

School of Informatics
University of Edinburgh

An Introduction to Ruby on Rails

Ken Dawson

- What is Ruby on Rails?
- The ruby language
- Using Ruby on Rails with DICE
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- Setting up a web interface to a database
- Rails directory structure
- Simple worked example
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<https://devproj.inf.ed.ac.uk/>
- References

What is Ruby on Rails?

- A web application framework written in the ruby programming language
- It provides a way of quickly prototyping web applications that interface to a database and then supports the development of the application to greater levels of sophistication
- Uses the Model–view–controller architecture
- Open source software first released in July 2004

The Ruby Language

- Object oriented programming language
- Claimed to allow writing of compact, readable and maintainable code
- Syntax and semantics are 'intuitive and very clean'

Using Ruby on Rails with DICE

To include the rails software use:

```
#include <dice/options/ruby_on_rails.h>
```

To use mysql as the database use:

```
#include <dice/options/mysql-server.h>
```

To use apache1.3 (with kx509 authentication) use:

```
#include <dice/options/kx509-  
webserver.h>
```

Tables, Objects and URLs

Rails automatically maps each URL on the web server that does not correspond to an actual file to a class and a method of that class (with any third element of the url being passed as the value of a variable :id)

```
RewriteCond %{REQUEST_FILENAME} !-f
```

```
RewriteRule ^(.*)$ dispatch.cgi [QSA,L]
```

Database Table		Class		URL
cabbages	<=>	Cabbage	<=>	http://<host>:<port>/cabbage/

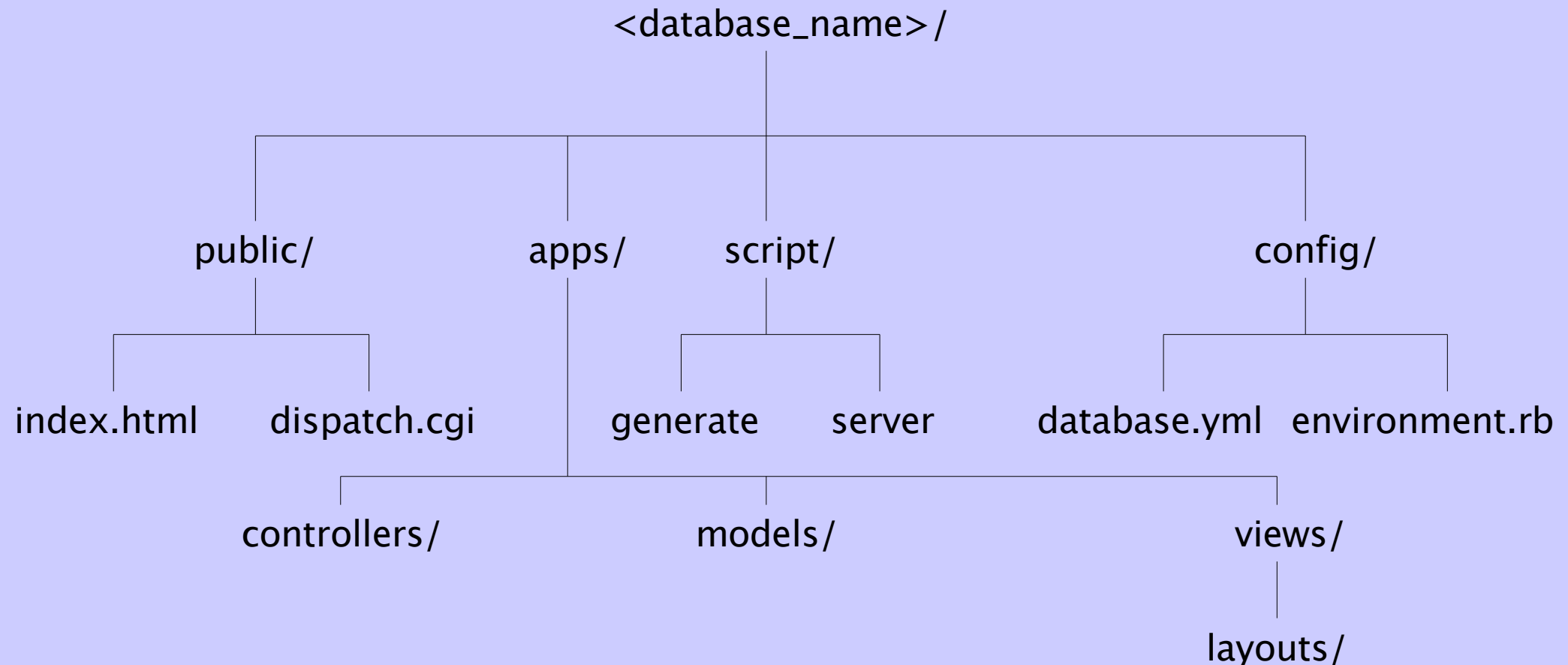
Setting up a Web Interface to a Database

