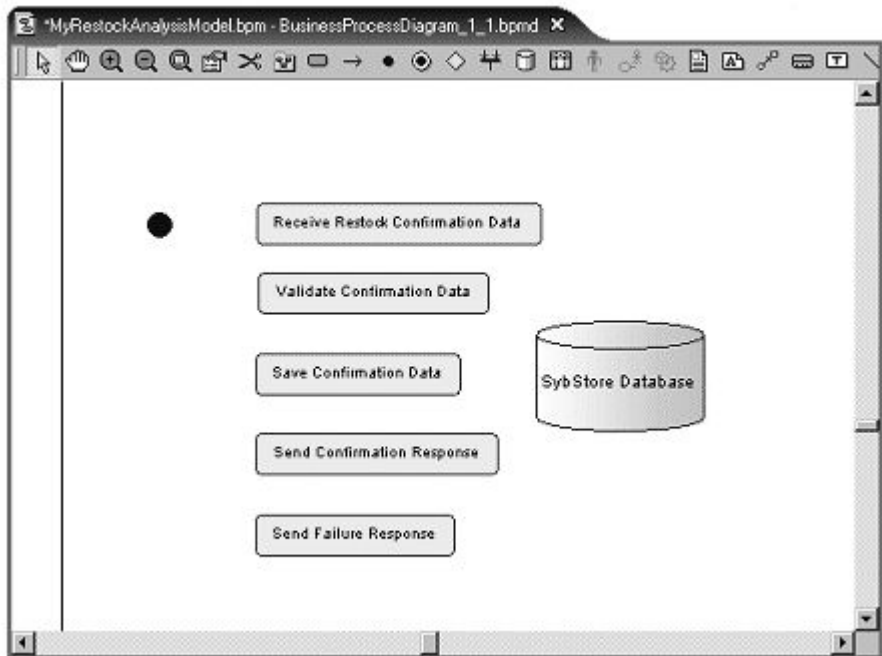


22 Click inside the editor. A resource symbol (a database icon) appears where you clicked.

23 Right-click in the editor to restore the **pointer** tool.

24 Double-click the resource symbol in the editor.

- 25 When the **Resource Properties** dialog box opens, change the resource name to **SybStore Database** and click **OK**.

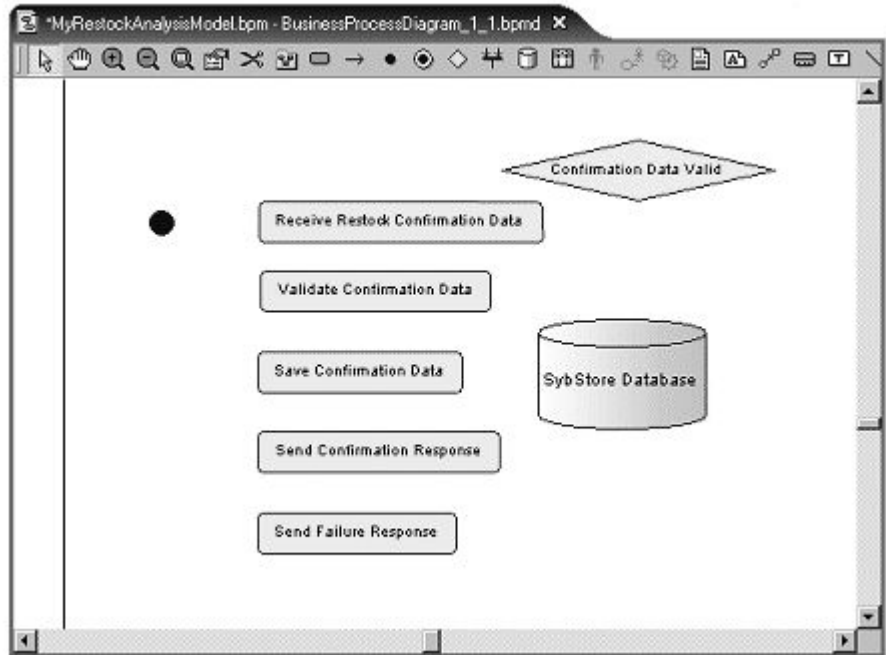


- 26 Click **Decision** on the editor toolbar.



- 27 Click in the editor. A decision symbol appears in the editor where you clicked.
- 28 Right-click in the editor to restore the **pointer** tool.
- 29 Double-click the decision symbol.
- 30 When the **Decision Properties** dialog box opens, change the decision **Name** to **Confirmation Data Valid**, then click **OK**.

Use the pointer to rearrange the symbols so they do not overlap each other.



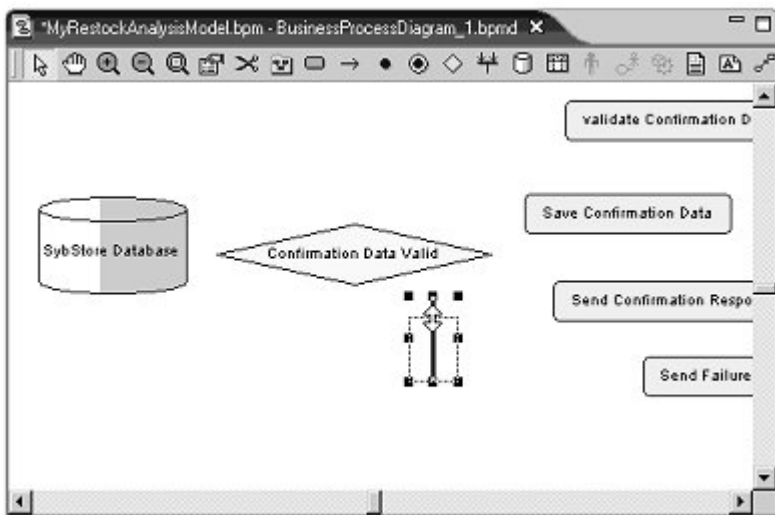
31 Click **Synchronization** in the palette.



