

## **RUST PROGRAMMING TRAINING**

#### SECTION 1 : OVERVIEW OF RUST PROGRAMMIG

- Introduction
- Installation and configuring the Rust
- Overview on Rust Ecosystem
- Hello World! Rust
- What is Cargo Package Manager

#### **SECTION 2 : FUNDAMENTALS OF RUST**

- Variables and Data Types
- Operators, Declaring and Using Constants
- Loops and Conditionals
- Scopes and Functional of Rust
- Stack and Heap
- > Ownership in RUST

#### **SECTION 3 : CONTROLS AND STRUCTURES**

- Control Flow
  - If Statements
  - While and Loop Statement
  - For Loop and Match Statement

#### Data Structures

- Defining Structs
- Defining Enumeration
- Union
- Array and String
- Vectors
- Tuples
- Pattern Matching

#### SECTION 4 : GENERICS AND CONCURRENCY IN RUST

- Generic Struct and Enum
- Generic Function
- Threads and Message Passing
- Shared State

Extensible Concurrency

#### SECTION 5 : RUST COLLECTIONS AND POINTERS

- > Hash Maps
- Raw Pointers
- Box, Deref, Drop, Rc and RefCell
- Functional Programming with Rust
  - Closure
  - Iterator

#### SECTION 6 : TRAITS AND LIFETIME OF RUST

- What is Traits?
- Implementation of Traits
- Validation Reference
- Operator Overloading?
- Dispatch
  - Static
  - Dynamic
- Lifetime Annotation
- Generic Lifetime

#### SECTION 7 : BUILDING MODULES AND CRATES

- Define Modules?
- Creating Modules
- Multiple File Crates
- Importing external Crates
- Publishing Crates

#### SECTION 8 : CARGO

- What is Cargo?
- Cargo Workspace
- Cargo Package Modules

#### **SECTION 9 : EXCEPTION HANDLING**

- > Error
  - Unrecoverable error
  - Recoverable error
- Settings
- Conditional Panic
- Visibility Control using Pub

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### Know more about <u>RUST PROGRAMMING</u>



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