Customizing Tomcat
WebVoyage

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Who am I?

★ Field test partner for the first release of Voyager 7.
★ First library to go public with the Tomcat WebVoyáge interface.
★ I am not a programmer.
★ We still rely on WebVoyáge as our primary interface (we don’t have Primo/etc.)
Agenda

★ Tomcat Overview
★ Cascading Style Sheets
★ XML/XSL
★ webvoyage.properties
★ Quick Changes
★ Resources & Tools
★ When You Upgrade
★ Why Tomcat?
Tomcat

🌟 An over-used term
🌟 Actually a Java Virtual Machine that works with Apache
🌟 We’ve come to use it to designate the “new” WebVoyáge interface, as opposed to the “classic” one.
Tomcat Overview

★ Different toolsets (CSS, XML, XSL, JavaScript).
★ Content is **dynamically** generated.
★ Information from the Voyager database (and other sources like Google or Amazon) is combined with formatting properties of CSS, etc. to render displays.
★ myAccount page = myAccount.xsl + cl_myAccount.xsl + myAccountLinks.xsl + myAccount.css + stdImports.xsl (and others!)
Figure 2-2. Flowchart example for myAccount page
Out of the Box

★ Tomcat “out of the box” is designed to be attractive and functional.
★ Various searches are preconfigured (basic, advanced, subject, author).
★ Default functions (limits, sorting) are working.
★ Format icons in results list.
★ Google books embedded in record display “Action Box.”
Tomcat “Out of the Box”
Tomcat “Out of the Box”
Tomcat “Out of the Box”

Special and general relativity: with applications to white dwarfs, neutron stars and black holes /

Title: Special and general relativity: with applications to white dwarfs, neutron stars and black holes / Norman K.

Author: Glendenning, Norman K.


ISBN: 0387471065 (hbk.)
0798367471068 (hbk.)

Format: Book

Subjects: General relativity (Physics)
Special relativity (Physics)
White dwarf stars
Neutron stars
Black holes (Astronomy)

Held at: Local Database

Holdings Information

Location: Book Stacks (Floors 2, 2M & 3)
Call Number: QC173.8 .G65 2007
Number of items: 1
Status: Not Charged

Only one patron view
Out of the Box

★ As we’ve seen it is pretty functional.
★ There are a few things you’ll probably want to change right away and we’ll talk about those later.
★ Meantime, in order to make changes you must understand Tomcat and how it works.
★ Here the Architecture manual comes in very handy. Read it! Really!
What *is* she talking about?

- Working with Tomcat means working with a set of files that live in directories on your Voyager server.
- As we’ll see, these files are of various types. All, though, are *text* files that are *editable*.
- But you must have server access via WinSCP or PuTTY or some other method.
Skins

★ A skin is a user interface’s appearance.
★ In the U.S. the default skin is /en_US.
★ /exl_default is the (‘read-only’) skin. Never mess with it (note it is not really read-only!).
★ To make a new skin:

    cd /ml/voyager/xxxdb/tomcat/vwebv/context/vwebv/ui
    cp -pr en_US new_skin
/ui/en_US [“skin”]
Organization

One of several skin directories
Recall the myAccount page example:
- myAccount.xsl
- myAccountLinks.xsl
- cl_myAccount.xsl (cl = content layout)
- myAccount.css

In reality over 12 files are used to build the page! css, xsl, xml, etc.

Naming is used to show relationships between files that build the HTML (the header, footer, and the main content).
Questions?
Cascading Style Sheets

- CSS is used to describe the presentation of a document.
- Controls colors, fonts, layouts, etc.
- Processed hierarchically.
- Specified priorities allow one style sheet to override another style sheet.
- “Baseline controls” are used in combination with page-specific controls.
- Bad CSS code can’t break your OPAC, but...
Main Navigation Bar

- Search
- My Searches
- My List
- My Account

Basic Search

Database: My Library Catalog

Search Tab Navigation Bar

- Basic
- Advanced
- Subject
- Author
- Course Reserve

Search History

Search: [Input field]
Limit To: [All Material]
Records per page: [10 records per page]

