



Esri International Developer Summit
Palm Springs, CA

Building Java Apps with ArcGIS Runtime SDK

Vijay Gandhi, Elise Acheson, Eric Bader

Demo Source code:

<https://github.com/Esri/arcgis-runtime-samples-java/tree/master/dev-summit-2014>

Video Recording:

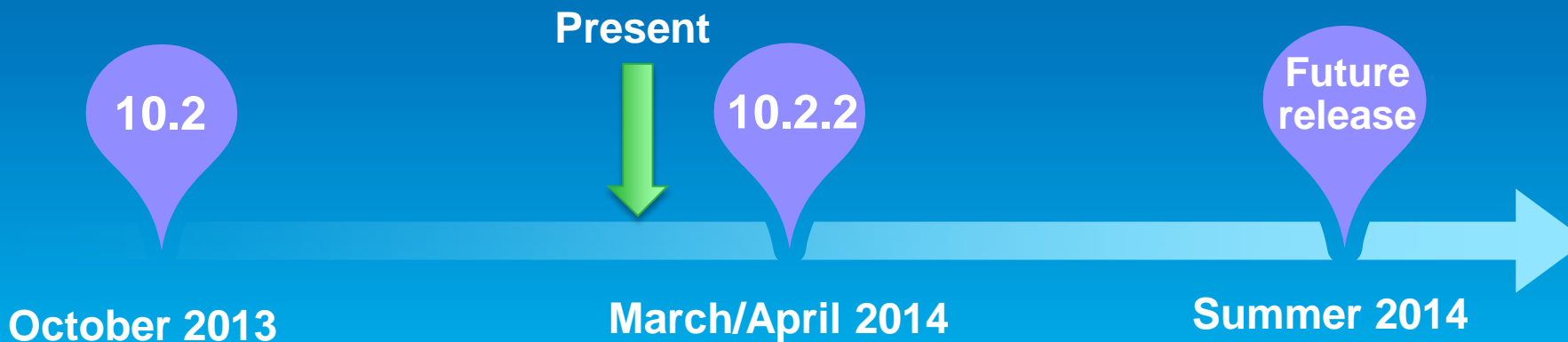
<http://video.esri.com>

Outline

- **What's new**
- **Developing an app**
 - **Map & Layers**
 - **Analysis**
 - **Offline**
 - **Patterns**
 - **Routing & Geocoding**
 - **Editing**
 - **Sync**
- **Deploying your app**
- **Road ahead**

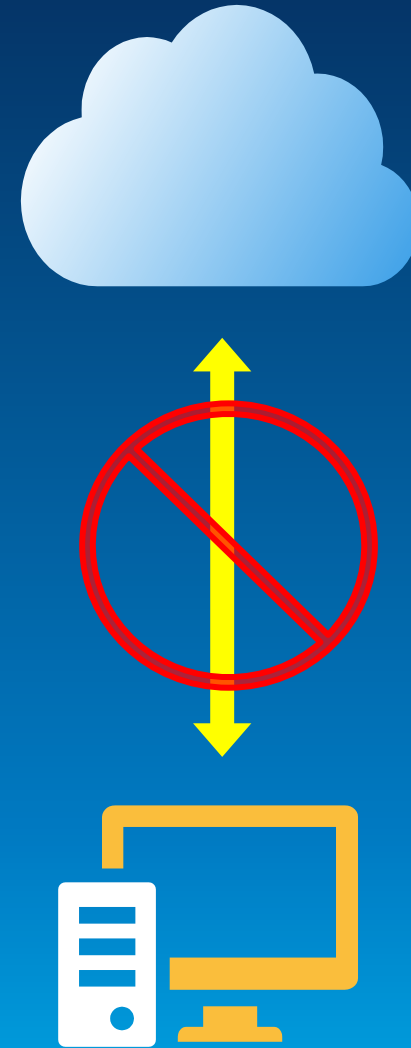
What's new

- **10.2 release out now**
 - free download on developers.arcgis.com
- **10.2.2 release coming soon**
- **Developers website**
 - download, documentation, samples
- **32-bit Linux**
- **New licensing model**



What's new - Offline

- **Tile cache**
 - Use as basemap
- **Cache features locally**
 - Local geodatabase
 - Query, Identify
 - Edit
 - Sync edits
- **Routing & Geocoding**



What's new - Functionality

- **OAuth 2.0**
 - For ArcGIS Online
- **Geometry**
 - Geodesic operations
 - Transformations
 - Coordinate Conversions
- **Dynamic Layer labeling**
- **Lat-Lon grid**
- **API Simplification**
- **Performance**
 - DirectX 11
 - Static rendering



