



University of  
**Sheffield**

**COM1001 SPRING SEMESTER**

Professor Phil McMinn

[p.mcminn@sheffield.ac.uk](mailto:p.mcminn@sheffield.ac.uk)

# An Introduction to Sinatra

# Sinatra



A **Domain Specific Language (DSL)** for writing web applications in Ruby

It is relatively easy to learn

It is designed so that developers can write web applications quickly

It has been used commercially by several organisations from Apple, to LinkedIn, to GitHub, to the NSA

Website and documentation:  
<http://sinatrarb.com>

# Hello, World!

Sinatra involves writing **blocks** of Ruby code that determine which **HTTP Requests** the web application will respond to. These involve specifying a **HTTP method** and a **resource identifier**, which together are referred to as a **route**.

```
require "sinatra"

get "/hello-world" do
  "Hello, World!"
end
```

getting\_started/hello\_world\_example/hello\_world.rb

Ruby uses underscores as filename separators, but **resource identifiers should always use hyphens**, which might be confusing at first, but means that the resulting URLs have hyphens rather than underscores too. This is important because it's hard to distinguish underscores from spaces when a URL is underlined. Google recommends hyphens as separators in URLs for this reason. This is known as "**kebab-case**".





# Live Demonstration:

`getting-started/hello-world-example`

(from the COM1001 GitHub repository)

## Featuring:

- Review of setting up a Codio project
- Running the example with the `sinatra` command
- Introducing a Sinatra route
- The base URL
- Viewing the HTTP Request and Response

# The Base URL

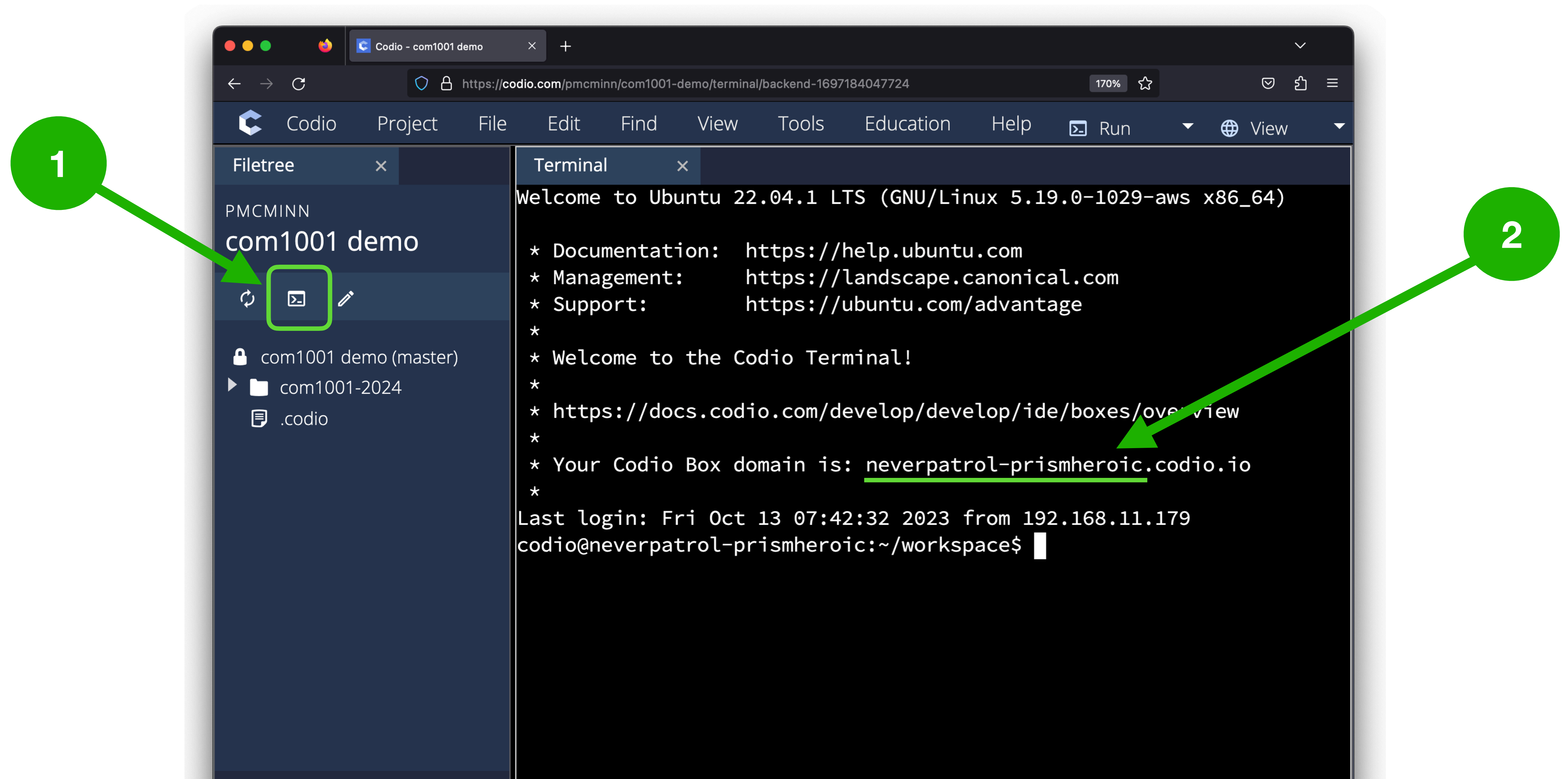
The **Base URL** forms the initial part of every URL of your web application.

