ArcGIS Runtime SDK for Java: Building Apps

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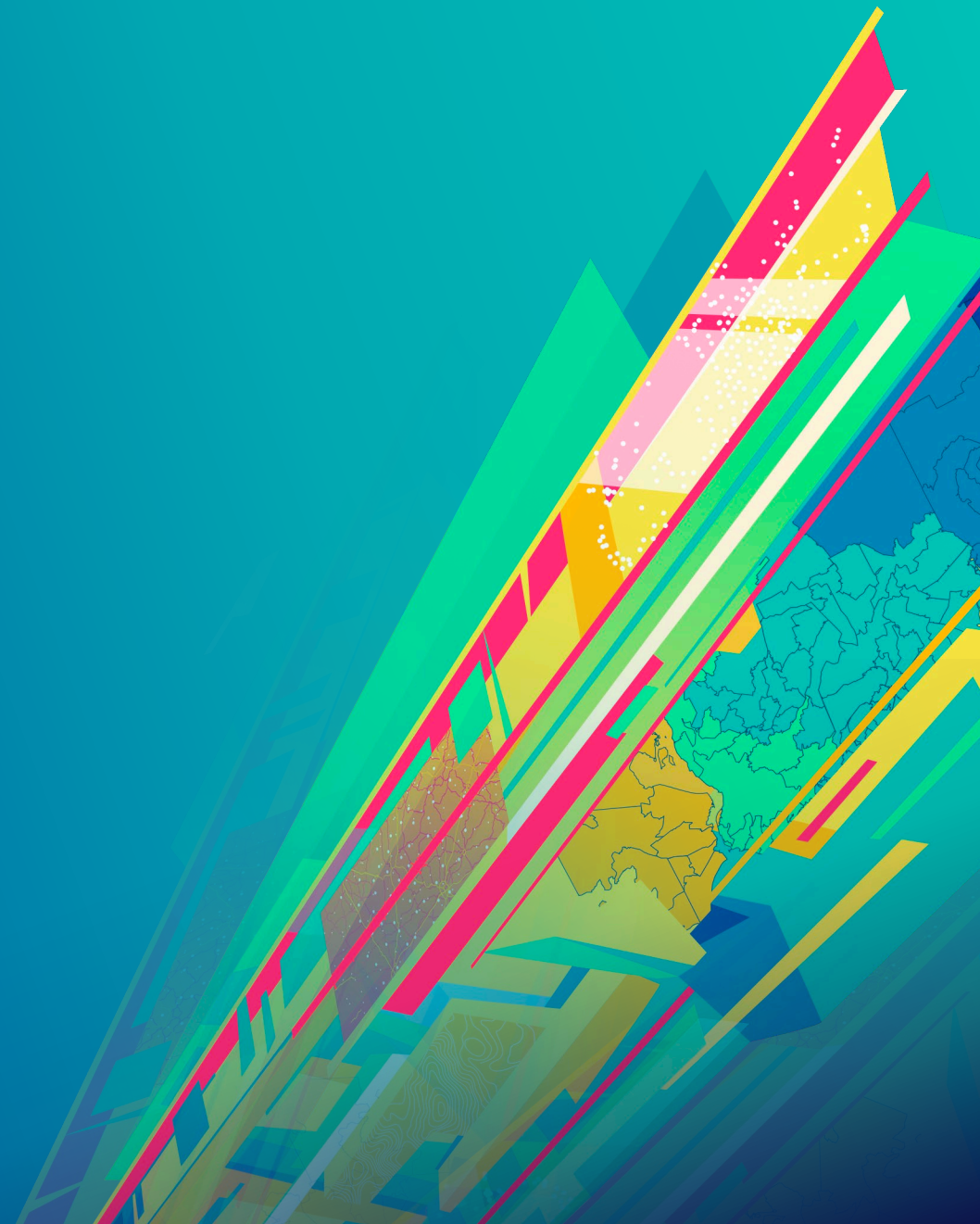
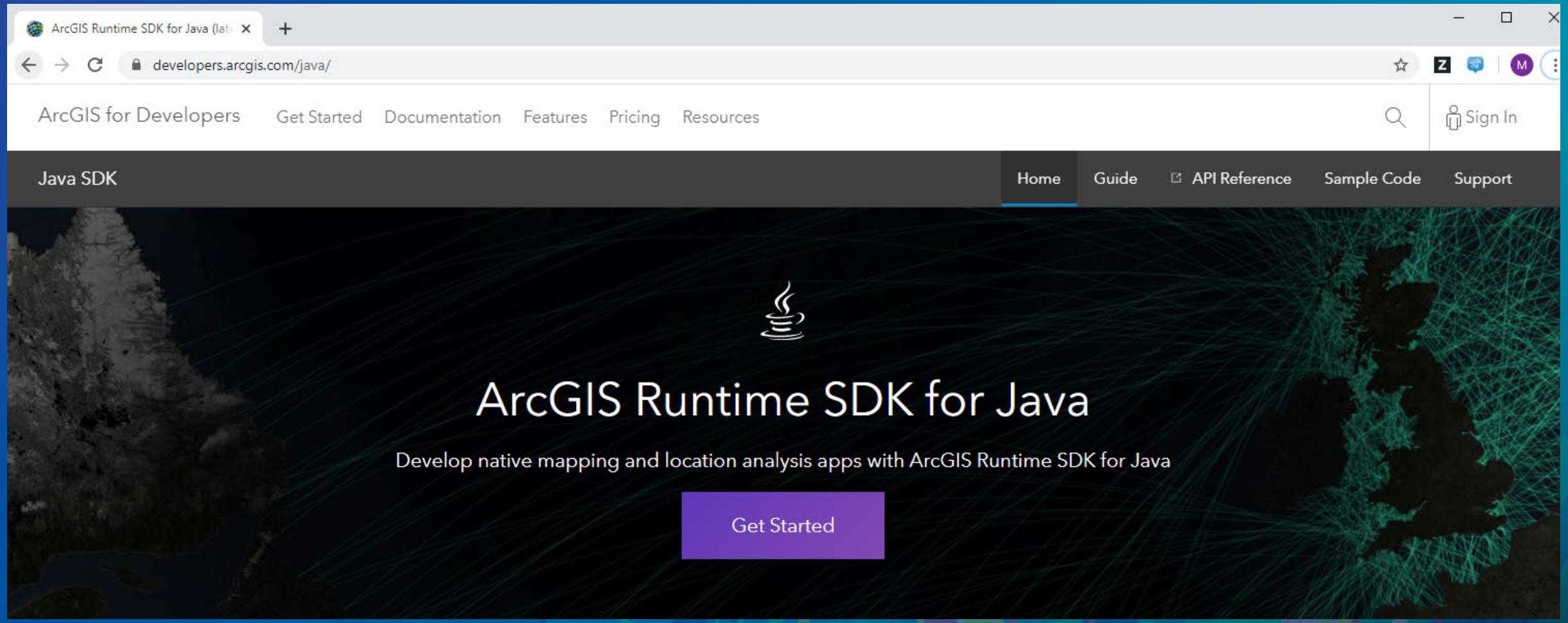
Agenda

- **Getting started with 100.7**
- **Java 11 / JavaFX**
- **Base maps, layers and loadable pattern**
- **Graphics overlays**
- **Offline maps**
- **Licensing and deployment**

Getting started with 100.7



Developers website



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
DOWNLOAD
Java Platform (JDK) 11

Rewind 18 months: What happened to 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, Java 14 is coming!