Search Tips: enter words relating to your topic, use quotes to search phrases: "world wide web", use + to mark essential terms: +explorer, use * to mark important terms: *internet, use ? to truncate: browser?
Important CSS Files

These are the baseline defaults used in almost every page:

– pageProperties.css
– quickSearch.css
– header.css
– frameWork.css

...And within a given control the latest rule “wins”
pageProperties.css

★ Trumps all other baseline controls
★ Search tips font sizes and colors
★ Instruction text font sizes and colors
★ My Account instructions font sizes and colors
★ Error text font sizes and colors
★ Block messages font sizes and colors
Larger font

**Mines** users enter your 8-digit I.D. and Last Name, then click the Log in button (call 303-273-3022 for help).

**Guests** who want to request an item should contact Interlibrary Loan at 303-273-3899.
quickSearchBar.css

★ Color of bar
★ Positions of elements within bar (form, “Go” button, search history graphic, labels, etc.)
★ Font sizes and colors; text alignment and decoration

```
/* quickSearchBar */

#quickSearchBar form {
    margin: 0;
    padding: 0;
}

#quickSearchBar {
    background-color: #000000;
    border-color: #888888 -moz-use-text-color;
    border-style: solid none;
    border-width: 1px 0;
    margin-top: 1px;
    padding: 1px;
```

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![Catalog Arthur Lakes Library Search Bar](image)

---

![Preferences/Quick Search Bar](image)
header.css

- Position of tabs, horizontal and vertical
- Space provided for header and footer
- Placement of patron login and help links
- Font sizes and colors; alignment
- Default pointer for components in header
- Position and placement of logo image
- Library link and copyright details in footer
frameWork.css

⭐ Every page uses it.
⭐ Font sizes and colors; alignment
⭐ Header size; position of components
⭐ Footer size; position of components
⭐ Hyperlink colors
⭐ Border width and height
⭐ Position of main content
Other Important CSS Files

- resultsFacets.css (titles list)
- displayRecord.css (field positioning)
- myAccount.css (font sizes, colors)
- highLight.css (highlight color)
- displayCommon.css (action box, field tags, book covers)
Changing CSS

★ Some CSS changes are easy (for example, colors and other changes that don’t alter the structure of the page).
★ Other CSS changes are hard (like the ones that move elements such as search boxes around the page).
★ All CSS changes require testing in various browsers and different display types.
★ Don’t forget Firebug!
CSS Resources

★ CSS Zen Garden: http://www.csszengarden.com

★ Firebug home: http://getfirebug.com (more on this when I talk about tools)

★ W3Schools CSS Tutorial: http://www.w3schools.com/css/default.asp
Questions?
XML/XSL


★ XSL (Extensible Stylesheet Language): takes input from other components, allows one to format or transform files encoded in the XML standard – What displays and how.

★ Both are touchier than HTML.
Important XSL Files

- displaycfg.xml
- displayHoldings.xml
- pageProperties.xml
- limits.xml
- display.xsl
- frameWork.xsl

The logic of what displays

What displays and how
displaycfg.xml

- Found in /contentLayout/configs
- Configure bibliographic record display.
- Decide which MARC tags to include.
- Add Syndetics or other book covers to the record display.
- Change labels that describe Bibliographic MARC fields.
- Change the display order of the MARC fields.
- Set up redirects (author, title, series, etc).
displayHoldings.xml

- Found in /contentLayout/configs
- Configure Holdings/Items record display.
- Decide which MARC tags to include.
- Change labels that describe MFHD MARC fields and Item statuses.
- Change the display order of the MARC fields.
- Holding redirects (Call Number redirect!).
display.xsl

- Found in contentLayout/display
- Like most xsl a very intimidating-looking file!
- How the data in the displaycfg.xml and displayHoldings.xml files displays.
- Change how something looks or behaves on the record display page.
pageProperties.xml

- Found in /userTextConfigs
- Change order or remove search tabs ("Basic" etc.)
- Change order of Browse bar buttons ("Print" etc.)
- Edit search tips for each search page
- Provide instructions for various activities
- Modify labels for Bib format/description
- Edit hover text (banner, Help, etc.)
- Customer add-ons: newBooks, spellcheck
frameWork.xsl

