

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

Charlotte Sutton
Choice Hotels International

charlote_sutton@choicehotels.com

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

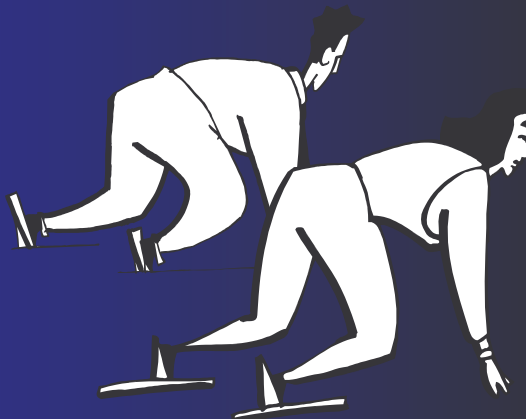
Introduction



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

Where am I taking you?

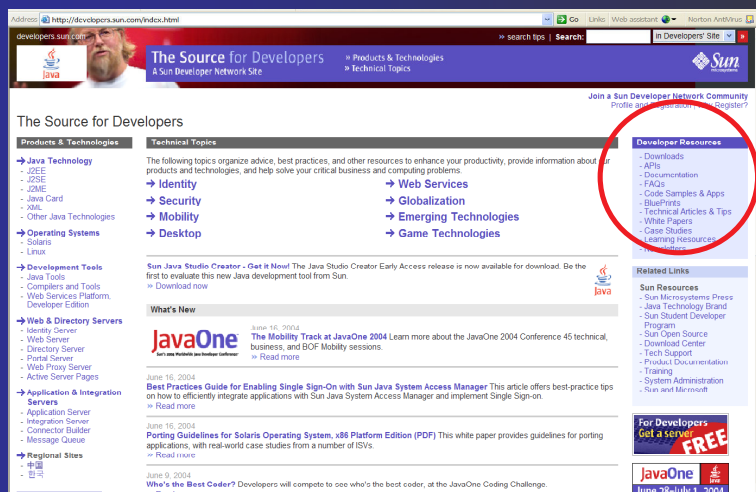
- Just to the starting line....



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



Online Tutorials

The screenshot shows the 'The Source for Developers' website. The main navigation bar includes 'Products & Technologies' and 'Technical Topics'. The 'Learning' section is highlighted, with a sub-section 'New to Java Center'. This section lists various resources: Downloads (Early Access, Tools), Reference (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. A 'Learning' sidebar lists 'New to Java Center', 'Tutorials & Code Camps', 'Online Sessions & Courses', 'Course Certification', 'Instructor-Led Courses', and 'Quizzes'. The main content area features a list of 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 is accompanied by a brief description of its purpose.

Java Terminology

The screenshot shows the 'Unraveling Java Terminology' article on the Java Developer Network website. The article is titled 'New to Java Programming Center - Unraveling Java Terminology' and is authored by Dany Nourie. It provides a definition of Java terminology and includes a table of terms.

Java Term	Definition	More Info
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.	1. Building Applets 2. Trail Writing 3. Package
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.	1. AWT Fundamentals 2. Using the AWT 3. Package 4. Description 5. AWT Forum
Java API	The Java Application Programming Interface (API) is prewritten code, organized into packages of similar topics. For instance, the <code>Applet</code> and <code>AWT</code> packages include classes for creating forms, menus, and buttons. The full	1. API Documents 2. Building an

The article also includes a section titled 'Application to Applet' which shows a sample Java code snippet for an applet. The code is as follows:

```
import java.applet.Applet;
import java.awt.Graphics;
import java.awt.Color;

public class SimpleApplet extends Applet {
    String text = "I'm a simple applet";
    public void paint() {
        text = "I'm a simple applet";
        setBackground(Color.cyan);
    }
    public void start() {
        System.out.println("starting...");
    }
    public void stop() {
        System.out.println("stopping...");
    }
}
```