- Set up the initial rails framework for your database (in our example database name is demo)

```
$ rails demo
```

- Create the database and tables (using say mysql)
- Edit the rails database configuration file (demo/config/database.yml) to set database name, password and socket
- Make the public directory be the document root for the web server

Rails Directory Structure 1



Simple Worked Example

- Generate the rails model and controller files for the class 'Purchase'

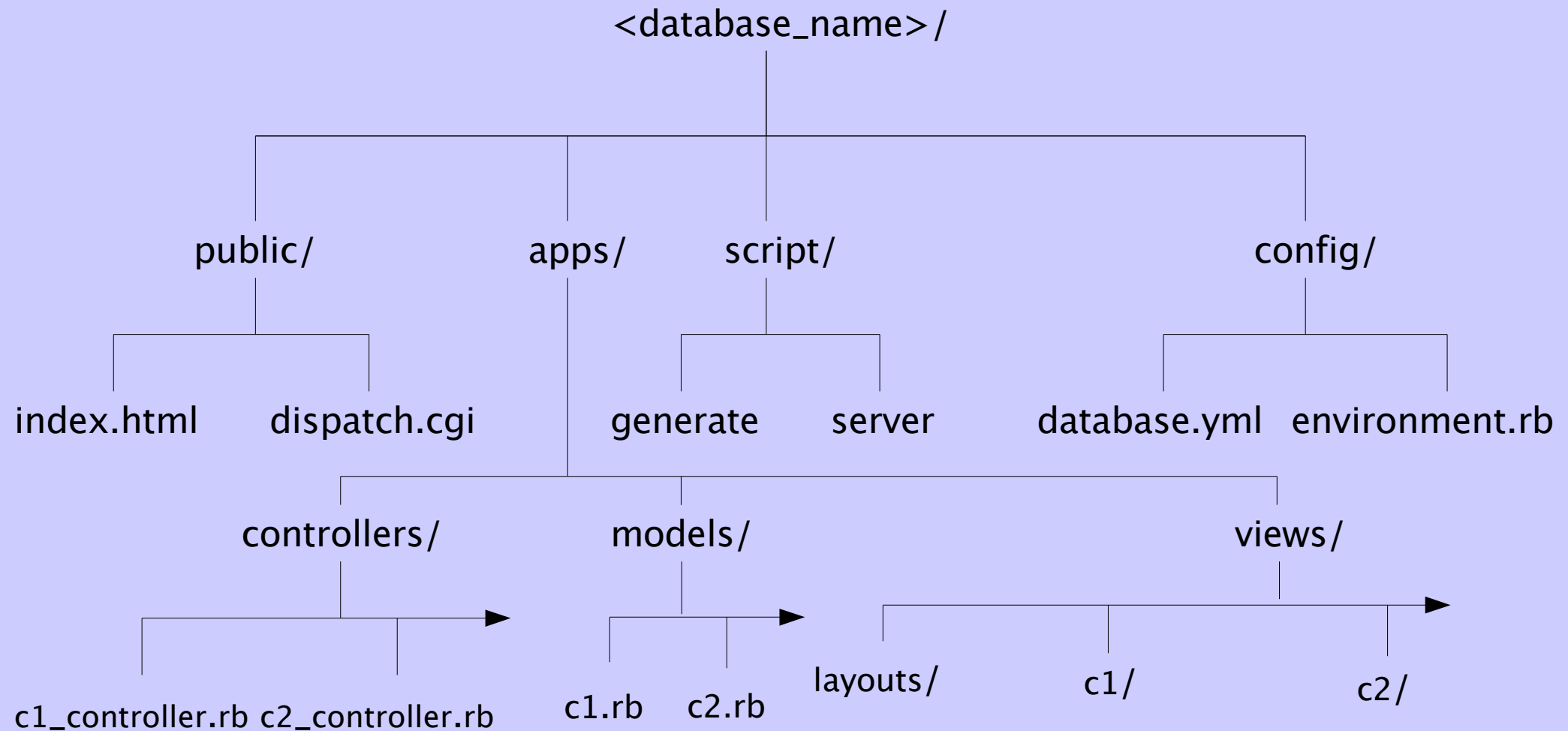
```
$ ruby script/generate model Purchase
```

```
$ ruby script/generate controller Purchase
```

