

I've Said "Hello World!" Now What?

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Objectives

- Demonstration of free resources
 - Learning
 - Development Tools
 - Deployment
- Tips for getting started with these free tools
- Basic description of servlets, JSP pages, HTTP servers, and servlet containers
- Deployment Task Overview

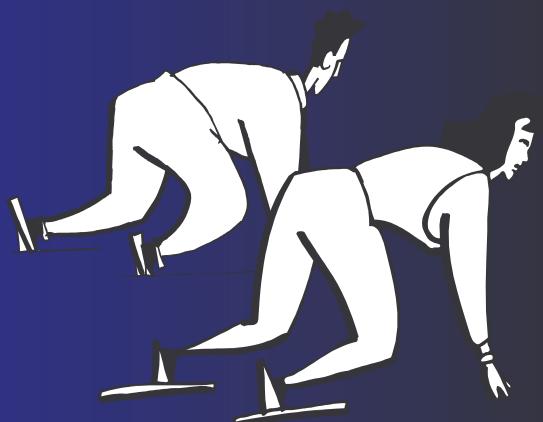
Introduction

- A new toy!
- A great idea!
- No clue where to start!



Where am I taking you?

- Just to the starting line....



Free Learning Resources

- Sun Developer Network
 - Online Tutorials
 - Code Samples
- KickJava.com
 - API, Class, and Package Descriptions
 - Free Java Books
 - Searchable Code Samples

Sun Developer Network

The screenshot shows the Java Sun Online Tutorials website. The main title is 'Online Tutorials' in a large, bold, yellow font. Below it is a sub-section titled 'Learning New to Java Center'. The page content is organized into several sections: 'Downloads' (Early Access, Tools, API Specifications, Documentation, FAQs, BluePrints, White Papers, Case Studies, Glossary, Code Samples & Apps, Presentations & Audiocasts), 'Community' (Forums, Bug Database, Chats, User Groups, Newsletters, Books & Authors), and 'News & Updates' (New to Java Center, Tutorials & Code Camps, Online Sessions & Courses, Course Certification, Instructor-Led Courses, Quizzes). The right side of the page features four large, numbered steps: 'STEP 1 Java Platform Overview', 'STEP 2 Getting Started', 'STEP 3 Step-by-Step Programming', and 'STEP 4 Review What You've Learned'. Each step has a brief description and a link to its respective tutorial page.

The screenshot shows the Java Sun Online Tutorials website. The main title is 'Java Terminology' in a large, bold, yellow font. Below it is a sub-section titled 'Tutorials & Code Camps' and 'New to Java Programming Center - Unraveling Java Terminology'. The page content is organized into several sections: 'Programming Center' (New to Java Programming Center, Java Platform Overview, Getting Started, Step-by-Step Programming, Learning Paths, References & Resources, Certification), 'Unraveling Java Terminology' (by Dana Nourie, Updated May 2002, JavaServer Pages, JDBC, RMI, JDC—Java technology names and acronyms can be confusing for newcomers and experienced developers. This article defines common Java terminology in easy-to-scan, alphabetical order, and provides links for more information and downloads), 'Java Term' (Applet, AWT, Java API), 'Definition' (Applet: An applet is a Java program that runs within the web browser. Applets use a graphical user interface and may have text, images, buttons, scrollbars, and sound. AWT and Swing are frequently associated with articles and tutorials about creating applets; AWT: The Abstract Window Toolkit (AWT) is a package of classes for creating components such as buttons, menus, and scrollbars for applets and standalone applications; Java API: The Java Application Programming Interface (API) is prewritten code, organized into packages of similar topics. For instance, the `Applet` and `AWT` packages include classes for creating fonts, menus, and buttons. The full API documentation is available at java.sun.com/j2se/1.4.2/docs/api/index.html), 'More Information' (Building Applets, Trail Writing, Package API, AWT Fundamentals, Using the AWT, Java API, Package API, AWT Forum), and a 'Code Editor' window showing Java code for an applet.

