

Esri Developer Summit

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esri.com/events/devsummit



Developing with ArcGIS Online

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Agenda

- **Overview**
- **Customizations that do not require code**
- **Developing using the client SDKs**
- **Working with the REST API**
- **Conclusion**

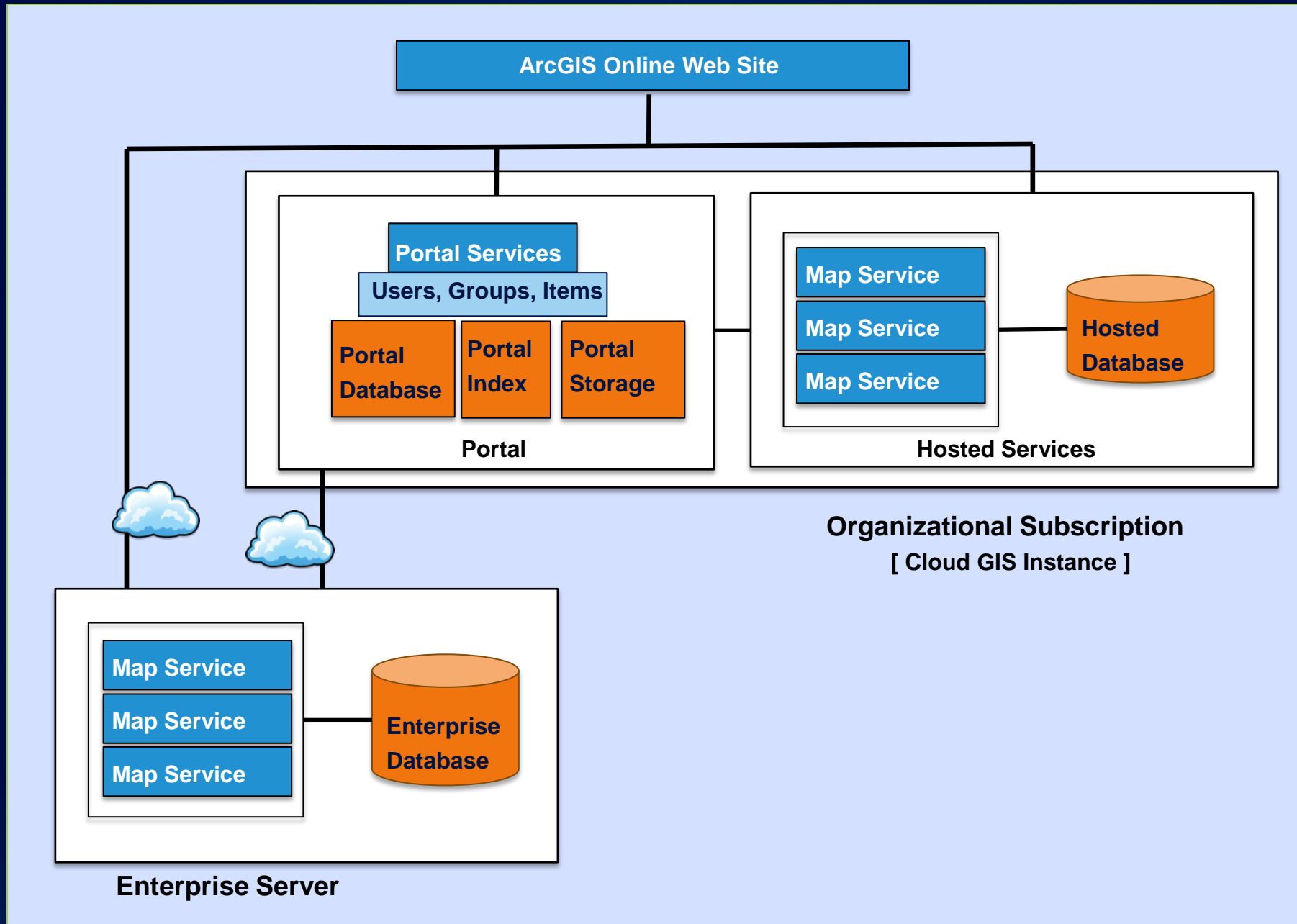
Overview – Developing with ArcGIS Online

- Build **Web**, **Device**, and **Desktop** applications
 - Use **Web Maps** to organize and model App Content
 - Use **ArcGIS Web API's** for **Browser** based Apps
 - Use **ArcGIS Runtime API's** for **Device** based Apps

- Connect to **Portals** and work with **Users**, **Groups** and **Items**
 - Integrated into **client API's**
 - can also use new **ArcGIS Portal REST API** to work directly with the server