32 Click in the editor. A horizontal synchronization symbol (a line) appears in the editor where you clicked.

33 Right-click in the editor to restore the pointer.

- 34 Click the synchronization symbol, then select the center marker and drag up to make the line symbol higher than it is wide.

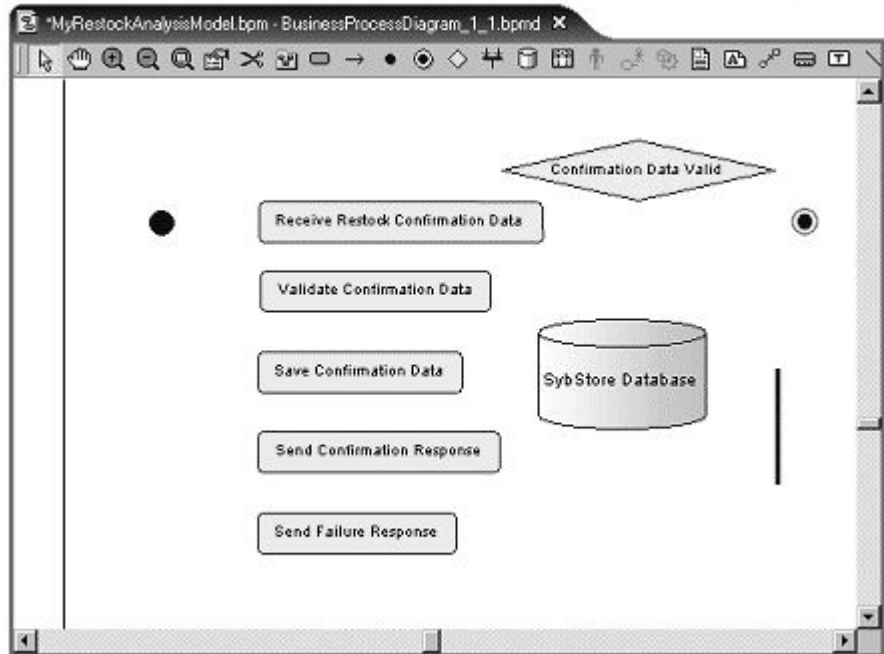


The synchronization symbol becomes vertical.

- 35 Click **End** in the palette.



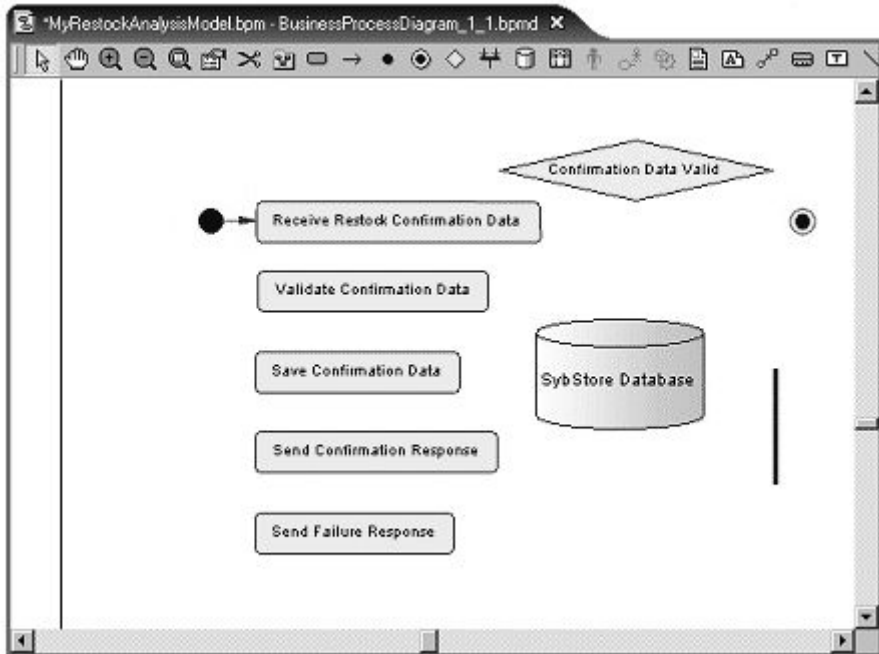
- 36 Click inside the editor. An end symbol appears in the editor where you clicked.



- 37 Right-click in the editor to restore the **pointer** tool.
- 38 Click **Flow** on the editor toolbar.

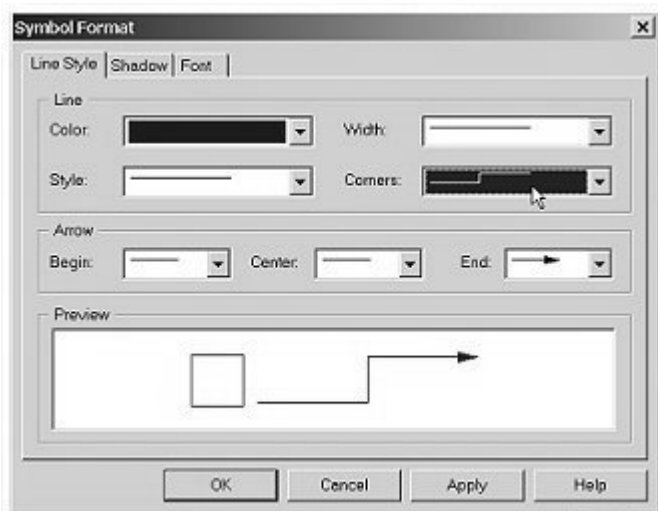


- 39 Click the start symbol and hold down the mouse button. Drag the pointer to the first process symbol (**Receive Restock Confirmation Date**), and release the mouse button.