Setting Up & Getting Started

The screenshot shows two adjacent browser windows. The left window displays the 'Java Platform Overview' page, which includes sections for 'Setting Up and Getting Started in Java Programming' and 'Java 2 SDK, Standard Edition Version 1.4.2'. The right window displays the 'Java 2 SDK 1.4.2 Installation Notes for Microsoft Windows' page, which provides detailed instructions for installing the Java 2 SDK on Windows.

Code Samples

The screenshot shows two adjacent browser windows. The left window displays the 'Index of Code Samples' page for Java Servlets, listing sections such as 'Servlets Code Samples' and 'CORBA Example'. The right window displays the 'The Example Servlets' page, which provides a table mapping servlet names to their functions and descriptions.

The screenshot shows the KickJava.com homepage with a dark blue header. The main content area has a light blue background. On the left, there is a vertical list of Java API classes. The right side contains sections for 'FREE Java Books', 'How To Use This Site', and 'Share your Java code with your community here!'. The 'How To Use This Site' section includes a 'About Pop Up Window' note, a 'Layout' description, and a 'Links for each API' section with a 'Description' note.

The screenshot shows the KickJava.com homepage with a dark blue header. The main content area has a light blue background. On the left, there is a vertical list of Java API classes. The right side contains sections for 'SESSION_SCOPE' and 'setAttribute'. The 'SESSION_SCOPE' section includes a 'Description' note and a 'Submitted by Anonymous on 2002/10/28 18:07:41' note. The 'setAttribute' section includes a 'Description' note and a code snippet in a code editor.

API, Class, and Package Descriptions

Address <http://kickjava.com/>

KickJava™ Java API By Example, From Geeks To Geeks.

Covers latest J2SE, J2EE and J2ME

[API](#) | [Class](#) | [Page](#)

[A](#) [B](#) [C](#) [Conc](#) [Cs](#) [D](#) [E](#) [Fa](#) [Gete](#) [Getj](#) [Gets](#) [Gets](#) [Getu](#) [H](#) [I](#) [Insi](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Ps](#) [Q](#) [Ra](#) [Rena](#) [S](#) [Se](#) [Sets](#) [St](#) [T1](#) [T2](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Java 2 Platform EE v1.3: Class PageContext - Microsoft Internet Explorer

setAttribute

```
public abstract void setAttribute(java.lang.String name,
                                   java.lang.Object attribute)
```

Register the name and object specified with page scope semantics.

Parameters:

- name - the name of the attribute to set
- attribute - the object to associate with the name

Throws:

- java.lang.NullPointerException - if the name or object is null

setAttribute

```
public abstract void setAttribute(java.lang.String name,
                                   java.lang.Object o,
                                   int scope)
```

setAttribute(java.lang.String, java.lang.Object, int)

Free Java Books

[Designing Java Applications for Network Computers](#)
[Developer's Guide to Building XML-Based Web Services with J2EE\(3.5MB PDF\)](#) | [mirror](#)

[Developer's Guide to Understanding Enterprise JavaBeans](#)

[Developing Intranet Applications with Java](#) | [mirror](#) | [mirror](#)

[Developing Professional Java Applets](#) | [mirror](#)

E

[e-business Application Solutions Using Java](#) | [mirror](#)

[EJB Design Patterns \(PDF\)](#) | [mirror](#)

[EJB Development with VisualAge for Java for Enterprise Java Beans, an Introduction](#)

[Enterprise JavaBeans Development Using VisualAge for Enterprise JavaBeans\(Gopalan\)](#)

[Enterprise JavaBeans, 2nd Edition](#)

[Essentials of the Java Programming Language: The Java Language Environment](#)

[Essentials of the Java Programming Language: The Java Language Environment](#)

[Evaluating Java for Game Development \(1MB\)](#)

[Exploring Java](#) | [mirror](#)

F

[Factoring JavaBeans in the Enterprise](#)

[Focus on Java Programming](#)