- 100.4 works with Java 8 and 11
- 100.5+ is for Java 11 only
- 100.8 is Java 11 and 14
- You can choose your JRE
  - AdoptOpenJDK
  - OpenJDK
  - Oracle JDK
- Java FX is no longer in the JDK
- Separate binaries are available

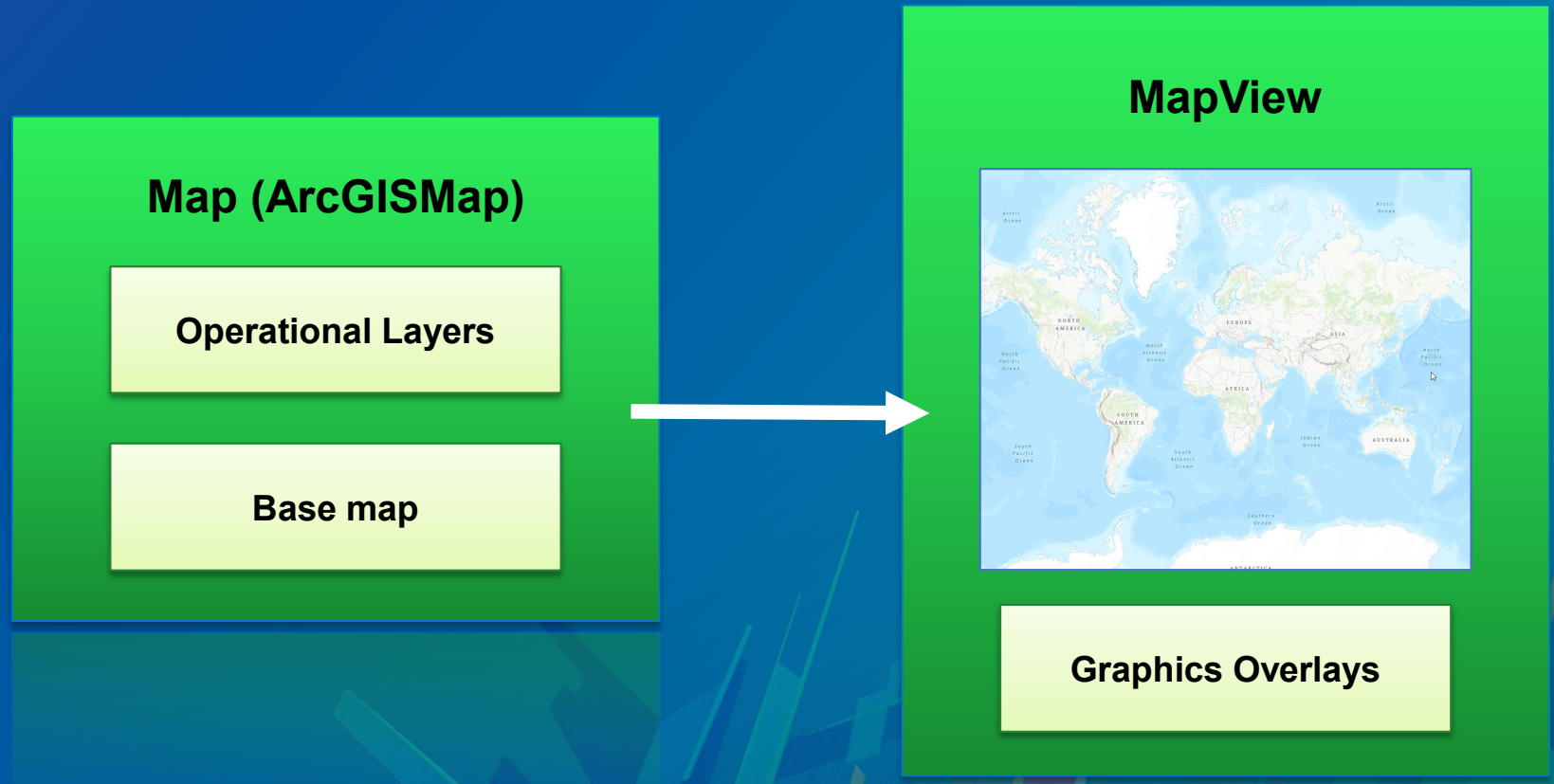
Maven™

GLUON

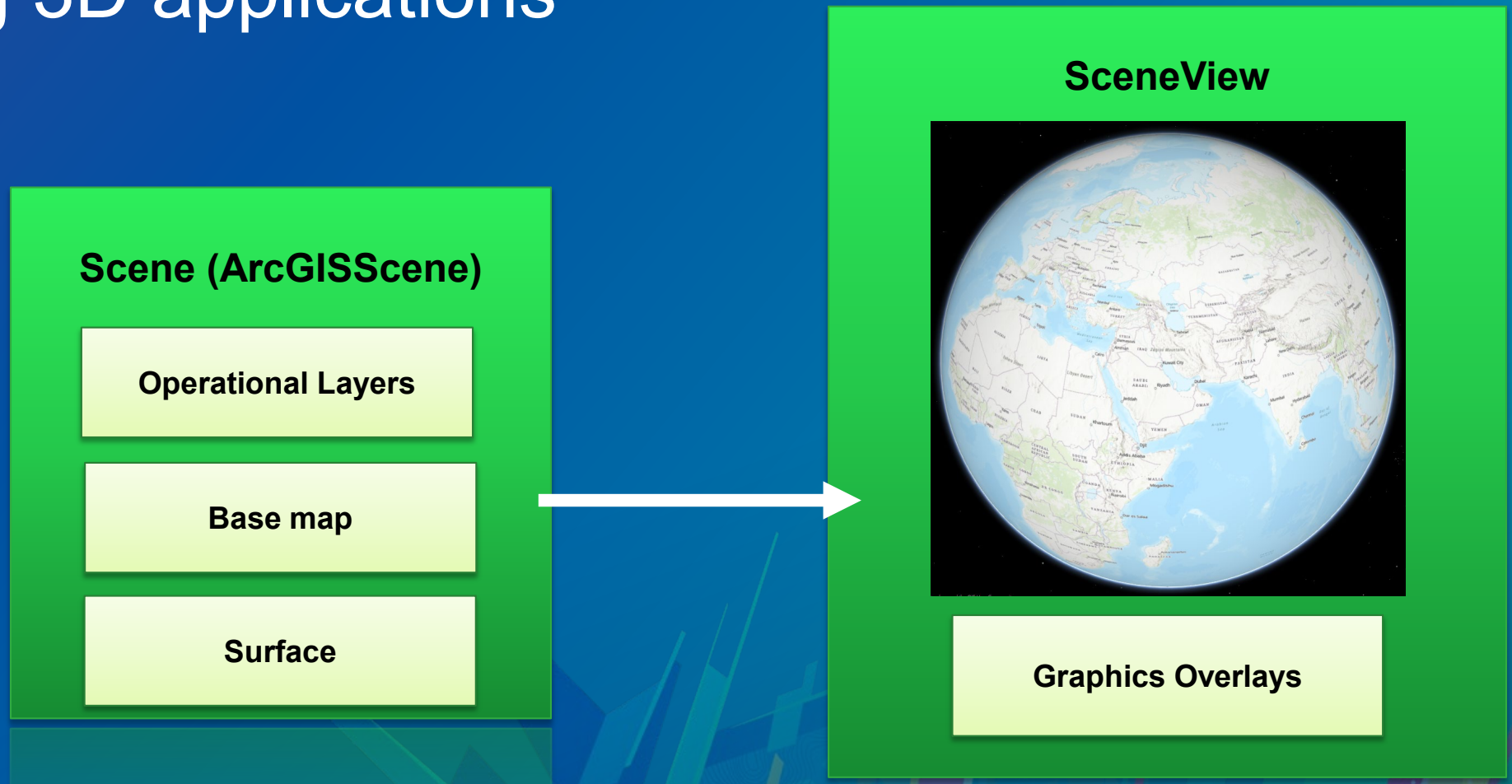
- https://developers.arcgis.com/java/latest/guide/end-of-public-updates-for-oracle-s-java-se-8.htm