★ Found in /pageTools
★ Takes input from numerous components including xml, js and css files as well as templates.
★ Generates the **HTML output** including a header, quick search, main content, and a footer.
★ This is where you turn debugging on.
limits.xml

- Found in xsl/userTextConfigs
- Identify the specific entries that are included on the Advanced Search page
- Relates to the different limit groups
  - format
  - status
  - type
  - language
Other Important xml Files

- emailcfg.xml (labels, tag selection)
- emailBody.xsl (address info)
- printCommon.xsl (address info)
- briefRecordconfig.xml (labels, tags)
- fullRecordconfig.xml (labels, tags)
- 104X_config.xml (NISO or Standard)
XML Resources

★ W3Schools Online Web Tutorials (including tutorials on XML, XPath, and XSL):
   http://www.w3schools.com/

★ WebVoyage “Show XML” button in ...
   .../[skin]/xsl/pageTools/frameWork.xsl (change “false” to “true” to use for troubleshooting)
Questions?
webvoyage.properties

★ Located under /en_US
★ Organized into three main sections:
  – Options (controls system behavior)
  – Connections (customize database connections)
  – Page Customizations (page-level customizations)
★ Each section has stanzas.
★ Huge, complicated, important...
Options Section

★ Where to go after logout or timeout.
★ Retain last used Basic search code.
★ Timeout setting (if you change this you may have to change the Tomcat timeout in web.xml).
★ Set up external authentication.
Connections Section

★ Create one or more groups of remote database connections.
★ Enable setting of preferred database.
Customizations Section

★ Over 2000 lines!
★ Search codes
★ Headers and footers
★ Action Box
★ Quick Limits ("Limit To:"
★ Quick Search bar
★ Enable email
★ Library Database Name
★ And much, much more...
The World is Your Oyster!
Quick Changes

⭐ Banner
⭐ Get rid of “start page” & fix “error page”
⭐ Page Footer
⭐ Search Types on Basic Search Page
⭐ Quick Limits
⭐ Search Page Names and Tabs Text
⭐ Enable Email, SDI
⭐ Disable Holdings Jump Bar
⭐ Help Pages
But First a Word From Our Sponsor

★ Back up your file before editing!
★ Comment your work!
★ Make changes one at a time!
★ Move & test changed files in one at a time!
★ Keep previous versions of good files!
★ TEST! TEST! TEST! TEST! TEST EARLY! TEST OFTEN!
Make a Wish List (actual example!)

- Spell Check
- New Search box (constant on every page)
- More information and location of item on the title list
- Able to use *and, or, not* in your search string
- Limits on the front page (not a buried button)
- Export to end note or ref works
- Browse this shelf
- Cite this item
- Time out warning
- Mobile application/skin
- Action Box on right side
- Cover art
Document Your Changes

1. Remove *Course Reserve* button

in: .../xxxskin/xsl/userTextCongfigs/pageProperties.xml, lines 84 and 86:

```xml
<!--
<tab name="page.search.buttons.courseReserve.button"/>
-->
Banner Image (Logo)

- Specified in webvoyage.properties (line 300).
- Don’t change the default filename.
- Easiest of you leave it the original size (175 pixel width by 35 pixel height).
- Create a transparent gif if you want it to work better with the default background.
- Default background is a .png file
- Put your new file in /images
- Test in a variety of browsers and display types.
- Hover text in pageProperties.xml
Database Name

★ Specified in webvoyage.properties (line 235).

connect.db.LOCAL.name=The Catalog contains information about print and electronic books, print and electronic journals, government documents, maps and other materials at the Arthur Lakes Library, Colorado School of Mines.

Basic Search
Welcome: The Catalog contains information about print and electronic books, print and electronic journals, government documents, maps and other materials at the Arthur Lakes Library, Colorado School of Mines.
Bypass Default Start Page

★ Most sites don’t want to use. Edit:
.../vwebv/context/vwebv/htdocs/index.html

★ Change contents to (example!):

<script language="javascript">
    window.location.href="http://catalyst.coalliance.org
    /vwebv/searchBasic?sk=en_US"
</script>
Fix Error Page Redirect Link

★ Change default to the correct redirect. Edit:

/m1/voyager/csmdb/tomcat/vwebv/context/vwebv/error_500.html

★ Default set to a 10 second delay

★ Static HTML lets you change wording on this page, too!

★ (Don’t forget to change exit.do URL in webvoyage.properties)
Page Footer

★ Go to: webvoyage.properties file (line 340).
★ Look for “Footer” section or stanza and customize:

- `page.footer.library.linktext=Your Library Name Here`
- `page.footer.library.link=http://your.librarylink.here`
Timeout

★ Changes made in **two** different files:
  – webvoyage.properties
  – web.xml

★ Read the comments in both files!

★ Jim Robinson’s code allows you to make the feature more user-friendly:

![Session Timeout](image)
Customize Basic Search Types

★ Go to: webvoyage.properties file.
★ Basic Search Codes stanza.
★ Review the instructions there.
★ Decide on your search types, their order of display, how they should behave, and how they should be labeled.
★ There are four lines per code per entry (as we see in the next slide)
Modify Search Codes & Labels

★ Example (active):