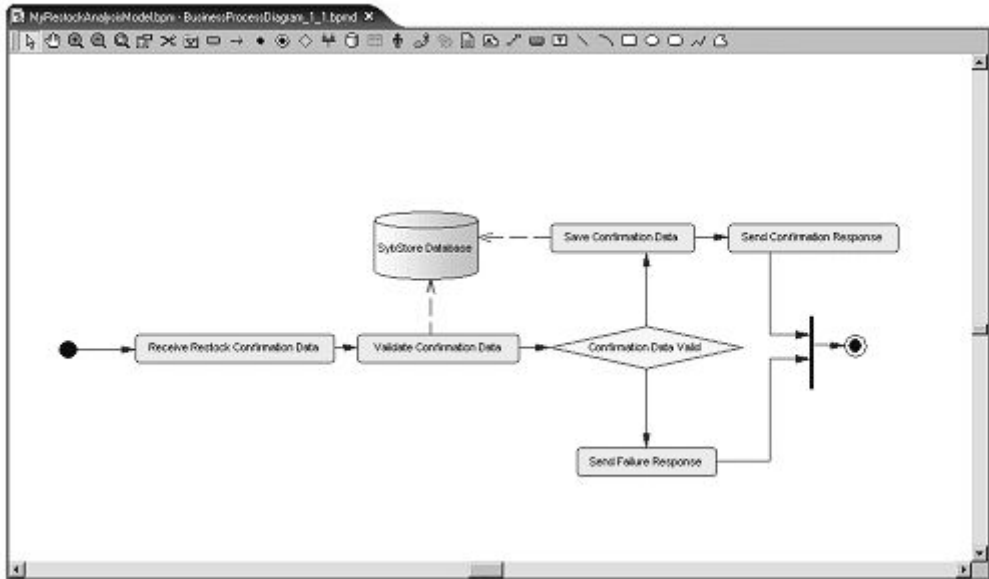
- 40 Click the decision symbol and hold down the mouse button. Drag the pointer to the **Send Failure Response** process symbol. A flow line appears.
- 41 Right-click in the editor to restore the **pointer** tool.
- 42 Right-click the flow line arrow that you just created and select **Format**.

- 43 When the **Symbol Format** dialog box opens, change the **Corners** style to horizontal/vertical, then click **OK**.



- 44 Select the **Flow** tool again and create more flows until your diagram resembles the following graphic.

Note Click the maximize button in the upper right corner of the editor to expand the diagram. Select the **pointer** tool from the editor toolbar to select and rearrange the symbols as necessary.



- 45 Right-click the flow line between the **Confirmation Data Valid** decision symbol and the **Send Failure Response** process symbol and select **Properties**.
- 46 Select the **Condition** tab, enter **False** in the **Alias** field, and click **OK**.
The flow displays the **[False]** condition, which indicates that if **Confirmation Data Valid** is not true, the flow proceeds to the **Send Failure Response** process. Otherwise, it goes to the **Save Confirmation Data** process.
- 47 Select **File|Save** from the main menu bar to save the model.

48 Select **File|Close** to close the perspective.

Note Leave the perspective open if you plan to continue with the next tutorial.

Generating a Sybase WorkSpace Business Process Model

The WorkSpace BPM allows you to fine-tune the model and add Sybase WorkSpace-specific service properties so you can generate a more accurate and complete Business Process service without having to manually duplicate the metadata already recorded in the BPM.

Generating a WorkSpace BPM from an analysis BPM allows you to transfer Business Process metadata directly from the BPM to the Sybase WorkSpace service editor.

This tutorial teaches you how to generate a WorkSpace BPM from an analysis BPM using Sybase WorkSpace tools. After you complete this tutorial, you will know how to generate a WorkSpace BPM, which can be used to generate a Business Process service. You will have a complete WorkSpace BPM, which is a working subset of the SybStore WorkSpace BPM.

Lesson 1: Generating a WorkSpace Business Process Model

In this lesson, you will generate a Sybase WorkSpace Business Process Model (WorkSpace BPM) from an analysis BPM.

Before you begin, you must have completed the previous tutorial, “[Creating a Business Process Model](#)” on page 41.

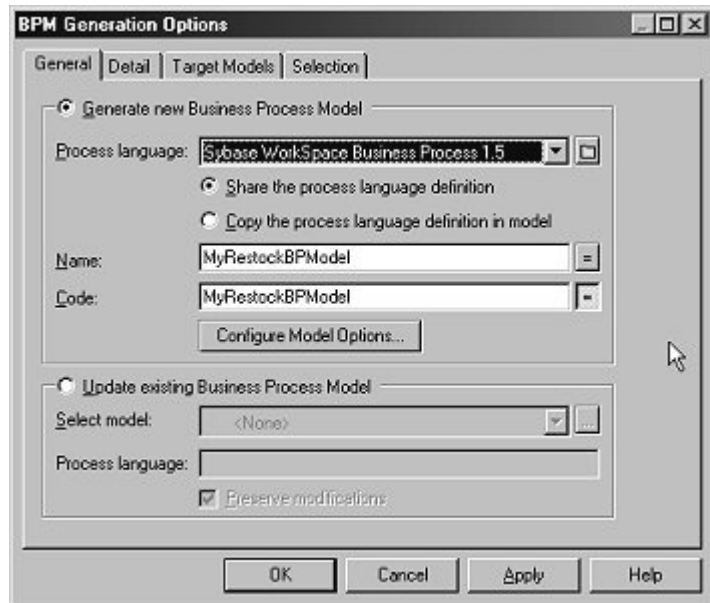
1 If the tutorial database is already running, go to step 2.

If the tutorial database is not running, in the **WorkSpace Navigator**, expand the folder **MySybStore_Tutorials/Setup/Database**. Right-click *startMySybStore.bat* and select **Open With|System Editor** to start the tutorial database.

The Adaptive Server Anywhere icon appears in your Windows system tray.

