



What's New: The ArcGIS API for Flex

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**Esri Developer
Summit Europe**

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Latest System Req's

- Adobe Flash Builder 4.6 or 4.7
- Adobe Flex SDK 4.6 or [Apache Flex SDK 4.8](#)
- FlashPlayer 11.1
- AIR 3.1



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- DEVELOPMENT
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Apache Flex[®] SDK 4.11 now available!

The open-source framework for building expressive web and mobile applications

Incidents

Table Options ▾

Request ID	Request Type	Request Date	Request Time	Address	X Coordinate	Y Coordinate		
460463	Sewer Issues	01/01/2001	08:25	1458 25TH AVE	5988462.0	2105387.8		
460649	Blocked Street or Side...	07/01/2009	11:55	18TH ST and CASTRO ST	6002343.5	2105301.5		
460969	Damaged Property	07/01/2009	17:06	BRODERICK ST and CA...	6000493.0	2115161.0	2	New
461100	Blocked Street or Side...	07/01/2009	22:05	254 HOLYOKE ST	6009457.5	2093165.1	9	New
461029	Graffiti Complaint - Pu...	07/01/2009	18:51	COLLINS ST and GEAR...	5998143.0	2113119.0	1	New
460721	Graffiti Complaint - Pu...	07/01/2009	13:12	9TH ST and brannan	6010504.0	2108470.2	6	New
460556	Damaged Property	07/01/2009	09:59	26TH AVE and MORAGA ...	5988112.5	2103737.8	4	New
460961	Graffiti Complaint - Pu...	07/01/2009	16:58	635 DIVISADERO ST	6001506.5	2110620.2	5	New

- Export the attributes to a CSV file
- Clear selection
- Show attachments
- Show related records

Agenda

Working with Data

- Geocoding & Directions
- Geo-enrichment
- OAuth
- Flex Mobile Development
- Community & Social Coding

Status	Address
Closed	COLUMBIA
Open	533 JACKSON
New	638 WASHINGTON
New	KEARNY
Open	809 KEARNY
Closed	584 PACIFIC
New	590 PACIFIC
New	493 BROOKLYN
New	493 BROOKLYN

Working with Data

- Layer types
 - Four ArcGIS.*MapServiceLayer
 - GraphicsLayer, FeatureLayer, and [CSVLayer](#)^{3.1}
 - KMLLayer and [GeoRSSLayer](#)^{3.1}
 - OpenStreetMapLayer and [WebTiledLayer](#)^{3.1}
 - WMSLayer and WMTSLayer
- Components and Tools
 - [AttributeTable](#)^{3.1}
 - Editor
 - AttributeInspector, AttachmentInspector, [RelationshipInspector](#)^{3.1}
 - DrawTool and EditTool
- IdentityManager

What's New

Mapping

Layers

FeatureLayer

Dynamic Layers

Editing

Web maps and Portal

GeoEnrichment

Time-aware layers

Components

Attachment Inspector

Attribute Inspector (view)

Attribute Inspector (edit)

