

Distributing Data Using Geodatabase Replication

STUDENT EDITION

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Course introduction

- Introduction
- Course goals
- Additional resources
- Installing the course data
- Icons used in this workbook
- Understanding the ArcGIS Platform

1 Defining geodatabase replication

- Lesson introduction
- What is replication?
- Purpose of replication
- Why use geodatabase replication?
- Defining a replica pair
- Three types of replication
- Exercise environment
- Lesson review

2 Two-way replication

- Lesson introduction
- Two-way replication
- Data preparation requirements
- Creating a two-way replica
- Synchronizing a two-way replica
- Permission basics
- Resolving conflicts automatically while synchronizing
- Managing replicas
- Exercise 2: Create and use a two-way replica
 - Create parent geodatabase
 - Create child geodatabase
 - Prepare data to be replicated
 - Add users and grant privileges
 - Create a map with parent data
 - Create the two-way replica
 - Edit data in the child replica
 - Make a parent edit and synchronize in both directions
 - Automate synchronizations using ArcGIS Pro
- Lesson review

3 One-way replication

- Lesson introduction
- One-way replication
- Why use one-way replication?

- How does one-way replication work?
- Data preparation requirements
- Overview of archiving
- One-way options
- Simple vs. full feature model
- Exercise 3A: Create a one-way replica using the full model
 - Prepare the data
 - Create the one-way child-to-parent replica
 - Make edits in child replica
 - Synchronize changes
- Exercise 3B: Create a one-way replica using the simple model
 - Create a file geodatabase and the replica
 - Make an edit in the parent and synchronize
- Lesson review

4 Checkout/check-in replication

- Lesson introduction
- Checkout/check-in replication
- Data preparation
- Checkout/check-in replication use cases
- Checkout/check-in replication workflow
- Exercise 4: Perform checkout/check-in replication
 - Prepare data for checkout
 - Check out data to the file geodatabase
 - Make edits to the file geodatabase
 - Check in edits
 - Perform additional edit after check-in
 - Delete the previously checked out data
- Lesson review

5 Managing schema changes

- Lesson introduction
- Handling schema change
- Considerations for schema changes
- Exercise 5: Perform schema changes in a one-way replica
 - Prepare data for replication
 - Create a one-way replica and make a new field
 - Manually create the new field in the child geodatabase
- Exercise debrief
- Alternate scenario
- Lesson review

6 Implications of replication workflows

Lesson introduction

Replica logs

Achieving an effective compress

One-way archiving option

Exercise 6: Perform one-way replication using the archiving option

- Prepare the data

- Create the replica and create a new version

- Investigate the parent geodatabase tables

- Investigate the initial state of the database tables

- Make an edit and reconcile and post

- Compress the geodatabase and investigate tables

- Create replica without archiving

- Compare both replica properties

Manual conflict resolution

Lesson review

7 Using replication within ArcGIS Enterprise

Lesson introduction

ArcGIS Enterprise

ArcGIS Enterprise clients

User-managed and ArcGIS-managed data

Sharing user-managed and ArcGIS-managed data

Exercise 7: Use ArcGIS Pro to share replicated data for mobile applications

- Prepare the data and create replica

- Share replicated data using ArcGIS Pro

- Explore the new feature layer

- Create a web map to support mobile editing

- Make edits in the field

- Synchronize changes with parent replica

Lesson review

Appendixes

Appendix A: Esri data license agreement

Appendix B: Answers to lesson review questions

- Lesson 1: Defining geodatabase replication

- Lesson 2: Two-way replication

- Lesson 3: One-way replication

- Lesson 4: Checkout/check-in replication

- Lesson 5: Managing schema changes

- Lesson 6: Implications of replication workflows

- Lesson 7: Using replication within ArcGIS Enterprise