

2011 Esri China
Developer Summit

2011Esri中国开发者大会

ArcGIS Flex API 高级篇

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内容概览

- 10 !
- 聚合
- 编辑
- 皮肤
- 编写库
- 移动设备
- 数据传输

聚合

```
function onInfo {  
    var map = new esri.Map("map");  
    var tl = ledmapServiceLayer;  
    var layers = AGISITiledMapServiceLayer;  
    var CGISITiledMapServiceLayer;  
    map.addLayer(tl);  
}  
  
function getDriveTimePolys(results) {  
    var features = results(0).features;  
    for (var f=0, f=features.length; f<features.length; f++) {  
        var feature = features[f];  
        if (feature.attributes["type"] == "road") {  
            var polys = feature.attributes["polys"];  
            for (var i=0, i=polys.length; i<polys.length; i++) {  
                var poly = polys[i];  
                var polySymbol = new esri.Symbol({color: "#0000FF", style: "solid", width: 2});  
                var dojoSymbol = new dojo.Color(polySymbol);  
                feature.attributes["color"] = dojoSymbol;  
            }  
        }  
    }  
}
```

Sample



305 graphics

3 - 1 min - 0/0 overall - 70 graphics

FlareSymbol

The image displays a software interface for configuring a 'FlareSymbol'. On the left, a 'TextFormat' panel includes settings for font (Verdana), size (slider), color (red), bold, italic, and underline. The main 'FlareSymbol' panel on the right contains various numerical and color settings. A central diagram shows a cluster of nodes with a large central node labeled '13' and several smaller nodes connected by lines. Arrows link the settings to the corresponding visual elements in the diagram.

TextFormat Settings:

- TextFormat Font: Verdana
- TextFormat Size: [Slider]
- Text Color
- Bold
- Italic
- Underline

FlareSymbol Settings:

- Size: 30
- Alpha: 0.5
- backgroundColor: [Green]
- borderAlpha: 1
- FlareBorderColor: [Blue]
- borderThickness: 2
- FlareMaxCount: 30
- FlareSize: 5
- FlareSizeIncOnRollOver: 7
- MaxCountPerRing: 8
- FlareRingAngleInc: 15
- FlareRingAngleStart: 45
- FlareRingDistanceInc: 43