Attribute Inspector outside of map

Custom FieldInspector

Attribute Table

Geocoder

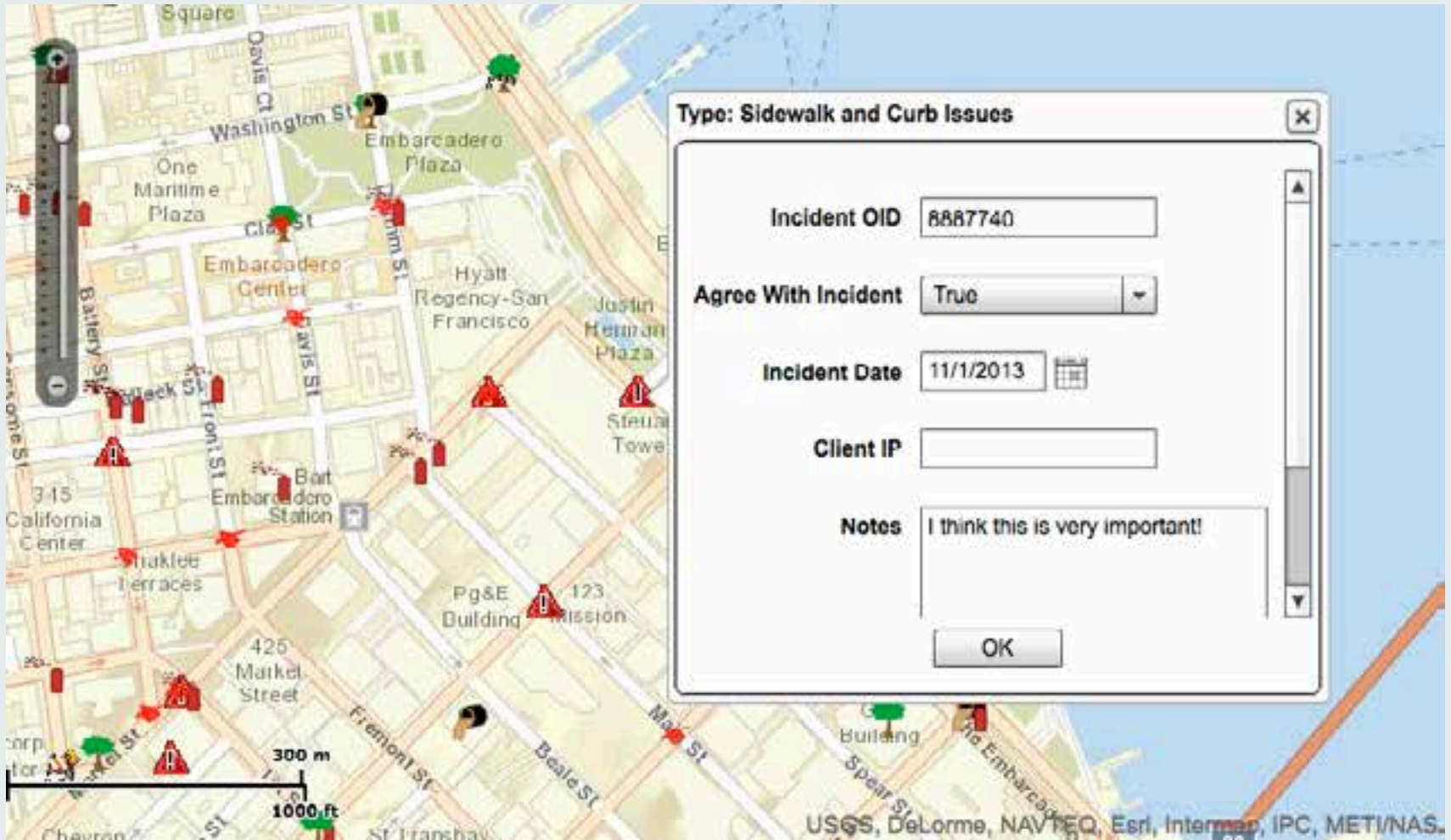
[DOWNLOAD SAMPLES](#)
[FORK REPO](#)



GeocoderSample.mxml

```
<?xml version="1.0" encoding="utf-8"?>  
<:Application xmlns:fx="http://ns.adobe.com/mxml/2009"
```

Edit Related Records



Edit Related Records

```
protected function myMap_mapClickHandler(event:MapMouseEvent):void
{
    mapClickPoint = event.mapPoint;
    if (event.originalTarget is Graphic ||
        event.originalTarget.parent is Graphic)
    {
        ...
        ...
        selectedGraphic = Graphic(event.originalTarget);
        map.infoWindow.content = relationshipInspector;
        relationshipInspector.infoWindowLabel =
            selectedGraphic.attributes["req_type"];
        relationshipInspector.graphic = selectedGraphic;
        map.infoWindow.show(mapClickPoint);
    }
}
```