Setting Up & Getting Started

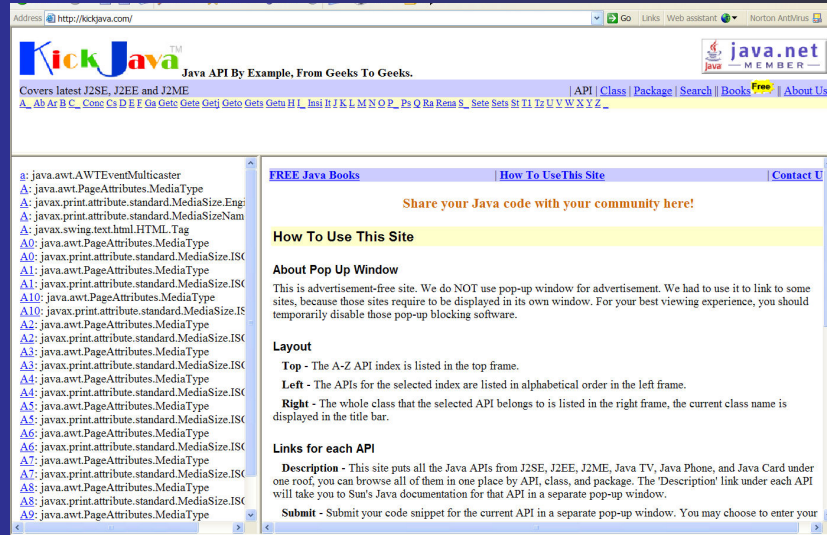
The screenshot displays two overlapping browser windows from the Java Developer Network (JDN) website. The background window shows the article 'Setting Up and Getting Started in Java Programming' by Dana Nourie, which provides an overview of the Java Platform and links to various resources. The foreground window shows the 'Java 2 SDK 1.4.2 Installation' page, which includes installation notes for Microsoft Windows, system requirements, and installation instructions. The page is titled 'The Source for Developers' and features a navigation bar with links to Products & Technologies, Technical Topics, and a search bar.

Code Samples

The screenshot displays two overlapping browser windows from the Java Developer Network (JDN) website. The background window shows the 'Index of Code Samples' page, which lists various code samples available for download, including Servlets, CORBA, and J2EE. The foreground window shows the 'The Example Servlets' page, which provides a detailed overview of the Duke's Bookstore application and lists the various servlets used in the application. The page includes a table titled 'Table 10-1 Duke's Bookstore Example Servlets' that maps functions to specific servlets.

Function	Servlet
Enter the bookstore	BookStoreServlet
Create the bookstore banner	BannerServlet
Browse the bookstore catalog	CatalogServlet
Put a book in a shopping cart	BookDetailsServlet
Get detailed information on a specific book	BookDetailsServlet
Display the shopping cart	ShowCartServlet
Remove one or more books from the shopping cart	ShowCartServlet
Buy the books in the shopping cart	CashierServlet
Receive an acknowledgement for the purchase	ReceiptServlet

KickJava.com



API, Class, and Package Descriptions



API, Class, and Package Descriptions

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 | mirror](#)
[Developing Professional Java Applets | mirror](#)
[e-business Application Solutions Using Java](#)
[EJB Design Patterns \(PDF\) | mirror](#)
[EJB Development with VisualAge for Java for Enterprise Java Beans, an Introduction](#)
[Enterprise JavaBeans Development Using VisualAge for Java](#)
[Enterprise JavaBeans \(Gopalan\)](#)
[Essentials of the Java Programming Language](#)
[Essentials of the Java Programming Language](#)
[Evaluating Java for Game Development \(IMB\)](#)
[Exploring Java | mirror](#)
[Factoring JavaBeans in the Enterprise](#)
[Focus on Java Programming](#)
[Further Java \(PDF\) | mirror](#)
[Getting Started with JDBC API](#)

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
 - Reasons for Object-Oriented Programming

Searchable Code Samples



Java API By Example, From Geeks To Geeks.