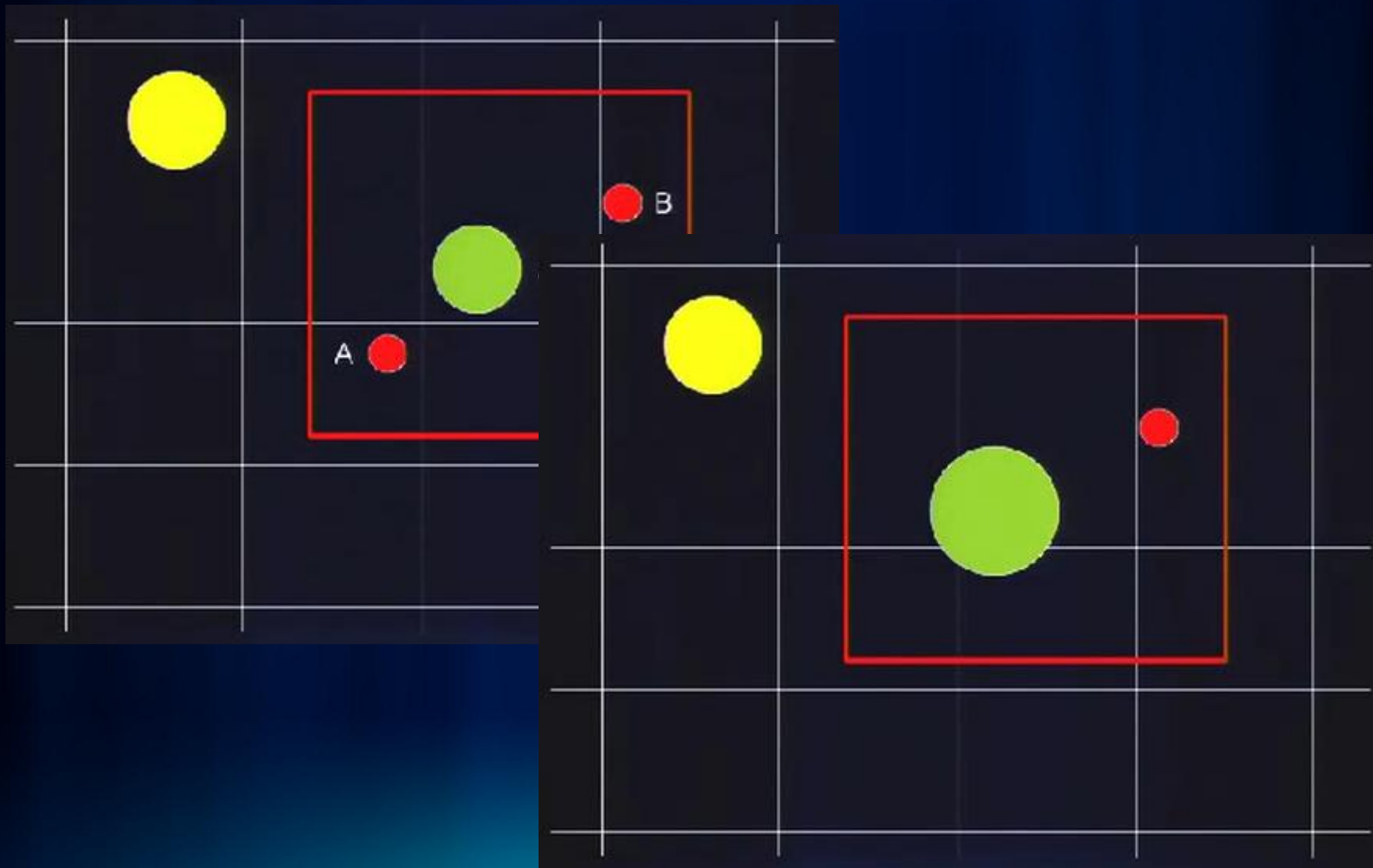
Diagram: A central node labeled '13' is surrounded by a cluster of smaller nodes connected by lines. The central node is highlighted with a green background and a blue border. The cluster of nodes is also highlighted with a green background and a blue border.

Annotation: A box on the right contains the text: "Don't 'flare' if too many features in the cluster." An arrow points from this box to the 'FlareMaxCount' setting.

自定义的聚合

```
public class AttrClusterer extends ESRIClusterer
{
    override public function clusterGraphics(graphicsLayer:GraphicsLayer,
    graphicCollection:ArrayCollection):Array
    {
        ...
        for each (var cluster:AttrCluster in m_orig)
        {
            // Convert clusters to graphics so they can be displayed.
            createClusterGraphic(cluster, arrOfGraphics);
            m_overallMinCount = Math.min(m_overallMinCount, cluster.graphics.length);
            m_overallMaxCount = Math.max(m_overallMaxCount, cluster.graphics.length);
            m_overallMinWeight = Math.min(m_overallMinCount, cluster.weight);
            m_overallMaxWeight = Math.max(m_overallMaxCount, cluster.weight);
        }
        return arrOfGraphics;
    }
}
```

