



Web Mapping (Building web-based applications using Experience Builder for ArcGIS)



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## Introduction:

This course is designed to provide participants with the knowledge and skills required to build interactive web-based mapping applications using Experience Builder for ArcGIS. Experience Builder is a powerful tool that allows users to create and customize web applications without the need for coding. Through hands-on exercises and practical examples, participants will learn how to leverage the capabilities of Experience Builder to create visually appealing and functional web maps.

## Targeted Groups:

- GIS Professionals: Individuals working in the field of Geographic Information Systems GIS who want to enhance their skills in web mapping and create interactive applications.
- Developers: Web developers or programmers interested in expanding their knowledge of web mapping technologies and learning how to build mapping applications without coding.

## Targeted Competencies:

By the end of this course, participants will be able to:

- Understand the fundamental concepts of web mapping and its applications.
- Use Experience Builder for ArcGIS to create customized web mapping applications.
- Incorporate different data sources, such as shapefiles, geodatabases, and online services, into web maps.
- Configure and style web maps with different basemaps, symbols, and labels.
- Create interactive and dynamic web applications with tools and widgets provided by Experience Builder.
- Publish and share web applications with others.
- Implement advanced features such as filtering, querying, and spatial analysis in web maps.
- Optimize web mapping applications for various devices and screen sizes.

## Course Outline:

### Unit 1: Introduction to Web Mapping

- Overview of web mapping concepts
- Introduction to Experience Builder for ArcGIS
- Understanding the components of a web application
- Exploring the benefits and applications of web mapping
- Examples of successful web mapping projects

### Unit 2: Getting Started with Experience Builder

- Installation and setup of Experience Builder
- Familiarizing with the user interface and workspace
- Creating a new project and project settings
- Navigating the main components of Experience Builder

- Understanding the different layout options and templates

## **Unit 3: Building and Customizing Web Maps**

- Adding data sources to web maps shapefiles, geodatabases, online services
- Configuring symbology, labeling, and transparency
- Customizing basemaps and themes
- Exploring and applying different map projections
- Utilizing spatial reference systems and coordinate systems

## **Unit 4: Creating and Configuring Widgets**

- Adding and configuring interactive tools and widgets e.g., search, zoom, identify
- Implementing search functionality to locate specific features
- Incorporating navigation tools pan, zoom, extent
- Creating and customizing pop-ups for map features
- Using widgets for spatial analysis and measurements

## **Unit 5: Advanced Web Mapping Techniques**

- Filtering and querying data based on attributes and spatial relationships
- Applying advanced symbology and thematic mapping techniques
- Performing spatial analysis and geoprocessing operations
- Incorporating charts and graphs to visualize data patterns
- Configuring time-aware applications and animations

## **Unit 6: Publishing and Sharing Web Applications**

- Deploying web applications to different platforms web servers, cloud services
- Sharing and collaborating with others using ArcGIS Online or ArcGIS Enterprise
- Understanding security and access control for web applications
- Configuring authentication and authorization settings
- Exploring options for embedding web maps into websites or applications

## **Unit 7: Responsive Design and Optimization**

- Designing web applications for different devices and screen sizes responsive design
- Optimizing performance and loading times for web maps
- Implementing techniques for adaptive layouts and user interfaces
- Ensuring compatibility across various web browsers and platforms
- Testing and troubleshooting web applications for usability and performance

## **Unit 8: Case Studies and Practical Projects**

- Reviewing real-world examples of successful web mapping applications
- Analyzing the design and functionality of selected case studies
- Working on hands-on projects to apply learned concepts and skills
- Collaborating with peers to solve practical challenges
- Presenting and sharing completed projects for feedback and evaluation