DEMO

Building an app

Vijay Gandhi

ONLINE

IMPACT ANALYSIS

DOWNLOAD
GO OFFLINE

EXIT



Map & Layers

- Add data as Layers
- Online
 - ArcGIS Online
 - ArcGIS for Server
 - OGC (WMS)
 - OpenStreetMap
 - KML
- Local
 - Authored using ArcGIS for Desktop
 - Tile packages
 - Map packages
 - Locator packages
 - Geoprocessing packages



Map & Layers

- **GPS Layer**

- File or Serial port
- NMEA
- Navigation modes

- **Graphics Layer**

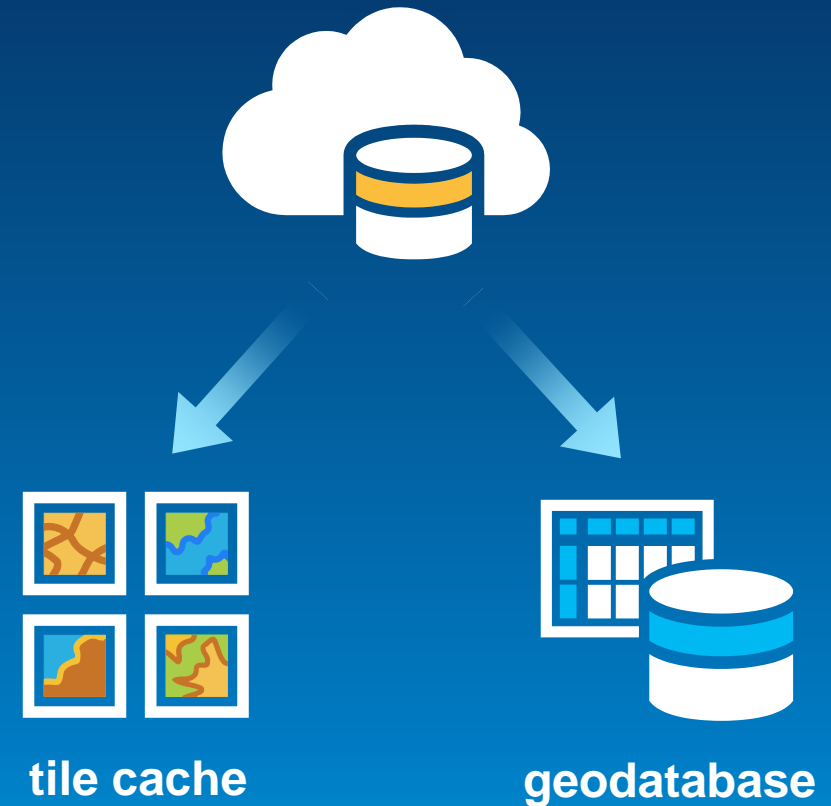
- Custom data
- Point, Line, Polygon
- Symbology



Map & Layers

New in 10.2*:

- **Tile cache**
 - Download tiles from server
 - Use to create local tiled layer
- **Geodatabase**
 - Download features from server
 - Display in FeatureLayer
 - Editable
 - Searchable
 - Sync enabled



*Beta at 10.2, final at 10.2.2

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Map & Layers

Vijay Gandhi



Analysis - Geometry Engine



Buffer



Difference



Intersect
(equals, within, contains,
crosses, touches)



Union



Project



Shortest Distance



Line Length

Analysis - Features

- On features and their attributes
 - Query
 - Find
 - Identify
 - Geocoding
- Synchronous and asynchronous pattern
- Online and offline
- Can accept input in one spatial reference, and output in another



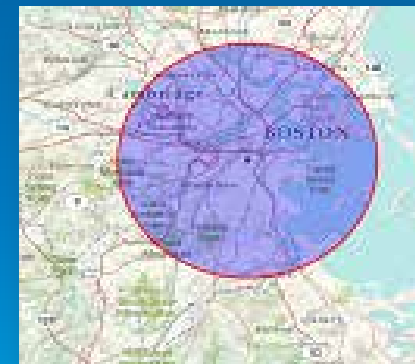
Analysis - Geoprocessing

- **Tools included in the ArcGIS System to perform GIS analysis**
- **Examples**
 - **Viewshed**
 - **Buffer**
 - **Geometric Networks**
- **Custom script tools implemented using ModelBuilder or Python**
- **Available**
 - **Online - hosted as a geoprocessing service by ArcGIS server**
 - **Offline - local geoprocessing packages (GPK)**
- **Execute the service as a task using the API**

