



Ian can see that flexible training options are the answer for his client, it helps minimise the disruption to their Client Service Centre

Introduction to Geoprocessing Scripts Using Python®

ESRI Australia's Training Solutions -

supporting your location intelligence needs through flexible and valuable training options.

Why is it important?

The ArcGIS® geoprocessing framework includes a scripting environment, and Python® is the scripting language included with ArcGIS. This course introduces the Python scripting language and shows how it can be used to access and automate geoprocessing functionality. Students learn Python scripting syntax, then begin writing scripts to automate geoprocessing operations. Students also learn how to incorporate Python scripts as custom tools in ArcToolbox™.

Designed for

This course is designed for experienced ArcGIS users who want to learn how to automate everyday processes or create complex analytical scripts. ARC Macro Language (AML™) and Avenue™ programmers who want to write scripts for ArcGIS will also find the course of interest.

Course Level: Intermediate

Learning Outcomes

- // Understand the basics of the Python scripting language
- // Understand how scripts can be used in the ArcGIS geoprocessing framework
- // Incorporate tools and environment settings into scripts
- // Incorporate cursors, describe objects, and enumerations into scripts
- // Work with scripts in ArcToolbox
- // Access resources for debugging Python code

Prerequisites

Students should have completed Introduction to ArcGIS I or Learning ArcGIS Desktop and Introduction to ArcGIS II or have equivalent knowledge. Basic programming skills, such as using loops and conditional statements, are also required.

Recommended Reading

Certain recommended books can be purchased online, by visiting the ESRI Australia online store at www.esriaustralia.com.au/onlinestore

Course Details

Duration	2 days
Commencement Dates	For the latest course calendar please visit www.esriaustralia.com.au/training
Terms & Conditions	For the latest ESRI Australia training terms & conditions please visit www.esriaustralia.com.au/training

Course Content

The geoprocessing framework

- // ArcToolbox
- // Dialogs
- // Models
- // Command line
- // Scripts

The basics of Python

- // Variables
- // Commenting code
- // String concatenation
- // Looping
- // Conditional statements
- // Modules

Accessing tools and environment settings in scripts

- // The Geoprocessor ArcObject™
- // Accessing the Geoprocessor from Python
- // Accessing tools and environment settings from Python

The Geoprocessor object

- // The Geoprocessor Programming Model, the Geoprocessor (GpDispatch) object

The describe objects

- // Access various properties for different data types (e.g., feature classes, workspaces, datasets, raster datasets, etc.)

The enumeration objects

- // Create lists of data (e.g., tables, rasters, feature classes, workspaces, fields, feature datasets, etc.)

The cursor objects

- // Search cursors
- // Insert cursors
- // Update cursors

Incorporating scripts into the geoprocessing framework

- // Scripts as tools
- // Scripts in models

Finding and fixing errors

- // Python error handling
- // Identifying syntax and logical errors

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About ESRI Australia

ESRI Australia is the source of astute professional services and Geographic Information Systems (GIS) technology. We're experts in location intelligence, with over 30 years experience in implementing GIS solutions in dozens of industries.

Our passion for technology and considered approach gives our clients the power to see more and do more. With our expertise, knowledge, vision and technical capability, we turn 'possibility' into 'reality'.

ESRI Australia Training Solutions

Derive maximum benefit from your location intelligence solution by ensuring your workforce has the knowledge and skills to fully utilise your investment in GIS.

ESRI Australia offers a complete range of training services to help educate and support your solution end users and administrators. With courses for beginners,

intermediate and advanced users, ESRI Australia caters for all skill sets and educational requirements.

Our courses are taught by ESRI Inc. authorised instructors, which means that your employees can be assured of receiving consistent quality GIS training by accredited trainers.

Our flexible training options range from developing and delivering a complete training program for your organisation through to a range of scheduled courses held at centrally located training facilities.

With client site, scheduled or knowledge transfer training available, ESRI Australia can provide the solution to meet your organisation's training needs.

For course descriptions, or further information about ESRI Australia's flexible training solutions please visit www.esriaustralia.com.au/training

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