聚合中的空间索引网格

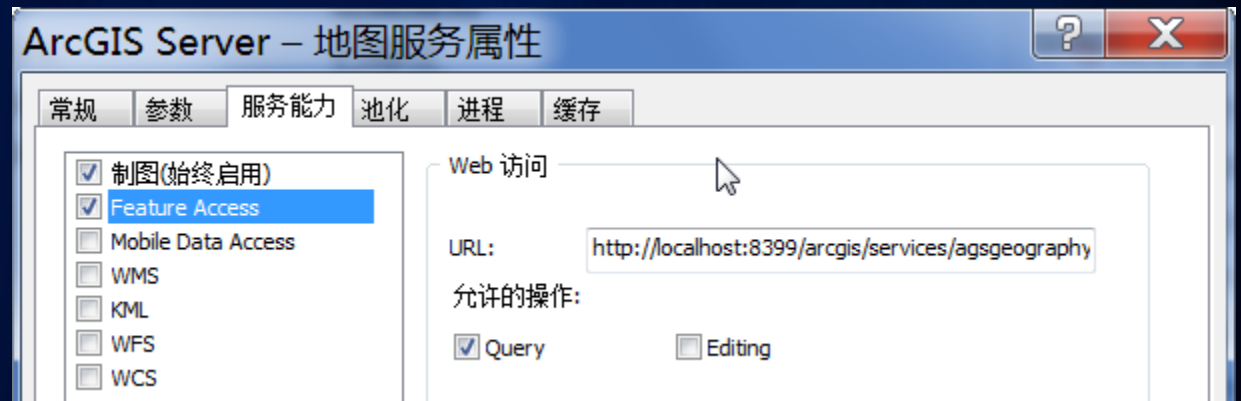


编辑

```
function edit() {  
    var map = new esri.Map("map");  
    var tl = ledmapService.layer = new  
    esri.layers.ArcGISLayer("http://services.esri.com/arcgis/rest/services/Esri_Imagery_Series/ImageServer", {  
        map: map, addLayer: tl, ledmapService: tl});  
}  
  
function getDriveTimePolys(results) {  
    var features = results(0).features;  
    for (var f=0; f<features.length; f++) {  
        var feature = features[f];  
        if (feature.type === "Polygon") {  
            var polys = feature.geometry.paths;  
            polys.forEach(function(polys) {  
                polys.forEach(function(poly) {  
                    var polySymbol = new  
                    esri.Symbol.Stippled(Color(0, 0, 0, 0.5));  
                    polys.push(polySymbol);  
                });  
            });  
            feature.setSymbol(polys);  
        }  
    }  
}
```


一些基本概念

- FeatureLayer和服务端的FeatureServer
- FeatureLayer和服务端的MapServer
- FeatureLayer和GraphicsLayer



Package com.esri.ags.layers
Class public class FeatureLayer
Inheritance FeatureLayer → GraphicsLayer → Layer → mx.core.UIComponent

Flex中编辑，使用DrawTool与Editor



- `featureLayer.applyEdits([graphic], null, null);`

- `editor.featureLayers = [featureLayer];`
`var opt:CreateOptions = new CreateOptions();`
`opt.polygonDrawTools = [DrawTool.FREEHAND_POLYGON,`
`CreateOptions.AUTO_COMPLETE];`
`editor.createOptions = opt;`

使用2.3后出现的FeatureLayerTask

- 编辑要素

- 更新附件 (取代AttachmentInspector)

`addAttachment(objectId:Number, data:ByteArray, name:String)`

`deleteAttachments(objectId:Number, attachmentIds:Array)`

`queryAttachmentInfos(objectId:Number)`

皮肤

```
function onInit() {  
    var map = new esri.Map("map");  
    var tl = ledmapServiceLayer;  
    var layers = AGESRI_Images;  
    map.addLayer(tl);  
}
```

```
function getDriveTimePolys(results) {  
    var features = results[0].features;  
    for (var f=0; f<features.length; f++) {  
        var feature = features[f];  
        if (feature.type === "Polygon") {  
            var polys = feature.geometry.paths;  
            for (var p=0; p<polys.length; p++) {  
                var poly = polys[p];  
                var color = poly[0].color;  
                new dojo.Color(poly[0].color, 0, 0, 0, 0.5);  
                new dojo.Color(poly[0].color, 0, 0, 0, 0.5);  
                feature.setSymbol(poly[0].color, 0, 0, 0, 0.5);  
            }  
        }  
    }  
}
```

```
new dojo.Color(poly[0].color, 0, 0, 0, 0.5);  
new dojo.Color(poly[0].color, 0, 0, 0, 0.5);  
feature.setSymbol(poly[0].color, 0, 0, 0, 0.5);  
}
```

```
new dojo.Color(poly[0].color, 0, 0, 0, 0.5);  
new dojo.Color(poly[0].color, 0, 0, 0, 0.5);  
feature.setSymbol(poly[0].color, 0, 0, 0, 0.5);  
}
```

```
new dojo.Color(poly[0].color, 0, 0, 0, 0.5);  
new dojo.Color(poly[0].color, 0, 0, 0, 0.5);  
feature.setSymbol(poly[0].color, 0, 0, 0, 0.5);  
}
```

```
new dojo.Color(poly[0].color, 0, 0, 0, 0.5);  
new dojo.Color(poly[0].color, 0, 0, 0, 0.5);  
feature.setSymbol(poly[0].color, 0, 0, 0, 0.5);  
}
```