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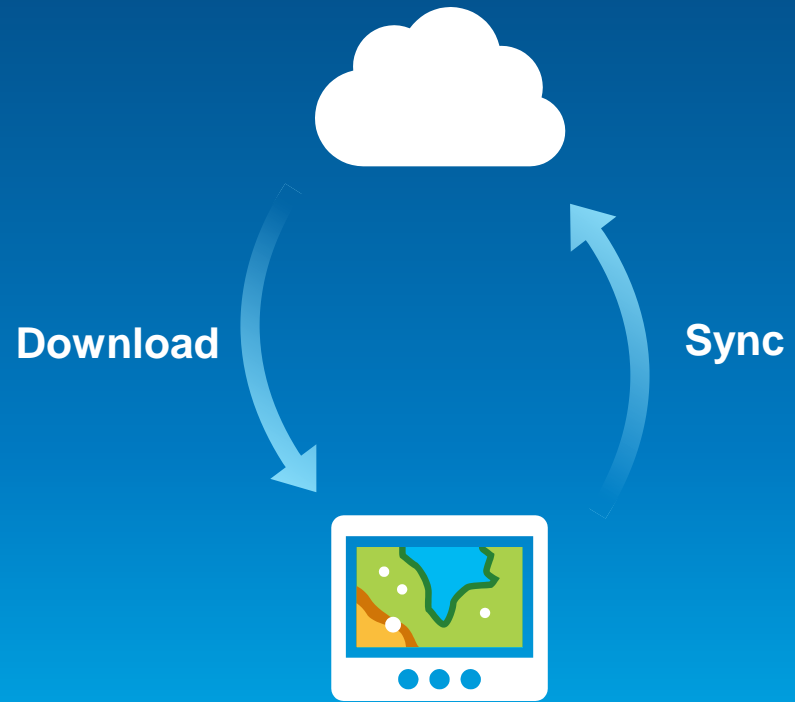
Analysis

Vijay Gandhi



Offline

Services Pattern



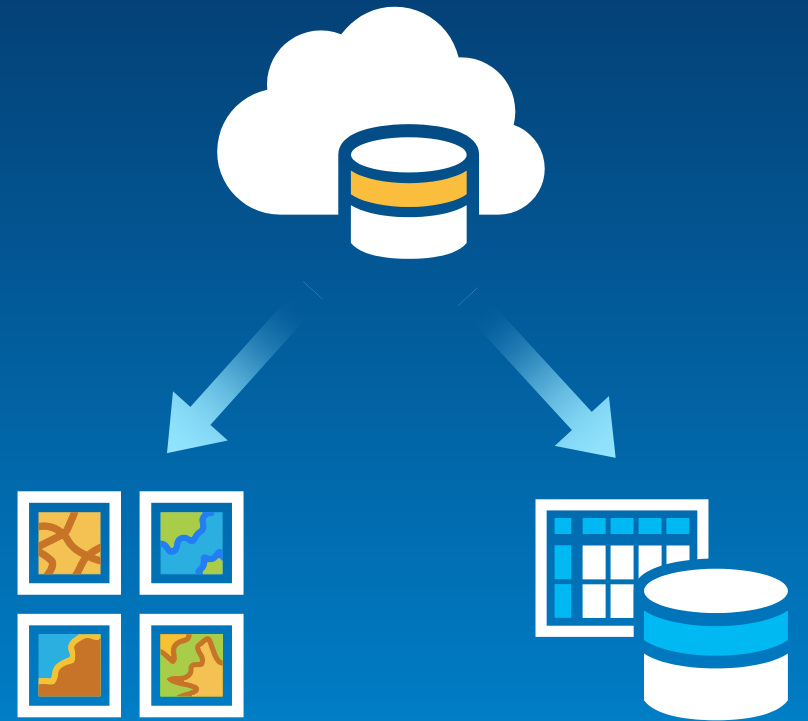
Desktop Pattern



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Getting Data

Elise Acheson



Offline - Routing & Geocoding

- **Routing**

- Create & Share route data from ArcGIS for Desktop
- Option to set stops, preserve order, add barriers



- **Geocoding**

- Create & Share locator data from ArcGIS for Desktop
- Geocoding & Reverse geocoding



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Routing

Elise Acheson



Offline - Editing

- Create, Edit, Delete features
- Edit attributes, geometry & attachments of a feature
- Edit Using
 - API – for fine-grained control
 - Toolkit – for rapid development
- Online and offline