[Further Java \(PDF\)](#) | [mirror](#)

G

[Getting Started with JDBC API](#)

CONTENTS - Microsoft Internet Explorer

Developing Professional Java™ Applets

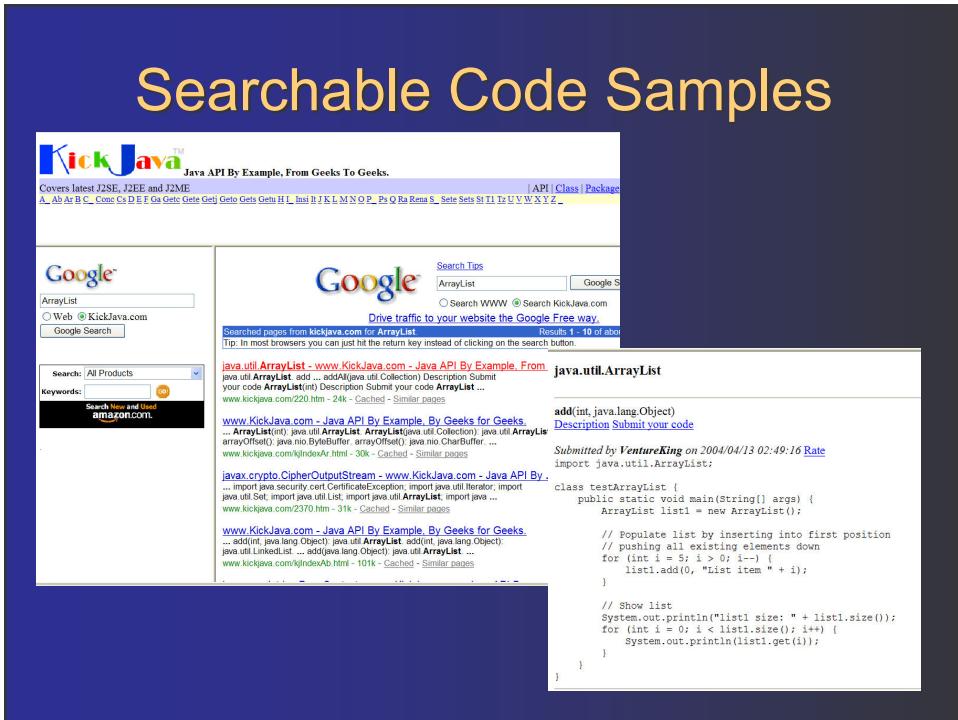
by K.C. Hopson
 Stephen E. Ingram

CONTENTS

[Introduction](#)

[Chapter 1 The Java Development Environment](#)

- Tough Problems in Search of One Solution
 - Why Java Is a Comprehensive Solution
 - Why Object-Oriented Is Important

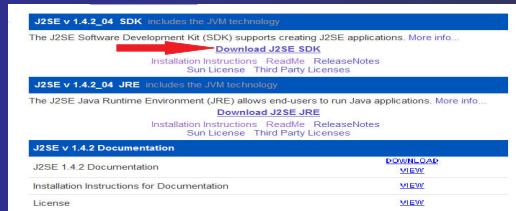


Free Development Resources

- Java SDK - download
 - Eclipse – download
 - Visual Paradigm - download
 - DBDesigner4 – download

Tips for Java SDK Download

- Select J2SE not J2EE



- Bypass Documentation download
- Review ReadMe File
(<http://java.sun.com/j2se/1.4.2/README.html>)