Spark

- View与Model、Controller独立
- Component
 - Controller
 - Model
- Skin
 - View

- SkinnableComponent
- [SkinPart]
- <s:Skin>

MyComponent.as

```
public final class MyComponent extends SkinnableComponent
{
    [Bindable]
    public var label:String;
```

MyComponentSkin.mxml

```
<s:Skin xmlns:fx="http://ns.adobe.com/mxml/2009"
        xmlns:s="library://ns.adobe.com/flex/spark"
        xmlns:mx="library://ns.adobe.com/flex/mx"
        width="200" height="100">
    <!-- host component -->
    <fx:Metadata>
        [HostComponent("views.MyComponent")]
    </fx:Metadata>

    <!-- SkinParts
    name=button, type=spark.components.supportClasses.ButtonBase, required=false
    -->
    <s:Rect left="0" right="0" top="0" bottom="0">
        <s:fill>
            <s:SolidColor color="red"/>
        </s:fill>
    </s:Rect>
    <s:Button right="5"
        label="{hostComponent.label}"
        verticalCenter="0"/>
</s:Skin>
```

3个原则

- 遵循命名规则，<组件名称>Skin.mxml
- 始终要定义width和height属性
- 元数据声明该skin文件附属于哪个组件

- 在样式文件中为组件指定皮肤

```
1 /* CSS file */
2
3 @namespace s "library://ns.adobe.com/flex/spark";
4 @namespace mx "library://ns.adobe.com/flex/mx";
5 @namespace views "views.*";
6
7 views:MyComponent
8 {
9     skin-class:ClassReference("skins.MyComponentSkin");
10 }
11 }
```

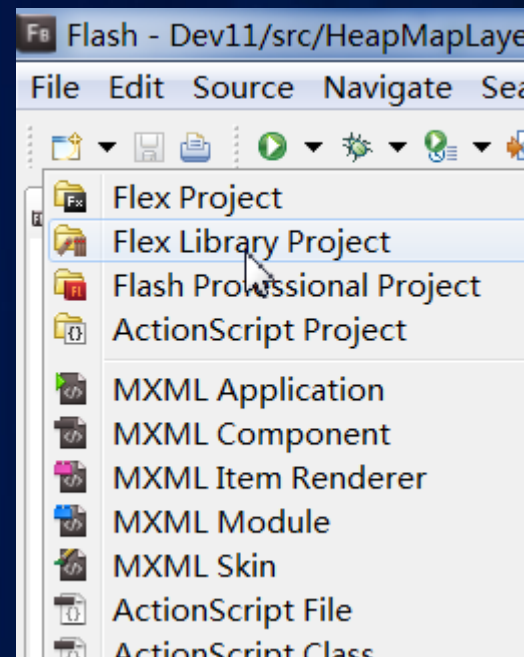
可以修改Skin的组件

- Zoom Slider
- Scale bar
- Time Slider
- Editor
- Attribute Inspector
- Attachment Inspector
- ...

