


ArcGIS Runtime SDK for Java: Building Apps

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ESRI EUROPEAN DEVELOPER SUMMIT




Agenda


- **Getting started with 100.6**
 - **Implications of Java 11**
 - **JavaFX**
 - **Base maps, layers and loadable pattern**
 - **Graphics overlays**
 - **Offline data**
 - **Licensing and deployment**
 - **Questions**
- 


Getting started with 100.6



Developers website

[ArcGIS for Developers](#) [Get Started](#) [Documentation](#) [Features](#) [Pricing](#) [Resources](#) 


 **Java SDK** [Home](#) [Guide](#) [API Reference](#) [Sample Code](#)




ArcGIS Runtime SDK for Java

Develop native mapping and location analysis apps with ArcGIS Runtime SDK for Java

ArcGIS Runtime SDK for Java 100.6 is certified against [AdoptOpenJDK 11](#) and [JavaFX 11](#). For more details, see [System Requirements](#) and [Get the SDK](#).







Get started

Use tutorials to start building an app with the ArcGIS Java SDK.

Version 100.6.0 · August 22, 2019 · Looking for v10.2.4?



Download the SDK



Install the SDK

SDK Installation

- **SDK is available in 2 ways:**
 - Zip / tgz file with all required files
 - Files will be available in a Maven repository
 - Use Gradle scripting
 - Use Maven scripting





Java Platform (JDK) 11

What happened in the world of Java?

End of Public Updates for Oracle JDK 8

Oracle will not post further updates of Java SE 8 to its public download sites for commercial use after January 2019. Customers who need continued access to critical bug fixes and security fixes as well as general maintenance for Java SE 8 or previous versions can get long term support through Oracle Java SE Subscription or Oracle Java SE Desktop Subscription. For more information, and details on how to receive longer term support for Oracle JDK 8, please see the [Oracle Java SE Support Roadmap](#).

Oracle to charge for Java from Jan 2019

May 1st, 2018 · 13 Comments

Oracle have announced that, "after January 2019", Java SE 8 public updates will not be available for "business, commercial or production use" without a commercial license.

Organisations will now need to take stock of all their software running Java SE 8 and start to work out what potential bill they are looking at next year.

Finding Java

The Java package – that will already be available within your organisation – includes a tool called "Java Usage Tracker" that will report on:



JavaFX will be removed from the Java JDK

Oracle's rich media web technology will be broken out of standard Java as of JDK 11, and will proceed at its own pace

Java 11 is here!

- 100.4 works with Java 8 and 11
- 100.5+ is for Java 11 only
- You can choose your JRE
 - AdoptOpenJDK
 - OpenJDK
 - Oracle JDK
- Java FX is no longer in the JDK
- Separate binaries are available

