

BUILDING WEB APPLICATIONS WITH SERVLETS AND JAVASERVER PAGES*

TUTORIAL PRESENTATION

*David Janzen
Mathematical Sciences Department
Bethel College
North Newton, KS 67117
djanzen@bethelks.edu*

ABSTRACT

Servlets and JavaServer Pages provide the ability to dynamically generate web pages using the Java programming language. Among other benefits, the use of Java on the server-side allows the web developer to directly implement object-oriented designs, utilize multiple threads of execution, and employ JDBC to communicate with a database. This tutorial will introduce Servlets and JavaServer Pages through UML diagrams, code samples, and an example web application.

TUTORIAL:

Web Development Overview: The spectrum of technologies for static, dynamic, and active web pages will be reviewed.

Introduction to Java Servlets and JavaServer Pages: An overview of the Java Servlet and JavaServer Pages technologies will be presented. Motivation for using this technology over other options will be discussed.

* Copyright © 2002 by the Consortium for Computing in Small Colleges. Permission to copy without fee all or part of this material is granted provided that the copies are not made or distributed for direct commercial advantage, the CCSC copyright notice and the title of the publication and its date appear, and notice is given that copying is by permission of the Consortium for Computing in Small Colleges. To copy otherwise, or to republish, requires a fee and/or specific permission.

Setting up the environment: References will be provided for installing and configuring the Jakarta Tomcat Servlet container for the Apache web server. Examples will also be given using Sun's Forte for Java. A low-cost out-sourcing alternative will also be suggested.

A Sample Web Application: The design and output of a sample web application developed using Servlets and JavaServer Pages will be presented.

Web Application Patterns: Some documented patterns for designing web applications will be presented, particularly as they apply to the integration of Servlets and JavaServer Pages.

Use in curriculum: Examples of how the author has integrated Servlets into existing computer science courses will be discussed.