Tips for Eclipse Download

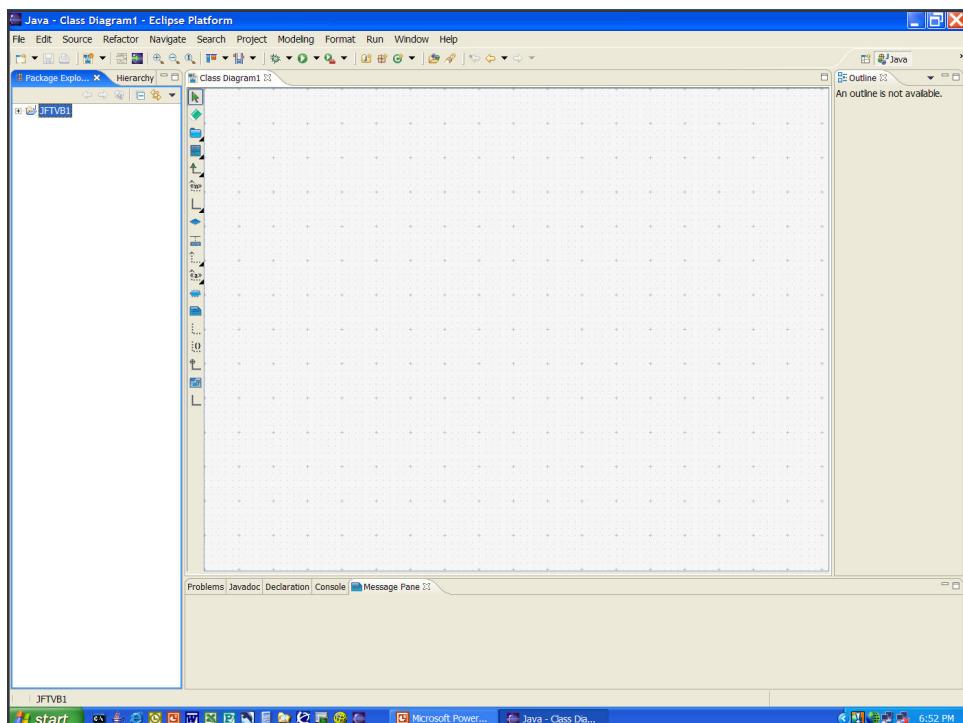
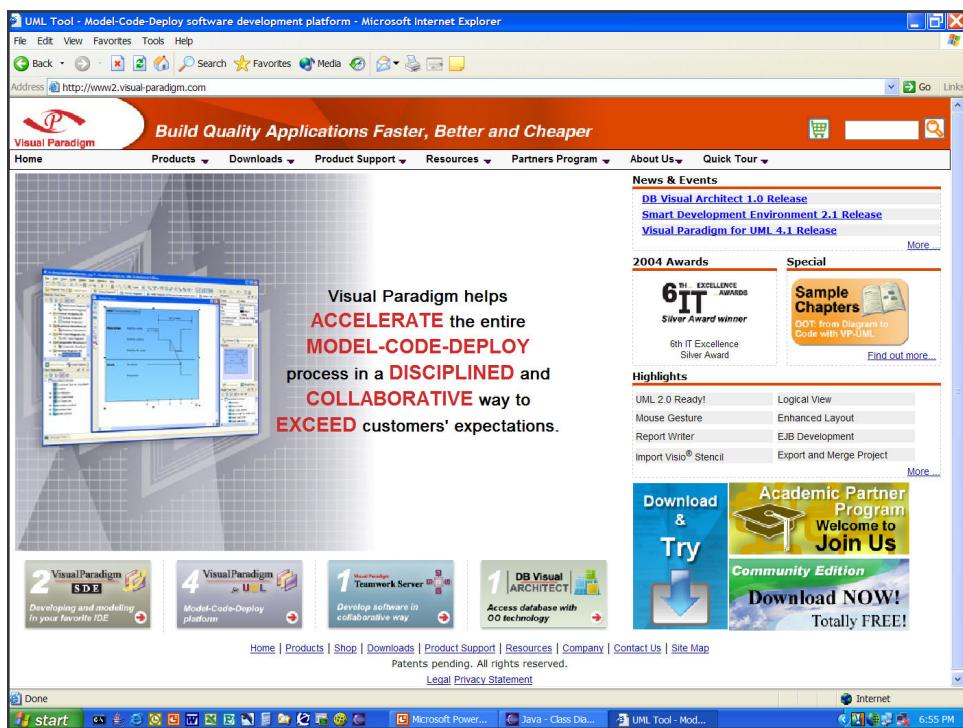
- Download Java SDK first
- Download Eclipse zip file into *Temp* directory
- Unzip file in *Temp*; it creates *eclipse* directory
- Move *eclipse* directory to desired location
- In *eclipse* directory, run Install Wizard