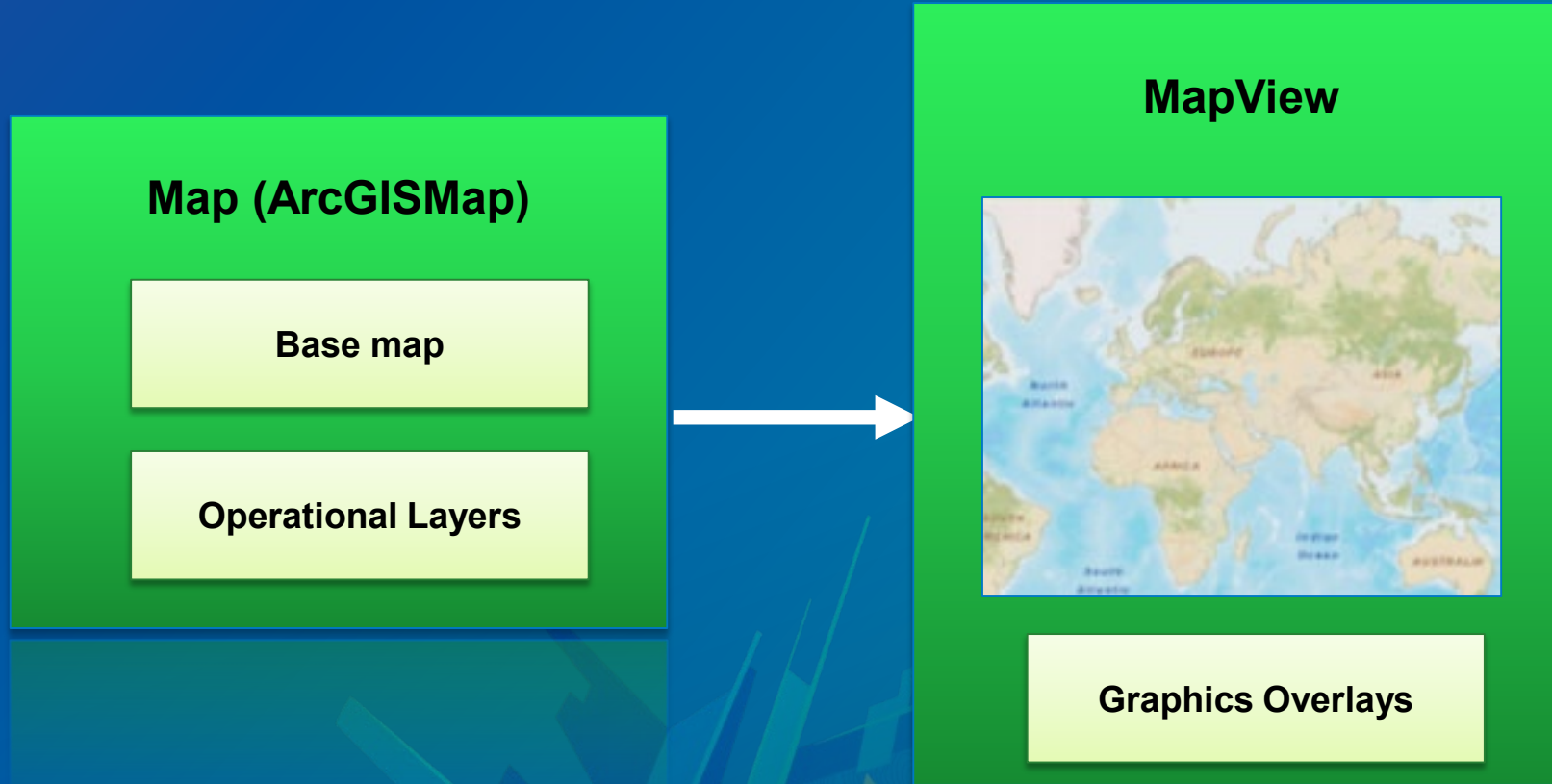


- <https://developers.arcgis.com/java/latest/guide/end-of-public-updates-for-oracle-s-java-se-8.htm>