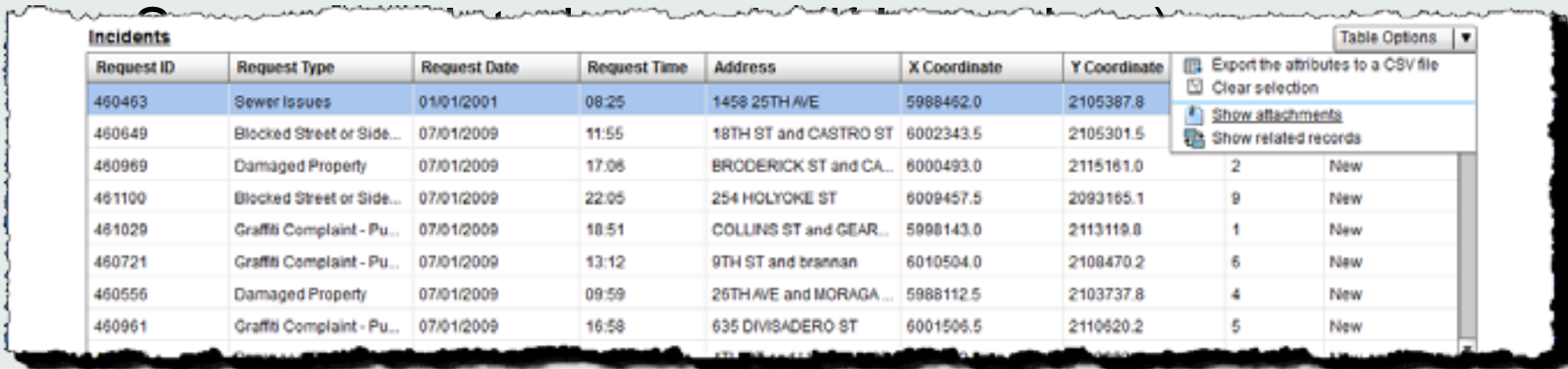
```
<fx:Declarations>
```

```
    <esri:RelationshipInspector id="relationshipInspector"
                                width="350" height="300"
                                editEnabled="true" />
```

```
</fx:Declarations>
```


AttributeTable component

- Displays a feature layer in datagrid
- Supports export to csv
 - Coordinates exported for point data
- Supports attachments (if layer does)



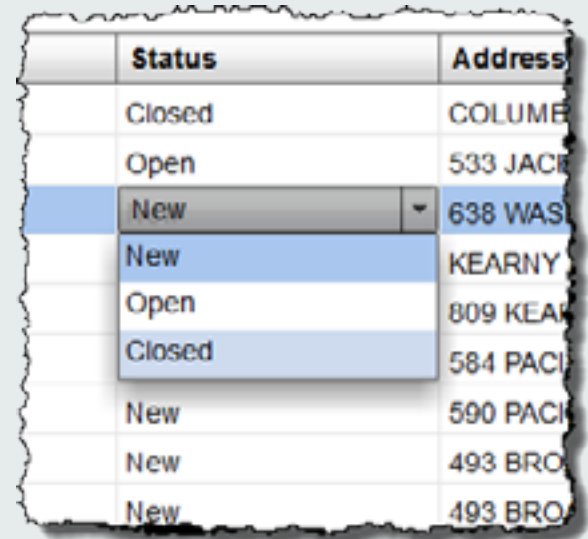
The screenshot shows a datagrid titled "Incidents" with a "Table Options" menu open over the first row. The datagrid has columns for Request ID, Request Type, Request Date, Request Time, Address, X Coordinate, Y Coordinate, and two unlabeled columns. The first row is highlighted in blue. The "Table Options" menu includes options for "Export the attributes to a CSV file", "Clear selection", "Show attachments", and "Show related records".