Covers latest J2SE, J2EE and J2ME

A, Ab Ar C, Cos Cos2 Cd G Gt Gs Gete Getr Geto Getu Getu H, Ins It J K L M N O P, Pa Q Ra Rsa S, Sete Seti Si Ta U V W X Y Z



☐ Web
 ☐ KickJava.com



Search Tips

ArrayList

☐ Search WWW
 ☐ Search KickJavs.com

[Searched pages from kickjava.com for ArrayList](#)
[Search ArrayList on amazon](#)

[Drive traffic to your website the Google Free way.](#)

[Tip: In most browsers you can just hit the return key instead of clicking on the search button.](#)

java.util.ArrayList

add(int, java.lang.Object)
Description [Submit your code](#)

Submitted by [VentureKing](#) on 2004/04/13 02:49:12 [Rate](#)

import java.util.ArrayList;

```

class testArrayList {
    public static void main(String[] args) {
        ArrayList list1 = new ArrayList();

        // Populate list by inserting into first position
        // pushing all existing elements down
        for (int i = 0; i > 0; i--) {
            list1.add(0, "list item " + i);
        }

        // Show list
        System.out.println("list1 size: " + list1.size());
        for (int i = 0; i < list1.size(); i++) {
            System.out.println(list1.get(i));
        }
    }
}

```

java.util.ArrayList - www.KickJava.com - Java API By Example, From

java util **ArrayList** add ... addAll(java util Collection) Description Submit your code **ArrayList(int)** Description Submit your code **ArrayList ...**

[www.kickjava.com/220.htm - 24k - Cached - Similar pages](#)

[www.KickJava.com - Java API By Example, By Geeks for Geeks](#)

... **ArrayList(int)** java util **ArrayList** **ArrayList**(java util Collection) Description Submit your code **ArrayList(int)** java nio ByteBuffer arrayOffset() java nio CharBuffer ...

[www.kickjava.com/kindsduke.html - 30k - Cached - Similar pages](#)

[javax.crypto.CipherOutputStream - www.KickJava.com - Java API By](#)

... import java security cert CertificateException import java util Iterator, import java util Set, import java util Set, import java util **ArrayList**, import java ...

[www.kickjava.com/2370.htm - 31k - Cached - Similar pages](#)

[www.KickJava.com - Java API By Example, By Geeks for Geeks](#)

... add(int, java.lang.Object) java util **ArrayList** add(int, java.lang.Object)

java util LinkedList list ... add(java.lang Object) java util **ArrayList** ...

[www.kickjava.com/kindsduke.html - 101k - Cached - Similar pages](#)