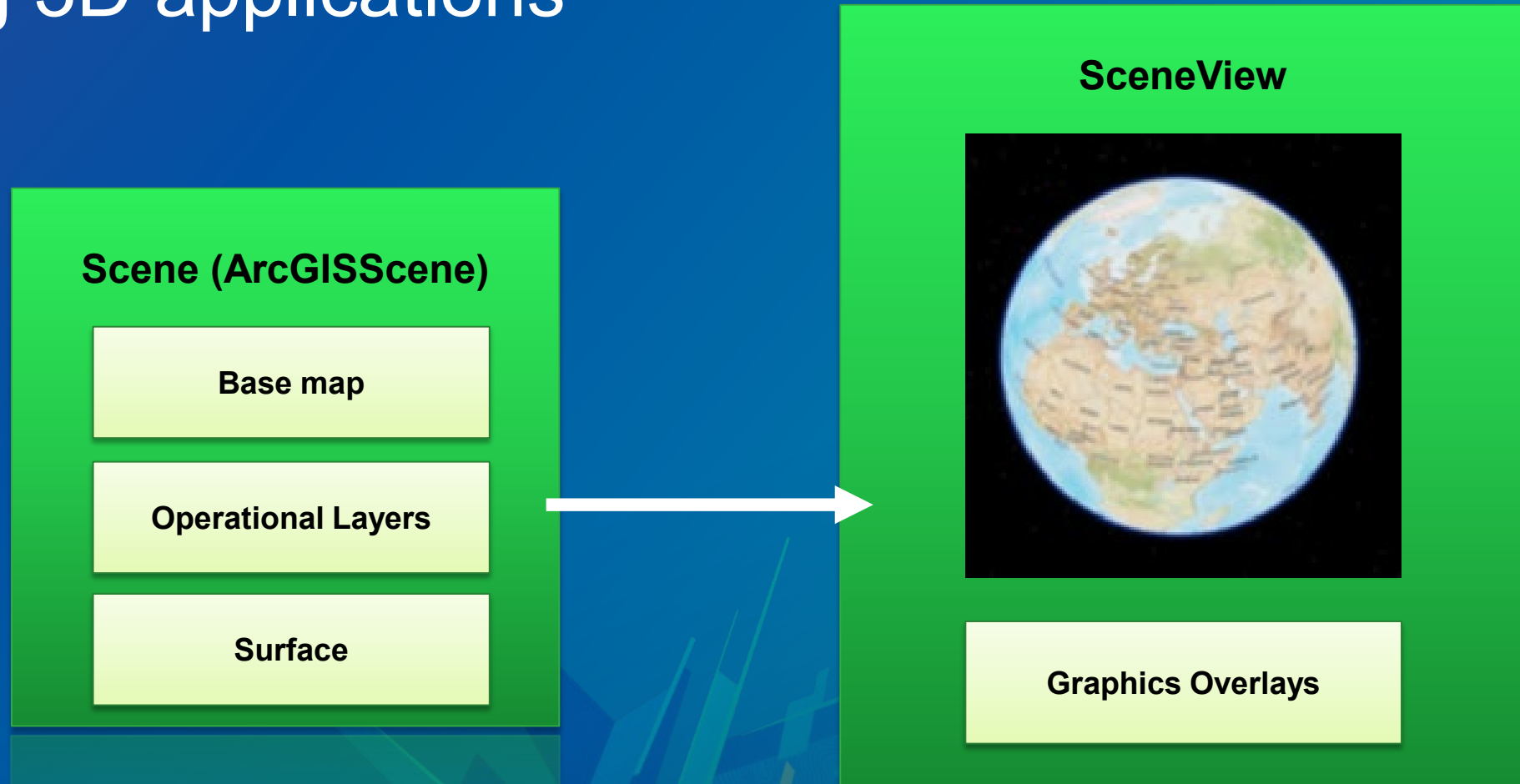


Base maps, layers and loadable pattern

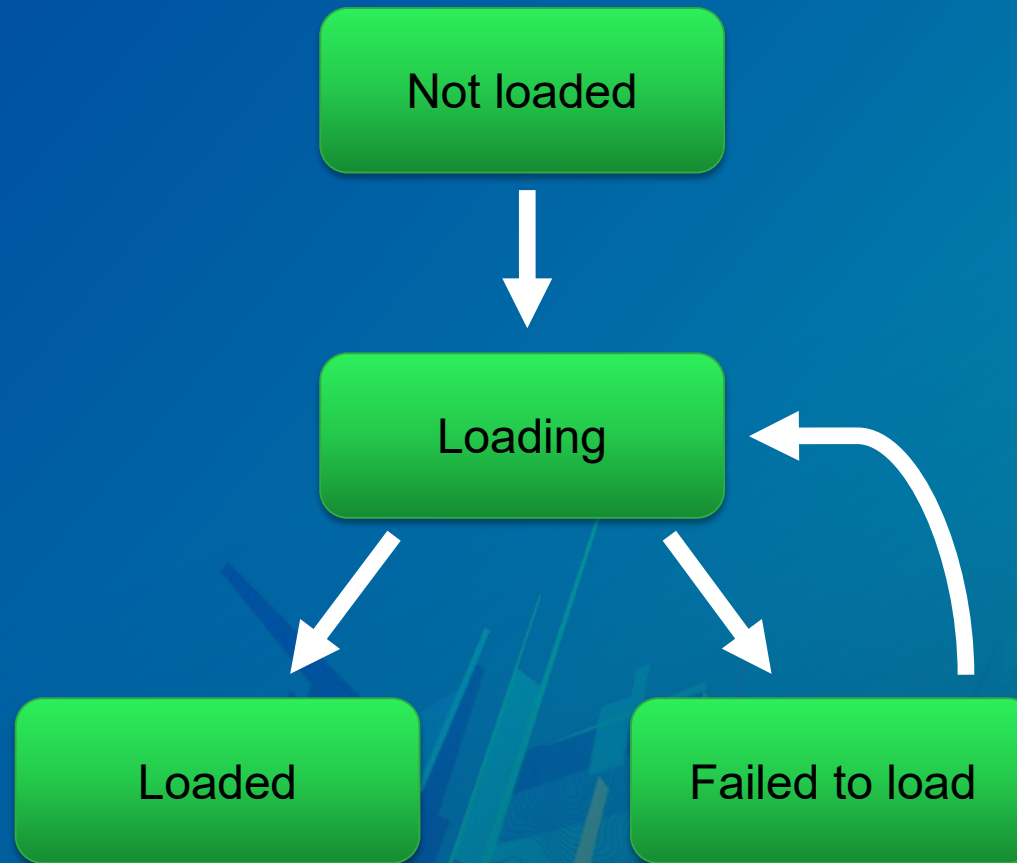
Writing 2D applications