```plaintext
page.search.basic.search.code.leftAnchorTitle=
page.search.basic.search.code.leftAnchorTitle.code=TALL
page.search.basic.search.code.leftAnchorTitle.order=5
page.search.basic.search.code.leftAnchorTitle.display=Title Begins With
```

★ Example (inactive; commented out):

```plaintext
#page.search.basic.search.code.titleKeyAnd=
#page.search.basic.search.code.titleKeyAnd.code=TKEY^ 
#page.search.basic.search.code.titleKeyAnd.order=10 
#page.search.basic.search.code.titleKeyAnd.display=Title Keyword
```
Commenting

★ Come up with a local “best practices”
★ **Standardize** how you comment
★ Include description, initials, date, line number at top of file
★ Comment sections within body of code
★ Always keep known, good versions of files
★ **NOTE** that different types of files (xml, css, etc.) have different ways to comment
★ **BE CAREFUL OF COMMENTING INCORRECTLY!**
Search Code Options

★ There are many options for keyword, headings and call number searches.
★ For example, keyword searches can be set to sort with relevancy, or be set to have an implied AND between search terms.
★ This is well-documented in the manuals.
Customize Advanced Search

- Search indices are from SYSADMIN Keyword Definitions (unless OPAC suppressed)
- Does not use relevancy ranking
- Search order dependent upon usage
- Name is pulled from SYSADMIN unless hard coded in the webvoyage.properties Search Index Definitions stanza (see next slide).
Advanced Search Index
Labels

#===================================================
======#
# Search Index Definitions
# =======================
# Search Index definitions are used on the Advanced search page. This section
# allows the name of the index to be changed from what is defined in Sysadmin.
# The order of these entries is controlled by the database.
#===================================================
======#
search.index.GKEY=
search.index.GKEY.display=Keyword Anywhere
Search Results

Displayed fields (max 3) come from SYSADMIN:

1. **Axions: theory, cosmology, and experimental searches** / M. Kuster, G. Raffelt, B. Beltrán, (eds.).
   - 2008
   - QC793.5.B62 A95 2008
   - Available, Book Stacks (Floors 2, 2M & 3)

2. **Particle and astroparticle physics** / Utpal Sarkar.
   - Sarkar, U. (Utpal)
   - 2008
   - QC793 .S27 2008
   - Available, Book Stacks (Floors 2, 2M & 3)

   - Moffat, John W.
   - 2008
   - QC178 .M64 2008
   - Available, Book Stacks (Floors 2, 2M & 3)
Search Tips

★ Go to: pageProperties.xml file.
★ Can contain HTML code
★ Position of tip (above or below)

Students, Members, Faculty & Staff Log In

Log in using my Institution I.D.

Id: 

Last Name: 

Log in

**Mines** users enter your 8-digit I.D. and Last Name, then click the **Log in** button (call 303-273-3022 for help).

**Guests** who want to request an item should contact Interlibrary Loan at 303-273-3899.
Modify Quick Limits

★ Go to: webvoyage.properties file.
★ Find the: Limit To stanza.
★ Used both in Basic Search and post-search filtering.
★ Decide what limits you want to use, their order, display name.
★ Each entry has four lines (as we see in the next slide).
★ Recent change allows dual-criteria!
Limit To Stanza

★ Example:

```ruby
page.search.limitTo.selected=none
page.search.limitTo.none=
page.search.limitTo.none.limit=none
page.search.limitTo.none.order=1
page.search.limitTo.none.text=All Library Locations
#
page.search.limitTo.Archive=
page.search.limitTo.Archive.limit=LOCA=Archive
page.search.limitTo.Archive.order=2
page.search.limitTo.Archive.text=Mining History Archive
```
Enable Email

★ Go to: webvoyage.properties file.
★ By default disabled. Need SMTP relay server.
★ “Action Box” text:
  actionBox.actions.email.linkText=E-mail
★ Search Results bar:
  page.searchResults.browseBar.email.button=E-mail
  page.searchResults.browseBar.email.button.message=E-mail the search results
★ option.email (& etc.) variables:
  option.email=Y
  mail.host=
  mail.transport.protocol=smtp
  mail.user=voyager
  mail.subject=Search Results
Enable SDI

★ Go to: webvoyage.properties file.
★ By default disabled. Need SMTP relay server.
★ SDI emails require ./Popacjob –j2 on server.
★ option.SDI variable:

```java
option.SDI=Y
```
Disable Holdings Jump Bar

- webvoyage.properties file.
- Primarily used for multi-database sites

```
db.holdings.jumpBar=N
```
Search Window Titles & Headings

- webvoyage.properties file.
- Search Basic stanza.

page.search.subject.title= WebVoyáge Subject Search

page.search.subject.heading= Subject Search
Search “Button” (Tab) Text

★ webvoyage.properties file
★ Search Pages stanza.
★ Example:

```java
page.search.buttons.author.button=Photographer
page.search.buttons.author.message=Search by Photographer
```

Photographer Search

Database: The Image Database provides access to historical and recent images of mining.
Help Pages

★ Importance depends on other available documentation.

★ Found in:
/xxxdb/tomcat/vwebv/context/vwebv/ui/en_US/htdocs/help

★ Static, independent HTML pages

★ Content and appearance totally customizable.
More Quick Changes

- Print Record info (printCommon.xsl)
- Email Record info (emailBody.xsl)
- Remove "Database: local database" content from Holdings display (displayHoldings.xml display tag 1002)
- Remove "More about this item from SFX"
- Customize your login page text (pageProperties.xml and webvoyage.properties)
Many Other Easy Changes

⭐ Can be found in the Architecture Manual:
  – Favicon
  – Disable AutoComplete
  – Add a Persistent Link to the record display
  – Google Analytics
  – Etc.
Quick Changes (Not!)

★ Colors are more **difficult** than one might think.
★ Some changes are CSS others are images.
Tab Colors

The tabs (for both the header and the search tabs) are one of the few elements of the pages that are constructed with images. To change the colors, you need to replace those images. The easiest way to do it, though, is by editing those files using an application like PaintShop to replace the existing colors with what you would like to use.

Each tab is composed of *two* images—a thin one on the left and a wide one (that stretches to the appropriate width) on the right. Both images have the same color, and there are two different versions of each image for active and inactive (for a total of four images per tab type). The images are all located in:

```
/m1/voyager/xxxdb/tomcat/vwebv/context/vwebv/ui/your_SKIN/images/
```

- search_nav_right_off.gif — standard wide side
- search_nav_left_off.gif — standard thin side
- search_nav_right_on.gif — active (mouseover/selected) wide side
- search_nav_left_on.gif — active (mouseover/selected) thin side
Search Form Colors

★ Update searchPages.css to change the color of the search form itself, as well as the little line between the active search form and its tab.