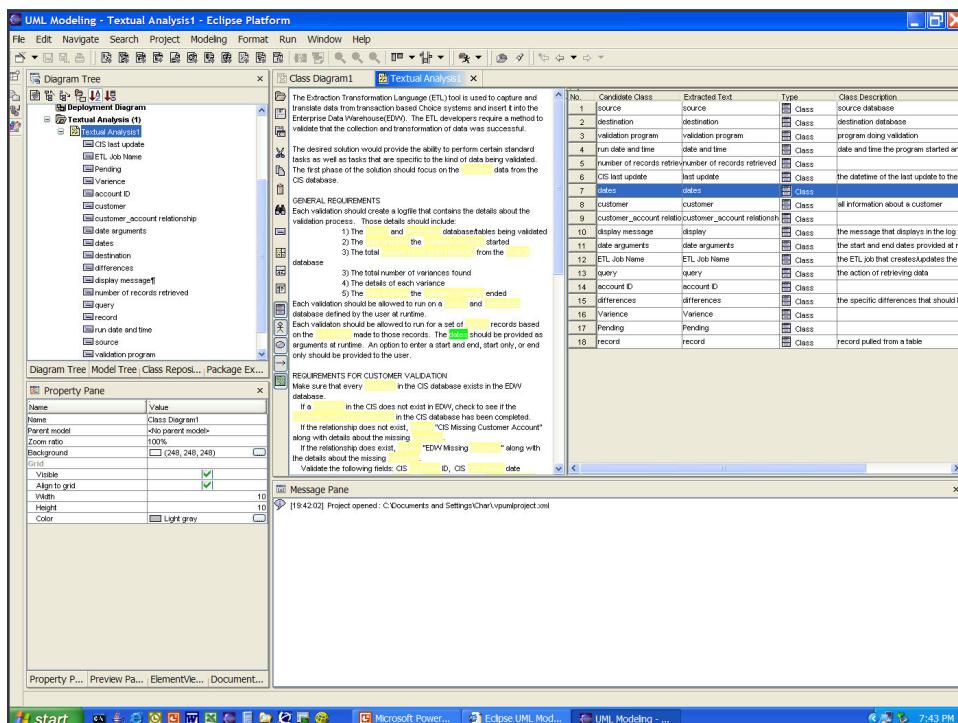
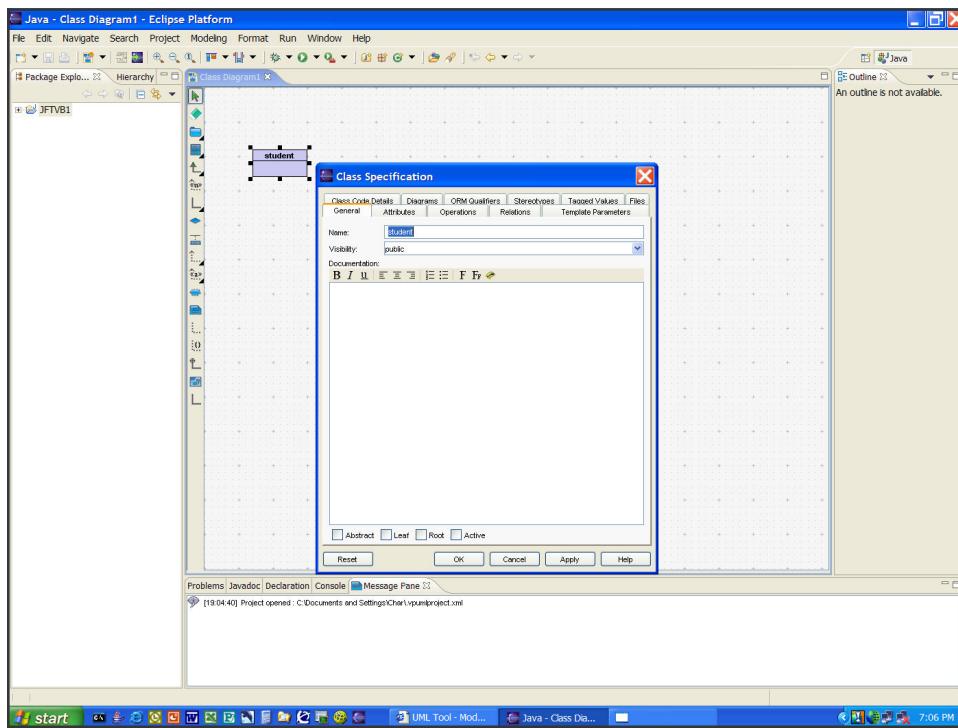
Visual Paradigm

