ATTESTATO



Valerio De Luca

Si certifica che

ha frequentato il corso

"Building the Geodatabase " Rel. 10

presso il Centro di Formazione Esri Italia - Roma

dal 4 Giugno 2012

Docente

Docer

Roma lì, 6 Giugno 2012

Corso n°

2199

al 6 Giugno 2012

www.esriitalia

Bruno Ratti Presidente ESRI Italia S.p.A.





Copyright © 2009 ESRI Italia S.p.A. Tutti i diritti sono riservati. Tutti i nomi e marchi di ESRI sono nomi e marchi registrati da ESRI Inc. Gli altri nomi e marchi citati sono nomi e marchi registrati dai rispettivi proprietari.

Building Geodatabases

Copyright © 2006-2010 Esri

All rights reserved.

Course version 3.2. Version release date July 2010.

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: Contracts and Legal Services Manager, 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.

U. S. GOVERNMENT RESTRICTED/LIMITED RIGHTS

Any software, documentation, and/or data delivered hereunder is subject to the terms of the License Agreement. The commercial license rights in the License Agreement strictly govern Licensee's use, reproduction, or disclosure of the software, data, and documentation. In no event shall the U.S. Government acquire greater than RESTRICTED/LIMITED RIGHTS. At a minimum, use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in FAR §52.227-14 Alternates I, II, and III (DEC 2007); FAR §52.227-19(b) (DEC 2007) and/or FAR §12.211/12.212 (Commercial Technical Data/Computer Software); and DFARS §252.227-7015 (NOV 1995) (Technical Data) and/or DFARS §227.7202 (Computer Software), as applicable. Contractor/Manufacturer is Esri, 380 New York Street, Redlands, CA 92373-8100, USA.

@esri.com, 3D Analyst, ACORN, Address Coder, ADF, AML, ArcAtlas, ArcCAD, ArcCatalog, ArcCOGO, ArcData, ArcDoc, ArcEdit, ArcEditor, ArcEurope, ArcExplorer, ArcExpress, ArcGIS, ArcGlobe, ArcGrid, ArcIMS, ARC/INFO, ArcInfo, ArcInfo Librarian, ArcLessons, ArcLocation, ArcLogistics, ArcMap, ArcNetwork, ArcNews, ArcObjects, ArcOpen, ArcPad, ArcPlot, ArcPress, ArcReader, ArcScan, ArcScene, ArcSchool, ArcScripts, ArcSDE, ArcSdl, ArcSketch, ArcStorm, ArcSurvey, ArcTIN, ArcToolbox, ArcTools, ArcUSA, ArcUser, ArcView, ArcVoyager, ArcWatch, ArcWeb, ArcWorld, ArcXML, Atlas GIS, AtlasWare, Avenue, BAO, Business Analyst, Business Analyst Online, BusinessMAP, CommunityInfo, Database Integrator, DBI Kit, EDN, Esri, Esri—Team GIS, Esri—The GIS Company, Esri—The GIS People, Esri—The GIS Software Leader, FormEdit, GeoCollector, Geographic Design System, Geography Matters, Geography Network, GIS by Esri, GIS Day, GIS for Everyone, GISData Server, JTX, MapIt, Maplex, MapObjects, MapStudio, ModelBuilder, MOLE, MPS—Atlas, PLTS, Rent-a-Tech, SDE, SML, Sourcebook-America, Spatial Database Engine, StreetMap, Tapestry, the ARC/INFO logo, the ArcGIS logo, the ArcGIS Explorer logo, the ArcPad logo, the Esri globe logo, the Esri Press logo, the GIS Day logo, the MapIt logo, The Geographic Advantage, The Geographic Approach, The World's Leading Desktop GIS, Water Writes, www.esri.com, www.geographynetwork.com, www.gis.com, www.gisday.com, and Your Personal Geographic Information System are trademarks, registered trademarks, or service marks of Esri in the United States, the European Community, or certain other jurisdictions.

Other companies and products mentioned herein may be trademarks or registered trademarks of their respective trademark owners.