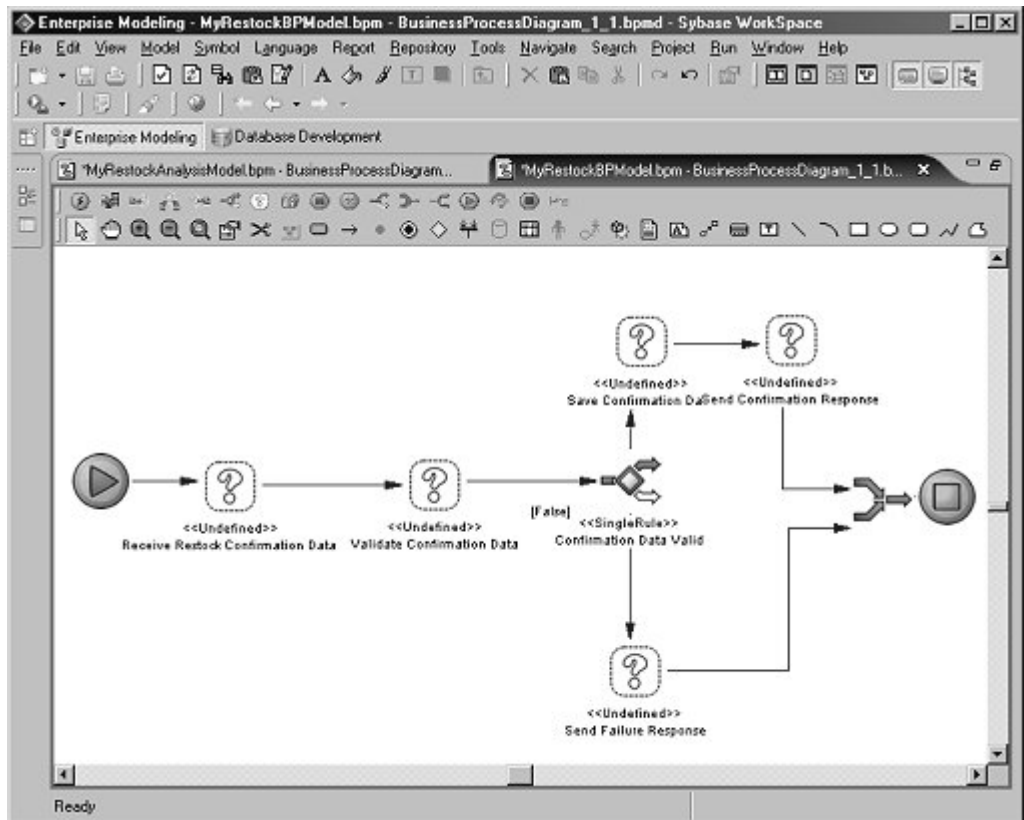
2 If a connection to the SybStore tutorial database is already established, skip to step 3. When there is a successful connection, you see a database icon below the SybStore connection profile in the Enterprise Explorer.

- If you are not connected, in the **Enterprise Explorer**, right-click the **MySybStore** connection profile, which you created in the tutorial setup, and select **Connect** to connect WorkSpace to the tutorial database.
- 3 If the **Enterprise Modeling** perspective is not open, select **Window|Open Perspective|Enterprise Modeling** from the main menu bar.
 - 4 In the **Model Explorer** (below the WorkSpace Navigator), expand **MyRestockAnalysisModel** and double-click *BusinessProcessDiagram_1* to open the file in the editor.
 - 5 With the BPM file open in the editor, select **Tools|Generate Business Process Model** from the main menu bar.
 - 6 In the **BPM Generation Options** dialog box, verify that the **General** tab is selected, then:
 - a Select **Generate new Business Process Model**.
 - b From the **Process Language** drop-down list, select **Sybase WorkSpace Business Process 1.5**.
 - c Select the **Share the Process Language Definition** option.
 - d In the **Name** field, enter *MyRestockBPModel*.



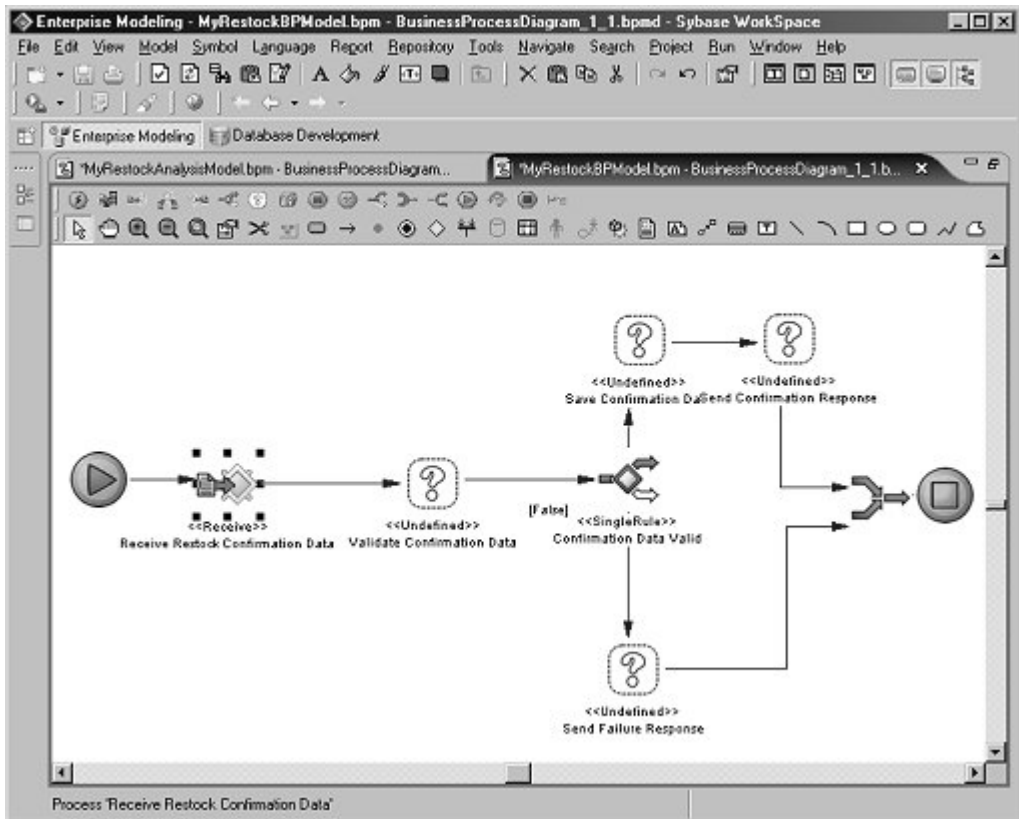
- 7 Click **OK**.

