

Add/Retrieve

DataStore

JavaBean/Servlet/JSP

System Requirements:

Download Eclipse Helios (DDE)

<http://www.eclipse.org/downloads/>

Google App Engine Account:

<https://developers.google.com/appengine/>

Introduction:

Create a complete application and host it on Google Cloud space. Submit records to DataStore and retrieve back into the application.

Disclaimer: Information contained in the following is presented as is. This tutorial assumes you have basic programming knowledge. All tutorials are based on an Eclipse/Eclipse-based software. Should you need to familiarize yourself with your environment, prior to continuing this tutorial, please stop now and see our Self-Help pages...

GuestBook Demo Application

At this point we assume Eclipse Helios is downloaded/installed and a copy of GuestBook Demo file have been retrieve from Google Code. Copy and paste samples provided below, areas of interest have been highlighted for your convenience.

```
/**
 * Created from copy: 2011.04.30.5.25.PM
 * Bean to be used to access datastore
 * for various Java Applications
 * Program: Greeting.java
 */

package guestbook;

/**
 * @author Dököll Solutions, Inc.
 * @version: 2011.04.30.5.25.PM
 */
import com.google.appengine.api.datastore.Key;
import com.google.appengine.api.users.User;
```

```
import java.util.Date;
import javax.jdo.annotations.IdGeneratorStrategy;
import javax.jdo.annotations.PersistenceCapable;
import javax.jdo.annotations.Persistent;
import javax.jdo.annotations.PrimaryKey;

@PersistenceCapable
public class Greeting {
    @PrimaryKey
    @Persistent(valueStrategy = IdGeneratorStrategy.IDENTITY)
    private Key key;
    @Persistent
    private User author;
    @Persistent
    private String content;
    @Persistent
    private Date date;

    public Key getKey() {
        return key;
    }

    public User getAuthor() {
        return author;
    }

    public String getContent() {
        return content;
    }

    public Date getDate() {
        return date;
    }

    public void setAuthor(User author) {
        this.author = author;
    }

    public void setContent(String content) {
        this.content = content;
    }

    public void setDate(Date date) {
        this.date = date;
    }

    public Greeting(User author, String content, Date date) {
        this.author = author;
        this.content = content;
        this.date = date;
    }
}
```

```

/**
 * Created: 2011.01.22.11.56.AM
 * Servlet Class to allow content to load from user
 */
package dokoll.solutions.Servlets;

/**
 * @author Dököll Solutions, Inc.
 * @version: 2011.01.22.11.56.AM
 */

import java.io.IOException;
import java.util.Date;
import java.util.logging.Logger;
import javax.jdo.PersistenceManager;
import javax.servlet.http.*;
import com.google.appengine.api.users.User;
import com.google.appengine.api.users.UserService;
import com.google.appengine.api.users.UserServiceFactory;
import guestbook.Greeting;
import dokoll.solutions.Main.PMF;

public class GuestbookServlet extends HttpServlet {
    /**
     *
     */
    private static final long serialVersionUID = 1L;
    // maintain a log for audit log purposes
    private static final Logger log = Logger
        .getLogger(GuestbookServlet.class.getName());

    // grab items via post and fill up data fields for jsp form
    public void doPost(HttpServletRequest req, HttpServletResponse resp)
        throws IOException {
        UserService userService = UserServiceFactory.getUserService();
        //current user
        User user = userService.getCurrentUser();
        //field item set for multiline textarea
        String content = req.getParameter("content");

        Date date = new java.util.Date();

        Greeting greetings = new Greeting(user, content, date);
        PersistenceManager pm = PMF.get().getPersistenceManager();
        try {
            pm.makePersistent(postings);
        } finally {
            pm.close();
        }
        resp.sendRedirect("/guestbook.jsp");
    }
}

