# Ruby, Part 2 of 6: Variables and Data Structures

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**Meet the expert:** Jordan Hudgens has certifications for Ruby on Rails, Thinkful; Ruby on Rails, Bloc.io; Front End Development, Thinkful; and AngularJS, Thinkful. He is currently vice president of engineering for TRACKR in Midland, Texas and is working on his PhD in Computer Science from Texas Tech. In addition to Ruby, Jordan works with PHP, JavaScript, MySQL, Postgres, CSS3, C, C++, C#, Objective-C, and Python. He also works with the frameworks Rails (Ruby), Zend (PHP), and Django (Python), plus the libraries AngularJS, jQuery, and Backbone.js.

**Prerequisites:** You should be familiar with basic text editing in a Windows or Linux environment. No prior knowledge of programming is assumed.

**Runtime:** 01:47:10

**Course description:** In this course, Ruby expert Jordan Hudgens examines the basic building blocks of the program and dives deep on its various data structures such as arrays. He will also discuss how Ruby uses dynamic typecasting and teach you how to use the struct class to encapsulate data with methods and behaviors. With a better understanding of data structures in place, Hudgens will then walk you through how to automate tasks in Ruby such as calculating sums.

**Course outline:**

**Variables**
- Introduction
- Dynamic Data Types
- Demo: Declaring Variables
- Variable Type Casting
- Demo: Type Casting
- Variable Scope
- Demo: Variable Scope
- Summary

**Arrays and Structs**
- Introduction
- Arrays
- Demo: Arrays
- Structs
- Demo: Structs
- Summary

**Hashes**
- Introduction
- Hashes
- Demo: Create a Hash
- Hash Methods
- Demo: Hash Methods
- Summary

**Loops**
- Introduction
- While Loop
- Demo: While Loop
- Each Loop
- Demo: Each Loop
- Generic Loop
- Demo: Generic Loop
- Summary

**Map, Inject, and Permutation**
- Introduction
- Map and Collect
- Demo: Map
- Inject and Reduce
- Demo: Inject
- Permutation
- Demo: Permutation
- Summary