ArcGIS Viewer for Flex
Advanced Topics

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Introduction

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Who are you?

Source code for ArcGIS Viewer for Flex - a great application framework for web applications. NOTE: The "DEVELOP" branch might not work with the latest released API Library, but you can always get a released version from the "Releases" page. http://links.esri.com/arcgisviewer — Esri

HTTPS clone URL
https://github.com

You can clone with HTTPS, SSH, Subversion, and other methods.

Clone in Desktop
Download ZIP
Agenda

- Developer overview
- Viewer customization
- Application builder custom modules
- Road ahead
- Additional resources
Developer overview

Björn
Apache: Apache Flex

- Active mailing list (1,600 emails / month)
- Website (~1,600 visitors/day)
- > 22,000 4.9.x SDK downloads
Adobe: Adobe Flash Player & AIR

- Desktop apps and web browsers
- Mobile devices
- Gaming
- Multimedia

- **February 2013**
  - Flash Player 11.5
  - AIR 3.5

- **March 2013**
  - Flash Player 11.6
  - AIR 3.6

- **June 2013**
  - Flash Player 11.7
  - AIR 3.7

- **beta**
  - Flash Player 11.8
  - AIR 3.8
Esri: ArcGIS for Flex
API and Viewer

• Well established
• Active user community
• Consistent release schedule

Dec 2012 3.1
March 2013 3.2
April 2013 3.3
July 2013 3.4
Viewer building blocks

API library

FlexViewer

Application builder
GitHub

- Two repos: **Viewer** and **Builder**
  - Source code
    - branches
  - **Issues**
    - Open or Closed
    - Assigned to **milestones**
GitHub
Viewer customization

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Wildfire viewer
Adobe Fireworks
Building components
Fireworks Tips and Tricks

- Vector autoshapes are your friend
- Subselection tool
- Don’t be afraid of the pen tool
- Guides
- Common Library
- Path toolbar

- Fireworks CS6 Essential Training
  - Lynda.com (with Ray Villalobos)
Additional design resources

- **Kuler**
  - [http://kuler.adobe.com](http://kuler.adobe.com)
- **Smashing Magazine**
  - [http://www.smashingmagazine.com/](http://www.smashingmagazine.com/)  
- **ColorPicker**
  - Hex Color Picker (Mac)
  - ColorCop (Windows)
- **ScreenRuler**
  - PixelWindow
Visual components
Flash XML Graphics (FXG)
FXG workflow

- Declarative XML syntax for defining vector graphics
Which components need modified?

• Modified components
  - HeaderController
  - Navigation
  - OverviewMap
  - MapSwitcher
  - WidgetTemplate
  - WidgetTemplateSkin

• Using custom widget template
Additional modifications

• Custom stylesheet
• Modify index.mxml to include custom.css
• Change pageTitle in index.mxml
How can I get my hands on this code?

- https://github.com/lheberlie/custom-widgets-skins-viewer-flex
- Branch: wildfire
Custom viewer setup

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Application Builder custom modules

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Custom modules

• Not for everyone

• What is a custom module?
  - Graphic User Interface for custom widgets

• Why do you care?
  - Community widgets get better
  - Consistent look and feel like the default widgets
  - Community developers sharing widgets
Managing custom widgets

Widget including a custom module

Widget without a custom module
Widgets tab: custom widgets
Widgets vs. Widgets sans modules
Viewer requirements

• Make sure you use the same versions
  - API
  - Viewer
  - Application Builder

• Custom widgets

• Compile your custom widget and the Viewer
Application Builder requirements

- Compiled viewer and widget
- Create your module
  - CustomModel
  - CustomModule
  - CustomView
- Add all CustomModules
- Keep bin-release-temp
Module details

- Create a custom module (IBuilderModule)
- Create a custom widget model (IWidgetModel)
- Create a custom widget view (IWidgetView)

Note: Layout widgets not yet supported.

Tip: Read the source code for default modules!
Distribution

- Bundled with Application Builder
- Custom Widget
  - Widget
  - WidgetConfig
  - Module
  - Assets
  - Meta.xml
More information

• Documentation

• Source code
  - https://github.com/lheberlie/sample-module-viewer-builder-flex
Sample Module

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Tips and Tricks
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Git and GitHub

- SourceTree (Mac + Windows)
- Code school (try.github.io)
- Pro Git (git-scm.com/book)
- Git Essential Training
  - Lynda.com (Kevin Skoglund)
Adobe Flash Builder

• General
  - Show line numbers
  - Key Bindings: Cmd(Ctrl) + Shift + L
  - Organize Imports: Shift + Cmd(Ctrl) + O
  - Fix Indentation: Cmd(Ctrl) + I
  - [link](http://www.adobe.com/devnet/flash-builder/articles/tips-tricks.html)

• Code Templates
• File Templates
• FlexFormatter
Code generation / code assist
FlashBuilder Shortcuts

**Key Bindings:** `Cmd(Ctrl) + Shift + L` - It goes to `Preferences > General > Keys` to change your key mappings to whatever you want, or add additional ones here.

**Content assist:** `Cmd(Ctrl) + Spacebar` - Triggers a content assist pop-up menu with all properties and functions available.

