GWT 2.0

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About me
• write AJAX applications in Java
• compile to JavaScript
• open source

http://code.google.com/webtoolkit/
GWT 2.0

released on December 8, 2009
GWT 2.0.4 is now available
Posted by Chris Ramsdale - Wednesday, June 30, 2010 at 2:09:00 PM

Recently Apple released Safari 5, which included a bug where non-integral right-shifts were not being evaluated properly. There were several reports, both internally and externally, of GWT-based applications unexpectedly crashing when running in Safari 5 (including Google Wave). Upon further inspection of the crash, we determined that the bug is triggered when calling several of GWT’s array sorting methods, which in turn perform non-integral right-shifts as part of the compiled code.

That’s the bad news. The good news is that we have a fix for this issue, plus several other house keeping items that we’ve rolled into a 2.0.4 release, which can be downloaded from GWT’s main download site.

If you’re experiencing the Safari crash, you’ll need to recompile and deploy your GWT app. The changes in 2.0.4 are completely compatible with your existing 2.0 app, and should have no negative impact. To that extent we’ve already dogfooed 2.0.4, verifying that it fixes the Wave crash that was originally reported.
New features in GWT 2.0

• Development Mode
• Speed Tracer
• Developer guided code splitting
New features in GWT 2.0

- Compiler optimizations
- Draft Compile
- Declarative User Interfaces (*UiBinder*)
New features in GWT 2.0

- Layout panels
- Bundled resources via ClientBundle
- HtmlUnit for testing
Development Mode
Development Mode

Development Mode requires the Google Web Toolkit Developer Plugin

By downloading, you agree to the Terms & Conditions and Privacy Policy.

Download the GWT Developer Plugin
For Firefox

plugins for other systems

For help or troubleshooting, ask questions in the discussion group.
Development Mode
Development Mode
Development Mode

![Firefox logo](image1.png)

![Google logo](image2.png)

**Add-ons**

- **Delicious Bookmarks** 2.1.072
  Access your bookmarks wherever you go and keep them organized no matter how many you have.

- **DOM Inspector** 2.0.4
  Inspects the structure and properties of a window and its contents.

- **Firebug** 1.3.3b1
  Web Development Evolved.

- **Flashblock** 1.5.11.2
  Replaces Flash objects with a button you can click to view them.

- **Google Gears** 0.5.33.0
  These are the gears that power the tubes! :-(

- **Google Web Toolkit Developer Plugin for Firefox** 1.0.7263
  A plugin to support GWT development-mode in XPCOM-based browsers

  ![Preferences](image3.png)

  ![Disable](image4.png)  ![Uninstall](image5.png)

  ![Find Updates](image6.png)
Google Plugin for Eclipse

The Google Plugin for Eclipse is the fastest way to start developing Google Web Toolkit and App Engine applications, letting you go from installing the plugin to deploying an Ajax "Hello World" in minutes. See the Quick Start guide to install the plugin and create your first web application. Don't worry if you don't already have the GWT and App Engine SDKs; the plugin installation can download them for you.

The plugin currently supports Google Web Toolkit and Google App Engine development. Here are just a few of the features the plugin provides to speed your development process:

New Web Application Wizard
Quickly create web applications that use GWT and/or App Engine. Your new application is fully-configured and ready to go.

Web Application Launch Configurations
Run or debug your web application locally using custom launch configurations.
Google Plugin for Eclipse

Preferences

Web Toolkit

Add, remove or download SDKs.

By default, the checked SDK is added to the build path of newly created projects.

