

# Get Started with ArcGIS® Arcade

STUDENT EDITION

Copyright © 2024–2025 Esri

All rights reserved.

Course version 3.1. Version release date April 2025.

Printed in the United States of America.

The information contained in this document is the exclusive property of Esri. This work is protected under United States copyright law and other international copyright treaties and conventions. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system, except as expressly permitted in writing by Esri. All requests should be sent to Attention: Director, Contracts and Legal, Esri, 380 New York Street, Redlands, CA 92373-8100, USA.

**Export Notice:** Use of these Materials is subject to U.S. export control laws and regulations including the U.S. Department of Commerce Export Administration Regulations (EAR). Diversion of these Materials contrary to U.S. law is prohibited.

The information contained in this document is subject to change without notice.

**Commercial Training Course Agreement Terms:** The Training Course and any software, documentation, course materials or data delivered with the Training Course is subject to the terms of the Master Agreement for Products and Services, which is available at <https://www.esri.com/~media/Files/Pdfs/legal/pdfs/ma-full/ma-full.pdf>. The license rights in the Master Agreement strictly govern Licensee's use, reproduction, or disclosure of the software, documentation, course materials and data. Training Course students may use the course materials for their personal use and may not copy or redistribute for any purpose. Contractor/Manufacturer is Esri, 380 New York Street, Redlands, CA 92373-8100, USA.

**Esri Marks:** Esri marks and product names mentioned herein are subject to the terms of use found at the following website: <https://www.esri.com/content/dam/esrisites/en-us/media/legal/copyrights-and-trademarks/esri-product-naming-guide.pdf>.

Other companies and products or services mentioned herein may be trademarks, service marks, or registered marks of their respective mark owners.

# Table of Contents

Esri resources for your organization

## Course introduction

Course introduction

Course goals

Installing the course data

Icons used in this workbook

## 1 An overview of ArcGIS Arcade

Lesson introduction

Arcade characteristics

Using Arcade across ArcGIS products

Arcade expression workflow

Exercise 1: Explore Arcade within ArcGIS Online

- Sign in to ArcGIS Online

- Open the web map

- Save the web map

- Use an Arcade expression to configure styles

- Use an Arcade expression to configure labels

Lesson review

Answers to lesson 1 questions

## 2 ArcGIS Arcade scripting environments

Lesson introduction

Arcade editors

Arcade execution environments

Arcade language

Arcade profiles

Using the Arcade editor

Debugging an expression

Exercise 2: Write an expression in the Arcade editor

- Open the Arcade Playground

Explore the interface

Write an expression

Challenge: Limit the fields that are returned in the table

Challenge: Return a text string using function values

Lesson review

Answers to lesson 2 questions

### 3 ArcGIS Arcade visualization

Lesson introduction

Arcade Visualization profile

Arcade visualization styling options

Using Arcade to specify feature symbology

Exercise 3: Customize map symbology using Arcade

Sign in to ArcGIS Pro

Open an ArcGIS Pro project

Examine the attribute table

Symbolize point features

Convert direction attribute values

Add scale-based symbology

Challenge: Use Arcade to symbolize features by category

Lesson review

Answers to lesson 3 questions

### 4 ArcGIS Arcade labeling

Lesson introduction

Arcade Labeling profile

Arcade labeling uses

Using Arcade for labeling

Exercise 4: Create an Arcade label expression

Sign in to ArcGIS Online

Open the web map

Create a copy of the web map

Explore the data table

Create an Arcade expression to configure labels

Modify the label expression

Lesson review

Answers to lesson 4 questions

## 5 ArcGIS Arcade pop-ups

Lesson introduction

Arcade Pop-up profile

Methods for adding Arcade to pop-ups

Using Arcade to configure pop-ups

Exercise 5: Create a custom pop-up using Arcade

- Sign in to ArcGIS Online

- Open the web map

- Add an attribute expression

- Add a second attribute expression

- Configure pop-ups with expressions

- Add a pie chart to a pop-up

- Improve chart performance

- Challenge: Add an attribute expression to a pop-up

- Challenge: Display information from a related table to a pop-up

Using Arcade to add HTML to pop-ups

Lesson review

Answers to lesson 5 questions

## 6 ArcGIS Arcade field calculations

Lesson introduction

What is a field calculation?

Arcade Field Calculation profile

Using Arcade to calculate attribute fields

Exercise 6: Create a field calculation in ArcGIS Pro

- Open an ArcGIS Pro project

- Insert a new map

- Examine the attribute table

- Split attribute values

- Calculate the attribute value average

- Calculate the attribute value modified average

Lesson review

Answers to lesson 6 questions

## 7 ArcGIS Arcade form configuration

Lesson introduction

What is a form?

Configuring a form

Arcade Form Calculation profile

Using the Form Calculation profile

Arcade Form Constraint profile

Using the Form Constraint profile

Exercise 7: Create a form that uses Arcade expressions

- Sign in to ArcGIS Online

- Open the web map

- Create a copy of the web map

- Explore the data table

- Configure a new form

- Add the first form calculation

- Add a second form calculation

- Test the form calculation

- Add a form constraint

- Test the form constraint

Lesson review

Answers to lesson 7 questions

## 8 ArcGIS Arcade attribute rules

Lesson introduction

Attribute rule types

Arcade Attribute Rule profiles

Using the Arcade Attribute Rule Validation profile

Exercise 8: Use Arcade to add an attribute rule

- Open an ArcGIS Pro project

- Open the map

- Create the database sequence

- Add an attribute rule calculation

- Create a new feature with an attribute rule calculation

- Add an attribute rule calculation
- Update the feature attribute values

Lesson review

## 9 ArcGIS Arcade in ArcGIS Dashboards

Lesson introduction

What is ArcGIS Dashboards?

Arcade Dashboard profiles

Using Arcade expressions in ArcGIS Dashboards

Exercise 9: Use Arcade expressions to configure ArcGIS Dashboards elements

- Open the existing dashboard
- Enable advanced formatting for an indicator element
- Add an Arcade expression to an indicator element
- Test the indicator element
- Add a list element
- Add a data expression to the list element
- Configure the list
- Challenge: Filter the list element to remove values
- Challenge: Format a table element using Arcade

Lesson review

Answers to lesson 9 questions

## 10 ArcGIS Arcade community resources

Lesson introduction

An overview of Arcade community resources

Using Arcade expressions from Esri Community

Workflow review

Developing an Arcade expression plan

Exercise 10: Use resources in an Arcade workflow

- Find an Arcade expression from community resources
- Sign in to ArcGIS Pro
- Open an ArcGIS Pro project
- Open the map
- Add an example expression
- Modify the example expression

Lesson review

Answers to lesson 10 questions

## Appendices

Appendix A: Data license agreement

Appendix B: Answers to lesson review questions

Appendix C: Additional resources

Appendix D: Lesson stories