Overview – Developing with ArcGIS Online

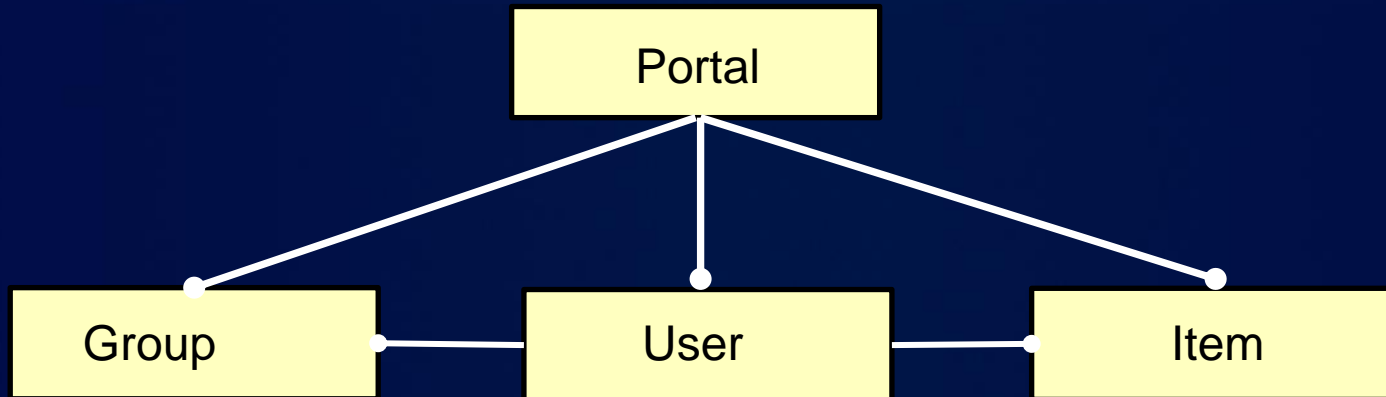
- **Organizational Developers** can build custom applications for their end users.
- **Independent Developers** can use ArcGIS Online as a powerful geospatial platform for their apps.



Overview – Developing with ArcGIS Online

- **Developing with ArcGIS Online spans :**
 - **Working with Portals**
 - **Working with ArcGIS GeoServices**
 - **Hosted GIS Services**
 - **Registered GIS Services from organizational ArcGIS Server's**
 - **Working with Foundation Content and Task Services**
 - **Content and Task GIS Services from ESRI**

ArcGIS Online - Information Model



Web Map

Layer

Application

Tool

Datafile

Feature Service
Tile Service
Dynamic Map Service
Image Service
WMS Service
KML

Web
Mobile
Desktop

Geocoding
Geoprocessing

Layer Package
Shapefile
CSV

Customizing an Organization's Home Page

- **Can be done via the admin UI**
- **quick demo**

Working with a Portal using the client APIs

- **Access to Portals is integrated into the client API's**
 - **Javascript**
 - **Release 2.8, available online**
 - **iOS SDK 2.2**
 - **Android SDK 1.1**
 - **Discussed / demoed, at this conference**
 - **available to developers next week**
 - **Use the client SDKs.**

