

Web Application Architectures

Module 2: Ruby on Rails
Lecture 1: Rails Overview



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Ruby on Rails (Rails) is a software framework for building Web applications.

Features:

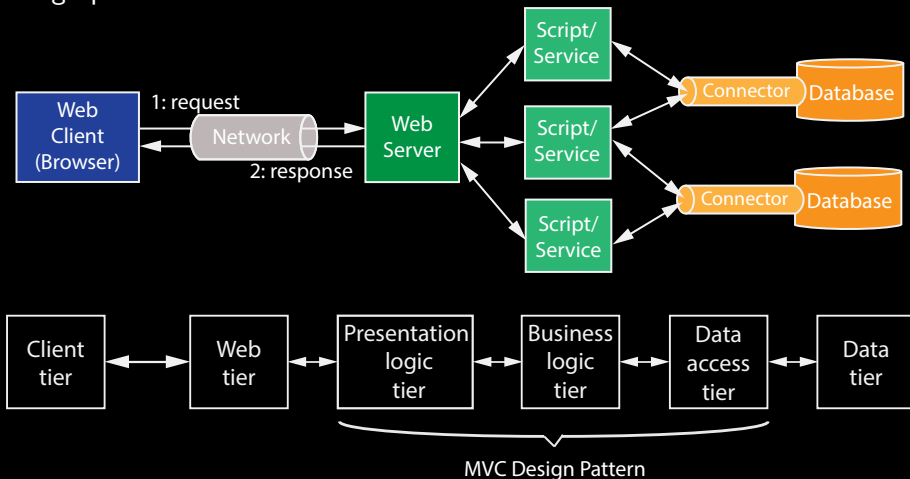
- Built using the Ruby programming language.
- Open source – MIT License.
- Provides a full stack – back-end data store to front-end presentation of web pages, and everything in between.
- Released in 2004, and has continued to evolve rapidly.

Some sites built using Rails:

Twitter, Hulu, GitHub, Yellow Pages and Funny or Die

- Rails is a Ruby **gem** (a gem is a prepackaged Ruby application or library).
- Rails includes an extensive set of code generators, automated testing scripts and other features that are intended to make the job of programming a web application easier.
- A suite of additional tools are provided as part of the Rails ecosystem that make it easy to deploy a fully-functional web application:
 - **Rake** – comes from RubyMAKE, i.e., it's a utility similar to the Unix make. You use it to create and migrate databases, clear web session data, etc.
 - **WEBrick** – web server for hosting Rails web applications. Can also use other web servers, e.g., Apache, Thin, Unicorn, etc.
 - **SQLite** – a simple database engine pre-installed with Rails.
 - **Rack Middleware** – standardized interface for interaction between web server and web application.

The Rails framework is built around the **Model-View-Controller** (MVC) design pattern:



It **doesn't scale** – High profile issues at Twitter.

It's **magic** – The framework and code generation means you really don't know what's going on “under the hood.”

My **Answer** – It's all a part of the natural progression:

Bits \longrightarrow Assembly \longrightarrow HLL \longrightarrow OOP \longrightarrow Frameworks

“The point is that the cost per request is plummeting, but the cost of programming is not. Thus, we have to find ways to trade efficiency in the runtime for efficiency in the ‘thought time’ in order to make the development of applications cheaper. I believed we’ve long since entered an age where simplicity of development and maintenance is where the real value lies.”

— David Heinemeier Hansson