```

```

/**
 * @AppName GuestBook
 * Program: guestbook.jsp
 * Create from copy: 2011.04.30.5.25.PM
 * JSP Code for GuestBook Application
 *
 */

/**
 * @author Dököll Solutions, Inc.
 * @version: 2011.04.30.5.25.PM
 *
 */

<%@ page contentType="text/html;charset=UTF-8" language="java"%>
<%@ page import="java.util.List"%>
<%@ page import="javax.jdo.PersistenceManager"%>
<%@ page import="com.google.appengine.api.users.User"%>
<%@ page import="com.google.appengine.api.users.UserService"%>
<%@ page import="com.google.appengine.api.users.UserServiceFactory"%>
<%@ page import="guestbook.Greeting"%>
<%@ page import="guestbook.PMF"%>

<html>

<body>

<%
    UserService userService = UserServiceFactory.getUserService();
    User user = userService.getCurrentUser();
    if (user != null) {
%>

<div id="photolayer" style="z-index: 1; left: 5px; top: 50px; width: 100%;
height: 20px; background-color:linen; layer-background-color:#003366; visibility:
visible">

<p><b>User</b> :: <%= user.getNickname() %> :: <a href="<%=
userService.createLogoutURL(request.getRequestURI()) %>">Logout</a></p></div>
<%
    } else {
%>
<div id="photolayer" style="z-index: 1; left: 5px; top: 50px; width: 100%;
height: 20px; background-color:linen; layer-background-color:#003366; visibility:
visible"> <p><b>User</b> :: Anonymous :: <a href="<%=
userService.createLoginURL(request.getRequestURI()) %>">Login</a></p></div>
<%
    }
%>
<%
    PersistenceManager pm = PMF.get().getPersistenceManager();
    String query = "select from " + Greeting.class.getName();
    List<Greeting> greetings = (List<Greeting>) pm.newQuery(query)
        .execute();
    if (greetings.isEmpty()) {
%>
<p>No Journal Entries...</p>
<%

```

```

    } else {
        for (Greeting g : greetings) {
            if (g.getAuthor() == null) {
%>

<p><b>Anonymous</b><br><img src = "files/images/JournalEntryCommLogo.bmp"></img>
</p>
<%
    } else {
%>
<p><b><%=g.getAuthor().getNickname() %></b><br><img src
="files/images/JournalEntryCommLogo.bmp"></img> </p>

<%
    }
%>
<div id="photolayer" style="z-index: 1; left: 5px; top: 50px; width: 100%;
height: 100px; background-color:beige; layer-background-color:#003366; visibility:
visible">
<p><u>blockquote</u><font color="navy"><%=g.getContent() %></font></blockquote></p></div>

<%
    }
    }
    pm.close();
%>

<form action="/gsign" method="post">
<a href="#" title = "Please add only sample/tutorial trial results...
Questions will not be answered(see example)." >What's this:</a> No Questions, just
results... <a href="#" title="Thank you for this tutorial. However, I had an
error: 'MyBean.java cannot be found', the following attempt did not work:

(1) referenced JavaBean in faces-config.xml file
(2) cleaned the project, restarted IDE and App
(3) URL: www.dokollolutionsinc.com/CutAndPasteLinks.html

Just reporting my findings, thanks again!">Posting Example</a>
<div><textarea name="content" rows="3" cols="60"></textarea></div>
<div><input type="submit" value="Submit" /> </div>
</form>
</body>
</html>

/**
 * web.xml
 * Servlet code for GuestBook Application
 *
 */

<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns="http://java.sun.com/xml/ns/j2ee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://java.sun.com/xml/ns/j2ee
http://java.sun.com/xml/ns/j2ee/web-app_2_4.xsd"
version="2.4">

