

Ruby on Rails Development



What is Ruby on Rails ?

- Ruby on Rails is a web application framework written in Ruby, a dynamic programming language.
- **Ruby on Rails** uses the MVC (Model-View-Controller) architecture pattern to organize application programming.

Ruby on Rails Features

Rails is packed with features that make you more productive, with many of the following features building on one other.

- Meta programming:
- Active Record
- Convention over configuration
- Scaffolding
- Built-in testing
- Three environments

Sample Ruby Code

```
# Output "Name"  
puts "Bhaskar"
```

```
# Output "Name" in uppercase  
puts "Bhaskar".upcase
```

```
# Output "Name" 10 times  
10.times do puts  
"Bhaskar".upcase  
end
```

Sample Ruby Code: Class

Class Employee: defining three attributes for a Employee; name, age, position

```
class Employee # must be capitalized
  attr_accessor :name, :age, :position
```

```
# The initialize method is the constructor
  def initialize(name, age, position)
    @name = name
    @age = type
    @position = color
  end
```

New Employee

Creating an instance of the Employee class:

```
a = Employee.new("JAY", "23", "Test Engineer")
```

```
b = Employee.new("SAM", "24", "Test Engineer")
```

Method

To be able to describe employees, we add a method to the employee class:

```
def describe
```

```
  @name + " is of " + @age + " years"
```

```
  +" working as "
```

```
  + @position+ ".\n"
```

```
end
```

Calling Method

To get the description of Employee, we can call Employee with the describe method attached :

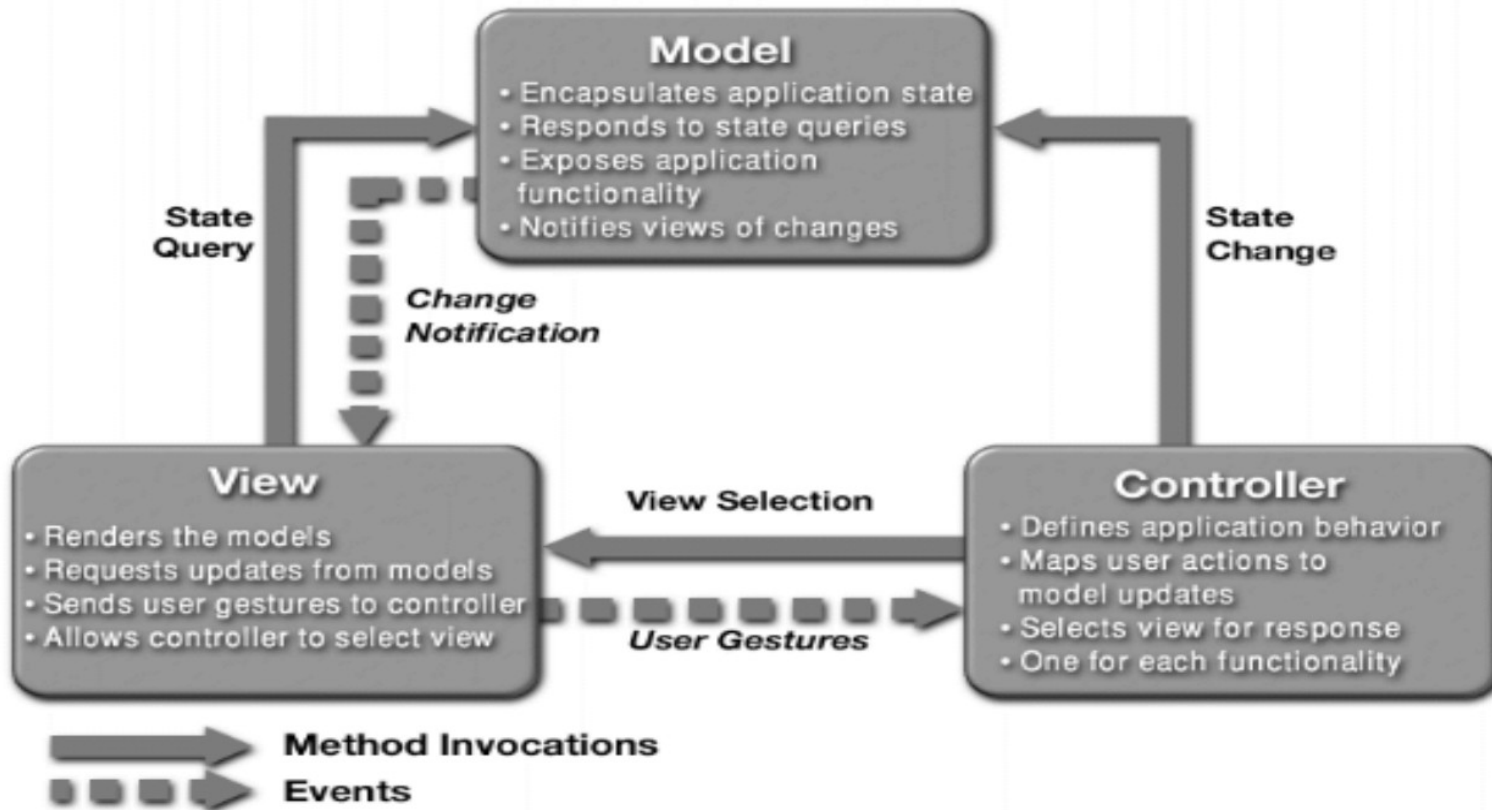
```
emp= a.describe
```

```
puts emp
```

Or:

```
puts a.describe
```


Rails implements the model-viewcontroller (MVC) architecture.



Model View Controller (MVC)

- The MVC design pattern separates the component parts of an application
- MVC pattern allows rapid change and evolution of the user interface and controller separate from the data model

Model

Contains the data of the application

- Transient
- Stored (eg Database)

Enforces "business" rules of the application

- Attributes
- Work flow

View

- Provides the user interface
- Dynamic content rendered through templates

Three major types

- Ruby code in erb (embedded ruby) templates
- xml.builder templates
- rjs templates (for javascript, and thus ajax)

Controller

- Perform the bulk of the heavy lifting
- Handles web requests
- Maintains session state
- Performs caching
- Manages helper modules

Creating a Simple Application

Requirements

- Ruby
- RubyGems
- Rails
- SQLite, PostGres or MySQL

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Convention over configuration

- Most Web development frameworks for .NET or Java forces to write pages of configuration code, instead Rails doesn't need much configuration. The total configuration code can be reduced by a factor of five or more over similar Java frameworks just by following common conventions.
- Naming your data model class with the same name as the corresponding database table
- 'id' as the primary key name.