```css
#searchForm
{
    background-color: #ccccff; border: 1px solid #000; clear: left;
    margin: 0px; padding: 0px;
}
#searchNav li#on a, #searchNav a:hover
{
    color: #333; border-bottom: 1px solid #ccccff; cursor: pointer;
}
```
Quick Search Bar Color, etc.

★ Colors live in many other places.
★ For example: resultsFacets.css for browse bars at top and bottom of results and the alternating row colors in the results list.
★ Also: quickSearchbar.css
★ Header background: img_headerBackground.png
More Complex Changes

★ Can be found in the Architecture Manual:
  – Separate display for serials
  – Displaying book cover images
  – Add new record view
  – Hide limits on the Advanced Search page
  – External authentication
  – Add a new Search Tab (i.e., newBooks)
  – Add a new Header Tab (i.e., Exit)
Customer-created “add-ons”

- Never quite know what to call these
- Michael Doran’s NewBooks
- Jim Robinson’s Spellchecker
- Maccabee Levine’s Virtual Bookshelf
- Mobile Skin (various authors)
Questions?
Resources & Tools

★ Architecture Manual, Basic Users Guide, etc.
★ WebVoyáge Highlights (John Larson’s posts)
★ Voy-L, WIKI, KB, EL Commons, CodeShare, etc.
★ Jim Robinson/Michael Doran web sites.
★ WinSCP
★ UltraEdit / WinMerge
★ Firebug
★ Name That Color
★ GIMP
UltraEdit
WinMerge

★ Heard good things about it.
★ Haven’t used it.
★ Open Source, free.
★ Compares both folders and files.
★ Presents differences in an easy to understand visual text format.
★ http://winmerge.org
Firebug
Name that Color

Click & drag over the Color Wheel to make a color

Cornflower Blue

Select a Color:

Your Color: #6195ED

RGB: 97, 149, 237

Outer box: Your selected color. Inner box: Actual color of closest match.
GIMP
When You Upgrade

★ Where the do-do hits the fan.
★ “Easy to create, hard to maintain.”
★ New Tomcat files moved into exl_default.
★ New files need to be moved to your production directories.
★ Any changes/customizations you made need to be recommitted into the new files.
★ UltraEdit “Compare” function is great!
When Things Go Wrong

★ Upgrade logs
/m1/incoming/v720/vik/logs/voyager_installation.log
/m1/incoming/patch/voy723_Files/logs/PatchLog.voy723
/m1/voyager/upgrade/2007.2.0/xxxdb/upgrade/log.xxxdb.upgrade
/m1/voyager/utility/2007.2.0/xxxdb/log.xxxdb.regen
/m1/incoming/v720/voy<VER>_Files/logs/PatchLog.voy<VER>

★ Software logs
/m1/voyager/xxxdb/tomcat/vwebv/logs/catalina.out
/m1/voyager/xxxdb/tomcat/vxws/logs/catalina.out
/m1/voyager/xxxdb/log/log.voyager
/m1/shared/apache2/logs/

★ Find Command
find /m1/incoming/v720 -type f -name "*[Ll]og*" -ls
Why Tomcat?

★ You can create different skins for different contexts.
★ Persistence: Copy any URL and use it later.
★ Reliance on CSS means broad customization is possible.
★ XSL allows you to easily add small, static elements (or even dynamic content)
★ XML allows sophisticated customizations
★ Independent definition of elements
★ WAY Better “out of the box”
★ Accessibility & Compliance
Basic Search
Welcome. The Library Catalog contains information about print and electronic books, print and electronic journals, government documents, maps and other materials at the Arthur Lakes Library.

<table>
<thead>
<tr>
<th>Basic</th>
<th>Advanced</th>
<th>Subject</th>
<th>Author</th>
<th>Course Reserve</th>
<th>New in the Catalog</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search:</td>
<td>within</td>
<td>Keyword Anywhere (relevance ranked)</td>
<td>Limit To: All Material</td>
<td>Records per page: 50 records per page</td>
<td></td>
</tr>
</tbody>
</table>

Search Tips: enter words relating to your topic, use quotes to search phrases: "civil war". use + to mark essential terms: +explorer, use * to mark important terms: *internet, use ? with partial words to find variant endings: comput? Use the Limit To drop-down with Keyword and Title searches only. For best results, use Internet Explorer 7 or Firefox 2.0 at minimum 1024 x 768 screen resolution. See "Help" for additional information.

Search the Catalog from your mobile device
Questions?
Thank you for attending!

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