Request ID	Request Type	Request Date	Request Time	Address	X Coordinate	Y Coordinate		
460463	Sewer Issues	01/01/2001	08:25	1458 25TH AVE	5988462.0	2105387.8		
460649	Blocked Street or Side...	07/01/2009	11:55	18TH ST and CASTRO ST	6002343.5	2105301.5		
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Demo

Editing with AttributeTable component

- Editing enabled (if layer supports)
- Similar to AttributeInspector
 - Support for domains, date fields etc
 - Throws event for delete, update

A screenshot of a table with two columns: 'Status' and 'Address'. The table has 10 rows. The third row is selected, and a dropdown menu is open over it, showing options: 'New', 'New', 'Open', and 'Closed'. The first 'New' option in the dropdown is highlighted. The table data is as follows:

Status	Address
Closed	COLUMBIA
Open	533 JACOB
New	638 WASHTON
New	KEARNY
Open	809 KEARNEY
Closed	584 PACIFIC
New	590 PACIFIC
New	493 BROOKLYN
New	493 BROOKLYN

Demo

Attribute Table


```
<s:BorderContainer width="100%" height="40%"
    backgroundColor="0xEEEEEE"
    borderVisible="false">
    <esri:AttributeTable id="myAttributeTable"
        width="100%" height="100%"
        deleteFeatures="deleteFeaturesHandler(event)"
        featureLayer="{myFeatureLayer}"
        updateFeature="fdg_updateFeatureHandler(event)">
        <esri:FieldInspector editor="MyCalendarEditor"
            featureLayer="{myFeatureLayer}"
            fieldName="req_date"/>
    </esri:AttributeTable>
</s:BorderContainer>
```

WebTiledLayer – new layer class at 3.1

This sample demonstrates how to add various third-party (tiled|cached) map services to your ArcGIS API for Flex application using the WebTiledLayer class. Select one of the various options from the drop down list or load a custom service using the "Load custom web tiled layer" button.

Select a service Stamen Toner or try custom web tiled layer

- MapBox Streets
- MapBox Terrain
- Stamen Terrain
- Apple's OpenStreetMap
- Stamen Toner**
- Stamen Watercolor