SDKs:

<table>
<thead>
<tr>
<th>Name</th>
<th>Version</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>GWT</td>
<td>1.7.1</td>
<td>/Applications/eclipse-3.5/plugins/com.google.gwt</td>
</tr>
<tr>
<td>GWT 2.0.0</td>
<td>2.0.0</td>
<td>/usr/local/gwt-2.0.0</td>
</tr>
</tbody>
</table>

Add...  Remove  Download...
Google Plugin for Eclipse
Google Plugin for Eclipse

![Image of GWT Compile dialog box](image-url)
Layout panels in GWT 2.0

• relies on the browser’s layout engine
• works correctly in browser’s standards mode
Layout panels in GWT 2.0

- `com.google.gwt.user.client.RootLayoutPanel`
- `com.google.gwt.user.clientLayoutPanel`
- `com.google.gwt.user.client.ui.DockLayoutPanel`
Layout panels in GWT 2.0

- `com.google.gwt.user.client.ui.SplitLayoutPanel`
- `com.google.gwt.user.client.ui.StackLayoutPanel`
- `com.google.gwt.user.client.ui.TabLayoutPanel`
UiBinder

- declarative layout
- XML
- UiBinder constructs HTML at compile time
<!-- HelloWorld.ui.xml -->

<ui:UiBinder xmlns:ui='urn:ui:com.google.gwt.uibinder'>
  <div>
    Hello, <span ui:field='nameSpan'/>.
  </div>
</ui:UiBinder>
public class HelloWorld extends Widget {
    interface MyUiBinder extends UiBinder<DivElement, HelloWorld> {}
    private static MyUiBinder uiBinder = GWT.create(MyUiBinder.class);

    @UiField SpanElement nameSpan;

    public HelloWorld() {
        // createAndBindUi initializes this.nameSpan
        setElement(uiBinder.createAndBindUi(this));
    }

    public void setName(String name) { nameSpan.setInnerText(name); }
}
UiBinder

- `com.google.gwt.uibinder.client.UiBinder`
- `com.google.gwt.uibinder.client.UiField`
ClientBundle

- bundle images, CSS, data, and other resources

- For more information, see http://code.google.com/webtoolkit/doc/latest/DevGuideClientBundle.html
Interface ClientBundle

All Known Subinterfaces:

public interface ClientBundle

The use of this interface is similar to that of ImageBundle. Declare no-argument functions that return subclasses of ResourcePrototype, which are annotated with ClientBundle.Source annotations specifying the classpath location of the resource to include in the output. At runtime, the functions will return an object that can be used to access the data in the original resource.
As of 2.0, GWTTestCase no longer uses SWT or native code. Instead, it uses HtmlUnit as the built-in browser. [...] Debugging GWT Tests in development mode can be done entirely in a Java debugger
Unit testing with GWT 2.0

By default, GWT runs HtmlUnit in the Firefox3 emulation mode

source: google.com
Unit testing with GWT 2.0

Because HtmlUnit is a GUI-less browser, layout cannot be tested on HtmlUnit.
... correct tests can sometimes fail on HtmlUnit, either because the HtmlUnit support for that feature is lacking or because of HtmlUnit’s issues with flakiness when running asynchronous tests.

source: google.com
Code splitting

• allows you to chunk your GWT code into multiple fragments for faster startup

• aka “developer guided code splitting”

• For more information, see

Speed Tracer

The image shows a web browser window with the Extensions page of Google Chrome. The browser is open to the Extensions page, and among the listed extensions, there is one entry for Speed Tracer (by Google) - Version: 0.6. The description suggests that it provides insight into the performance of web applications.
Speed Tracer
Demo #1

- GWT 2.0
- HTML 5
- WebSockets
Quake II and the Quake logo are trademarks of id Software.

Note: We recently reset the repository to clean some things up, so if you cloned it you may find that the commit ids no longer match, and you'll need to re-clone. Our apologies for any inconvenience.

Quake II GWT Port

The Quake II GWT port brings the 3d gaming experience of Quake II to the browser.

In the port, we use WebGL, the Canvas API, HTML 5 <audio> elements, the local storage API, and WebSockets to demonstrate the possibilities of pure web applications in modern browsers such as Safari and Chrome.