Base maps, layers and loadable pattern

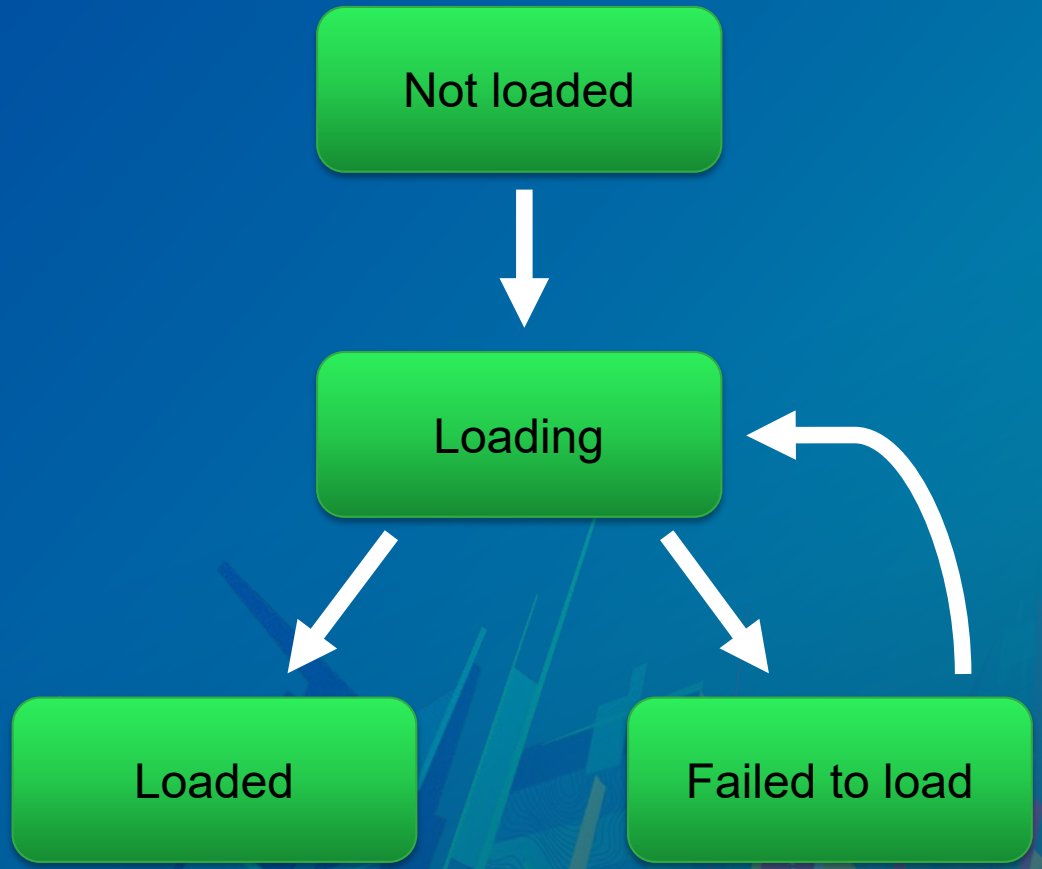
Writing 2D applications

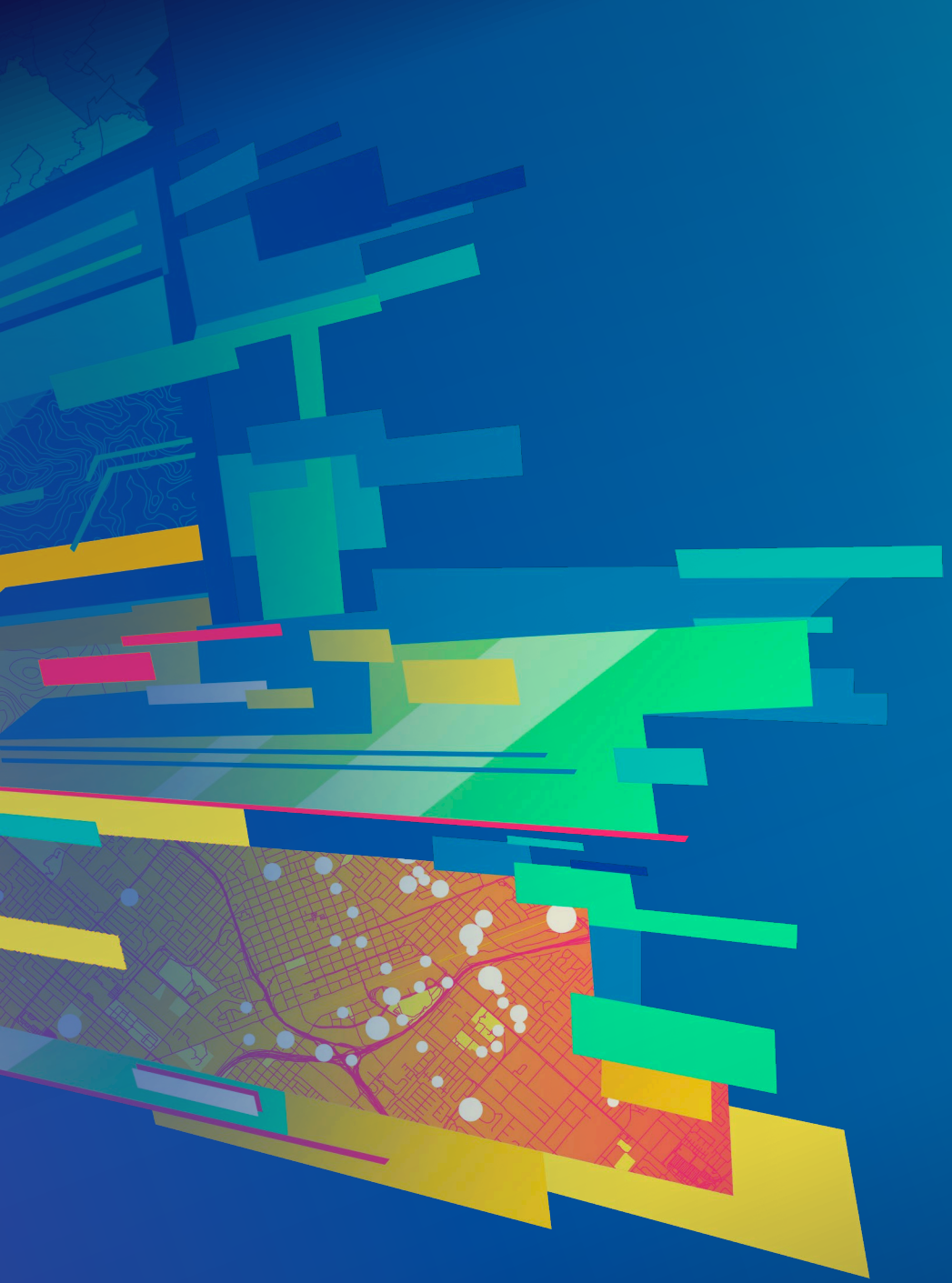


Writing 3D applications



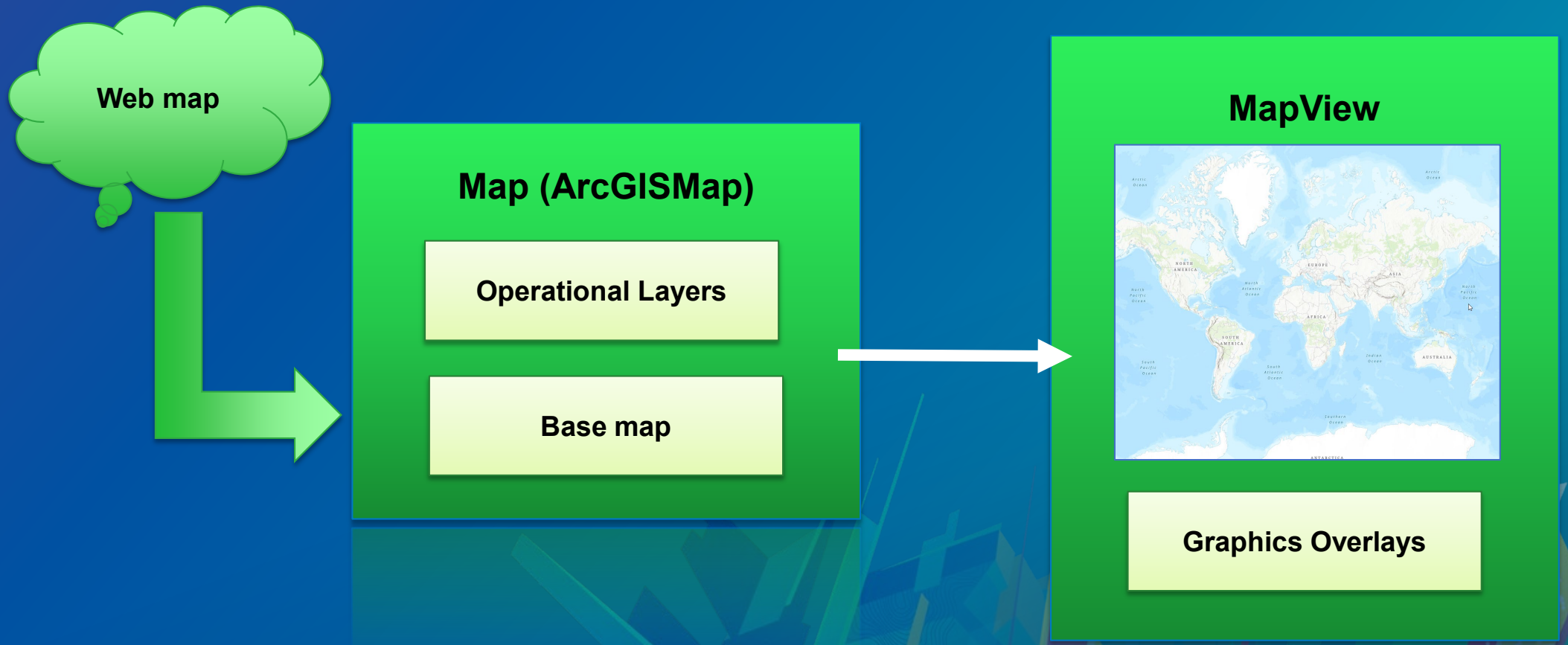
Loadable Pattern



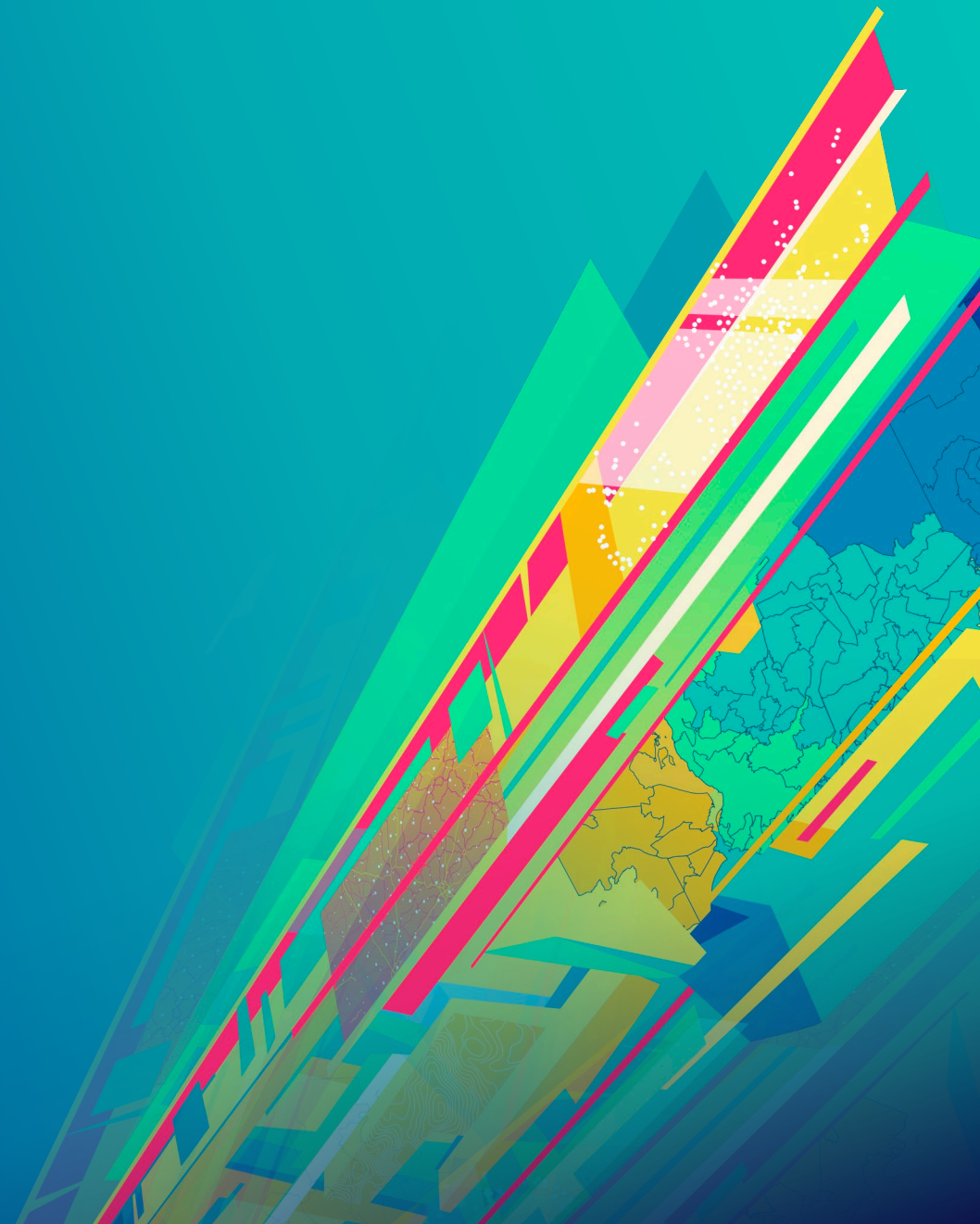


Demo:
Maps and layers

Writing 2D applications

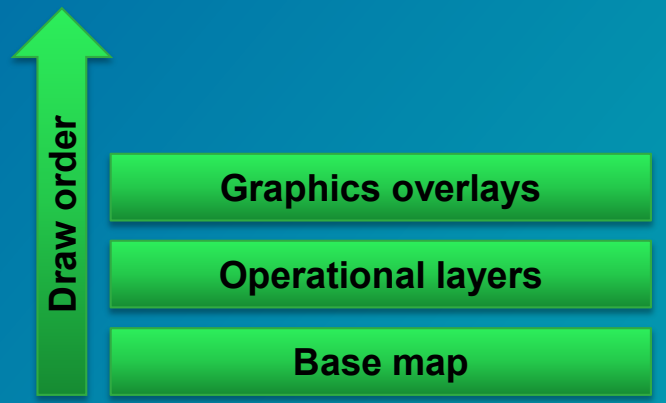


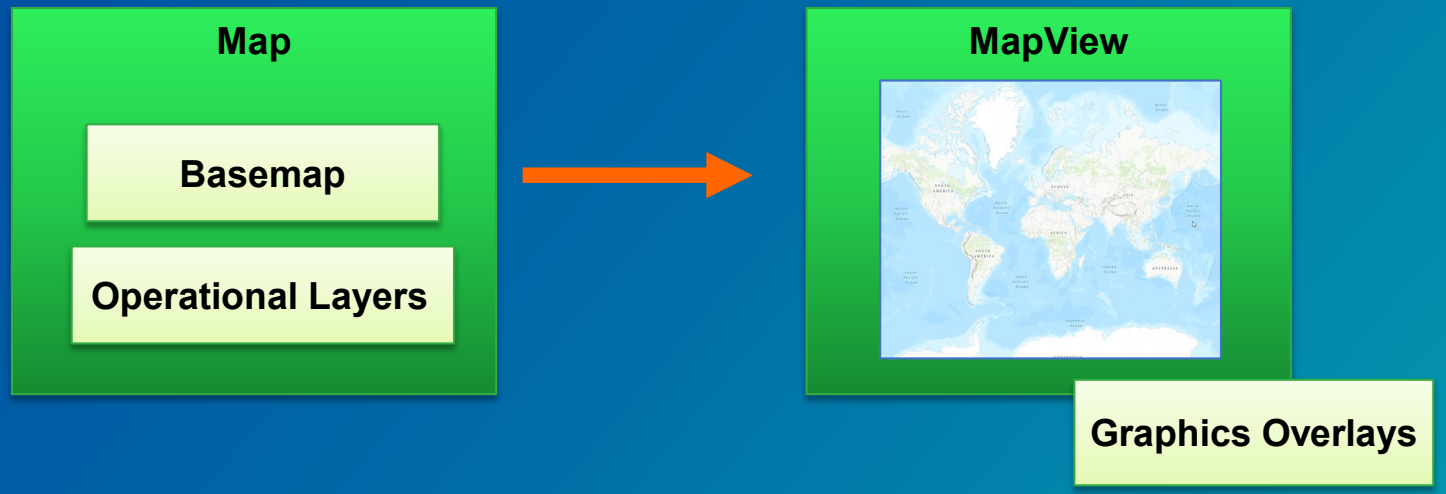