A new Workspace BPM is created. The symbols change from analysis BPM symbols to Workspace BPM symbols.



- 8 To change an undefined process, right-click the **Receive Restock Confirmation Data** process symbol and select **Change to Receive** from the context menu.

The <<Undefined>> process becomes a <<Receive>> activity.



- 9 Select **File|Save** from the main menu bar to save the model. Keep the model open for the next lesson.

You have finished generating the WorkSpace BPM.

Generating a Business Process service

Generating a Business Process service from a WorkSpace BPM allows you to create a more accurate and complete Business Process service, without having to manually duplicate the metadata already recorded in the BPM. You can transfer metadata directly from the WorkSpace BPM to the service editor, where you can complete the service implementation.

This tutorial teaches you how to use Sybase WorkSpace tools to generate a Business Process service from a WorkSpace BPM. After you complete this tutorial, you will know how to generate a Business Process service and complete its implementation in the service editor. You will have a complete Business Process service, which is a working subset of the SybStore Business Process service.

Lesson 1: Generating a Business Process service

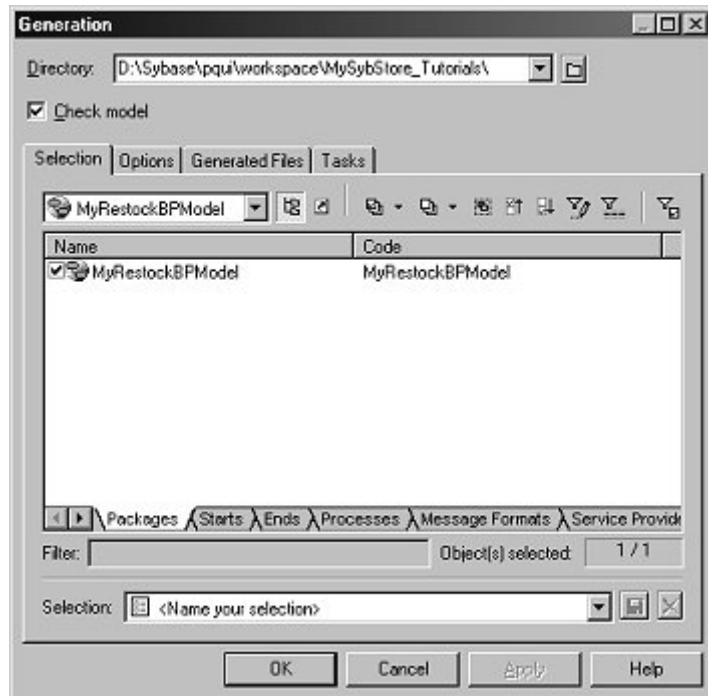
In this lesson, you will generate a Business Process service from a Sybase WorkSpace Business Process Model (WorkSpace BPM).

Before you begin, you must have completed the previous tutorial “[Generating a Sybase WorkSpace Business Process Model](#)” on page 55 and you should have the MyRestockBPM model open in the Enterprise Modeling perspective.

- 1 Select **Language|Generate Sybase WorkSpace Business Process 1.5 Code** from the WorkSpace main menu bar.
- 2 When the **Generation** dialog box opens, select the directory where you want to generate the Business Process service. Sybase recommends the following location:

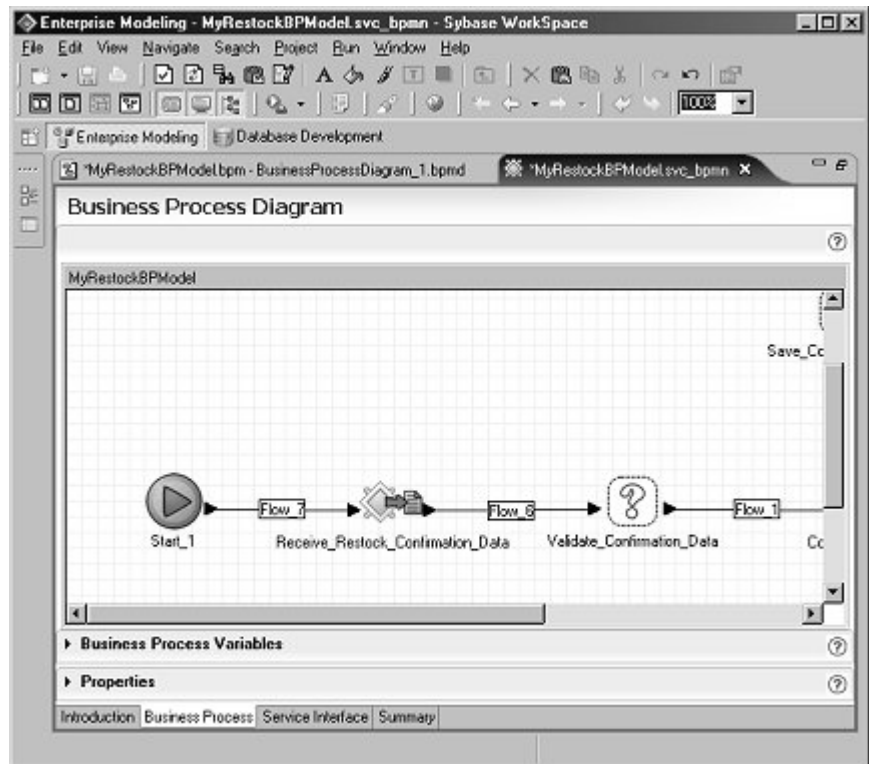
```
%WS_INSTALL_DIR%\<user_name>\workspace\MySybStore_Tutorials\Services\BP\
```

where *<user_name>* is your personal WorkSpace directory.



