CSE 403: Servlet Technology

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CGI (Common Gateway Interface) vs Servlets

- Separate Process for each connection
- No Standard Libraries/Languages
- State not saved between connections

- One Servlet Engine Process
- Java Libraries/Languages
- State saved until servlet destroyed
Tomcat & How We Will Be Using it

- **Official** Reference Implementation of Java Servlet Technology
- A Servlet Engine & Normal Webserver
- Everyone will be running an different instance of Tomcat on a different port numbers (‘81’+instance number)
- Will install war (Web Application Resource) files via Tomcat management tasks in Ant
Where do I find this stuff?

/*For generic, protocol independent servlet functionality*/

import javax.servlet.*;

/*For servlets that will use the http protocol (WWW Based)*/

import javax.servlet.http.*;

Tutorial @
http://java.sun.com/webservices/docs/1.0/tutorial/doc/Servlets.html

API @

Tomcat: Kick Start by Bond & Law
Focus on Chapters 1,3,4,6 for this assignment (Don’t worry about JPS stuff)

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GenericServlet

- Protocol Independent
- Override `service()` when extended
- Must write one’s own means of handling requests

Image from *Java Servlet Programming* by Jason Hunter
HttpServlet

- Extends `GenericServlet`()
- Override `doGet (...)` & `doPost (...)`
- Already understands http
- Majority of servlets extend
public class HttpServletSkeleton extends HttpServlet {
    public void doGet(HttpServletRequest req, HttpServletResponse res)
        throws ServletException, IOException {}

    public void doPost(HttpServletRequest req, HttpServletResponse res)
        throws ServletException, IOException {}
}
GET vs POST

GET
- retrieving information
- html/images
- parameters listed in URL

POST
- send information
- uploads/forms
- parameters hidden within header
Servlet Lifecycle

- Timing of Lifecycle not specified by servlet spec
- Servlet may be destroyed/instatiated when you least expect it
  - init() only called once in lifecycle
- Multi-threaded environment
- destroy() should not only free resources but also save state that will be required in another instance
- A servlet is only a instance of a class that is dynamically loaded into the servlet engine (Tomcat)
Database Info

- PostgreSQL 7.3 installed on rockhopper & adelie
  [http://www.postgresql.org/docs/](http://www.postgresql.org/docs/)
- JDBC interface will be installed
- Tomcat: Kick Start, ch 9 (general using databases w/ Tomcat)
- Everyone will have accounts already setup on the DB system
- w/ database concurrency is not a problem when storing data
Web Setup

- MIME Settings
  - .jad
    - text/vnd.sun.j2me.app-descriptor
  - .jar
    - application/java-archive

- The settings are preset on Tomcat, but not on other servers.

- http://hydrus.net/midlets
Downloading the Midlet
Running the Midlet

Notice unpredictable errors