Graphics Overlays

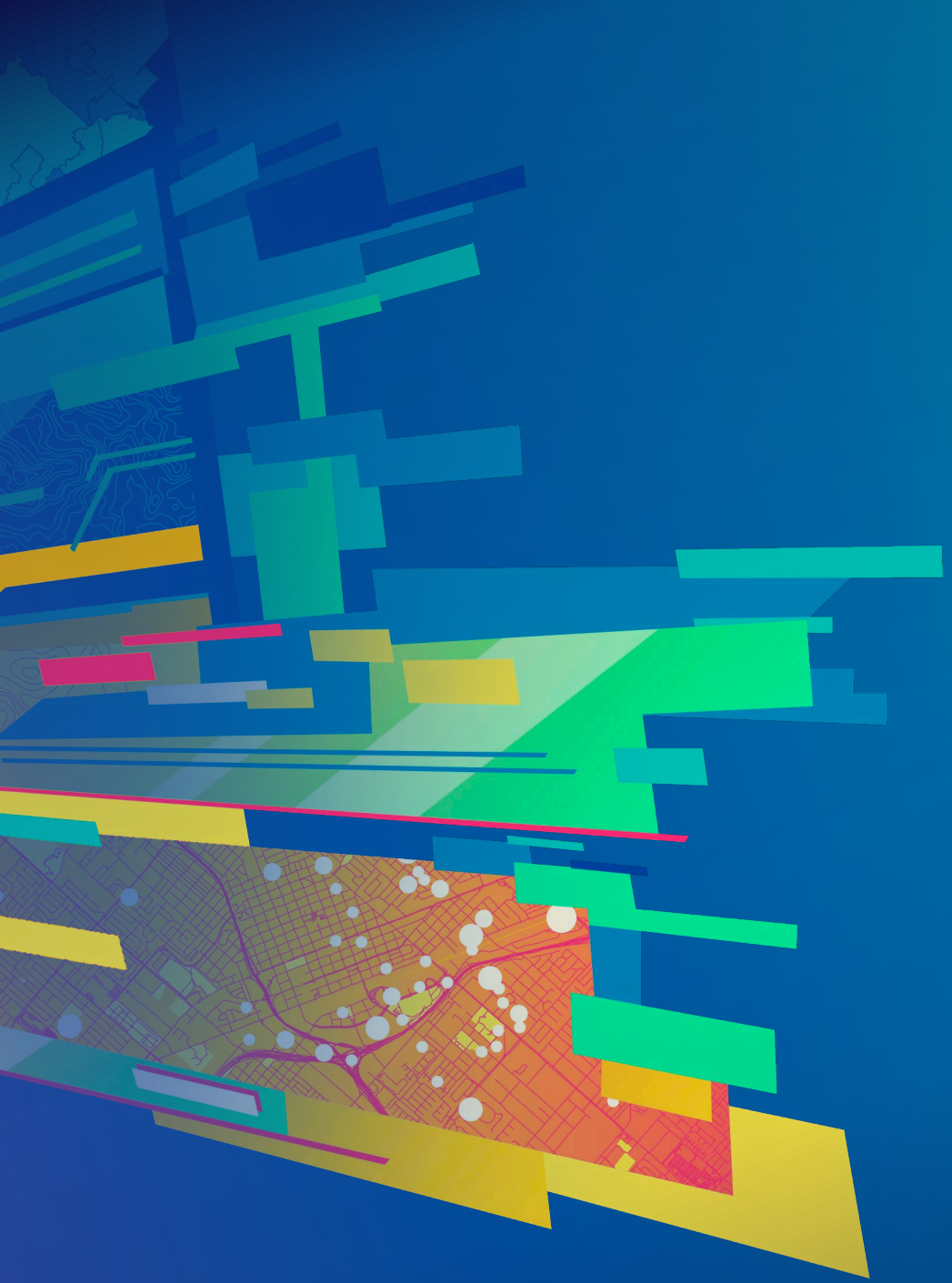


Graphics overlays

- 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

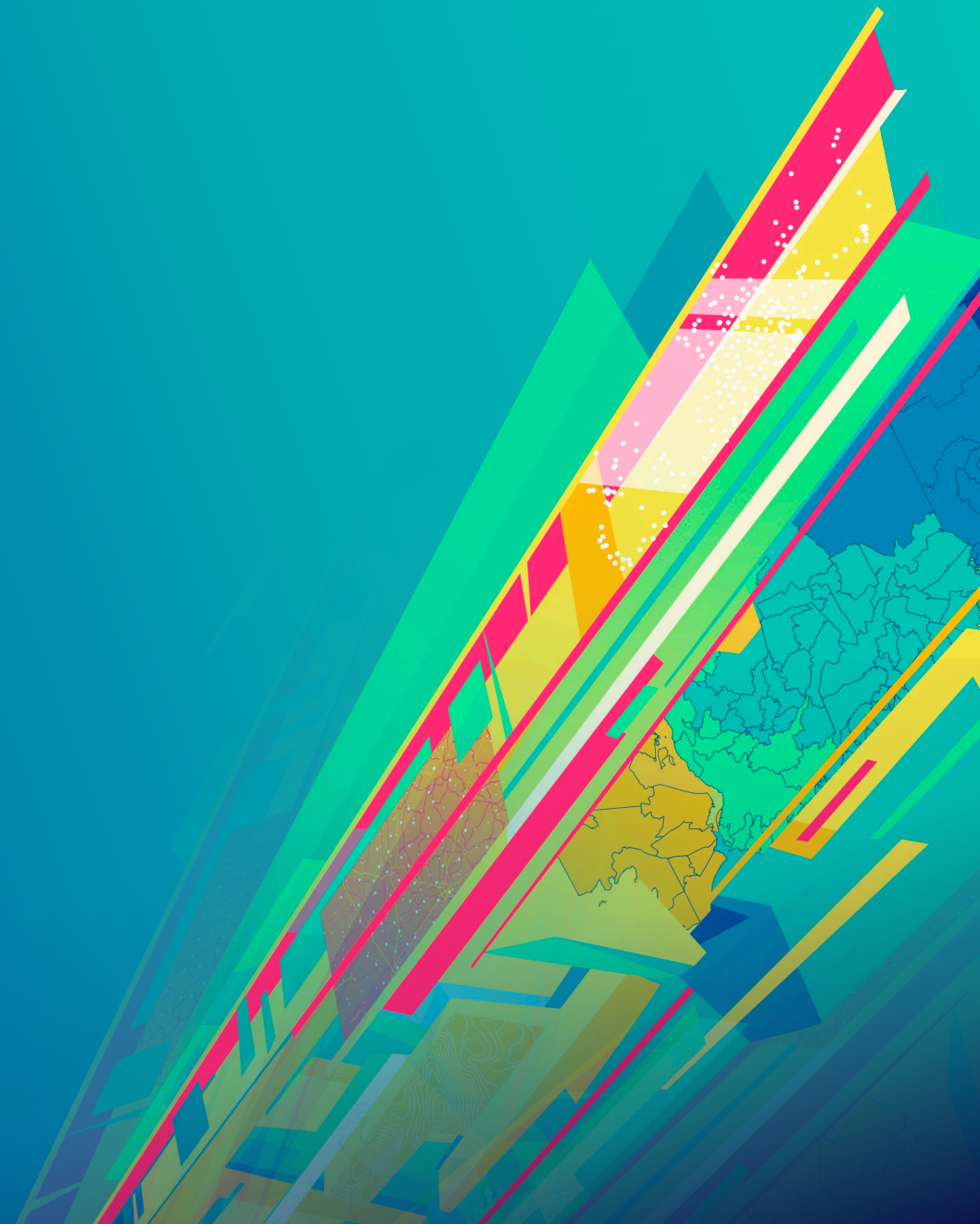






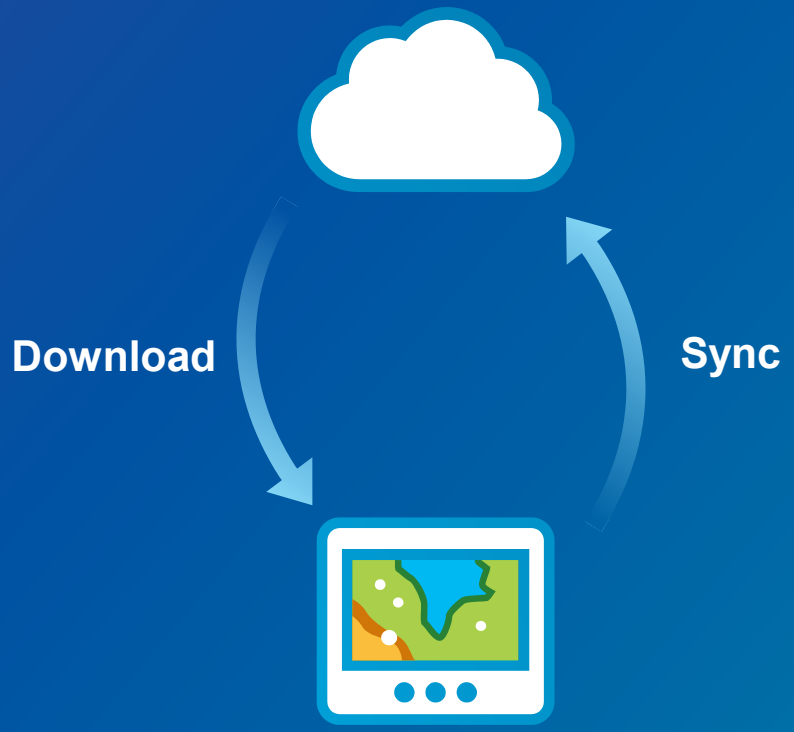
Demo:
Graphics Overlays

Offline Data



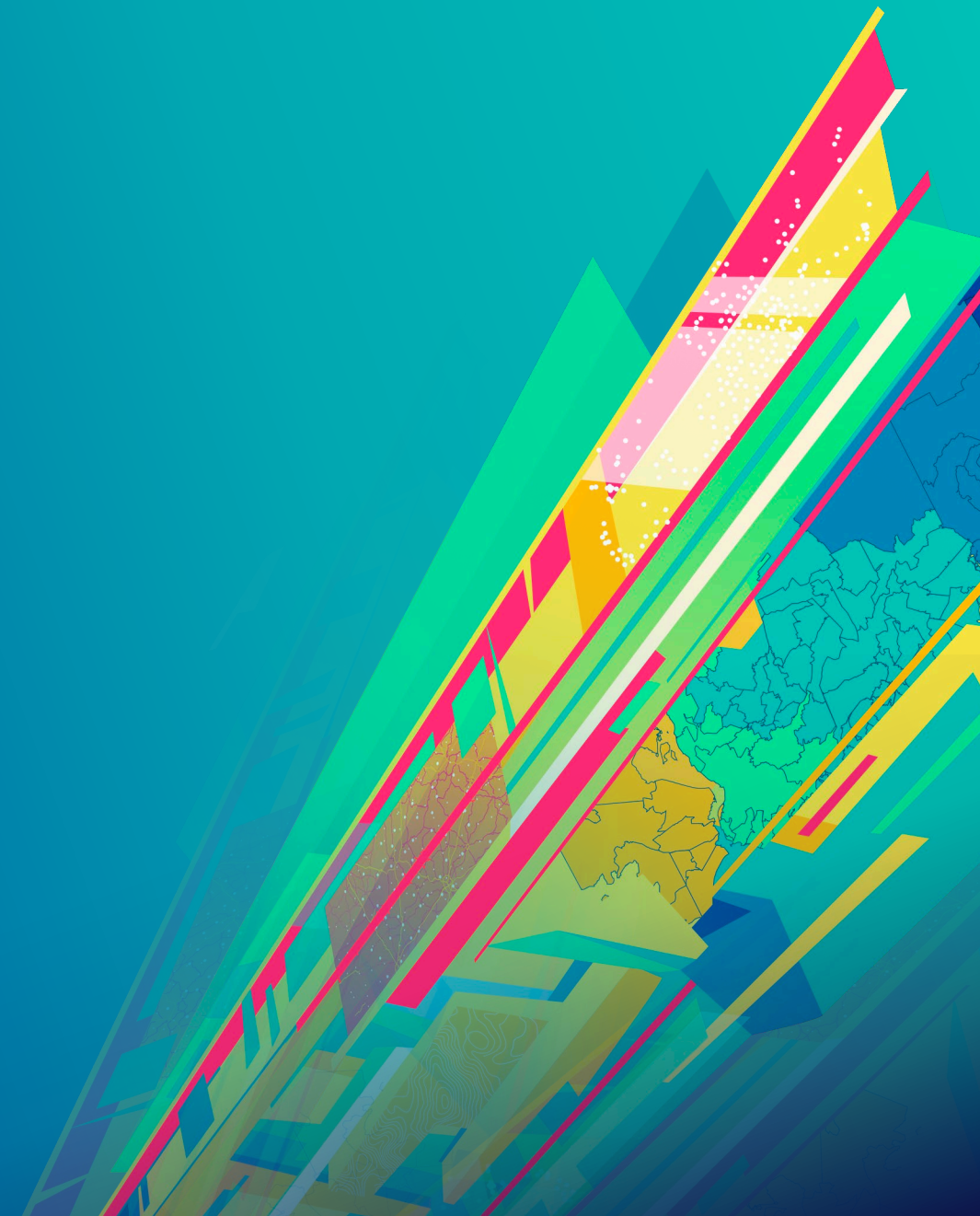
Offline

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**

```
private void licenceAppOnline() {
  // connect to ArcGIS Online or a portal with a named user
  // Note this is very insecure code and you should consider using
  // something like oAuth instead for example!
  UserCredential credential =
          new UserCredential( username: "username", password: "password");

  // connect to the portal with my credential
  portal = new Portal("https://your-org.maps.arcgis.com/");
  portal.setCredential(credential);

  // load the portal
  portal.loadAsync();
```

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Named user licensing (part 2)

```
// listen for the portal loaded event on a new thread
portal.addDoneLoadingListener(() -> {
  // check the load status was successful
  if (portal.getLoadStatus() == LoadStatus.LOADED) {

    // get the license info from the server
    ListenableFuture<LicenseInfo> licenceInfoFuture = portal.fetchLicenseInfoAsync();

    licenceInfoFuture.addDoneListener(() -> {
      try {
        // get the license info
        licenseInfo = licenceInfoFuture.get();

        // apply the license to the app
        ArcGISRuntimeEnvironment.setLicense(licenseInfo);

        // save for offline use later
        savedLicenseJSON = licenseInfo.toJson();
```

