

Clojure Training

Introduction to Clojure

- What is Clojure?
- What are its advantages?
- Getting it and installing it
- Tooling

Basic Clojure Syntax and the REPL

- Lisp syntax
- Everything is a list...
- The REPL
- Using Lein to create projects
- Executing code

Clojure Functions

- Executing functions
- Writing functions
- Using 'let'
- Variadic functions
- Functions with multiple arity

Clojure Namespaces

- What is a namespace?
- The 'user' namespace
- Using code in other namespaces
- require, use, and import
- Reloading namespaces
- The ns declaration

Working with Java Code & Clojure

- Importing Java packages
- Using static class members
- Creating objects

- Calling instance methods

More Clojure Syntax...

- Execution (do, doseq, dotimes)
- Conditionals (if, cond, condp, case)
- Iteration (while, for, loop)
- Recursion
- Tail recursion
- Exception handling

Intro to Functional Programming with Clojure

- What is Functional Programming?
- Higher-order functions
- Anonymous functions
- Functional composition
- Destructuring
- What is destructuring?
- Sequential destructuring
- Associative destructuring
- Using :keys and :or Named arguments

Data Structures

- The four basic structures:
 - lists
 - vectors
 - maps
 - sets
- Sequences
- Lazy Sequences
- Operations on sequences (eg map, reduce, filter)

Polymorphism

- Protocols
- Defining and using Types

- Defining and using Records