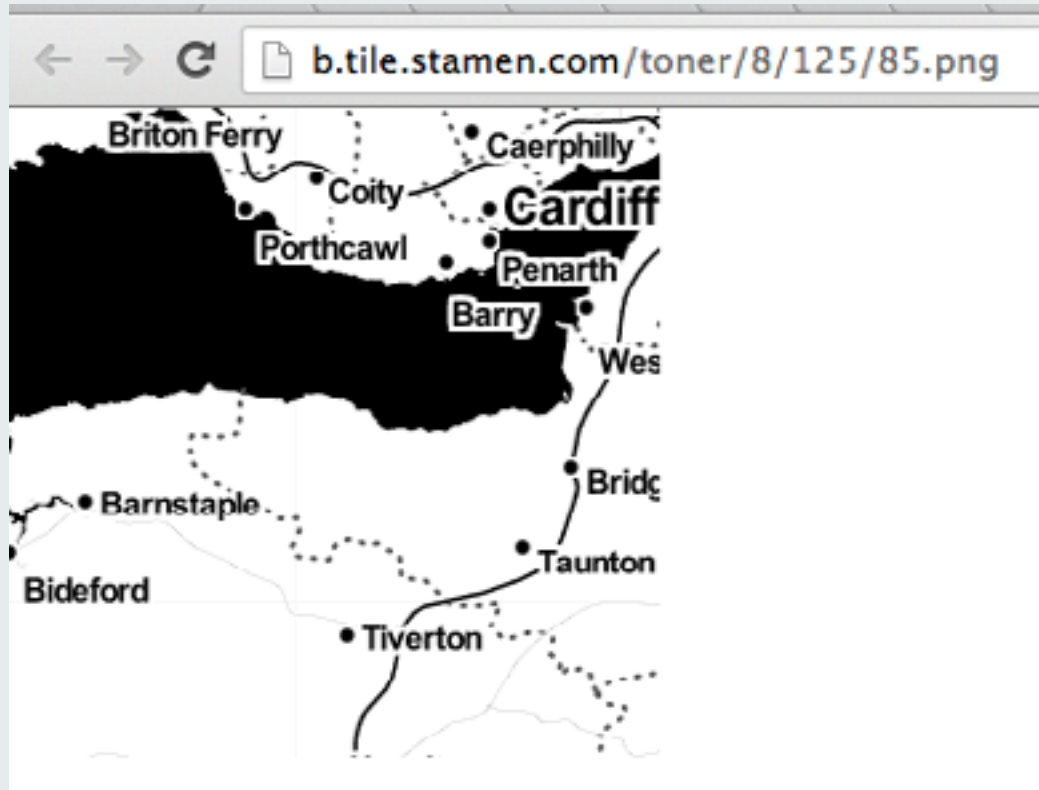
Demo

WebTiledLayer

```
<esri:Map level="9" wrapAround180="true">  
  <esri:WebTiledLayer id="webTiledLayer"  
    copyright="MapQuest "  
    loadError="loadErrorHandler(event) "  
    subDomains="{MQ_SUBDOMAINS} "  
    urlTemplate="{MQ_URL} " />  
</esri:Map>
```

WebTiledLayer

```
//URL Template  
url = "http://{subDomain}.tile.stamen.com/toner/{level}/{col}/{row}.png";  
  
//SUBDOMAINS  
private static const ABCD:Array = [ "a", "b", "c", "d" ];
```



CSVLayer – new layer class at 3.1

```
<esri:CSVLayer id="csvLayer"
    fault="csvLayer_faultHandler(event)"
    latitudeFieldName="Lat"
    loadError="csvLayer_loadErrorHandler(event)"
    longitudeFieldName="Lon"
    renderer="{magnitudeRenderer}"
    url="http://earthquake.usgs.gov/.../eqs7day-M2.5.txt">
  <esri:sourceFields>
    <esri:Field name="Magnitude" />
    <esri:Field name="Depth" />
    <esri:Field name="Region" alias="Location" />
    <esri:Field name="Datetime" />
  </esri:sourceFields>
  <esri:infoWindowRenderer>
    ...
  </esri:infoWindowRenderer>
</esri:CSVLayer>
```