编写库

```
function onMapClick {  
    var map = new esri.Map("map");  
    var tl = ledmapService.layer = new  
    esri.layers.ArcGISLayer({url: "http://www.esri.com/arcgis/rest/services/ESRI_Imagery_Services/ESRI_Imagery_Services/MapServer",  
    map: map, addLayer: tl, ledmapService: tl});  
}  
  
function getDriveTimePolys(results) {  
    var features = results(0).features;  
    for (var f=0; f<features.length; f++) {  
        var feature = features[f];  
        if (feature.attributes["id"] == 0) {  
            var polys = feature.attributes["polys"];  
            var polysArray = polys.split(",");  
            for (var i=0; i<polysArray.length; i++) {  
                var poly = polysArray[i].split(",");  
                var polyCoords = new Array();  
                for (var j=0; j<poly.length; j++) {  
                    var coord = poly[j].split(",");  
                    var x = coord[0];  
                    var y = coord[1];  
                    polyCoords.push(new esri.Point(x, y));  
                }  
                polysArray[i] = new esri.Polygon(polyCoords);  
            }  
            feature.attributes["polys"] = polysArray;  
        }  
    }  
}
```

- 可以重用的功能
- 希望提供给第三方用户使用的
- 自己的SDK



图片资源的嵌入方式

- 如果直接在mxml中使用Embed标签加载图片，会导致asdoc不能输出文档

```
package com.esri.mylib
{
    [Bindable] internal final class Assets
    {
        [Embed(source='assets/logo.png')]
        public var logo:Class;

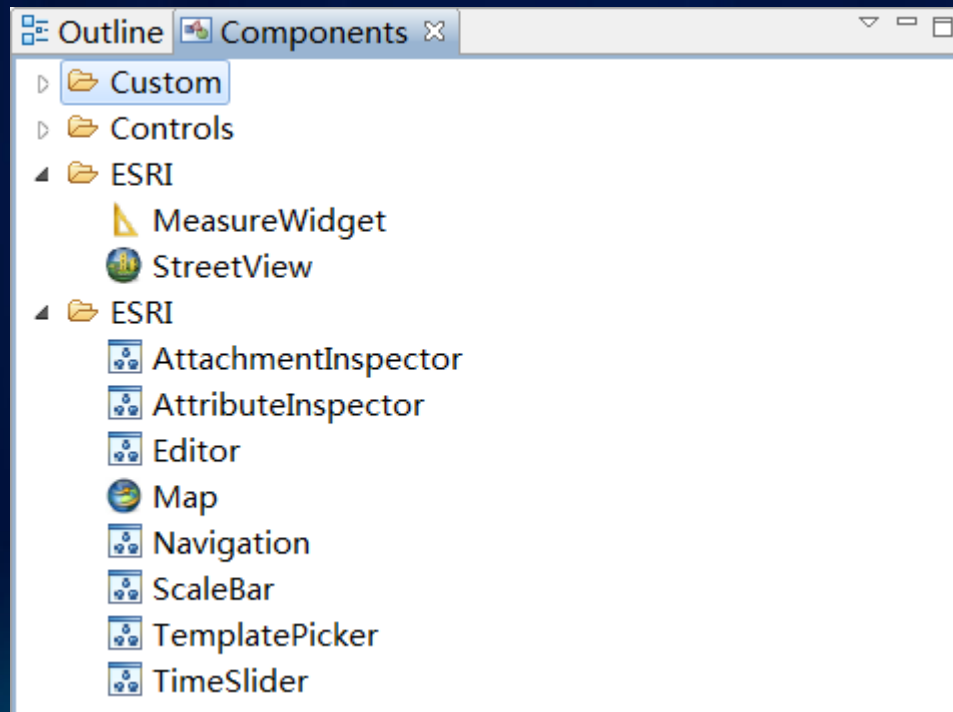
        static public function getAsset(s:String):Class
        {
            var assets:Assets=new Assets();
            return assets[s];
        }
    }
}
```

可供选择的属性值

```
[Bindable]  
[Inspectable (type="Boolean", defaultValue=true, enumeration="true,false")]  
public var logoVisible:Boolean = true;
```