Writing 3D applications



Loadable Pattern





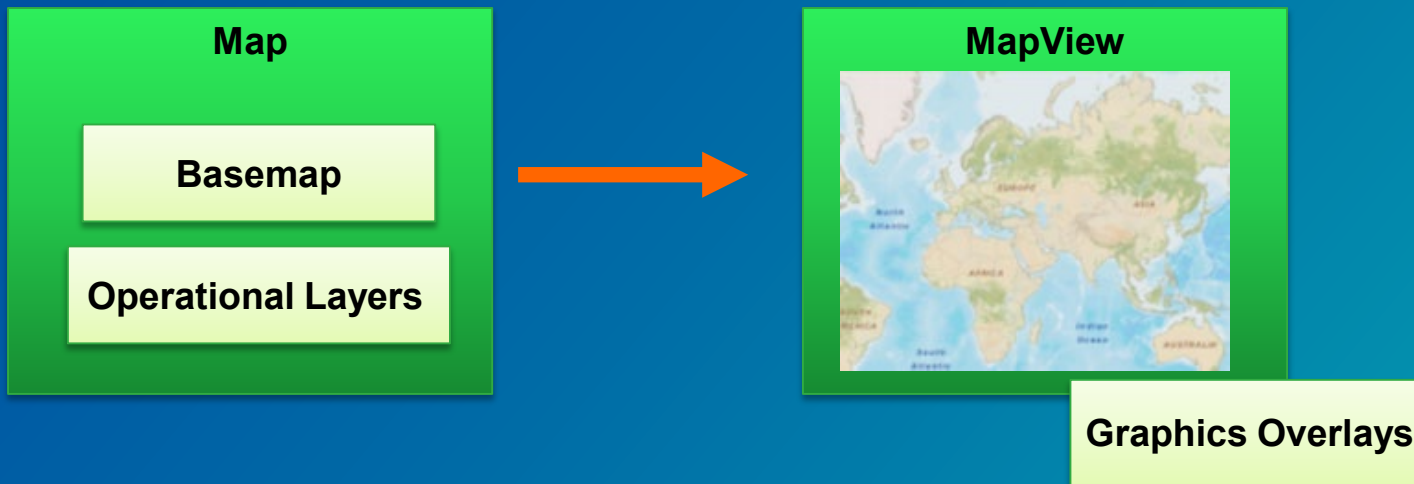
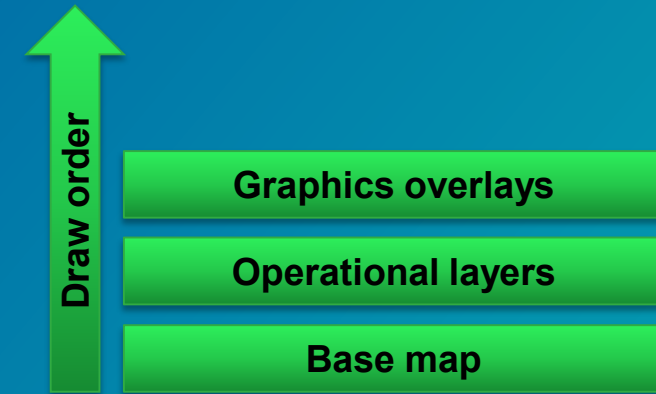
Demo: Maps and layers