Demo

Agenda

Working with Data

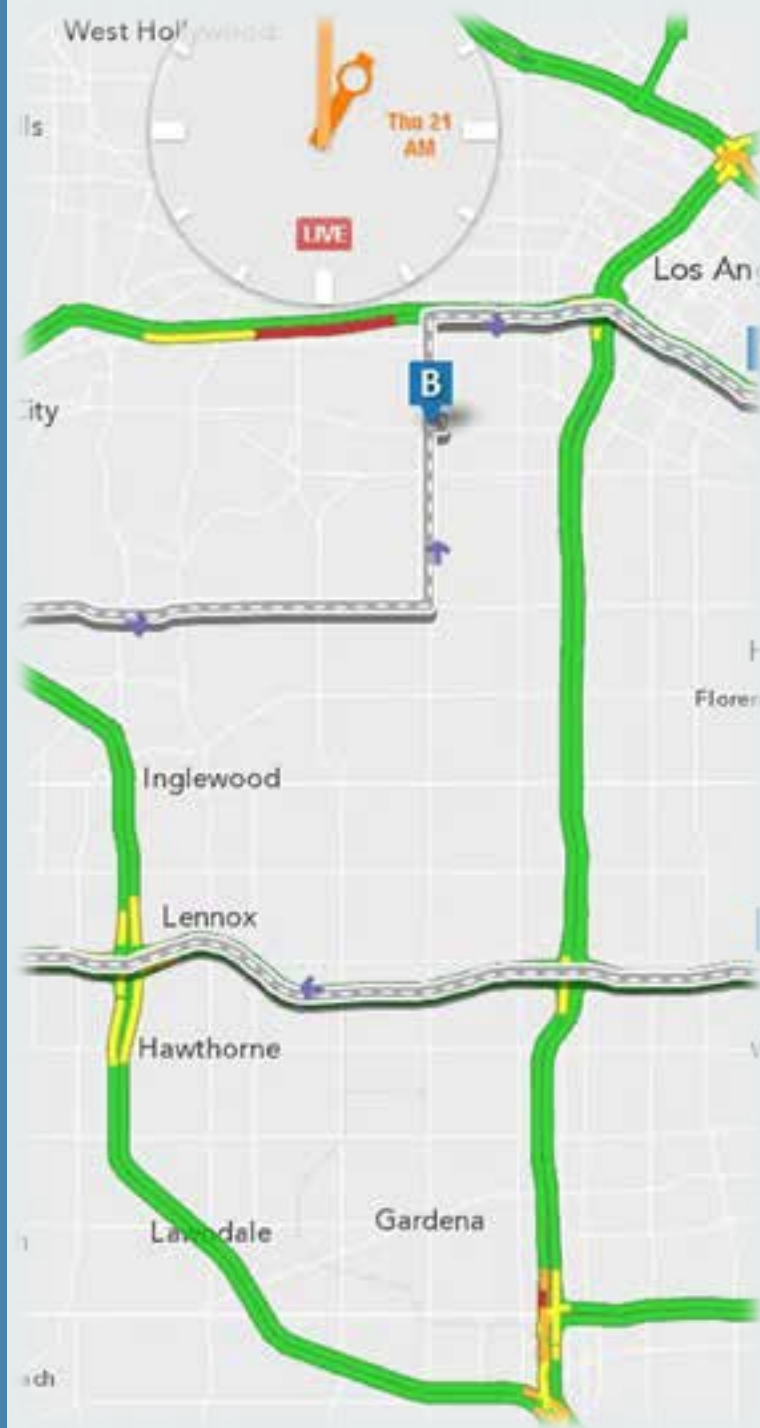
Geocoding & Directions

Geo-enrichment

OAuth

Flex Mobile Development

Community & Social Coding



Geocoder Component

- Multiple Sources
- Search Map Services (layers and tables)
- Geocoder/Placefinder
 - By default, ArcGIS Online World Geocoder
- Predictive text
- Skinnable



Routing & Directions

- Embeds geocoder for destinations
- Can click on map to add destination
 - reverse geocoding
- Skinnable
- By default: AGOL World Routing Service



Agenda

Working with Data

Geocoding & Directions

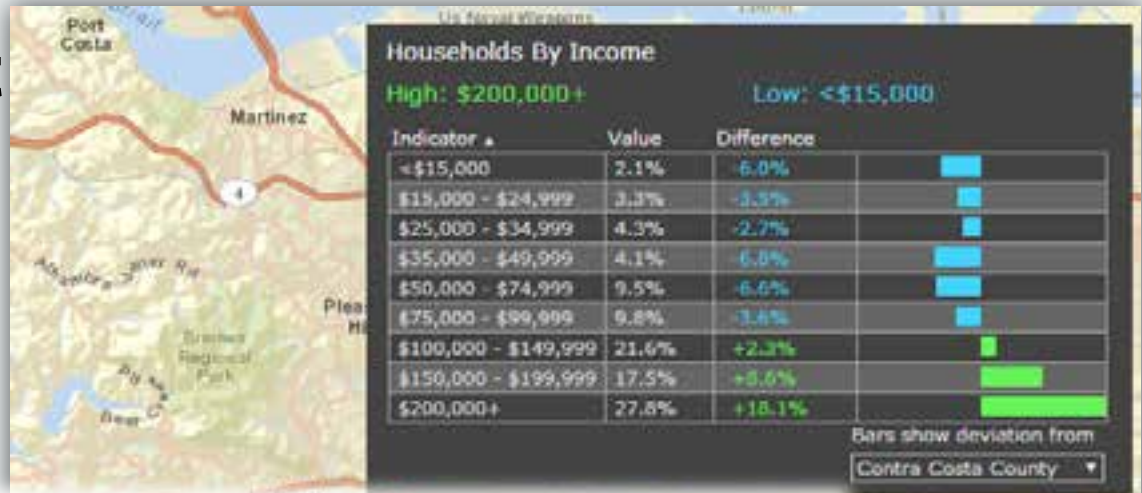
Geo-enrichment

OAuth

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GeoEnrichment



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What is OAuth

HTTPS authorization

Single Sign-on (e.g. Twitter/Facebook login)