可拖拽的控件

- 不要在一个可视控件中使用HTTPService
- 导致控件在设计视图中不可见



- 还需要在工程元数据中声明，以便对控件分组

design.xml

```
<?xml version="1.0" ?>
<design>
  <namespaces>
    <namespace prefix="esri" uri="http://www.esri.com/2008/ags" />
  </namespaces>

  <categories>
    <category id="esri" label="ESRI" defaultExpand="true" />
  </categories>

  <components>
    <component name="MeasureWidget" displayName="MeasureWidget"
      namespace="esri" category="esri">
    </component>
  </components>
</design>
```


绑定变量与特定事件的关联

- 一个不存在私有变量的get方法
- 能有与一般绑定变量同样的使用方法

```
[Bindable(event=MyViewEvent.LOAD)]
public function get viewAvaliable():Boolean
{
    var avaliable:Boolean = false;

    if(_serviceInfo.capabilities && _serviceInfo.capabilities.indexOf(VIEW)>=
1)
    {
        avaliable = true;
    }

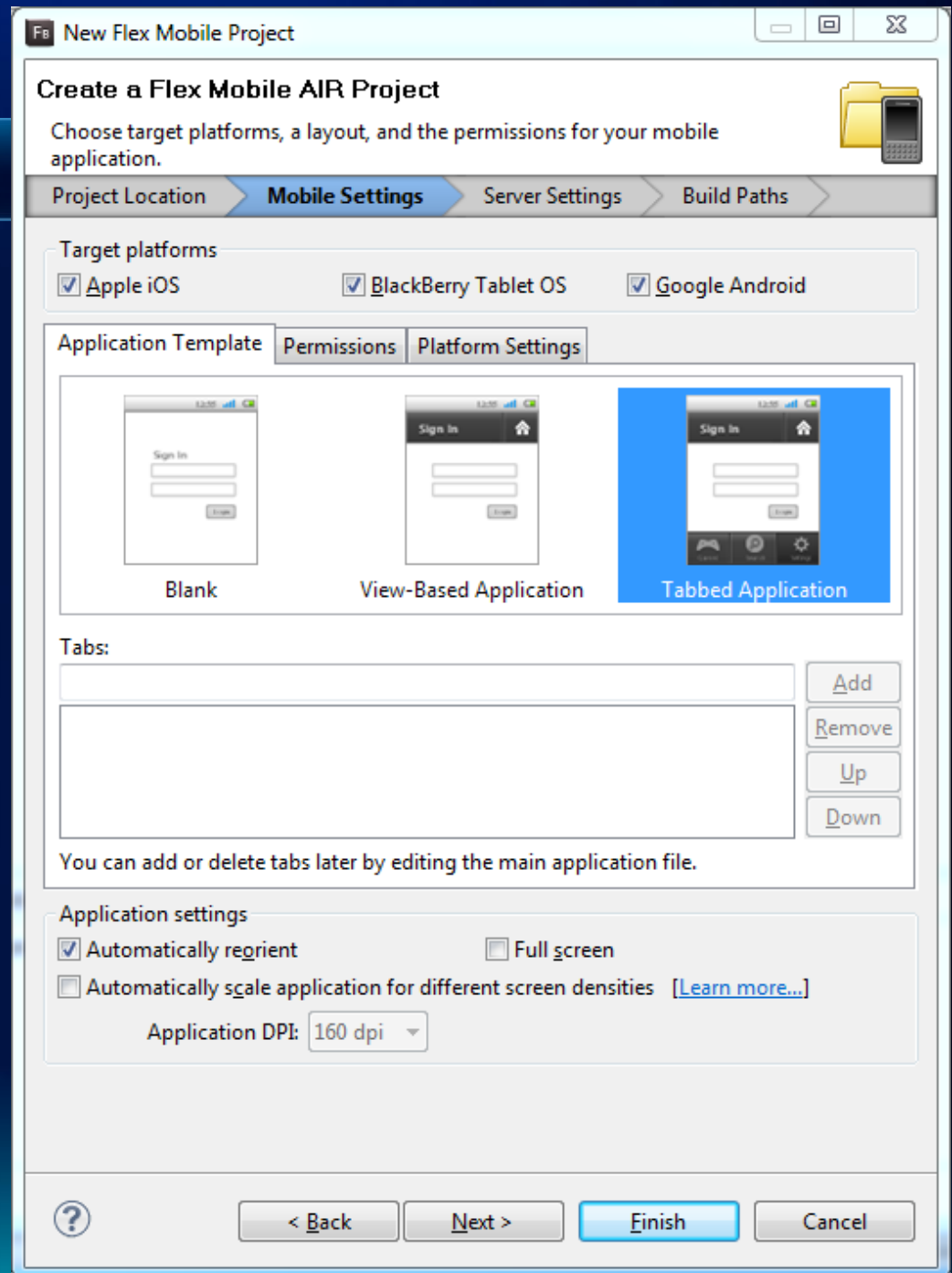
    return avaliable;
}
```

