

## Ruby Training Course

### Content

- **Introduction Session**

- ✓ What is RUBY
- ✓ RUBY History, Introduction & RUBY Scope
- ✓ Type of Application Created by RUBY
- ✓ Comparison of RUBY with Other Web Technology
- ✓ Why RUBY is Most Popular Programming Language in IT World

- **Ruby Installation and Software Tools**

- ✓ Ruby Installation
- ✓ What is best IDE,
- ✓ Interpreters vs Compilers
- ✓ How to Set Path in Ruby (Temp Path & Permanent Path)
- ✓ How to Execute Ruby Code under Command Prompt
- ✓ Ruby Architecture
- ✓ How to Write Comment in Ruby
- ✓ Create First Hello World of Program in Ruby & provide complete explanation

- **Operator in Ruby**

- ✓ What is Operators
  - ✓ Types of Operator
  - ✓ RUBY Arithmetic Operators
  - ✓ RUBY Comparison Operators
  - ✓ RUBY Assignment Operators
  - ✓ RUBY Bitwise Operators
  - ✓ RUBY Logical Operators
  - ✓ Ternary Operator
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- **Variable, Constant, Literals & Data Types**

- ✓ What is Variables, Constant and Literals
- ✓ Type of Variables
- ✓ Memory Management according to variable
- ✓ Assigning Values to Variables, Constant
- ✓ Data types
- ✓ Primitive Data type & Non Primitive Data type
- ✓ Implicit & Explicit Type Conversion
- ✓ Conversion Method and Type Casting
- ✓ Naming Convention in RUBY according to different cases

- **Loops and Conditional Statements**

- ✓ if statements
- ✓ ..else statements
- ✓ nested if statements, Ladder if else, Multiple If
- ✓ Case...When
- ✓ while loop, do-while
- ✓ for loop, until loop
- ✓ nested loops
- ✓ Loop Control Statements
- ✓ break statement
- ✓ continue statement

- **Array Concept in RUBY**

- ✓ What is Array, Advantage of Array & Disadvantage of Array
- ✓ Type of Array (Single, Multi & Jagged Array)
- ✓ Explain Char Array and String Array
- ✓ Searching and Sorting Elements in Array
- ✓ Create Stack and Queue in Array
- ✓ What is Array class in RUBY, Discuss Predefine methods of Array Class

- **Hash in RUBY**

- ✓ What is Hash, Advantage of Hash

- **User define function in Ruby**

- ✓ What is Function
- ✓ Type of Function
- ✓ Default Function and Parameterized Function
- ✓ What is default argument value
- ✓ Recursion in ruby

- **String Example in Ruby**

- ✓ What is String
- ✓ How many ways to declare to String
- ✓ String as a Object
- ✓ String Interpolation

- **OOPs Concept in Depth**

- ✓ Class and Object, Polymorphism, Encapsulation, Abstraction
- ✓ Static Block, Init Block Explanation
- ✓ Access Specifier, Access Modifier(Instance, Static,final,abstract)
- ✓ Constructor and their types
- ✓ Inheritance and their types
- ✓ Polymorphism and their types
- ✓ Object Array using class
- ✓ IS A Relationship and Has a Relationship

- **Exception Handling in RUBY**

- ✓ What is Exception
- ✓ Type of Exception
- ✓ What is raise keyword
- ✓ What is User define Exception

- **File Handling Concept in RUBY**

- ✓ What is File, Directory, Package
- ✓ Create, Write and Read Text file
- ✓ Create, Write and Read Binary file
- ✓ How to delete content from file
- ✓ How to create folder and put file under folder

- **Threading Concept in RUBY**

- ✓ What is Thread
- ✓ Thread Life Cycle
- ✓ Thread implementation
- ✓ What is Thread Synchronization

**Course Duration: 30 Hours**

## **Rails Training Course**

### **Content**

- **Web Introduction**

- ✓ What is Web application
- ✓ What is Static & Dynamic Website
- ✓ What is Client Server Architecture

- ✓ What is Http, Http Request and Http Response
- ✓ ROR Web Server & Application Server
- ✓ How to create Web project in VS Code
- **Front end explanation**
  - ✓ What is HTML
  - ✓ What is CSS, Internal, External and Inline
  - ✓ What is JS, JS Events, JS DOM
  - ✓ What is JQuery, JQuery Events and Selector
  - ✓ What is Bootstrap, How to create Responsive Design
  - ✓ Create Responsive Web Template
- **What is Controller and Views**
  - ✓ Creating a New Rails Site for Flix
  - ✓ How Controller methods relate to views
  - ✓ Private methods
  - ✓ The params hash
- **Views**
  - ✓ Generating and Creating Views
  - ✓ Mapping Views, Controller ,Actions and Routes
  - ✓ Dynamic Views
  - ✓ Rails Route Command
  - ✓ Creating a View
  - ✓ Add Dynamic Data
  - ✓ Rendering a Partial View
- **Rails Forms**
  - ✓ What is Rails forms
  - ✓ Rails form Helper
  - ✓ Connecting a Form from Model
- **Models**
  - ✓ Generating a Model
  - ✓ How migration files work
  - ✓ Migration the database
  - ✓ Rolling back a Migration
- **Models Validation**
  - ✓ The purpose of Validations
  - ✓ Adding basic Validation
  - ✓ Preventing Submission of Empty Forms
  - ✓ Customizing Validations
  - ✓ Adding Error Message

- **Models Methods**

- ✓ Built-in Model Methods
- ✓ Adding Methods to Model

- **Models Relationship**

- ✓ Has\_one and belongs\_to\_relationships
- ✓ has\_and\_belongs\_to\_many: Simple Many-to-Many Relationships
- ✓ has\_many, through: Advanced Many-to-Many Relationships with Additional Metadata
- ✓ Polymorphic Relationships
- ✓ Delegates: Sharing Methods Between Related Objects
- ✓ Self-Joins: Relationships Between Instances of the Same Model

- **Authentication and Database Operation**

- ✓ Create Login and Registration Form
- ✓ Create Login with Multiple Role
- ✓ Create Result GRID with CRUD Operation
- ✓ Create User dashboard and display individual user data
- ✓ Create Admin Dashboard and Manage CRUD Operation

- **Session and Cookie**

- ✓ What is Session
- ✓ Create Session
- ✓ How to Authenticate using Session
- ✓ Destroy Session
- ✓ Manage Session to provide Internal Page Security
- ✓ Implement Session in Login Form
- ✓ What is Cookie
- ✓ Get Data From Cookie
- ✓ Manage Time Interval in Cookie
- ✓ Destroy Cookie

- **AJAX Operation**

- ✓ How to manage AJAX Operation using XML
- ✓ Ajax using JQuery
- ✓ Create Autosuggestion and Search Record using AJAX
- ✓ CRUD Operation using AJAX

- **File Uploading**

- ✓ How to Upload File
- ✓ How to upload multiple file
- ✓ Save image file into database
- ✓ Upload and download profile picture into database

- **Scaffolding**

- ✓ The Scaffold command

- **MVC Architecture**

- ✓ How to Manage MVC Architecture
- ✓ Access BEAN Under JSP & Servlet