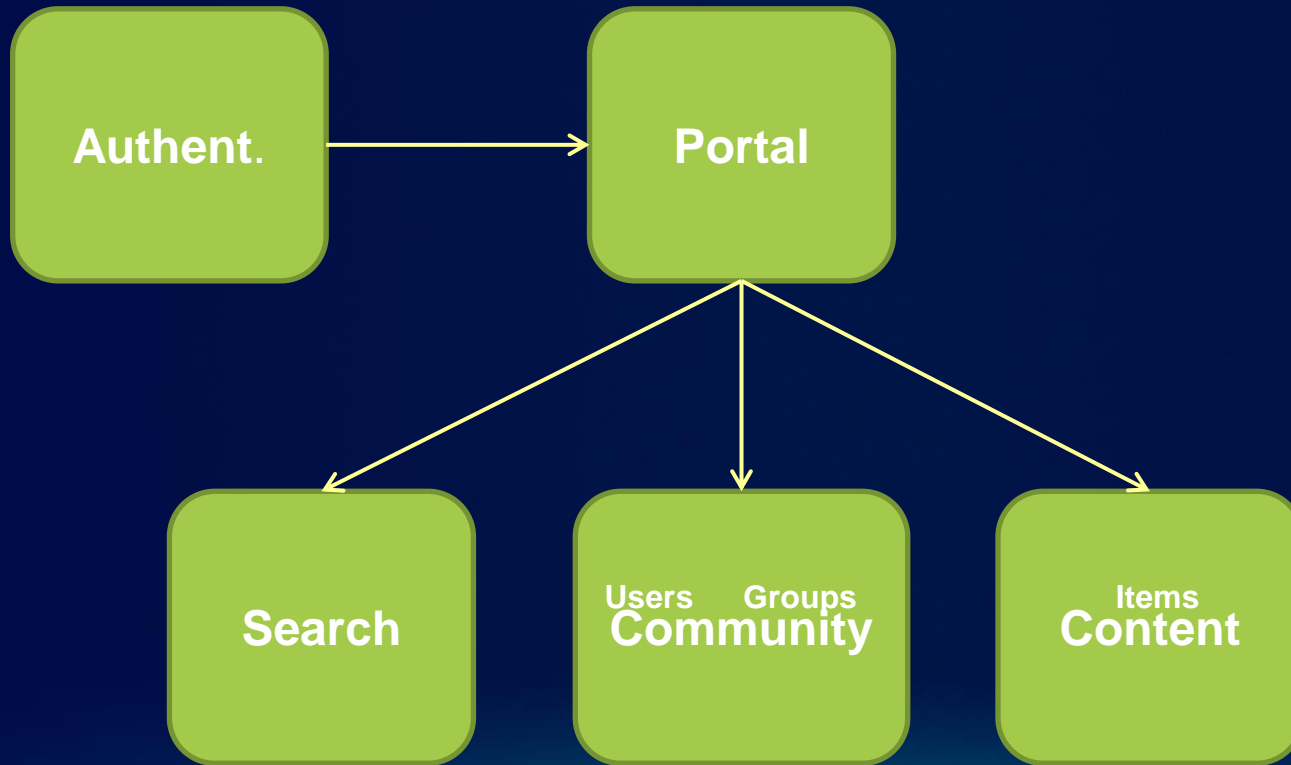
Authentication

- **An application connects to Online / Portal as either :**
 - **an anonymous user or**
 - **an authenticated user**
 - **Using credentials for the user**
- **The application see's what the user is privileged to see**
 - **The user may be part of an organizational subscription**
- **generateToken API call lets an App get a short term token in exchange for credentials over https**
 - **Apps should use Identity Manager control in client SDKs**
 - **see Security Flows section**

Working with a Portal using the Javascript Web API

- demo

Working with the ArcGIS Portal REST API



Portals

- **/portals/self** - Portal Info
 - **/sharing/rest/portals/self**
 - **Languages and Regions**
 - **/sharing/rest/portals/languages**
 - **Manage**
 - **File Resources**
 - **Users**
-
- <http://www.arcgis.com/apidocs/rest/?portals.html>

Search

- Item Search

- **`/sharing/rest/search?q=<query>`**
- title, owner, type, tags, description, created/modified...
 - E.g. `+type:"Web Map" -title:test`

- User Search

- **`/sharing/rest/community/users?q=<query>`**
- username, description, tags, ...
 - E.g. `+fullname:"Andrea Rosso"`

- Group Search

- **`/sharing/rest/community/groups?q=<query>`**
- title, owner, description, tags, created/modified...
 - E.g. `+title:"My Maps" +owner:arosso_t1`

- <http://www.arcgis.com/apidocs/rest/?searchreference.html>

Community

- **Groups**
 - **Manage**
 - **[/sharing/rest/community/groups/<groupid>](#)**
 - **Invite/Apply**
 - **[/sharing/rest/community/groups/<groupid>/applications](#)**

- **Users**
 - **Manage**
 - **[/sharing/rest/community/users/<username>](#)**
 - **Notifications**
 - **[/sharing/rest/community/users/<username>/notifications](#)**

- **<http://www.arcgis.com/apidocs/rest/?community.html>**

Content

- Item
 - **[/sharing/rest/content/items/<itemId>](#)**
- User Content
 - **[/sharing/rest/content/users/<username>](#)**
- Manage Items
- Folders
- Relationships
- Share/Unshare Items
- Ratings and Comments
- Group Content
- Analyze/Generate/Publish
- **<http://www.arcgis.com/apidocs/rest/?content.html>**

Adding Items

- **addItem**
 - **`/sharing/rest/content/users/<userid>/addItem`**
 - Synchronous
 - Asynchronous
 - Multi-Part
- <http://www.arcgis.com/apidocs/rest/?addItem.html>

Security Flows

- There are different kinds of Apps :
 - Apps that allow Users to access secure content that belongs to the Users
 - Apps that access secure content that belongs to the App
 - hybrid

Apps that work with secured User Content

- Users **trust** the App
 - it has access to their secure content
- Users need to login to their accounts by presenting credentials to the Server
- Apps can use the **Identity Managers** in the client SDKs
- Identity Mgr takes care of communicating with the server's security Token Service over **https** and getting and renewing tokens.
- All subsequent use and transmission of tokens, parameters and resulting content must also be over https if the organization has chosen the “**all-SSL**” option.

Apps that work with secured App content

- **App has its own credentials that it needs to communicate with the server.**
- **App credentials should not be exposed to end users**
 - **Implies a server side flow for otherwise client side web apps**
- **App can use a server side proxy configured with app credentials**
- **proxy responsible for getting and renewing short term tokens using credentials over https**
- **All subsequent requests also over https as needed**
- **Proxy should be secured to the App**
 - **by Referer**
 - **by a server side App Session ID maintained by the App**



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