Upgrading Common Workflows from 10.2.x to 100.x with ArcGIS Runtime SDK for .NET

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Agenda

• Architectural Overview
• Maps
• Editing
• Analysis
• Resources
• Q&A
Architectural Overview
Architecture: New APIs included in this release

- ArcGIS Runtime – C#
- ArcGIS Core – C++

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<th>ArcGIS Runtime – C#</th>
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10.2.x

- WPF
- UWP
- Xamarin Forms
- Xamarin IOS
- Xamarin Android

100.x

- ArcGIS Runtime – C#
- ArcGIS Core – C++
Architecture: Notes about install

• New install workflow
  - Templates installed locally as a Visual Studio (VSIX) extension
  - APIs can reference packages stored locally or hosted on NuGet.org

• No longer requires an ArcGIS Runtime .NET Deployment Manifest.

• Local Server is now a separate install

• .NET 4.5.2 minimum
Architecture: Additional info

• Loadable Pattern
  - Intended for workflows that involve accessing lots of data from connected online resources
  - Makes the behavior of loading state more consistent and uniform

• Online/Offline
  - APIs for common operations such as editing, searching, geocoding or routing are the same in 100.x
  - Packaging Offline maps – Mobile Map Packages
Maps
Maps: Mobile Map Package .mmpk

• The creation of Mobile Map Package replaces Create Runtime Content
  - Same content as .mpks
    - Mobile .geodatabase
    - Tile Package .tpk
    - Runtime network dataset
    - Runtime locator
  - Vector basemaps
  - Created in ArcGIS Pro
Maps: Map Package .mpk

- Continue to be supported in ArcGIS Runtime 100.x via Local Server
- Superseded by Mobile Map Package and direct data format support in many workflows
  - May still be required for some scenarios e.g. CAD layer
- Map Packages must be created with ArcMap 10.4.1
- Recommended for Geoprocessing Packages
Maps: Vector Tile Package .vtpk

- Contain collection of vector tiles and style resources
- Vector tiles contain vector representations of data across a range of scales
- Adapt to resolution of the device display
- Can be customized on the device for multiple uses e.g. day / night styling
- Faster to generate, smaller packages
- Tile packages .tpk continue to be supported in 100.x
Demo

Mobile Map Packages (.mmpk)
Editing
**Editing: ArcGIS Runtime 100.x**

- Supports same editable data formats and content as 10.2.x
- Feature Collections new to 100.x
  - Features, geometry, and attributes
  - Stored in maps ‘by value’
  - Portal items ‘by reference’
- Offline Map Package .mpk editing via Local Server
  - Still supported in 100.0
  - Only option for editing File geodatabases
  - Many workflows replaced with sync-enabled feature services and mobile geodatabases
Demo

Editing Feature Collections
Editing: ArcGIS Runtime 100.x

- **Offline Editing**
  - The pattern for generating a local geodatabase has changed
  - You now run a job that will generate an offline map
  - GenerateGeodatabaseJob
    - Job that requests a feature service to generate a geodatabase file
  - Event Handlers:
    - JobChanged
    - ProgressChanged
Analysis
Analysis: Geoprocessing Tasks

• Geoprocessing
  - Local geoprocessing service using LocalServer
  - ArcGIS Server
  - ArcGIS Online

• Geoprocessor class has been replaced with GeoprocessingTask
  - Create a geoprocessing job that tracks progress of the server processing
  - Listen for status changes as job progresses, and respond when it’s complete by reading the results (outputs) from the job
Demo
Geoprocessing Task
Resources

- ArcGIS Runtime SDK for .NET 100.1.0 Homepage - [https://developers.arcgis.com/net/latest/](https://developers.arcgis.com/net/latest/)
- Migrate from 10.2.x to 100.x - [https://developers.arcgis.com/net/latest/wpf/guide/migrate-to-100-x.htm](https://developers.arcgis.com/net/latest/wpf/guide/migrate-to-100-x.htm)
- ArcGIS Runtime SDK for .NET Samples - [https://github.com/Esri/arcgis-runtime-samples-dotnet/tree/master](https://github.com/Esri/arcgis-runtime-samples-dotnet/tree/master)
- System requirements - [https://developers.arcgis.com/net/latest/wpf/guide/system-requirements.htm](https://developers.arcgis.com/net/latest/wpf/guide/system-requirements.htm)
- Release Notes - [https://developers.arcgis.com/net/latest/wpf/guide/release-notes-100-0-0.htm](https://developers.arcgis.com/net/latest/wpf/guide/release-notes-100-0-0.htm)
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