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

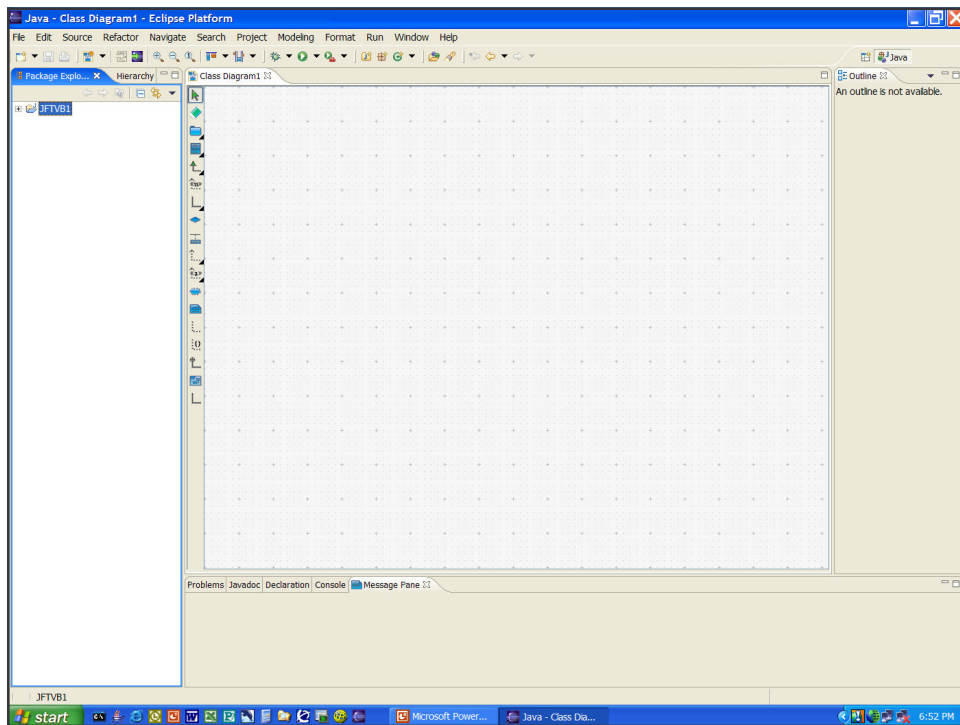
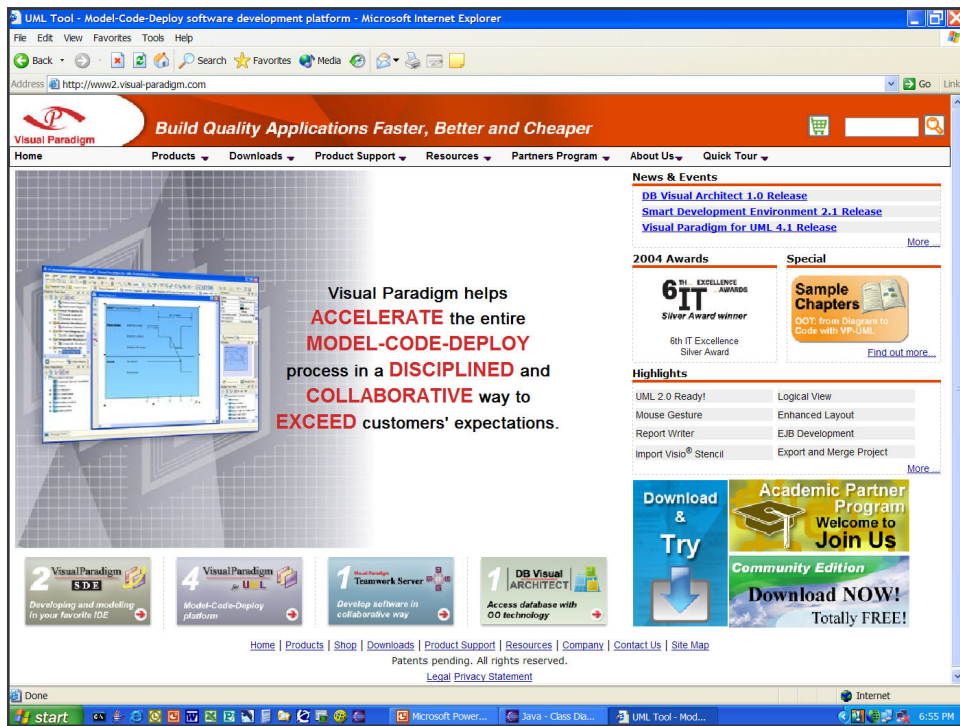
- Download Java SDK first
- Download Eclipse zip file into *Temp* directory
- Unzip file in *Temp*; it creates *eclipse* directory
- Move *eclipse* directory to desired location
- In *eclipse* directory, run Install Wizard