It is made up of the **HTTP protocol** being used, the **domain name** of your web server, and the **port number** it is using for your web application.

For development on Codio, the port number is 4567, and the domain name is derived from the box name of your project, as follows:

**https://box-name-4567.codio.io**

# Finding the Box Name of Your Project



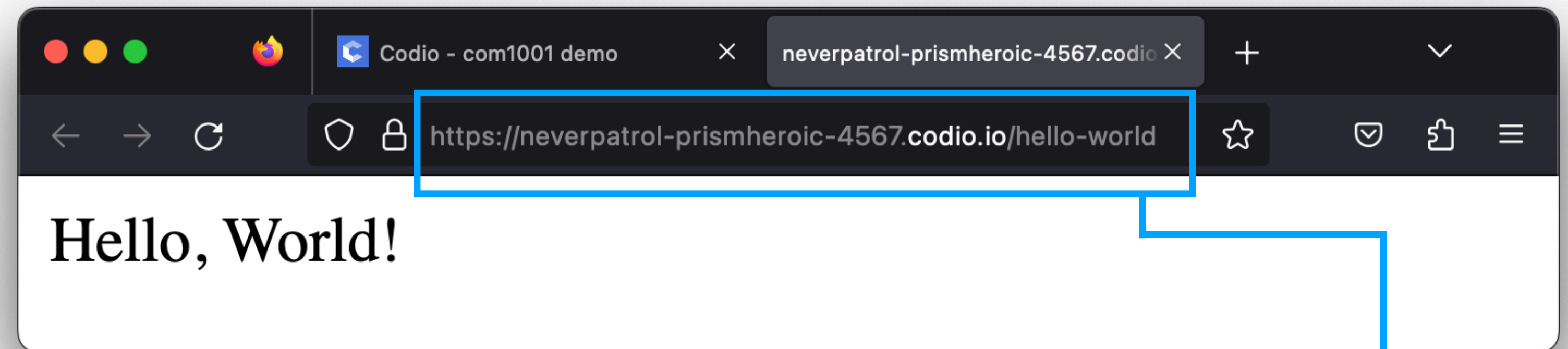
# Viewing the Hello World Example

To invoke a Sinatra **get** route, we need to suffix the route's **resource identifier** to the **Base URL**, then enter this URL into the browser to display the resulting page.

So for the Hello World example, we need suffix **/hello-world**

```
require "sinatra"

get "/hello-world" do
  "Hello, World!"
end
```



My box name is “**neverpatrol-prismheroic**”, so my **base URL** is  
**https://neverpatrol-prismheroic-4567.codio.io**

and the complete URL I need is

**https://neverpatrol-prismheroic-4567.codio.io/hello-world**



# The **HTTP Request** from My Browser

```
GET /hello-world HTTP/2
Host: neverpatrol-prismheroic-4567.codio.io
User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.15; rv:109.0) Gecko/20100101 Firefox/118.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,*/*;q=0.8
Accept-Language: en-GB,en;q=0.5
Accept-Encoding: gzip, deflate, br
Referer: https://codio.com/
...
```

# The **HTTP Response** from the Web Server

```
HTTP/2 200
content-type: text/html; charset=utf-8
content-length: 13
...
```



# Sinatra – Summary

- Sinatra is a domain specific language that helps map **HTTP requests** to **blocks of Ruby code** through so-called “**routes**”
- Sinatra generates a **HTTP response** according to instructions in the block of code corresponding to the route.
- To see Sinatra web pages, we need to use the correct **base URL** for our web server and use the **resource identifier** corresponding to the route.