



Building Web Maps Using the ArcGIS API for Flex 2 days

Overview

The ArcGIS API for Flex enables developers to create rich Internet applications which access GIS resources hosted by ArcGIS Server. The Flex API is based on the free Adobe Flex framework. This is a client-side technology which is rendered by Flash Player 9 or above in the browser and can also be used to create desktop applications using Adobe AIR. While this course does not claim to teach Flex, we give developers a suitable grounding in its use as it pertains to writing web mapping applications. With the very 'hands on' approach we adopt in this course, experienced web developers will quickly learn to build dynamic and highly interactive web mapping applications by connecting to ArcGIS Server mapping, routing and other GIS services.

Audience

This course is intended for individuals who have had some exposure to using ArcGIS Server for authoring and publishing web maps and a background in web development. Clearly, a knowledge of Flex will be of great benefit, but is not mandatory.

Goals

- Publish map services and work with service metadata
- Create cached base maps for improved performance
- Understand the RESTful architecture of the Services Directory
- Create a web mapping application using the ArcGIS API for Flex
- Control layers and transparency to present the information users need
- Write code to handle map navigation and set/retrieve extent information
- Handle map events
- Use Query, Find and Identify tasks to retrieve underlying map data
- Bind the results of queries to Flex display components

- Use graphics to display results of queries and to enable users to interact with map data
- Publish a geoprocessing model as a web service and consume it within an application
- Solve a route using a network dataset
- Mashing up data with Bing base maps
- Perform geocoding and reverse geocoding operations using Bing

Topics Covered

Introduction and environment setup: what is ArcGIS Server?; Understanding the Flex framework; system requirements; the elements of a Flex application; application lifecycle; deployment; the development environment.

Working with maps and extents: viewing service data; working with maps and layers; setting extents; Flex events.

Querying your data: accessing data in underlying map services; different types of query; specifying query parameters.

Graphics: understanding the graphics layer; graphics geometry and symbology; attribute data; displaying query results as graphics on the map; map callouts; annotation.

Geoprocessing: understanding required input parameters; synchronous and asynchronous processing; dealing with return types

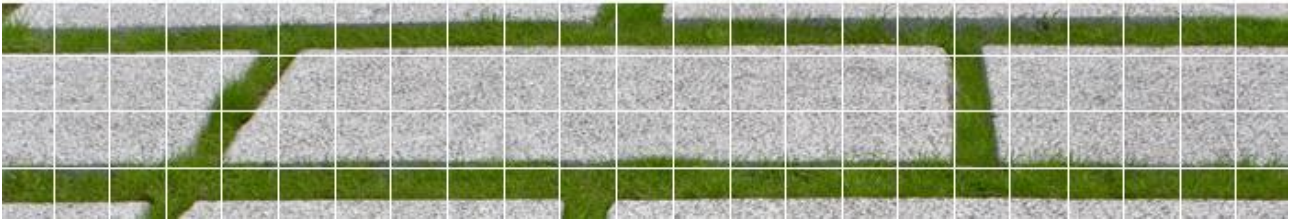
Routing: routing capabilities; creating a network service; working with the service; adding turn-by-turn directions; advanced routing options

Bing maps and services: accessing Bing maps; working with the Bing maps tiling scheme; geocoding with Bing maps

Focus on Flex: application layouts; transitions;

Prerequisites

This course requires that students have completed ISRV *Introduction to ArcGIS Server*, or have equivalent knowledge or skills. They should also have good experience of web development using either Flex, Javascript, ASP.NET, PHP or similar.



Topics in Detail

Introduction and environment setup

- What is ArcGIS Server?
- Options for developing applications
- Lifecycle of a Flex application
- Deployment considerations

Working with maps and extents

- The map component
- Adding base map imagery and dynamic map layers
- Understanding REST
- Retrieving service information from the Services Directory
- Setting extents with MXML, Actionscript and on multiple map layers
- Understanding Flex events
- ArcGIS-specific events

Querying your data

- Flex API tasks
- Text-based searching with the Find task
- SQL-based filtering with the Query task
- What's at this location? The Identify task
- Comparing query options

Graphics

- The graphics layer
- Geometry types
- Displaying query results as graphics
- Adding graphics from geometries
- Working with underlying attribute data
- Defining symbologies and applying to graphics
- Displaying callouts with InfoWindows and InfoRenderers
- Adding annotation with TextSymbols

Geoprocessing

- What is geoprocessing?
- What you need to work with a geoprocessing service
- Creating the geoprocessing task
- Supplying the necessary parameters
- Task execution: synchronous
- Task execution: asynchronous
- Working with results of routing operations

Routing

- What can the route task do?
- Using a network analysis service
- Steps for working with the Route task
- Turn-by-turn directions
- The 'travelling salesman' problem
- Advanced routing options

Bing maps and services

- Getting started with Bing maps
- Authentication
- Bing token pages
- Accessing services via the token page
- Mapping with VETiledLayer
- Geocoding with VEGeocoder
- Working with results of geocoding operations

Focus on Flex

- Application layouts
- Application states
- Animated transitions
- Using the samples

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