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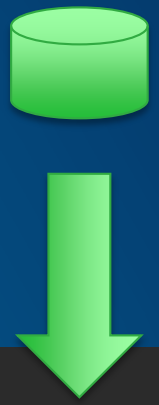
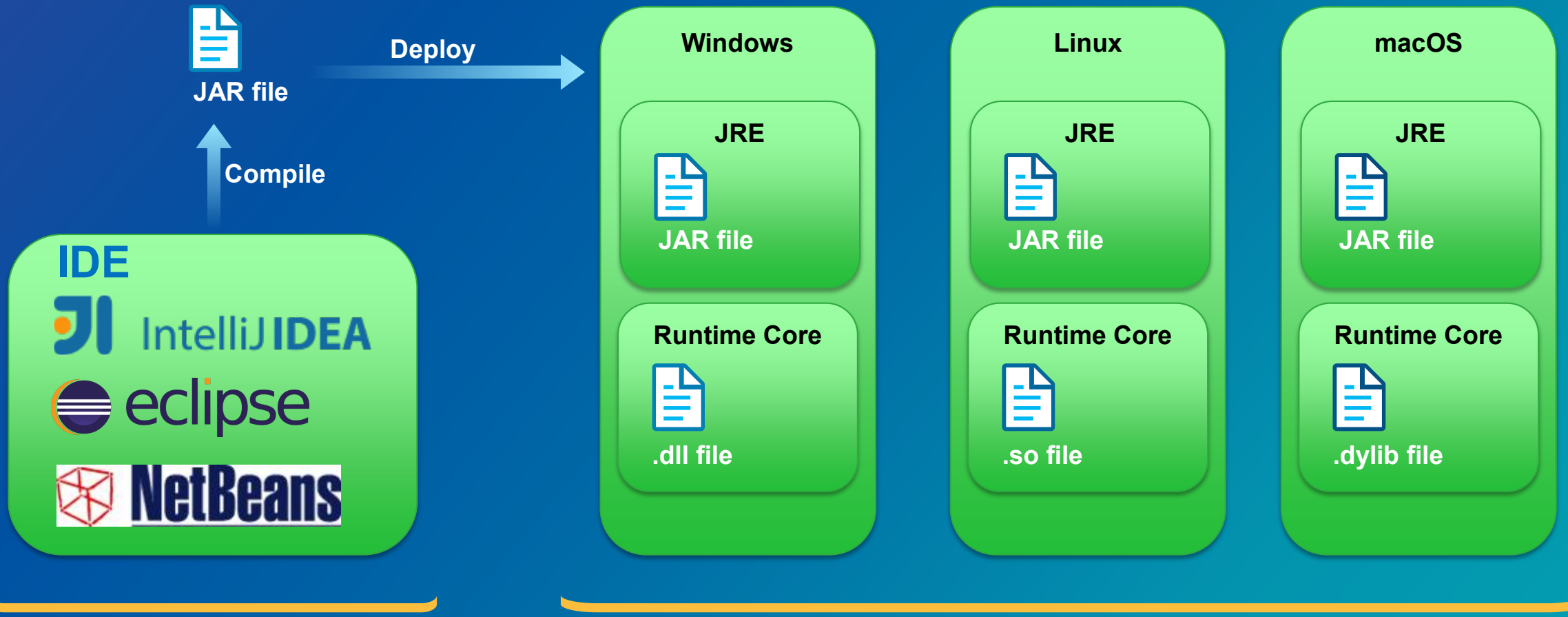
Named user licensing (Offline)

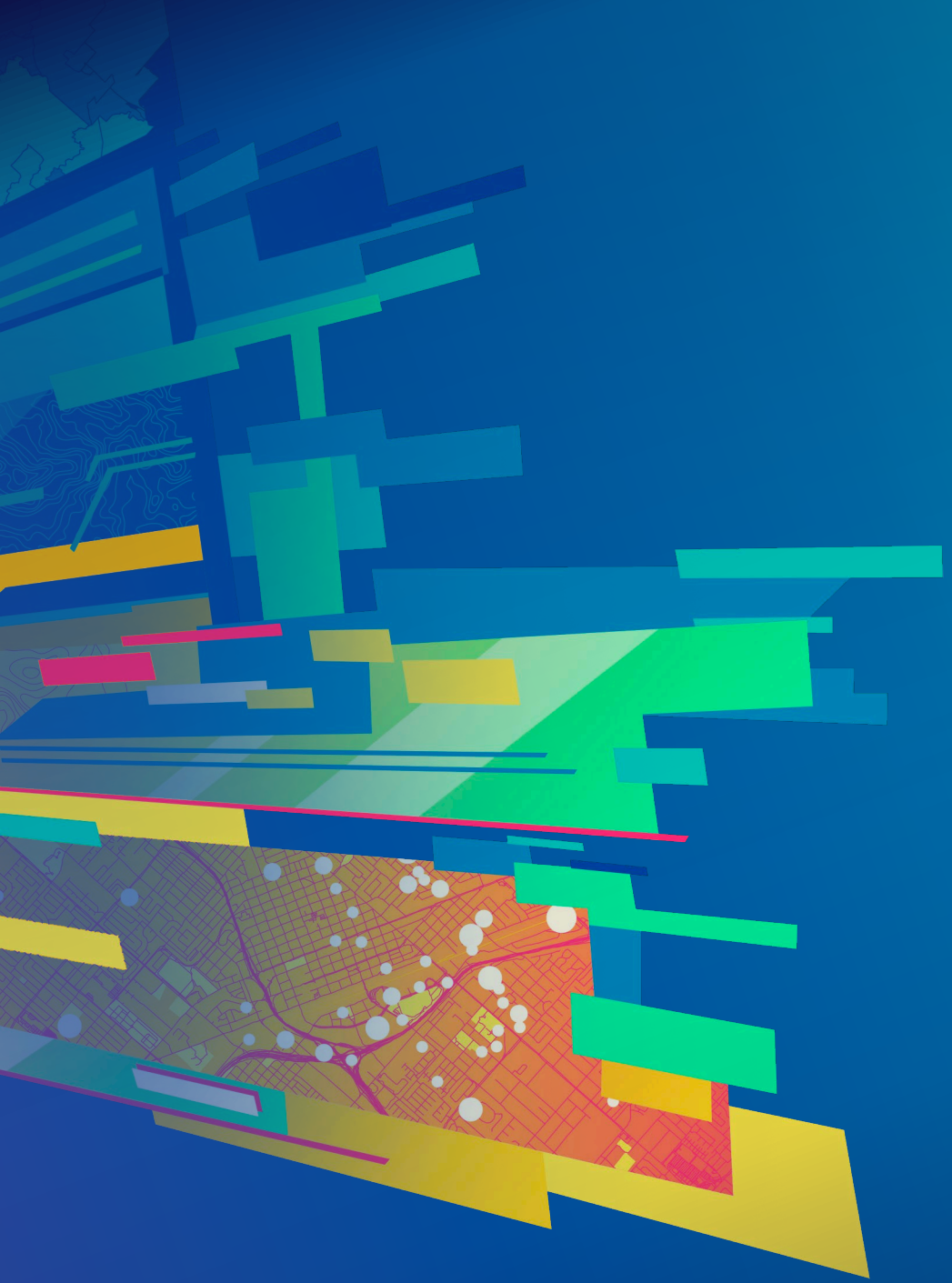


```
// create a licenseInfo from the saved license JSON
LicenseInfo licenseInfo = LicenseInfo.fromJson(savedLicenseJSON);

// apply the license to the app
ArcGISRuntimeEnvironment.setLicense(licenseInfo);
```

Java Runtime development and deployment





Demo: Deployment

Summary

- Cross platform Java 11 / Java FX desktop apps
- Key classes and techniques for mapping apps
- Graphics overlays
- Offline maps
- License and deployment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