- <http://www.visual-paradigm.com/vpuml.php>
- Integrates with Eclipse
- Follows UML specifications
- Generate code from models
- Community Version – 1 model of each type

Getting Started with Visual Paradigm

- Create new project in Eclipse
- Naming convention: *com.yoursite.yourproject*
- Highlight project in Package Explorer view
- Right click and select Open SD-EC project



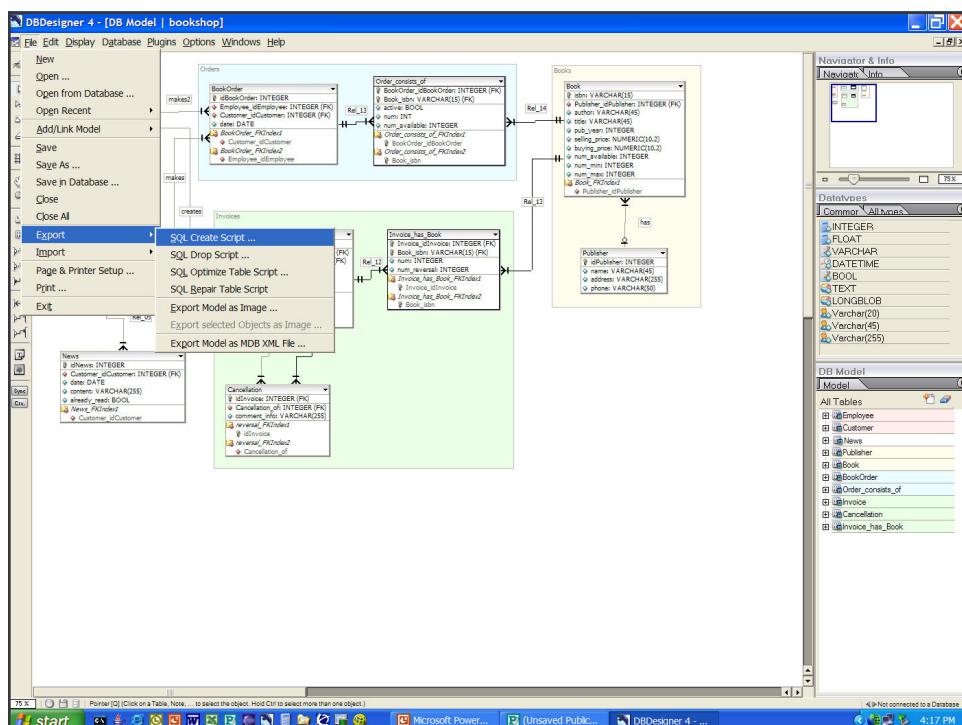
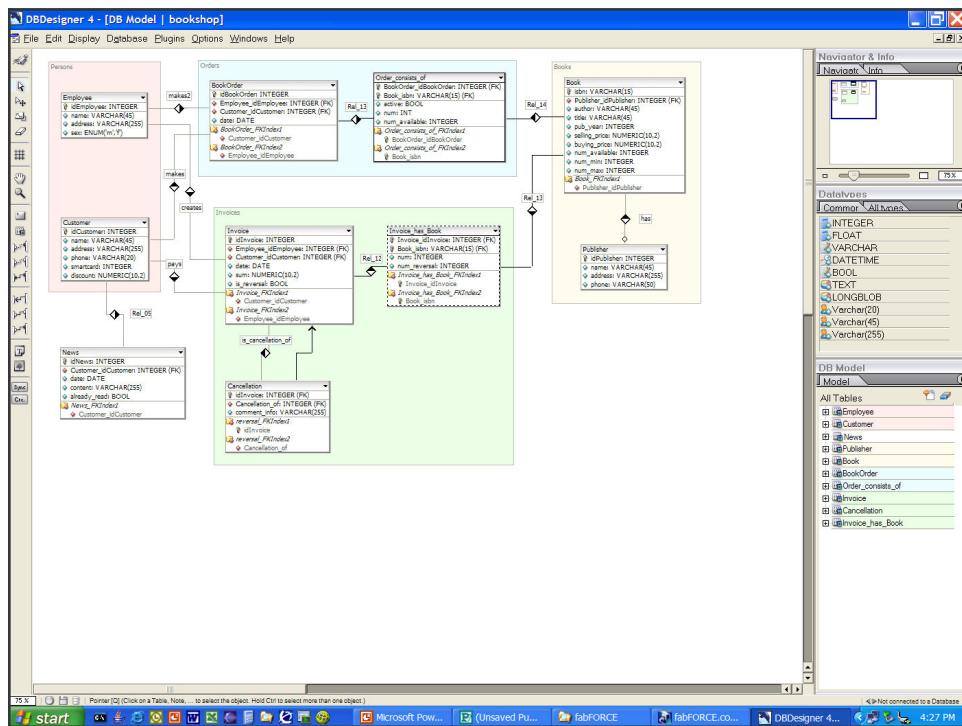