指定当前库的命名空间

.flexLibProperties

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<flexLibProperties includeAllClasses="true" version="3">
  <includeClasses>
    <classEntry path="com.esri.myLib.Assets"/>
  </includeClasses>
  <includeResources>
    <resourceEntry destPath="manifest.xml" sourcePath="manifest.xml"/>
    <resourceEntry destPath="design.xml" sourcePath="design.xml"/>
  </includeResources>
  <namespaceManifests>
    <namespaceManifestEntry manifest="manifest.xml"
namespace="http://www.esri.com/2008/ags"/>
  </namespaceManifests>
</flexLibProperties>
```


- Flash Builder 4.5
- Android
- iOS
- BlackBerry 平板



Flash Builder File Edit Source SourceMate Navigate Search Project Data Run Window Help ← mansour

Flash - MyMobileApp/src/MyMobileApp.mxml - Flash Builder - /Users/mraed_admin/BurritoWorkspace

Flash Debug Flash

Package Explorer

- BostonDashboard
- ChatApp
- EmpApp
- employeedirectory
- GeoChat
- GenAgencyInfoApp
- HolisticUI2
- MobileTrader
- MyChatApp
- MyMobileApp**
 - src
 - default: package
 - MyMobileApp.mxml
 - asXMLs
 - views
 - MyMobileApp-app.xml
 - MyMobileApp-ios.xml
 - Flex Item
 - Referenced Libraries
 - bin-debug
 - bin-release
 - lib
 - uki
 - docfx.sh

Outline

MobileApplication

GeoChat.mxml GeoChatMap.mxml ChatApp.mxml MyMobileApp.mxml

Source Design

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <:MobileApplication xmlns:fx="http://ns.adobe.com/mxml/2009"
3   xmlns:s="library://ns.adobe.com/flex/spark"
4   firstView="views.HomeView">
5 </:MobileApplication>
```

Problems Data/Services Network Monitor Console Search Progress ASDoc

No consoles to display at this time.

MyMobileApp

数据传输

```
function onInfo {  
    var map = new esri.Map("map");  
    var tl = ledmapServiceLayer;  
    var layers = tl.layers.A; //CGI?//esri.com/vi/ces/esri/imagery...  
    var layer = tl.layers.A.addLayer(tl.ledmapServiceLayer);  
}  
  
function getDriveTimePolys(results){  
    var features = results(0).features;  
    for (var f=0; f<features.length; f++){  
        var feature = features[f];  
        if (feature.type === "Polygon")  
            var polys = feature.geometry.paths;  
            for (var i=0; i<polys.length; i++){  
                var poly = polys[i];  
                var color = new dojo.Color(0, 0, 0, 0.5);  
                var symbol = new esri.Symbol({type: "simple", color: color, style: "solid"});  
                var dojoSymbol = new esri.Symbol({type: "simple", color: color, style: "solid"});  
                feature.setSymbol(dojoSymbol);  
            }  
        }  
    }  
}
```