OAuth 2.0

OAuth.net for more info



Agenda

Working with Data

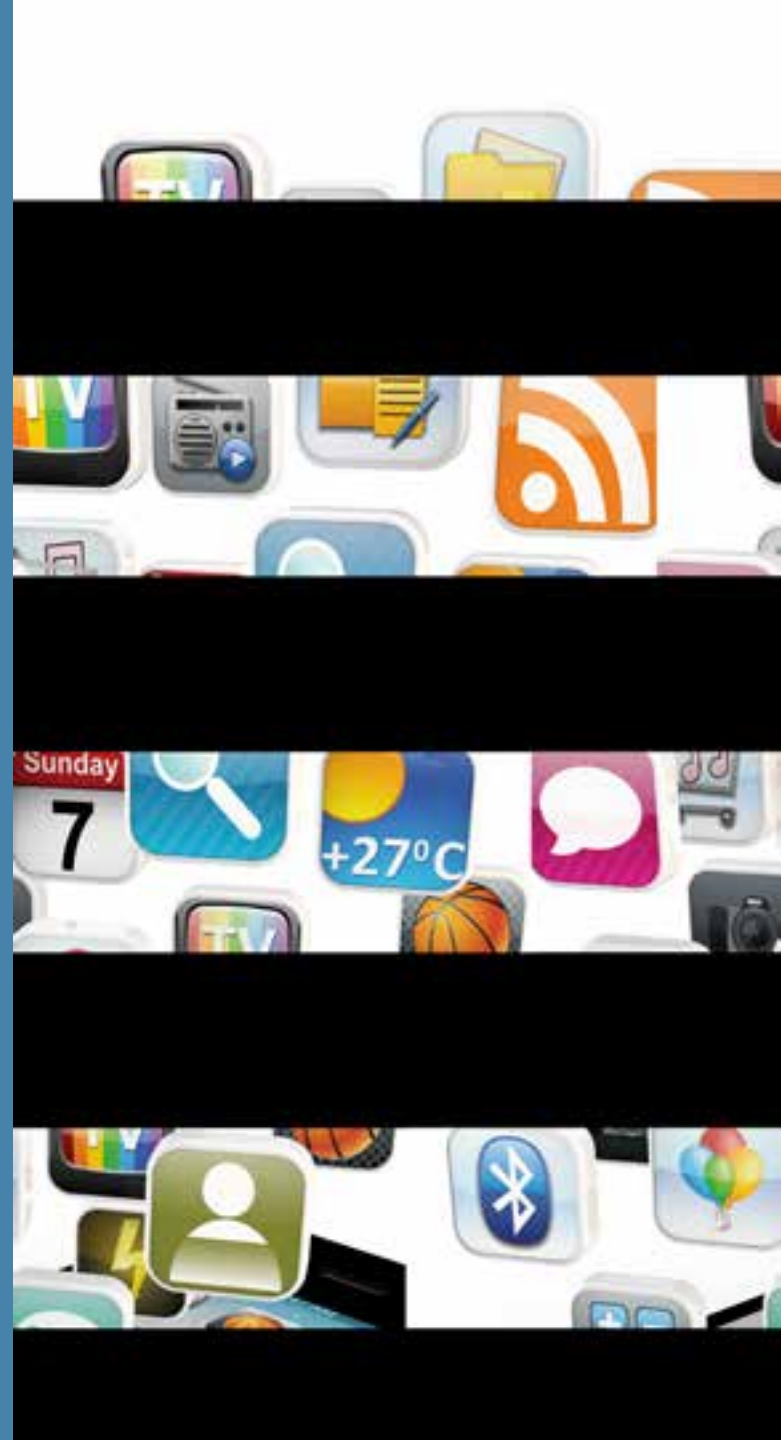
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Why Flex for native mobile?

One code base and deploy to

Android

iOS

Blackberry

Familiarity

Consistency

Productivity

Tooling

Why Flex for native mobile?