Contents

Introduction

1

Introduction Course goals Using the course workbook Additional resources Installing the course data

What is a geodatabase

Lesson introduction Key terms Top reasons to use a geodatabase Geodatabase elements Exercise 1: Work with geodatabase elements Explore geodatabase structure Examine geodatabase elements Explore feature classes in ArcMap Explore a topology Explore a geometric network Lesson review Answers to Lesson 1 questions

2 Types of geodatabases

Lesson introduction Key terms Single-user geodatabases Multiuser geodatabases ArcGIS Desktop licensing Choosing a geodatabase type Lesson review Answers to Lesson 2 questions

3 Creating geodatabase schemas

Lesson introduction Key terms Building geodatabase schema Schema scenarios Getting started with geodatabase design Field data types Exercise 3: Create geodatabase schemas Create a new geodatabase Create a new feature dataset Create a new feature class Create schema with a data model Update geodatabase and spatial reference Create schema through advanced geoprocessing

i

Lesson review Answers to Lesson 3 questions

4

Loading data into a geodatabase

Lesson introduction Geodatabase data sources Raster data storage Choose the best method for loading data Tip: Storing data efficiently Exercise 4: Load data into a geodatabase Load data into feature class Load data from an XML recordset document Use conversion tools to import and export data Load raster data Use a raster as a field type Create a mosaic dataset Lesson review Answers to Lesson 4 questions

5

Domains and subtypes

Lesson introduction Key terms Applying domains Domain examples Subtype examples Using domains and subtypes Creating subtypes Exercise 5: Explore subtypes and domains Create subtypes Create a range domain Create coded value domains Apply domains to fields and subtypes Use subtypes and domains in ArcMap Lesson review Answers to Lesson 5 questions

6

Relating spatial and attribute data

Lesson introduction Joins and relates Relationship classes Advantages of relationship classes Relationship rules Exercise 6A: Relate spatial and attribute data Explore table cardinality Create relationship classes Use relationship classes in ArcMap

Contents

Exercise 6B: Work with relationship rules Create relationship rules Use relationship rules in ArcMap Lesson review Answers to Lesson 6 questions

7

8

9

Editing using attribute validation rules

Lesson introduction Streamlining your editing workflow Exercise 7: Edit using attribute validation rules Edit using coded value domains Edit with range domains Edit using subtypes Edit relationship classes Lesson review Answers to Lesson 7 questions

Geodatabase annotation

Lesson introduction Key terms Geodatabase annotation Feature-linked annotation Labels and annotation Converting labels to annotation Labels or annotation? Exercise 8: Work with geodatabase annotation Create annotation from labels Explore annotation Edit feature-linked annotation Create an annotation feature class Lesson review Answers to Lesson 8 questions

Geodatabase topology

Lesson introduction Key terms Identifying spatial relationships Why create a topology? Topology workflow Dirty areas Validation symbology in ArcMap Create a topology Exercise 9: Work with geodatabase topology Explore coincident geometry Create a geodatabase topology Use a topology in ArcMap Lesson review Answers to Lesson 9 questions

10

Editing using geodatabase topology

Lesson introduction Topology editing workflow Geometric elements of a topology Advantages of editing using a geodatabase topology Exercise 10: Use topology editing tools Create a topology Fix dangling lot lines Fix intersecting lot lines Fix overlapping lots Fix an extra lot line Fix a missing lot line Lesson review Answers to Lesson 10 questions

Geometric Networks 11

Lesson introduction Key terms Real world network examples Real-world network: Natural Gas What is a geometric network? Two views of a network Components of a geometric network Advantages of a geometric network Exercise 11: Work with geometric networks Explore a network Edit network features Use network tracing operations Lesson review

Answers to Lesson 11 questions

12

Geodatabase workflow

Lesson introduction Geodatabase workflow Exercise 12A: Project: Work with attribute behavior Add fields Update fields using ArcMap Create subtypes Create and apply domains for trail width Create coded value domains Create relationship classes Edit in ArcMap

Contents

Exercise 12B: Project: Work with geometric networks Import data into the geodatabase Prepare data for subtypes Create subtypes Create domains Create a geometric network Create network connectivity rules Edit geometric networks Exercise 12C: Project: Work with cadastral data Create schema and import data Create domains Create geodatabase topology Work with a topology in ArcMap Create annotation Add a feature class to a topology Lesson review Answers to Lesson 12 questions Exercise 12A solution: Exercise solution with steps Exercise 12B solution Exercise 12C solution

Appendixes

Appendix A: Esri data license agreement Appendix B: Additional geodatabase elements