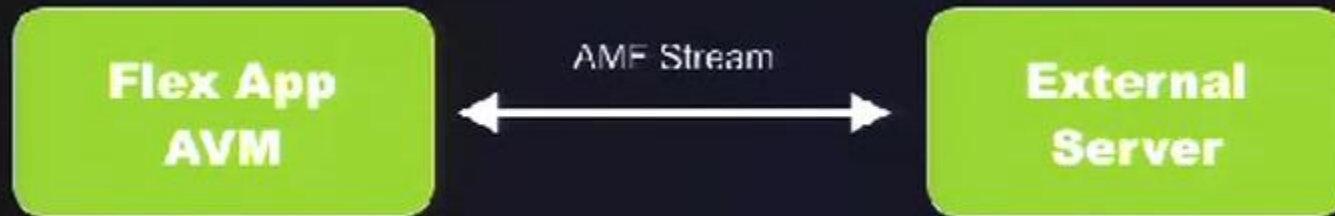
- JSON

- 纯文本

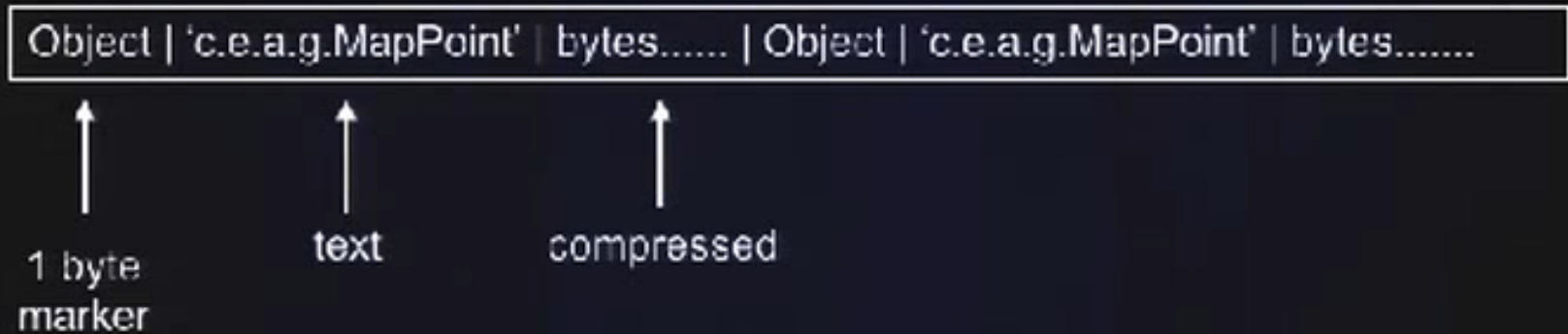
- AMF

- 二进制
- 压缩比高
- Flex内置的序列化支持
- ArcGIS Server内置
- SOC 级别

```
[RemoteClass(alias="com.esri.ags.geometry.MapPoint")]  
public class MapPoint  
  extends Geometry  
  {  
    ....  
  }
```



AMF Stream





```

<?xml version="1.0" encoding="utf-8"?>
<s:Application xmlns:fx="http://ns.adobe.com/mxml/2009"
  xmlns:s="library://ns.adobe.com/flex/spark"
  xmlns:mx="library://ns.adobe.com/flex/mx"
  xmlns:esri="http://www.esri.com/2008/ags">
  <fx:Declarations>
    <s:RemoteObject id="ro" destination="queryRU">
      <s:channelSet>
        <s:ChannelSet>
          <s:AMFChannel id="amf" url="http://localhost:8080/blazeds/messagebroker/amf"/>
        </s:ChannelSet>
      </s:channelSet>
    </s:RemoteObject>
  </fx:Declarations>
  <s:layout>
    <s:VerticalLayout/>
  </s:layout>
  <esri:Map id="map"
    load="{ro.query()}"
    openlandCursorVisible="false">
    <esri:GraphicsLayer id="gl" graphicProvider="{ro.query.lastResult.features}"/>
  </esri:Map>
  <mx:DataGrid width="100%" height="100%"
    dataProvider="{ro.query.lastResult.attributes}"/>
</s:Application>

```

ArcGIS Flex API 2.0后

QueryTask

useAMF : Boolean

[read-only] Use AMF for execute() and executeRelationshipQuery().

Geoprocessor

useAMF : Boolean = true

Use AMF for execute() and getResultData().



分 享 地 理 价 值