

Distributing Data Using Geodatabase Replication

Student Edition

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Course introduction

- Introduction
- Course goals
- Additional resources

1 Defining geodatabase replication

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

2 Two-way replication

- Lesson introduction
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- Data preparation requirements
- Creating a two-way replica
- Synchronizing a two-way replica (connected)
- Resolving conflicts automatically while synchronizing
- Managing replicas
- Exercise 2: Create and use a two-way replica
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 - Prepare data to be replicated
 - Create the two-way replica
 - Make edits to the parent and child replicas
 - Synchronize in each direction
 - Automate synchronizations using Python
- Lesson review

3 One-way replication

- Lesson introduction
- One-way replication
- Why use one-way replication?
- How does one-way replication work?
- Using a different projection/coordinate system between replica pair
- Data preparation requirements
- One-way options
- Simple vs. full feature model
- Exercise 3: Create and use a one-way replica
 - Prepare the data
 - Extract the schema for the one-way replica

- Extract the data for the one-way replica
- Make edit in parent and synchronize to child
- View properties in Replica Manager

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 file geodatabase
- Create a replica footprint
- Make edits to file geodatabase
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- Delete the previously checked out data

Lesson review

5 Disconnected replication

Lesson introduction

Network obstacles

Distributing your data offline

Disconnected synchronization

How to create a replica pair offline

Exercise 5: Perform disconnected replication

- Prepare data for replication
- Create a two-way replica using the XML option
- Create a child edit and export data change
- Import data change and exchange acknowledgement
- Switch roles and create a parent edit
- Import data change and exchange acknowledgement

Lesson review

6 Managing schema changes

Lesson introduction

Handling schema change

Comparing replica schemas

Importing schema changes

Exercise 6: Performing schema changes in a two-way replica

- Prepare data for replication
- Create a two-way replica and make new field
- Compare and import the schema change

- Drop a feature class from the replica
- Manually perform the schema change and test the result

Lesson review

7 Implications of replication workflows

Lesson introduction

Replica logs

Achieving an effective compress

One-way archiving option

Manual conflict resolution

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- Prepare the data
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- Investigate initial state of database tables
- Make an edit and reconcile and post
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Lesson review

8 Replicating using geodata services

Lesson introduction

How does a geodata service work?

Examples of geodata services

Create a geodatabase service and a map service

Creating a geodata service

Exercise 8: Create a geodata service for use with replication

- Prepare the data
- Grant permissions to the ArcGIS Server account
- Share a geodata service
- Create a map service
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- Synchronize using the geodata service

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: Disconnected replication
- Lesson 6: Managing schema changes
- Lesson 7: Implications of replication workflows
- Lesson 8: Replicating using geodata services