The port is based on the Jake2 project, compiled to Javascript using the Google Web Toolkit (GWT). Jake 2 is a Java port of the original Quake II source code, which was open sourced by id software.

To make the Jake 2 code work with GWT, we have

- Created a new WebGL based renderer
- Ported the network layer for multiplayer games from UDP to the WebSocket API
- Made all resource loading calls asynchronous
- Created a GWT implementation of Java nio buffers based on WebGL arrays (to be ported to ECMAScript Typed Arrays)
Demo #2
GWT 2.1 Milestone 2 is now available

Posted by Chris Ramsdale - Friday, July 02, 2010 at 12:07:00 PM

It's been a busy week for the GWT team. We released an updated GWT Gadgets library, GWT 2.0.4, and to cap things off pushed the second milestone release of GWT 2.1 today. In this milestone we simplified the process of configuring a RequestFactory, made record creation within a RequestFactory more extensible, and properly moved ourselves out of bikeshed. A full list of features and fixes can be found here.

With the release of GWT 2.1 M2, we're continuing to evolve the integration between Google and VMware that was announced at this year's Google I/O. Each milestone release of GWT, Spring Roo, and STS fleshes out more of the envisioned feature set, and overall stability of the stack.

GWT 2.1 M2 is available on our Google Code download site. We'd love to hear your feedback and thoughts on this release, and our GWT Developer Forum would be the best place to post this information.

Permalink
Google Web Toolkit 2.1.0 M2 Downloads

Google Web Toolkit

Downloads

Learn More
- Overview
- Business Apps
- SDK
- Speed Tracer
- Plugin for Eclipse
- Examples

Get Started
- SDK
- Set up Eclipse
- Speed Tracer
- Tutorials
- What's Coming in 2.1?
- Organize Projects

Google Web Toolkit 2.1.0 M2 Downloads

SDK

The Google Web Toolkit SDK contains the core libraries and compiler that you need to write web applications. See the Release Notes for this latest version.

Speed Tracer

Speed Tracer is a Chrome Extension that allows you to pinpoint performance problems in your web applications.
What’s new in GWT 2.1

- Data presentation widgets
- Model-View-Presenter framework
- Server-side Speed Traces
Questions?
Thank you
Google API Libraries for Google Web Toolkit

The Google API Libraries for Google Web Toolkit is a collection of libraries that provide Java language bindings for popular Google JavaScript APIs. These libraries make it quick and easy for developers to use these Google JavaScript APIs with Google Web Toolkit. The libraries are supported by the Google Web Toolkit team.

Available Libraries

Note that these versions rely on GWT 2.0.3 or higher.

**Gears 1.3 Library**

The Gears API library for GWT provides bindings for APIs provided for the Google Gears plugin.

**Gadgets 1.2 Library**

Gadgets are simple HTML and JavaScript applications that can be embedded in web pages. This library simplifies embedding Gadgets with GWT.
Session Videos

Google I/O offered 90+ sessions featuring highly technical, in-depth content covering a number of technologies and developer videos and slides are available below.

Search sessions e.g. "Mobile", "App Engine", "HTML5", "Java"

Google Web Toolkit allows developers to create rich web applications using tools that were previously only available to desktop programmers. Within GWT you'll find: the GWT SDK that allows you to code in Java and compile to optimized JavaScript, Eclipse Plugin to harness the efficiencies of an IDE, and Speed Tracer for tracking down areas of improvement within your app.

GWT playlist on YouTube

Session videos and slides

Fireside chat with the GWT team
Measure in milliseconds redux: Meet Speed Tracer
Faster apps faster: Optimizing apps with the GWT Compiler
Architecting for performance with GWT
GWT Linkers target HTML5 Web Workers, Chrome Extensions, and more
GWT's UI Annotated: Hijacker, ClientBundle, and Layout Panels

Track

Fireside Chats, GWT
GWT
GWT
GWT
GWT
GWT