Graphics Overlays



Graphics overlays (Graphics layers in 10.2.4)

- Used to display temporary or fast updating items
- Can be used to display point, lines or polygons
- Can be rendered in the same way as feature layers
 - Symbols, Unique value renderers, etc
- Graphics overlays are part of the Mapview or SceneView
- Not persisted



The background of the slide is a blue gradient. On the left side, there is an abstract graphic composed of numerous overlapping, semi-transparent rectangular blocks in various shades of blue, teal, yellow, and pink. At the bottom left, a small portion of a map is visible, showing a street grid and several white circular markers.

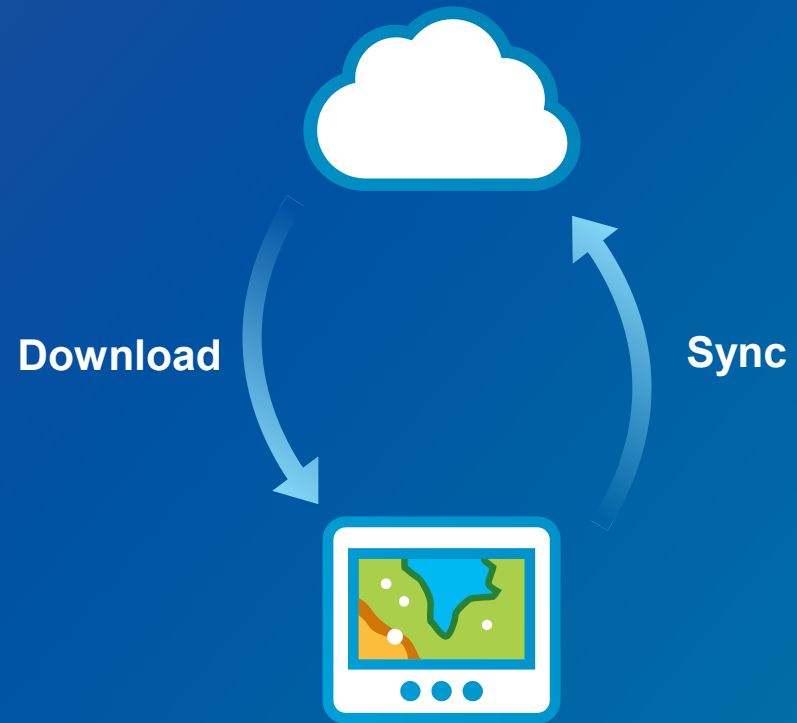
Demo: Graphics Overlays

Offline Data



Offline

Services Pattern



Desktop Pattern





Licensing and deployment

License your application

- **Choose a license level:**
 - Lite
 - Basic
 - Standard
 - Advanced
- **See <https://developers.arcgis.com/java/latest/guide/license-your-app.htm>**
- **Choose license method**
 - Named user
 - License key

License key

- Use the `setLicense` method before your app uses ArcGIS functionality

```
public static void main(String[] args) {  
    // set license  
    ArcGISRuntimeEnvironment.setLicense("runtimelite,1000,ru  
  
    // launch application  
    Application.launch(args);  
}
```