- 3 Click **OK**. The Business Process service is generated.
- 4 When the **Generated Files** dialog box appears displaying the files that were generated for the Business Process service, click **Close**.
- 5 In the **WorkSpace Navigator**, expand the **MySybStore_Tutorials/Services/BP** folder and locate the Business Process service file *MyRestockBPMModel.svc_bpmm*.
- 6 Double-click *MyRestockBPMModel.svc_bpmm* to open the file in the Business Process Service Editor.
- 7 Select the **Business Process** tab.

You see the Business Process diagram.



8 Select **File|Save** from the WorkSpace main menu bar to save the diagram.

9 Select **File|Close All** to close the diagram and the model.

You have finished generating a Business Process service.

XML modeling tutorials

The XML modeling tutorials show you how to:

- Create an XML model and declare elements and attributes in the model
- Generate an XML schema definition (XSD) document from an XML model

An XML model is a graphical representation of an XML schema definition (XSD), a document type definition (DTD), or an XML-Data reduced schema (XDR) document.

Sybase WorkSpace tools enable you to create XML models, and declare elements, attributes, and element relationships in XML models. After you create an XML model, you can generate an XSD document from the model.

Creating an XML model

This tutorial teaches you how to create an XML model using Sybase WorkSpace tools. After you complete this tutorial, you will know how to create an XML model, and add elements and attributes to the model. You will have a complete XML model, which is a working subset of the SybStore XML model.

Note You can find the complete SybStore XML model in the Sybase WorkSpace samples.

Lesson 1: Creating an XML model

In this lesson, you will create an XML model and add elements and attributes to the model.

- 1 If the tutorial database is already running, go to step 2.

If the tutorial database is not running, in the **WorkSpace Navigator**, expand the folder **MySybStore_Tutorials/Setup/Database**. Right-click *startMySybStore.bat* and select **Open With|System Editor** to start the tutorial database.

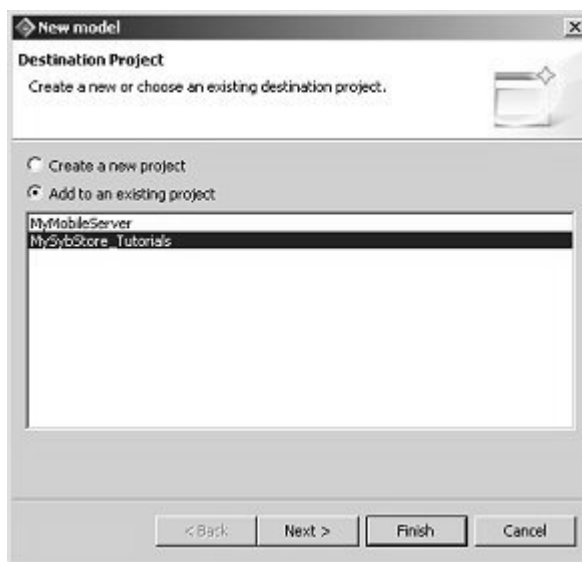
You should see the Adaptive Server Anywhere icon in your Windows system tray.

- 2 If a connection to the SybStore tutorial database is already established, skip to step 3. When there is a successful connection, you see a database icon below the SybStore connection profile in the Enterprise Explorer.

If you are not connected, in the **Enterprise Explorer**, right-click the **MySybStore** connection profile, which you created in the tutorial setup, and select **Connect** to connect WorkSpace to the tutorial database.

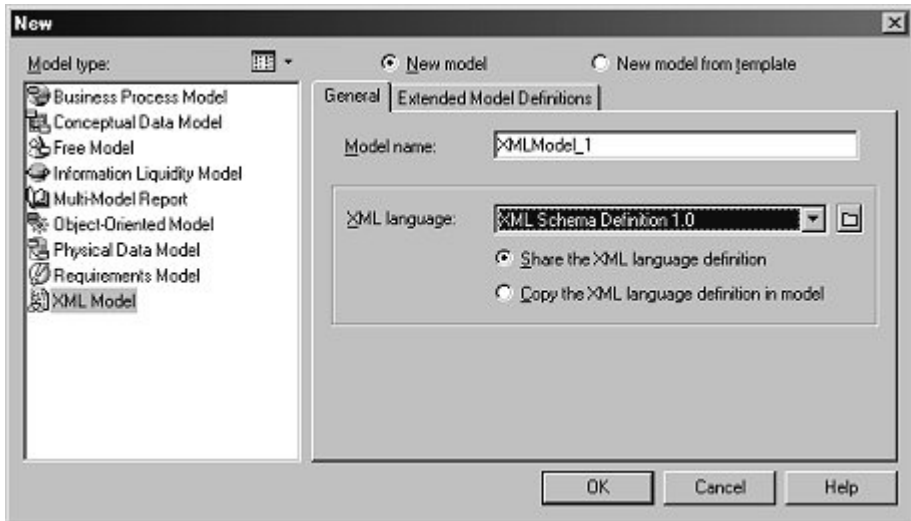
- 3 Open the **Enterprise Modeling** perspective. Select **Window|Open Perspective|Enterprise Modeling** from the WorkSpace main menu bar.

- 4 Select **File|New|Model** from the WorkSpace main menu. The **New model** wizard opens.