**Incremental Find:** `Cmd(Ctrl) + J` - Find matches as you type.

**Fix indentation:** `Cmd(Ctrl) + I` - `(Ctrl + A, Ctrl + I), correct cursor`

**Duplicate line:** `Option(Alt) + Cmd(Ctrl) + Down/Up arrow`

**Move line:** `Option(Alt) + Down/Up arrow`

**Delete line:** `Cmd(Ctrl) + D`

**Delete last word:** `Cmd(Ctrl) + Backspace`

**Organize imports:** `Shift + Cmd(Ctrl) + O` - This cleans up unused import statements and organizes them by package.

**Code Commenting Shortcuts** — To quickly comment a block of code in ActionScript, take advantage of the `Cmd(Ctrl) + /` option. For a block of MXML code use the `Shift + Cmd(Ctrl) + C`.

**Quick outline:** `Cmd(Ctrl) + O` - This quickly jumps to a variable or function from here. Start typing the first few letters of what you’re looking for and select it to take you to it.

**Quick access:** `Cmd(Ctrl) + 3` - Close others, close all, join lines, remove trailing white space, toggle asdocs.

**Quick Assist/Fix:** `Cmd(Ctrl) + 1` - Pressing this key combination will trigger a pop-up menu containing suggestions of options to fix your current line or assist you in generating code to support your code.

**Quick access to definition:** Hold down the `Cmd(Ctrl)` key and highlight a function name for instance and it will turn it blue like a hyperlink and allow you to go straight to it when clicked.

**Cycle States:** `Cmd(Ctrl) + \ and Shift + Cmd(Ctrl) + \` - When using states, this option will grey out any code not in a particular state for easier view. It will cycle to the next state or back depending on the option you choose.

**Open Type:** `Cmd(Ctrl) + Shift + T`

**Open Resource:** `Cmd(Ctrl) + Shift + R`

**Cycle through open files/editors:** `Cmd(Ctrl) + Tab` - It quickly hops to a different open editor. Related to this is Open Type (Shift-Cmd-T) or Open Resource (Shift-Cmd-R).

**Open Call Hierarchy:** `Cmd(Ctrl) + Option(Alt) + H` - It shows where this function is being called from. This is useful to see how many changes would be needed for instance if you want to change or remove a function.

**Maximize Code Editor:** `Cmd(Ctrl) + M`

**Generate skin class** -- While inline on a Spark component select the skinClass property and hit Enter, and you will then be prompted with an option to “Create Skin”

**Generate item renderer** — This option works similar to the above option but for creating item renderers quickly.

**Generate Getter/Setter**

**Word completion:** `Cmd(Ctrl) + .` - Start typing a word and use this command (Ctrl-period).
ArcGIS Viewer for Flex

- Directions Widget
- Widget containers
Debugging

• Clear browser cache

• Debugging tools
  - Fiddler (Internet Explorer)
  - Charles Web Debugging Proxy (Mac + Windows)
  - Chrome Developer Tools
  - Firefox (HTTP fox, Firebug)

• Be a detective
Charles Web Debugging Proxy
Road ahead

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Road ahead

- Continue quarterly release cycles
- ArcGIS.com / Portal for ArcGIS
- Geoenrichment
- Offline / Sync
- Extra zoom levels
Additional resources

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More information

- Esri
  - developers.arcgis.com/en/flex
- GitHub
  - esri.github.io
- Apache
  - flex.apache.org
- Adobe
Where can I get more info?

• Esri
  - http://resources.arcgis.com
    - documentation, forums, samples
  - http://links.esri.com/flexviewer

• Adobe
Esri training for Web developers

- [http://www.esri.com/training](http://www.esri.com/training)

- **Instructor-Led Courses**
  - Building Web Applications Using the ArcGIS API for Flex (3.x)
  - Migrating to ArcGIS 10.2 for Server
  - ArcGIS for Server: Sharing GIS Content on the Web (10.1)

- **Online Training Seminars**
  - Extending the ArcGIS Viewer for Flex (3.x)
  - Free, one-hour presentation and demos by Esri technical experts
  - Live seminar broadcast on a new topic every month
UC Agenda: Flex Technical Workshops

- **ArcGIS API for Flex – An Introduction**
  - Tues. 7/9; 1:30-2:45 – Rm 15A
  - Wed. 7/10; 1:30-2:45 – Rm 15B

- **ArcGIS Viewer for Flex – An Introduction**
  - Wed. 7/10; 8:30-9:45 – Rm 14B

- **ArcGIS Viewer for Flex – Advanced Topics**
  - Wed. 7/10; 10:15-11:30 – Rm. 14B
  - Thurs. 7/11; 1:30-2:45 – Rm 31C

- **ArcGIS API for Flex – Advanced Topics**
  - Wed. 7/10; 3:15-4:30 – Rm. 15A
  - Thurs. 7/11; 8:30-9:45 – Rm. 15A
Thank you...

Please fill out the session evaluation

First Offering ID: 1347
Second Offering ID: 1245

Online – www.esri.com/ucsessionsurveys
Paper – pick up and put in drop box