Named user licensing

- Log into your portal to get the license key

```
// connect to ArcGIS Online or an ArcGIS portal as a named user
// The code below shows the use of token based security but
// for ArcGIS Online you may consider using Oauth authentication.
UserCredential credential = new UserCredential("user", "password");

// replace the URL with either the ArcGIS Online URL or your portal URL
Portal portal = new Portal("https://your-org.arcgis.com/");
portal.setCredential(credential);

// load portal and listen to done loading event
portal.loadAsync();
```

Named user licensing (part 2)

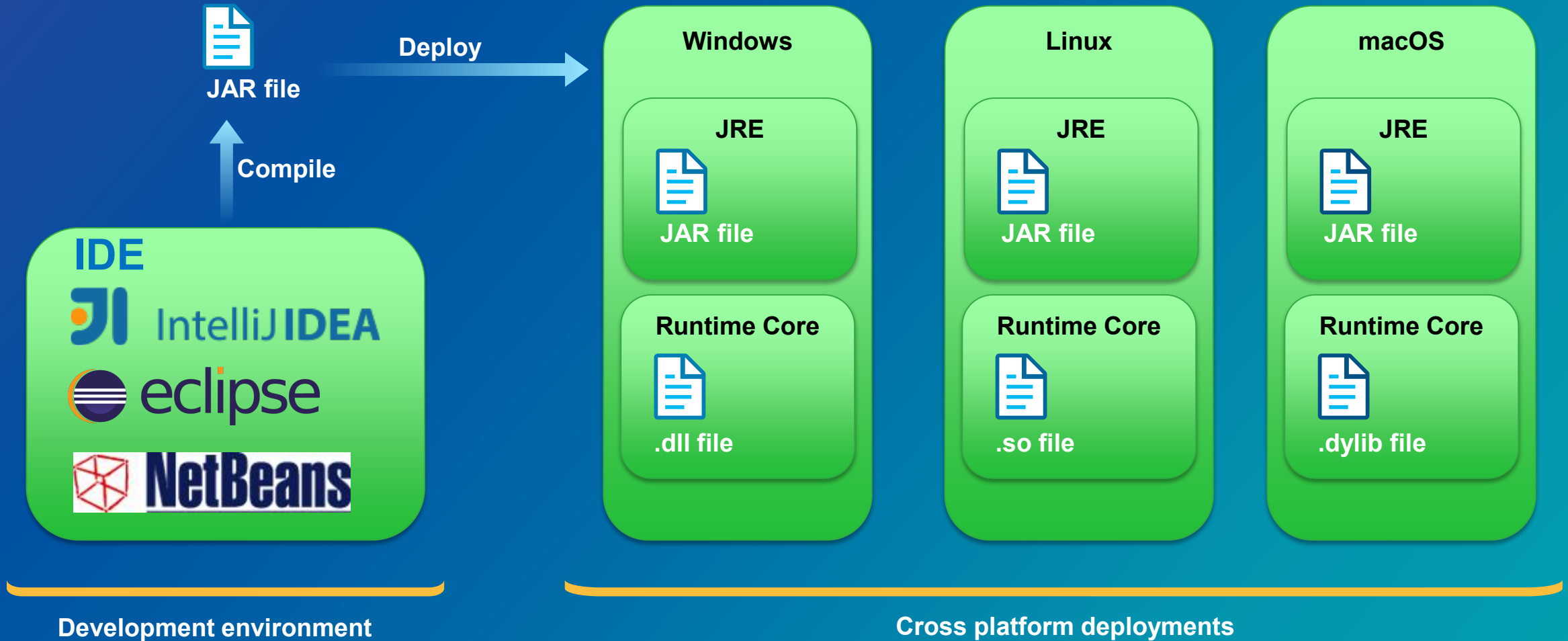
```
portal.addDoneLoadingListener(new Runnable() {

    @Override
    public void run() {
        // get license info from the portal
        LicenseInfo licenseInfo = null;
        try {
            licenseInfo = portal.getPortalInfo().getLicenseInfo();
        } catch (Exception e) {
            // code here to deal with error state
        }

        // obtain the license info as a string
        String licenseJson = licenseInfo.toJson();

        // Add code here to save the JSON license information.
        // This string needs to be saved on local storage.
        // Apply the license
        ArcGISRuntimeEnvironment.setLicense(licenseInfo);
    }
});
```