- 5 Select **Add To An Existing Project**, select **MySybStore_Tutorials**, and click **Next**.
- 6 When the **Destination Folder** dialog box displays, expand the folder **MySybStore_Tutorials/Models**, and click **Finish**.
- 7 When the **New** dialog box opens to the **General** tab, make these selections:
 - Model Type – **XML Model**
 - Select **New Model**
 - Model Name – accept the default
 - XML Language – **XML Schema Definition 1.0**

- Select **Share the XML Language Definition**

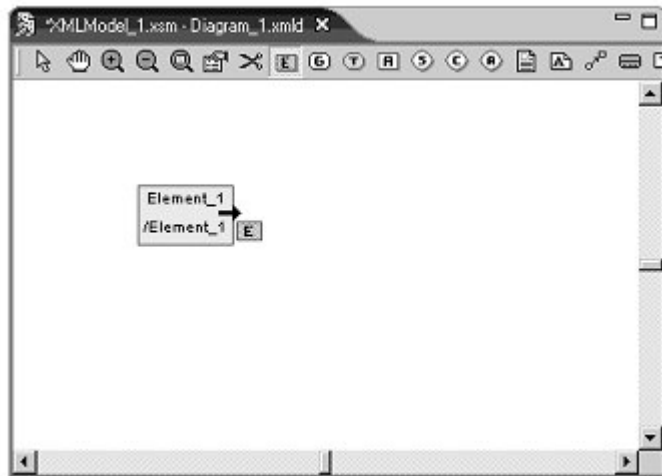


- 8 Click **OK**. The XML Model editor appears, with an empty diagram and a toolbar.
- 9 Select the **Element** tool from the editor toolbar.

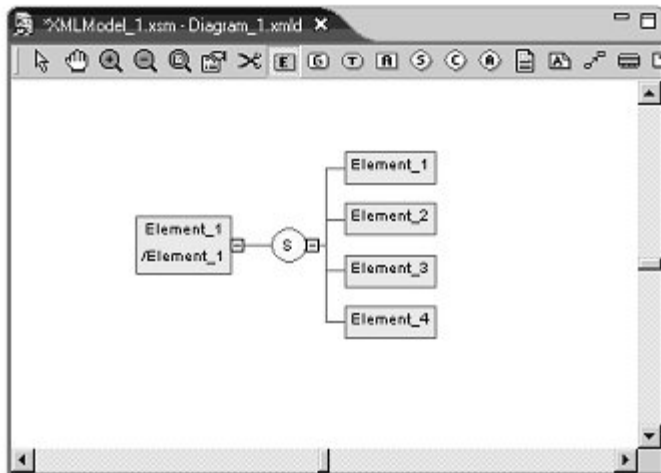


- 10 Click anywhere in the editor pane. An element symbol appears in the editor.
- 11 Hover the **Element** tool over on the right side of the element symbol you just added.

When the pointer changes to an arrow, click to add a child element to **Element_1**.

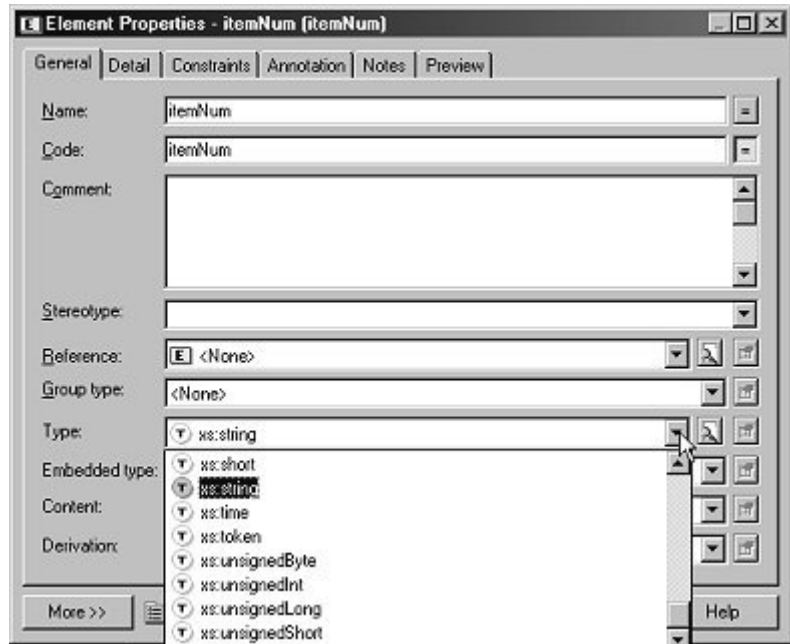


- 12 Continue clicking to add a total of four child elements to **Element_1**.



- 13 Right-click in the editor to return to the pointer.
 14 Double-click the parent **Element_1** symbol in the editor.
 15 When the **Element Properties** dialog box displays, select the **General** tab, and enter **SalesDetail** for the element **Name**.
 16 Click **OK**. The name you entered appears on the element symbol in the editor.

- 17 Repeat the following steps a – d for each child element.
 - a Double-click the child element symbol in the editor.
 - b In the **Element Properties** dialog box, select the **General** tab, and enter the **Name** and select the **Type** (datatype) for the child element



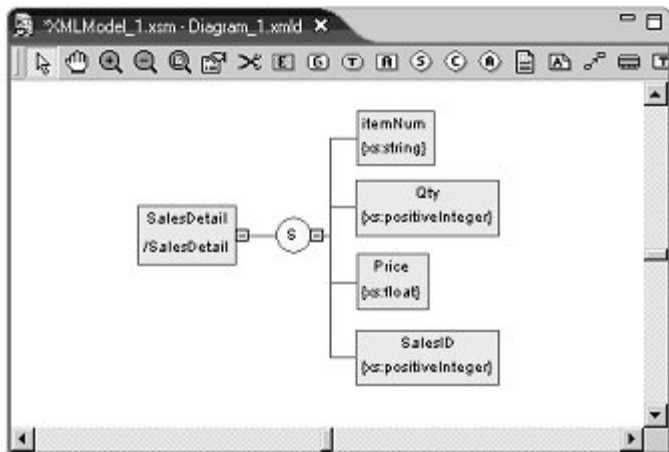
Use the values in the following table for the child element properties.

| Child element | Name | Type | Minimum | Maximum |
|---------------|---------|--------------------|---------|---------|
| Element_1 | ItemNum | Xs:string | 1 | 1 |
| Element_2 | Qty | Xs:positiveInteger | 1 | 1 |
| Element_3 | Price | Xs:float | 1 | 1 |
| Element_4 | SalesID | Xs:positiveInteger | 1 | 1 |

- c Select the **Detail** tab, and enter the **Minimum** and **Maximum** values.
- d Click **OK**.