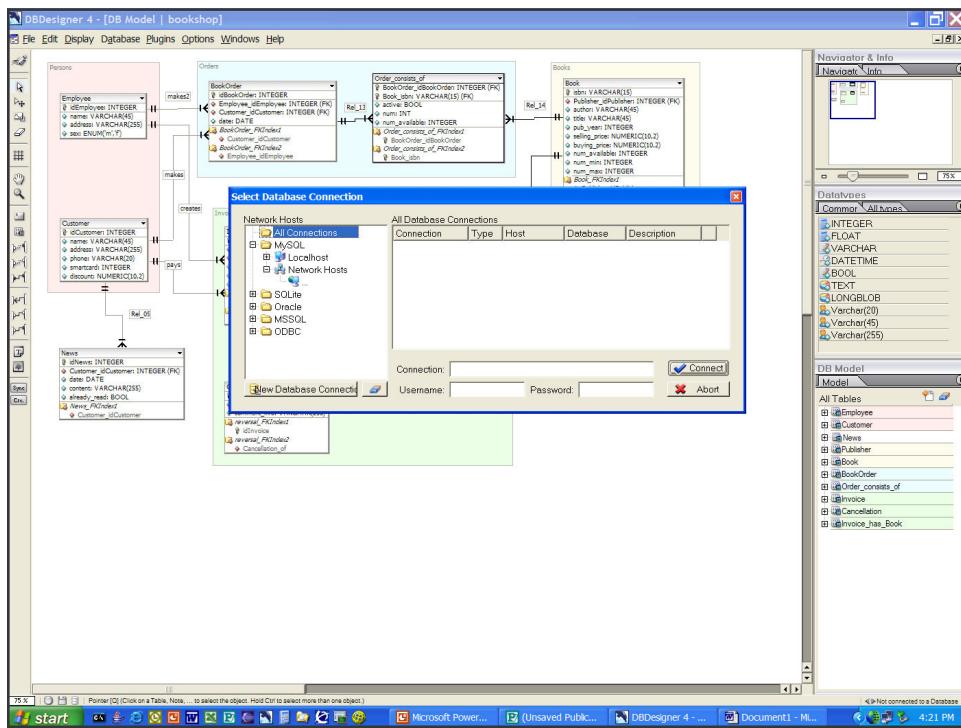
DBDesigner4

- <http://www.fabforce.net/dbdesigner4>
- Built-in tools for MySQL
- Generate SQL statements from design
- Plug-ins for extra features
 - HTML report generator
 - Web Front End
 - Data Importer

Getting Started with DBDesigner

- Click *New Table* icon then click drawing area
- Right click on the new table, select *Edit Object*
- First column is defaulted to the Primary Key
- Relationships automatically add Foreign Keys
- Build relationships before working on indexes
- Use File > Export to generate SQL script
- Alternately connect to Database





Web Hosting service

- <http://www.astrahosting.com/index-en.html>
- MySQL – database (plus PHP MyAdmin)
- PHP – scripting language
- Tomcat – servlet container
- Apache – HTTP server

Administration Tools

MySQL – PHP MyAdmin

MySQL – PHP MyAdmin

The screenshot shows the MySQL - PHP MyAdmin interface. The title bar reads "MySQL – PHP MyAdmin". The main content area is titled "Database suttoncomputerspecialties_com_main - Table component running on localhost". The "Select" tab is active. On the left, a sidebar shows a tree structure of database tables: "suttoncomputerspecialties_com_main" is expanded, showing "component", "component_class", "feature", "primary_use", "product", "product_feature", and "product_use". The "component" table is selected. The main panel contains several sections: "Select fields (at least one):" with "component_id", "component_class_id", and "component_name" selected; "Number of rows per page" set to 30; "Add search conditions (body of the "where" clause)" with a text input field containing "component_name LIKE '%'" and a link to "[Documentation]"; "Or Do a "query by example" (wildcard: "%")" with a table for "Field", "Type", "Function", and "Value" for "component_id", "component_class_id", and "component_name"; "Display order:" with a dropdown menu and radio buttons for "Ascending" (selected) and "Descending"; and a "Go" button. At the bottom left is a "Query window" button.