Java Runtime development and deployment



An abstract graphic on the left side of the slide. It features a dark blue background with a gradient. Overlaid on this are several semi-transparent, overlapping rectangles in various colors: dark blue, teal, light blue, yellow, orange, red, and pink. Some of these rectangles contain faint, stylized map patterns, including a grid and circular markers. The overall effect is a layered, geometric composition.

Demo: Deployment

Summary

- Migration to Java 11
 - Java FX
 - Key class and techniques for mapping apps
 - Graphics overlays
 - Offline maps
 - License and deployment
- 

Questions





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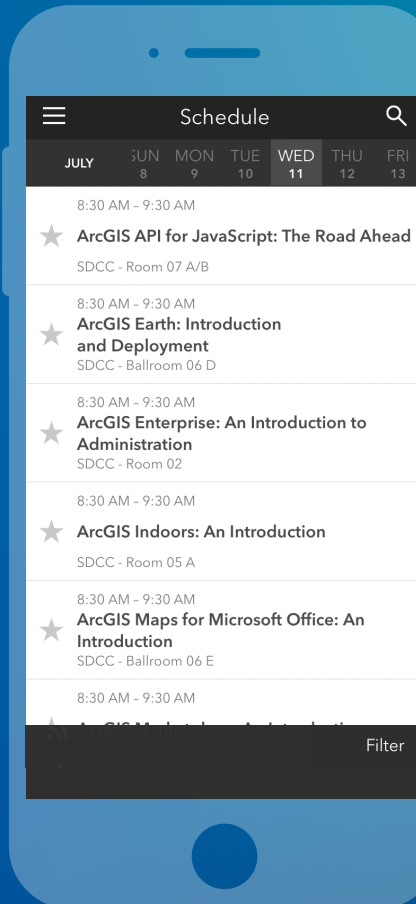
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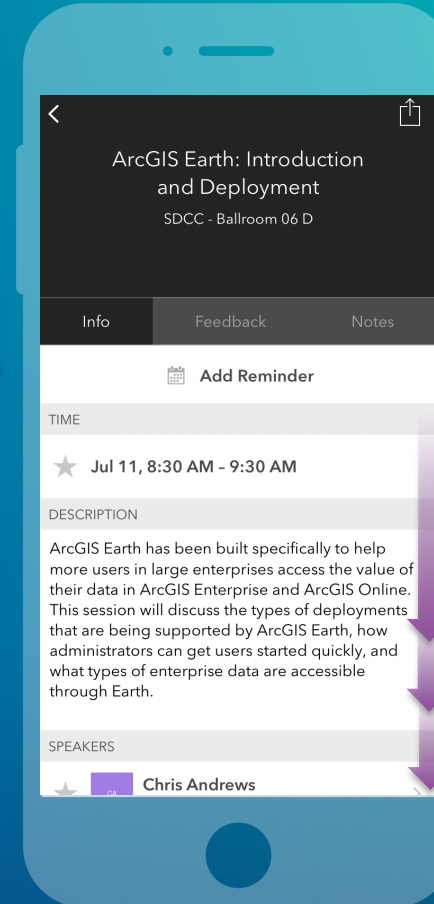
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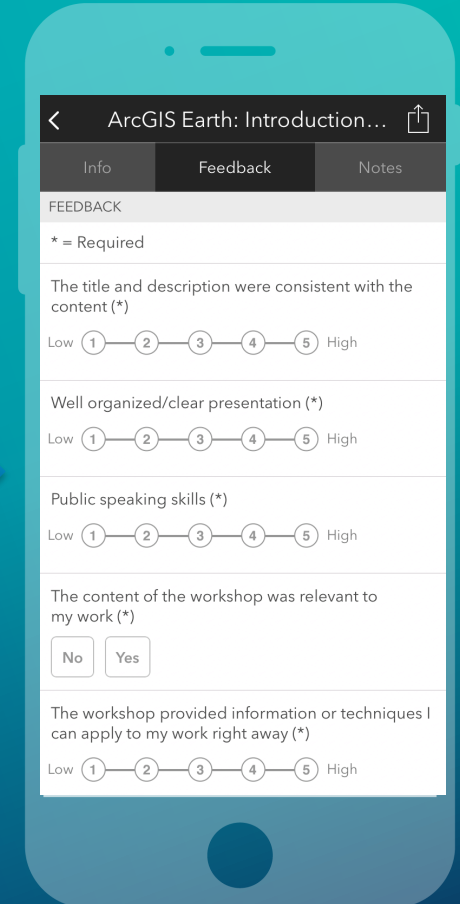
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What are we working on next?