When you finish, each child element displays its name and datatype, between brackets, below the name.

The finished diagram should look like this:



- 18 In the **Model Explorer**, double-click the icon beside the default model name **XMLModel_1***.
- 19 In the **Model Properties** dialog box, enter **MySybStoreXMLModel** in the **Name** field and click **OK**.
- 20 Select **File|Save** from the WorkSpace main menu to save the XML model.
If you are continuing, keep the model open for the next tutorial.

Generating XSD from an XML model

This tutorial teaches you how to generate an XSD document from an XML model using Sybase WorkSpace tools. After you complete this tutorial, you will know how to generate an XSD document and save it in a project. You will have a complete XSD document, which is a working subset of the SybStore XSD.

Lesson 1: Generating XSD from an XML model

In this lesson, you will generate XSD from an XML model. Before you start this lesson, you must complete “[Lesson 1: Creating an XML model](#)” on page 62.

- 1 Open the **Enterprise Modeling** perspective. Select **Window|Open Perspective|Enterprise Modeling** from the WorkSpace main menu bar.

- 2 To easily locate a model's associated files, select a model in the Model Explorer, and have WorkSpace point you to a file in the WorkSpace Navigator.

In the **Model Explorer**, on the **Local** tab, right-click **MySybStoreXMLModel** and select **Find in WorkSpace Navigator** from the context menu.

The *MySybStoreXMLModel.xsm* file is highlighted in the WorkSpace Navigator.

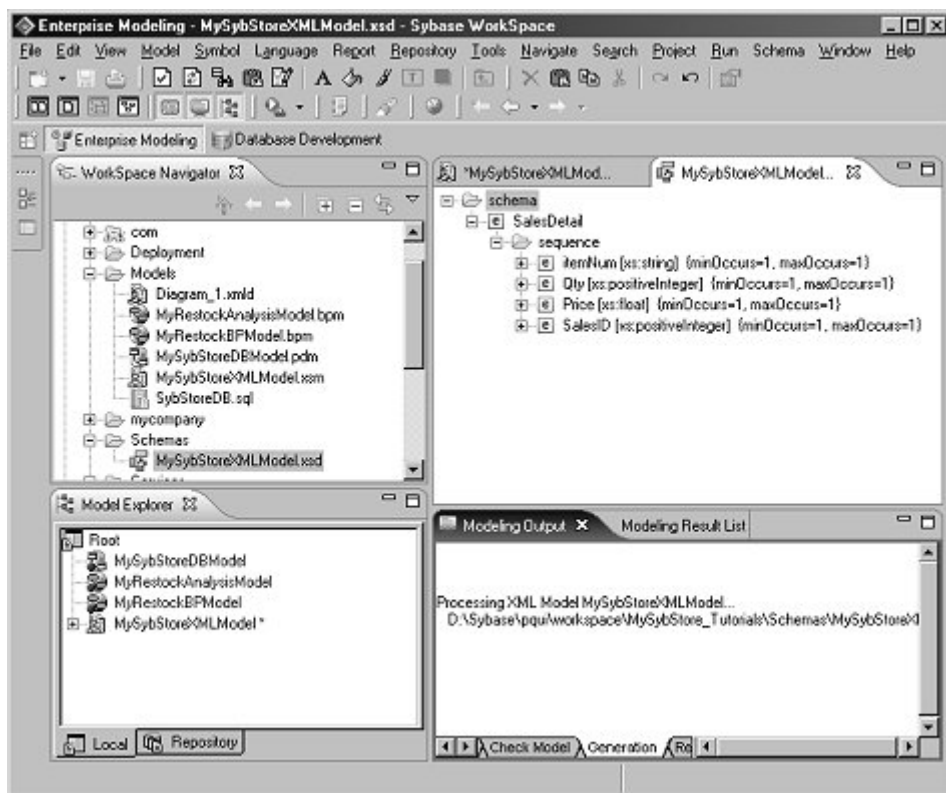
- 3 In the **WorkSpace Navigator**, double-click *MySybStoreXMLModel.xsm* to open the file in the editor.
- 4 Select **Language|Generate XML Schema Definition File** from the WorkSpace main menu bar.
- 5 When the **Generation** dialog box opens, click **Browse** to select the destination for the generated file. The recommended location is:

```
%WS_INSTALL_DIR%\<user_name>\workspace\MySybStore_Tutorials\  
Schemas\
```

where *<user_name>* is your personal WorkSpace directory.

- 6 Deselect the **Check Model** option and click **OK**.
- 7 When the **Generated Files** message displays showing the path of the generated XSD file, click **Close**.

- 8 In the **Workspace Navigator**, expand the folder **MySybStore_Tutorials/Schemas**, then double-click **MySybStoreXMLModel.XSD** to open the schema in the XSD viewer.



To edit the XSD document, right-click **MySybStoreXMLModel.XSD** and select **Open With|Sybase XML Editor** or **XML Editor**.

- 9 Select **File|Close All** from the Workspace main menu to close any open editors.

10 The XSD document appears in the XML editor.



```
1 <?xml version="1.0" encoding="UTF-8" ?>
2 <xs:schema
3   elementFormDefault="qualified"
4   xmlns:xs="http://www.w3.org/2001/XMLSchema">
5   <xs:element name="SalesDetail">
6     <xs:complexType>
7       <xs:sequence>
8         <xs:element name="ItemNum" maxOccurs="1" minOccurs="1" typ
9         <xs:element name="Qty" maxOccurs="1" minOccurs="1" type="x
10        <xs:element name="Price" maxOccurs="1" minOccurs="1" type=
11        <xs:element name="SalesID" maxOccurs="1" minOccurs="1" typ
12      </xs:sequence>
13    </xs:complexType>
14  </xs:element>
15</xs:schema>
```

Look at the XML menu toolbar for additional for XML editing options.

- 11 Select **File|Save** from the main menu bar to save the XML model.
- 12 Select **File|Close** from the main menu bar to close the perspective.