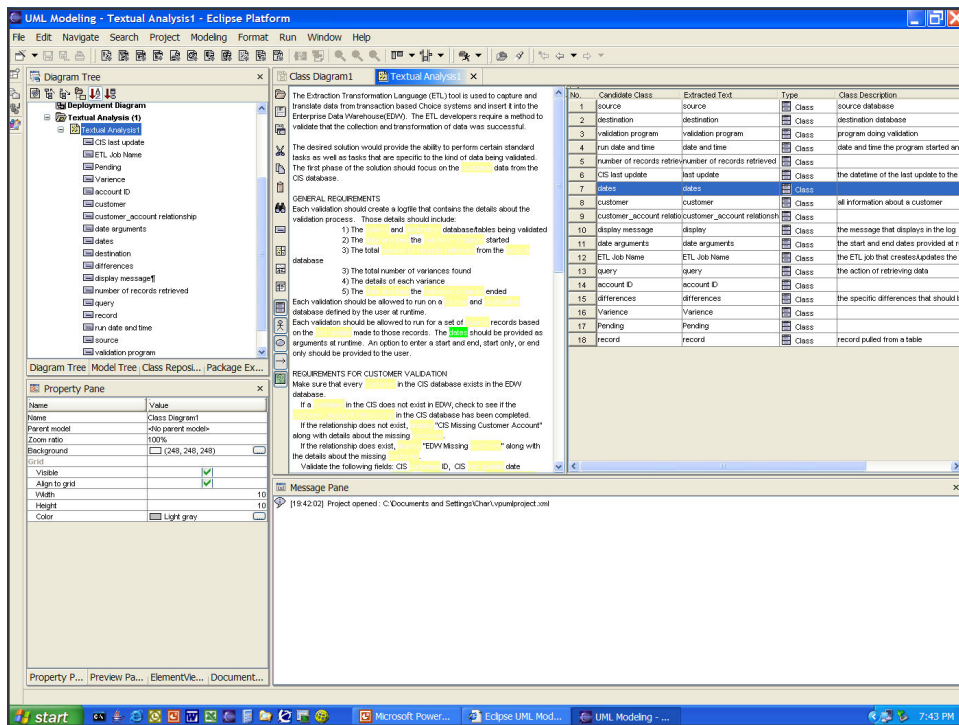
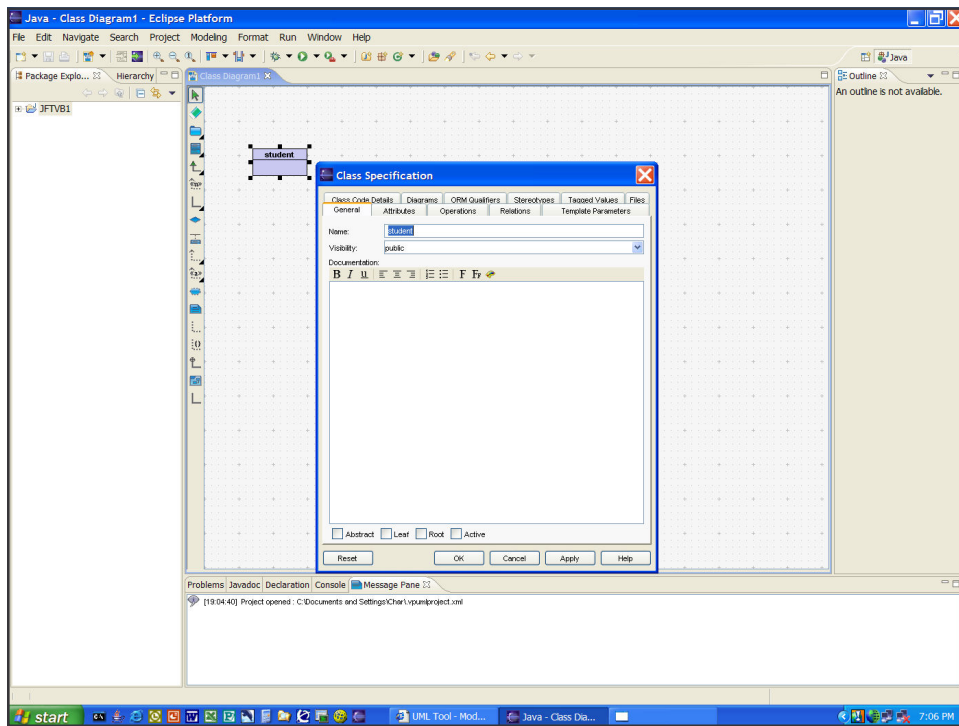
Visual Paradigm