- Local Server Dynamic Workspaces
- Take a map offline
- 3D specific
 - 3D Observer scene views
 - Improved rendering of feature layers in 3D
 - Augmented reality for 3D devices
 - Grids (Lat / Long for example) on scene
 - Vector basemap support for 3D



Presentation Title

Presenter Names

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Sample Name Here



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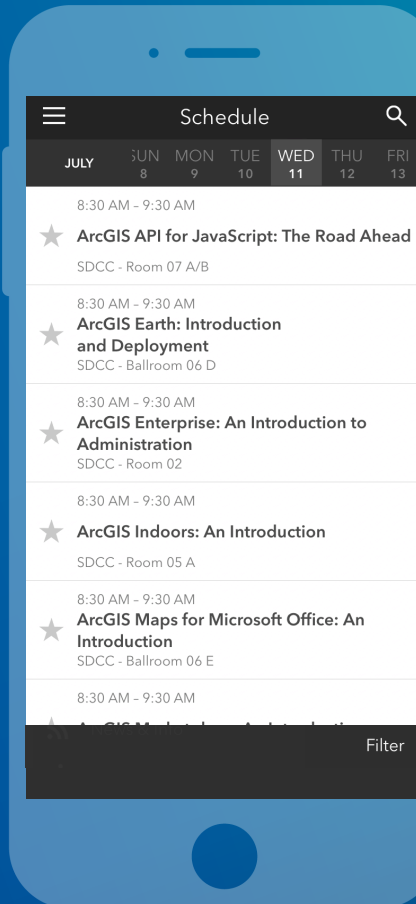
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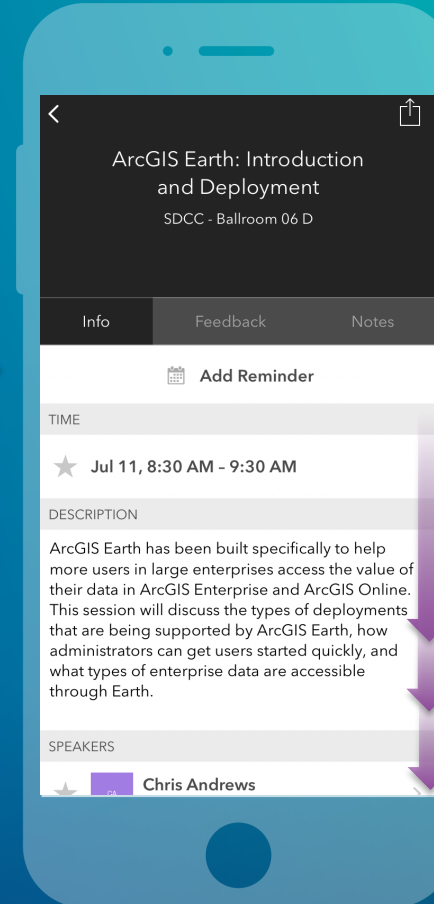
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