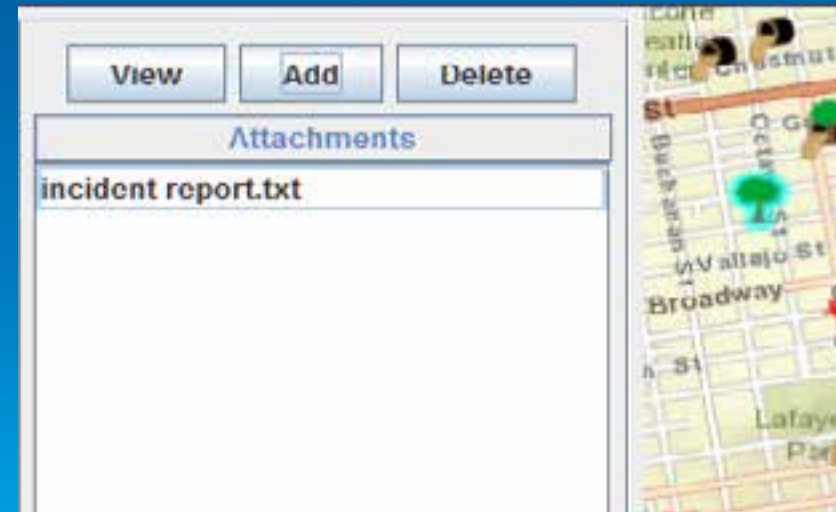


Offline - Editing

- **Popup**
 - Dialog with attributes of a feature
 - Read-only and Editable



- **Attachment Editor**
 - View, add, delete attachments



Offline - Editing

- Features

- Template Picker

- Creates templates of features; can be used to add new features

- Drawing Overlay

- Helps in creating different geometries on map

- Editing Toolbar

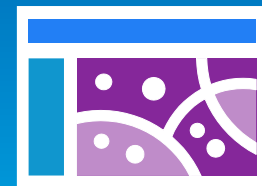
- Provides option to select, edit, delete features



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Editing

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Synchronization

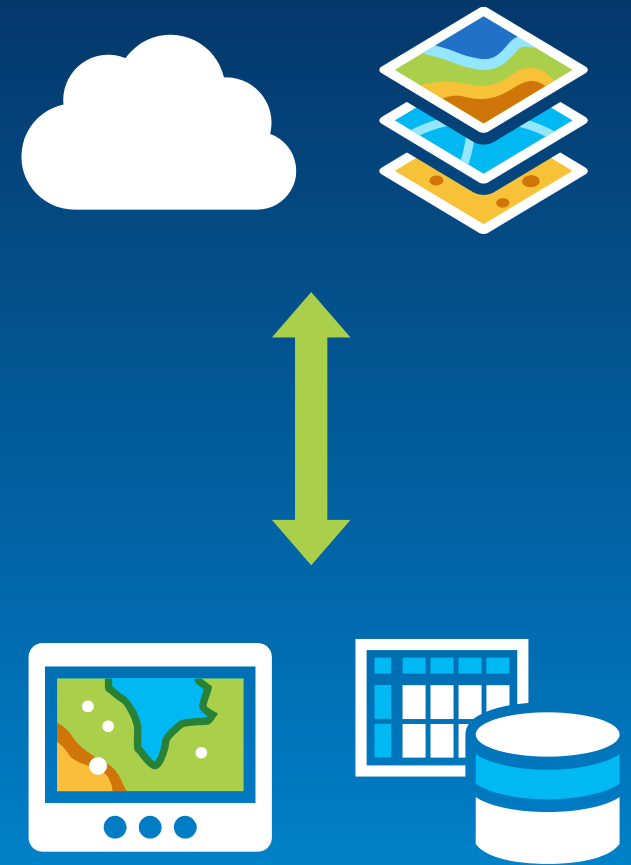
- Upload and download feature data
- Synchronize
 - Per layer
 - Entire geodatabase



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Sync

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Deployment

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Tips

- **Use the Async pattern**
 - Tasks such as Query
 - Swing EventQueue
- **Features**
 - Scale threshold
 - For query operation over network, do not return geometry if not required
- **Use appropriate Spatial Reference**
- **Use relative paths to resources**

Road Ahead

- **10.2.2**
 - Offline API released as final (was Beta)
 - Last release to support Java 6
- **Summer release**
 - Improved Portal API
 - Direct read of Raster data, shapefiles, KML
- **Beyond**
 - Java 8
 - One map spec across whole ArcGIS platform
 - Vector basemaps
 - 3D

ArcGIS Runtime SDK sessions, Thursday

Session Name	Time	Location
The Road Ahead: ArcGIS Runtime SDKs	8:30am – 9:30am	Primrose A
Everything (or Anything) You Wanted to Know about the ArcGIS Runtime SDKs	10:00am – 11:00am	Primrose A

Questions?





Understanding our world.