```

```

    <!-- Servlets -->
    <servlet>
        <servlet-name>greetServlet</servlet-name>
        <servlet-
class>dokoll.solutions.Main.server.GreetingServiceImpl</servlet-class>
    </servlet>

    <servlet>
        <servlet-name>gsign</servlet-name>
    <servlet-class>guestbook.GuestbookServlet</servlet-class>
    </servlet>

    <servlet>
        <servlet-name>HelperGuestbookServlet</servlet-name>
        <servlet-
class>dokoll.solutions.Servlets.HelperGuestbookServlet</servlet-class>
    </servlet>

    <servlet-mapping>
        <servlet-name>greetServlet</servlet-name>
        <url-pattern>/systems_development/greet</url-pattern>
    </servlet-mapping>

    <servlet-mapping>
        <servlet-name>gsign</servlet-name>
        <url-pattern>/gsign</url-pattern>
    </servlet-mapping>

    <servlet-mapping>
        <servlet-name>HelperGuestbookServlet</servlet-name>
        <url-pattern>/helperguestbookServlet</url-pattern>
    </servlet-mapping>

    <!-- Default page to serve -->
    <welcome-file-list>
        <welcome-file>guestbook.jsp</welcome-file>
    </welcome-file-list>

</web-app>

/**
 * appengine-web.xml
 * Servlet code for Application Cloud Space
 *
 */

<?xml version="1.0" encoding="utf-8"?>
<appengine-web-app xmlns="http://appengine.google.com/ns/1.0">
    <application>your-appengine-appID</application>

```

```

<version>1</version>

<!-- Configure serving/caching of GWT files -->
<static-files>
  <include path="*" />

  <!-- The following line requires App Engine 1.3.2 SDK -->
  <include path="**.*.nocache.*" expiration="0s" />

  <include path="**.*.cache.*" expiration="365d" />
  <exclude path="**.*.gwt.rpc" />
</static-files>

<!-- Adding sessions 2011.05.28.9.22.PM -->

<sessions-enabled>true</sessions-enabled>

<!-- Configure java.util.logging -->
<system-properties>
  <property name="java.util.logging.config.file" value="WEB-
INF/logging.properties"/>
</system-properties>

</appengine-web-app>

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 * @version: 2011.01.22.11.56.AM
 */

import java.io.IOException;
import java.util.Date;
import java.util.logging.Logger;
import javax.jdo.PersistenceManager;
import javax.servlet.http.*;
import com.google.appengine.api.users.User;
import com.google.appengine.api.users.UserService;
import com.google.appengine.api.users.UserServiceFactory;
import guestbook.Greeting;
import dokoll.solutions.Main.PMF;

public class GuestbookServlet extends HttpServlet {
  /**
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  private static final long serialVersionUID = 1L;
  // maintain a log for audit log purposes
  private static final Logger log = Logger
    .getLogger(GuestbookServlet.class.getName());

  // grab items via post and fill up data fields for jsp form
  public void doPost(HttpServletRequest req, HttpServletResponse resp)

```

```

        throws IOException {
    UserService userService = UserServiceFactory.getUserService();
    //current user
    User user = userService.getCurrentUser();
    //field item set for multiline textarea
    String content = req.getParameter("content");
    Date date = new java.util.Date();
    Greeting greetings = new Greeting(user, content, date);
    PersistenceManager pm = PMF.get().getPersistenceManager();
    try {
        pm.makePersistent(postings);
    } finally {
        pm.close();
    }
    resp.sendRedirect("/guestbook.jsp");
}
}

```

Step 1:

Create GuestBook Application:

Set up a JavaBean *Greeting.java*, connect it to *GuestbookServlet.java* Servlet and use with a Java Server Pages file to add/retrieve Google DataStore items.

1. Go to Eclipse Helios Project Explorer
2. Expand project folder, where necessary
3. Right-click on 'src' folder
4. Go to New, then Class
5. Repeat above to create Servlet
6. Create JSP page, add web XML samples
7. Run the Application

Note:

At this point, you should have already set up a Google App Engine account to promote/deploy your application to *appspot.com* servers. See supporting documnetation below:

Added info:

<https://developers.google.com/appengine/>

<https://developers.google.com/appengine/docs/java/gettingstarted/usingjsps>

Conclusion:

We recommend writing a different version of this in JSF for scalability purposes...

Questions, comments, please post a brief message on our form. Thank you for coming...