Familiarity

Consistency

Productivity

Tooling

UX & Device Integration

- Orientation
- Full screen
- Touch input/Gestures
- [Native extensions](#) for Adobe AIR, i.e.
 - Network info
 - Push Notifications
- Local File Storage

Sensors

Examples

- Geolocation: latitude, longitude, heading, speed, altitude
- Accelerometer
- CameraUI and CameraRoll
- Gestures

Adobe Flex SDK & Mobile

- Runtime: Adobe AIR on mobile devices
- Apps are installed on the device
- Spark components and skins optimized for touch input
 - touch-and-throw scrolling

Development with the ArcGIS API for Flex

- Offline workflows
 - LocalTileLayer (ArcGISLocalTiledLayer)
 - Tile Packages (TPK)
- Map Rotation
- Sparkifying components & skinning
 - Geocoder component
- Mobile Samples



Demo

Flex Mobile App

Flex API mobile samples

ArcGIS API for Flex

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Sample Code

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ArcGIS API for Flex



Tutorials

[Add a map and layers](#)[Add a web map](#)[Query your data](#)**[Mobile-specific application](#)**[Access feature data in the cloud](#)[Find places and addresses](#)[Route and navigate](#)

Build a map

Types of Layers

Display information

Search

Edit data

Driving directions

Perform analysis

Use the cloud

Mobile-specific application

Version 3.5

Prerequisites

In this tutorial you will create a basic Flex mobile application that displays a basemap. Before doing this, you will need to make sure you have the following:

- Adobe Flash Builder 4.5.1 (or later)
- The updated [Adobe AIR SDK](#) overlaid on the Flex SDK. If you are uncertain of how to do this, see Adobe's document, [Overlay AIR SDK on Flex SDK](#).

Caution: Flex users will need to download the original AIR SDK without the new compiler. Mac users click [here](#) Windows users click [here](#).

- [Downloaded copy](#) of the ArcGIS API for Flex.

Create a new mobile project

The following steps illustrate what you will need to do to create a new mobile project using Flash Builder 4.5.1 or higher. In this specific tutorial, we are targeting an Android device. The steps provided below will work the same regardless of whether you choose to target an Android device or iOS.

1. In Flash Builder, click **File > New > Flex Mobile Project**.

In this topic

[Prerequisites](#)[Create a new mobile project](#)[Write code](#)[Run the app](#)[Additional Information](#)

Flex Mobile Routing Sample

<https://github.com/Esri/mobile-realtime-routing-flex>

Flex Mobile Presentation – DevSummit U.S

<http://esriurl.com/flexmobilepresentation>

Agenda

Working with Data

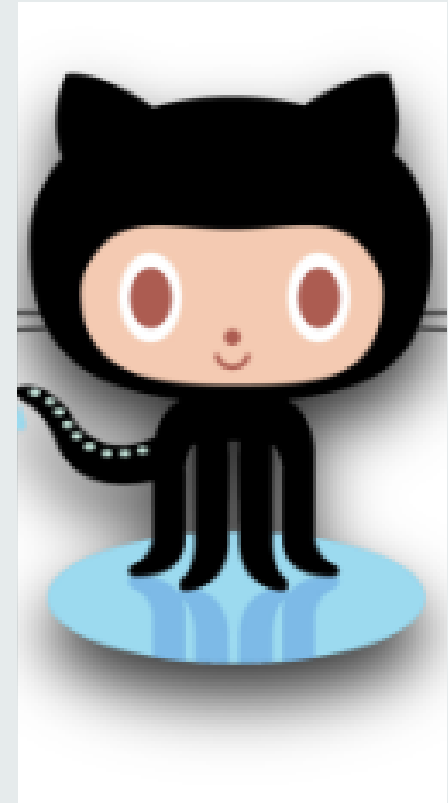
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Forums

- Flex Viewer has a strong, active community forum

Find us on GitHub!

<https://github.com/Esri/arcgis-samples-flex>

Questions??

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Understanding our world.