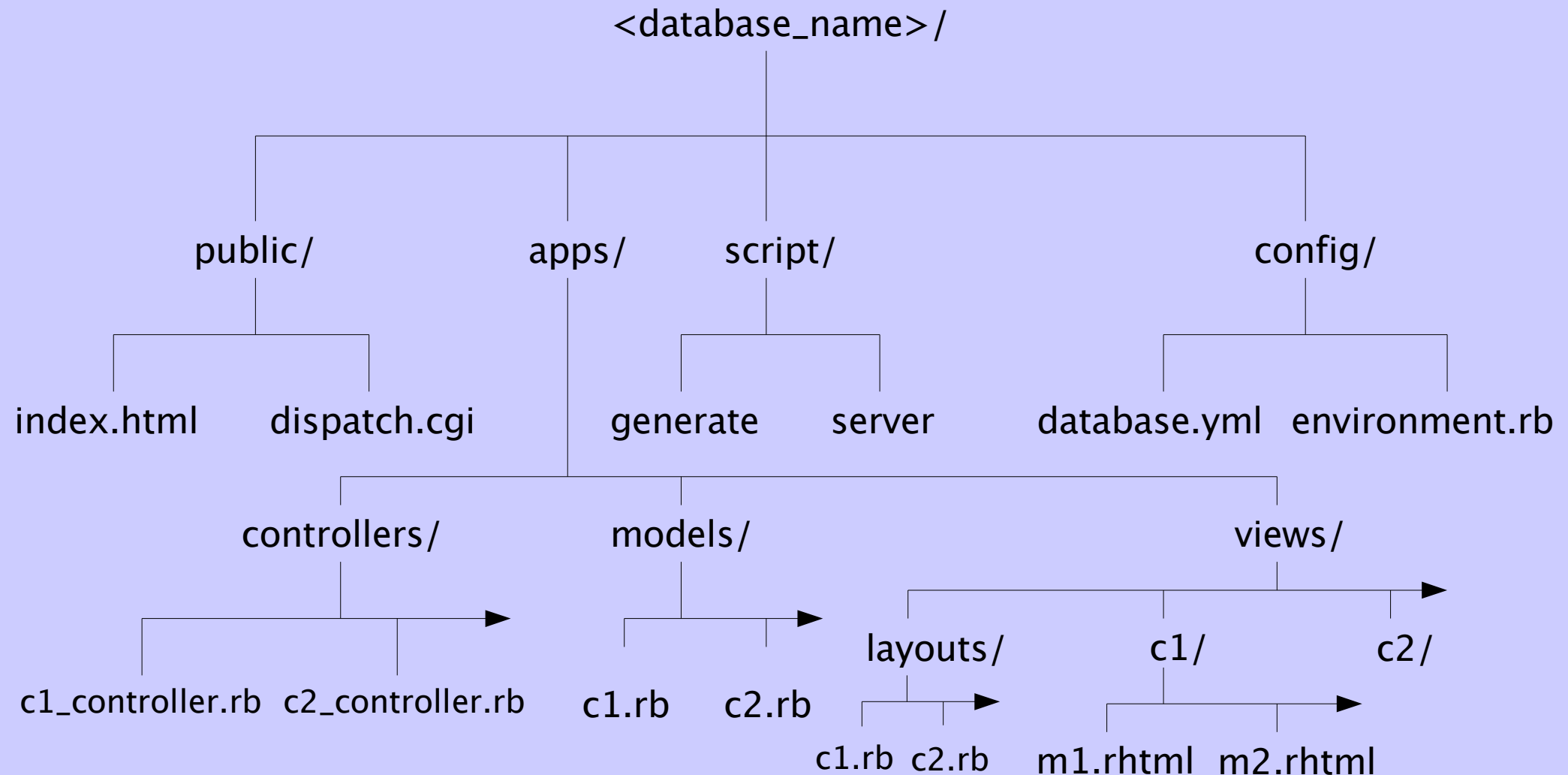
- Defining new class methods/actions
- Using the rails default definitions of standard actions – scaffold :<class>

```
$ ruby script/generate scaffold Item
```

Rails Directory Structure 2



Rails Directory Structure 3



A Real Application

The web application for tracking the progress on development projects was developed using Ruby on Rails.

The web site is at

<https://devproj.inf.ed.ac.uk>

It uses apache 1.3 as the web server and mysql 3.23 as the database server.

References

- <http://wiki.rubyonrails.org/rails>
- <http://api.rubyonrails.org/>
- <http://www.rubycentral.com/>
- <http://www.onlamp.com/pub/a/onlamp/2005/01/20/rails.html>