- <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



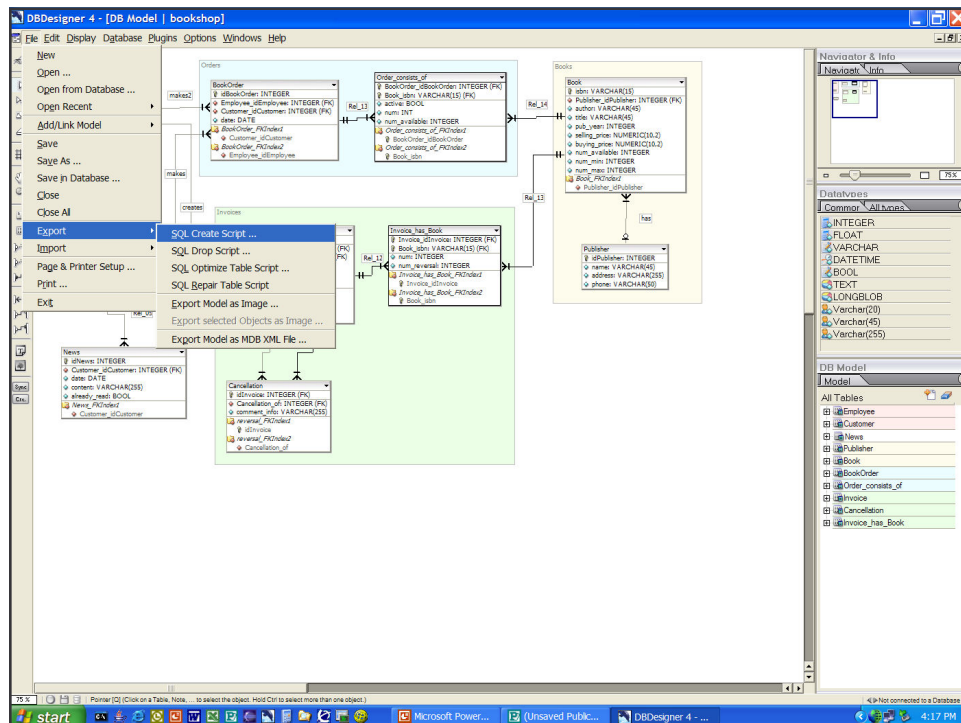


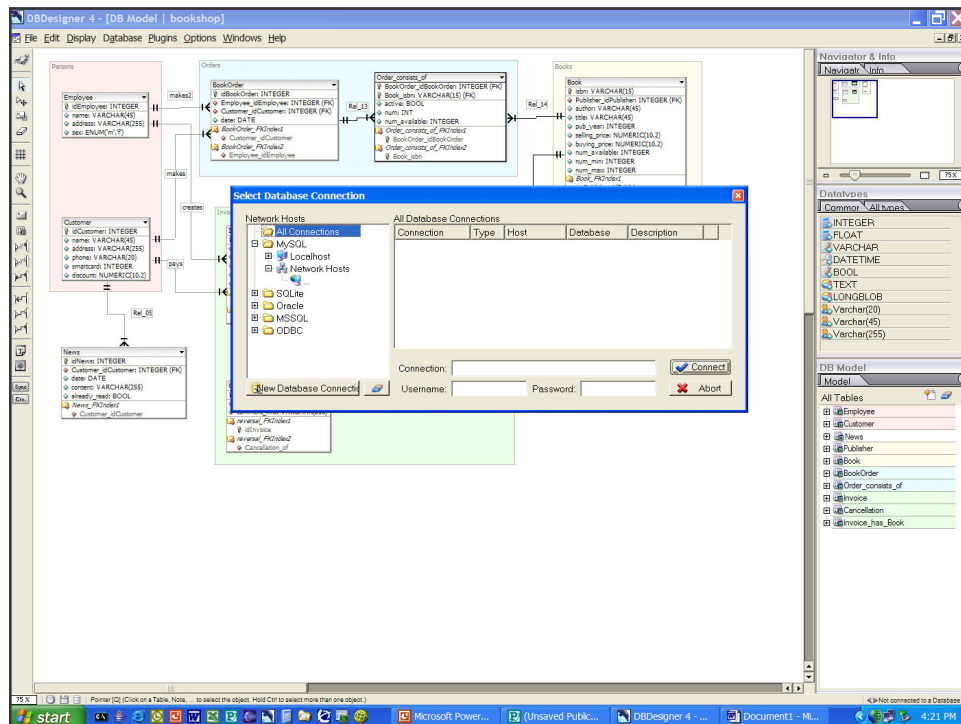
DBDesigner4

- <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

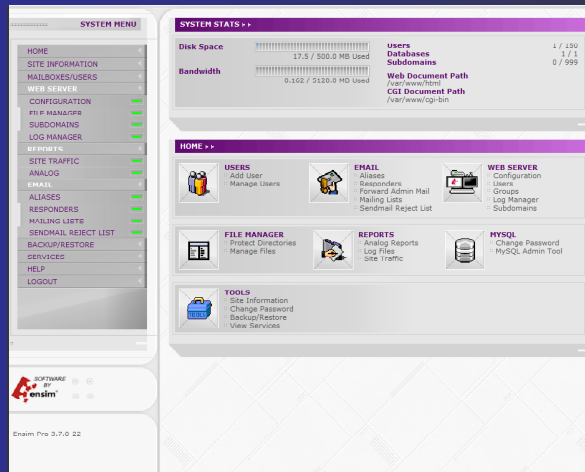




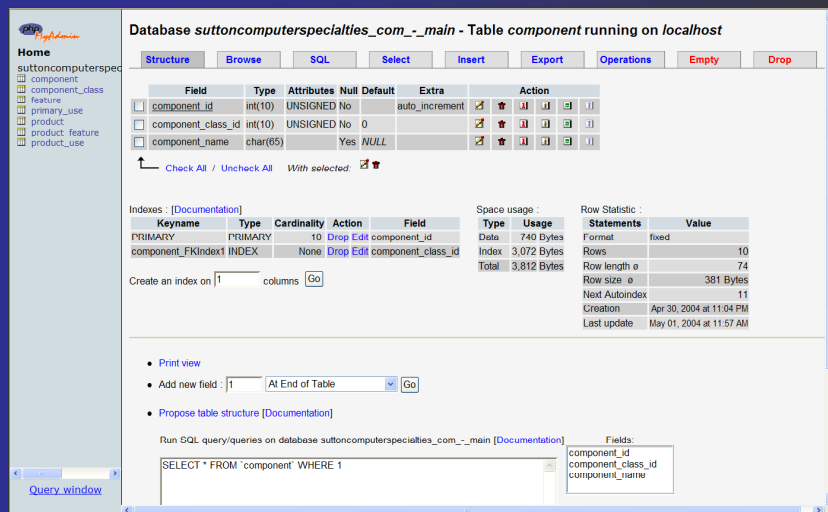
Web Hosting service

- <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 PHP MyAdmin interface for a database named 'suttoncomputerspecialties_com_main'. The 'component' table is selected, and its structure is displayed. The table has three columns: 'component_id' (int(10)), 'component_class_id' (int(10)), and 'component_name' (char(65)). The 'component_id' column is highlighted. Below the table structure, there are options to select fields, add search conditions, and specify the display order. The 'Display order' is set to 'Ascending'. A 'Go' button is at the bottom.

Database *suttoncomputerspecialties_com_main* - Table *component* running on *localhost*

Structure Browse SQL Select Insert Export Operations Empty Drop

Select fields (at least one): :

- component_id
- component_class_id
- component_name

- Number of rows per page: 30
- Add search conditions (body of the "where" clause):
[Documentation]

Or Do a "query by example" (wildcard: "%")

Field	Type	Function	Value
component_id	int(10)	=	
component_class_id	int(10)	=	
component_name	char(65)	LIKE	

Display order: ☒ Ascending ☐ Descending

[Go]

Query window

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