Training: Python Academy

Twisted

TRAINING GOALS:

This tutorial is intended for programmers with at least some **Python** experience who want to use the **Twisted framework**. It is suitable for people trying to start new Twisted projects, are looking to integrate Twisted with an existing non-Twisted project, or who have inherited an existing Twisted project.

CONSPECT:

- Core course
    - Introduction
    - Event loops
    - Environment setup
    - Dependencies and required software
    - Where to get help
    - Documentation
    - Support channels: IRC, mailing list...
    - Protocols, factories and endpoints
    - Introduction
    - Building a simple protocol
    - Client and server factories
    - Serving your protocol:
    - reactor.listen/connect
    - Endpoints
    - Existing and composable protocols
    - Deferreds
    - Introduction
    - Exercises
    - @inlineCallbacks
- Important toplevel packages
    - Twisted Web
    - Servers (with exercises)

  - Resource traversal
  - Clients (exercises based on previous servers)
  - Twisted Cred: pluggable authentication
  - Overview
  - Exercises
- Other toplevel packages and third party packages
  - twisted.words: Chat protocols & IRC support
  - IRC clients
  - A simple bot
  - Adding more advanced behavior (e.g. webhooks)
  - Building an IRC server
  - Wokkel (Friend fork with advanced Jabber/XMPP support)
  - twisted.news: NTTP support
  - twisted.conch: SSH support (timing depends on level of detail and which components)
  - Database access
  - twisted.enterprise + txpostgres
  - txredis, paisley (couchdb), telephus (cassandra)
  - Axiom
  - twisted.spread: distributable computing
  - twisted.names: DNS servers and clients
  - Twisted Community Code (tx) (length depends on the package)
  - scrapy: advanced scraping architecture built on Twisted
- Advanced topics
  - Dealing with legacy/synchronous code
  - WSGI app case study: django-packages
  - Threads: deferToThread(Pool), blockingCallFromThread
  - Dealing with CPU-bound problems
  - Introduction
  - Explicit cooperative multitasking
  - Threads (reference; see previous mention of threads)
  - Multiprocessing options and Ampoule
  - Application framework
  - Services and applications
  - twistd: running servers & daemonization
  - Twisted's plugin system
  - Writing your own twisted plugins

- Advanced application concepts
- Process monitoring: daemontools, upstart, systemd, etc.
- Live server monitoring and maintenance with manhole
- Contributing to Twisted
- Issue tracker
- Setting up the environment
- Review process

In addition to the previous topics, the following topics are touched on as needed:

- Test Driven Twisted: twisted.trial (tutorial is TDD where sensible)
- twisted.python: useful random python utilities
- FilePath: like paths but better
- Logging

REQUIREMENTS:

- Basic knowledge of **Python** and **object oriented programming** is required.
- If you don't know Python it is strongly recommended to take **Python for Programmers** before this course.

Difficulty level

CERTIFICATE:

The participants will obtain certificates signed by Python Academy.

TRAINER:

Authorized Python Academy Trainer.