Web Development Tools

- Servlets
- JSP Pages
- HTTP (Web) Server
- Servlet Container

Servlets

- Java code that lives on the server extending the server's capabilities
- Typically used for
 - Processing forms
 - Authenticating users
 - Creating dynamic web content
- Access to all Java API's (including JDBC)
- Access to library of HTTP calls
- Learn more at:
<http://java.sun.com/developer/onlineTraining/Servlets/Fundamentals/>

JSP Pages

- Extension of servlet technology
- Supports authoring of HTML and XML pages
- Good for creating static templates with dynamic content
- Learn more at:
<http://java.sun.com/products/jsp/overview.html>

HTTP (Web) Server

- Loads your servlet class (extends HttpServlet class)
- Creates an instance of your servlet class
- Calls the init method of your servlet class
- The service method of HttpServlet class handles communication between Java and HTTP methods
 - Service method called for every request
 - Destroy method is called at end of service

Servlet Container

- Usually a component of web/application servers like WebSphere, Sun's web server, etc.
- Also provided by third-party distributors like Apache/Tomcat and Microsoft IIS
- A servlet container does these basic things:
 - Creates a Request object
 - Creates a Response object
 - Acts as the Connector to the web client
 - Acts as the Container

Deployment Tasks - Overview

1. Find out where servlet class files must be stored.
 - a. Web hosting service must support servlets.
 - b. Web hosting service will advise of directory location.
2. Add the servlets.jar file to your class path
 - a. Download servlets package from java.sun.com or apache.org
3. Write your class extending HttpServlet
(javax.servlet.http)
4. Write an HTML page with a link that invokes your servlet
5. Post the servlet and HTML page on the server