

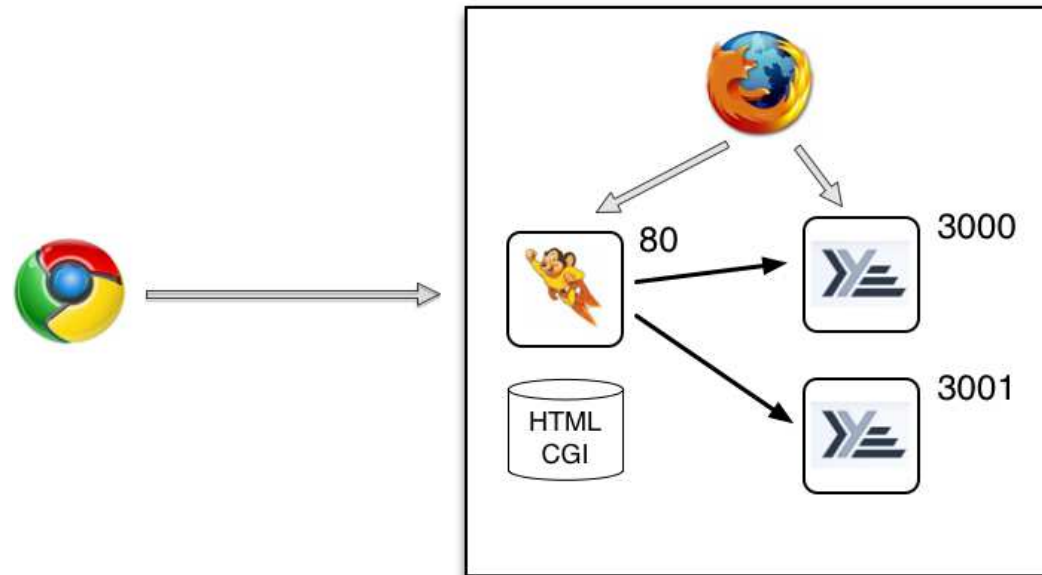
Mighty and Yesod

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Contents

- Run Mighty with HTML files and CGI scripts
- Create a web application with Yesod
- Set up reverse proxy for Yesod with Mighty



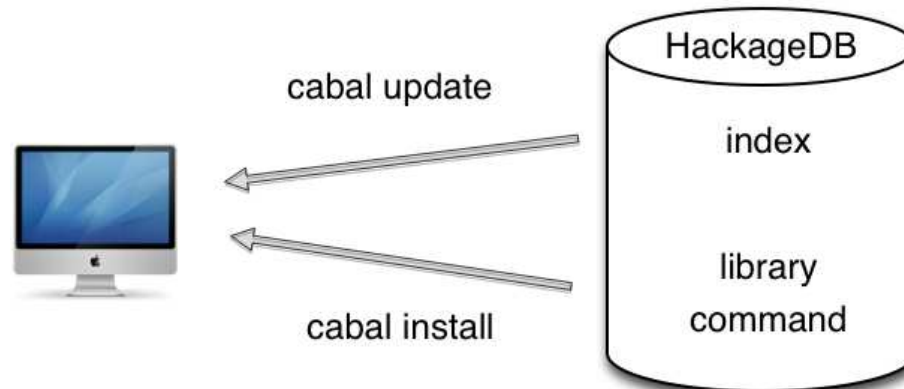
Homework

- Preparing HTML files (and CGI scripts)
 - In `<DIR_FOR_HTTP_FILE>`
- Haskell Platform 2011.4.0.0
 - <http://hackage.haskell.org/platform/>
 - GHC (Glasgow Haskell Compiler) 7.0.4
 - `ghc -- compiler`
 - `ghci -- interpreter`
 - `runghc -- script`
 - Package management system
 - `cabal`

Cabal

Obtaining latest package info

- `% cabal update`
 - `"~/ .cabal"` and `"~/ .ghc"` are created
- `cabal` uses the `http_proxy` env var
 - `export http_proxy=http://proxy.example.com:8080`



Adding a path

- Mac -- "`~/Library/Haskell/bin`"
- Linux -- "`~/cabal/bin`"
- Windows -- automatically added

Mighty

Installing Mighty

- `% cabal install mighttpd2`
 - "sudo" is not required

Installing Yesod

- It takes a time to install Yesod.
So, let's start installing Yesod now
- `% cabal install yesod-platform`

Running Mighty in debug mode

- % `cd <DIR_FOR_HTTP_FILE>`
- % `mighty`

- **Access with your browser**
 - `http://localhost:8080/`

or

- % `cd <DIR_FOR_HTTP_FILE>`
- % `sudo mighty`

- **Access with your browser**
 - `http://localhost/`

Stopping Mighty

- In debug mode, Mighty stays in the terminal
- Just type "C-c"

Copying config and routing

- "example.conf" and "example.route"
- Linux
 - "~/.cabal/share/mighttpd2-x.y.z"
- Mac
 - "~/Library/Haskell/ghc-7.0.4/lib/mighttpd2-x.y.z/share"
- Windows
 - C:\Users\\AppData\Roaming\cabal\mighttpd2-x.y.z\share
- % cd <ANY_DIR>
- % cp <EXAMPLE_DIR>/* .

Config file

```
Port: 80
Debug_Mode: Yes # Yes or No
User: nobody
Group: nobody
Pid_File: /var/run/mighty.pid
Logging: Yes # Yes or No
Log_File: /var/log/mighty
Log_File_Size: 16777216 # bytes
Log_Backup_Number: 10
Index_File: index.html
Index_Cgi: index.cgi
Status_File_Dir: /usr/local/share/mighty/status
Connection_Timeout: 30 # seconds
# Server_Name: Mighttpd/2.x.y
Worker_Processes: 1
```

Routing file

```
# Domain lists
[localhost www.example.com]

# CGI
/~alice/cgi-bin/ => /home/alice/public_html/cgi-bin/

# Static files
/~alice/          -> /home/alice/public_html/
/cgi-bin/         => /export/cgi-bin/

# Reverse proxy
/app/wiki/       >> 127.0.0.1:3000/

# Static files
/                -> /export/www/
```

Running Mighty as daemon

- `% mighty example.conf example.route`
- `% sudo mighty example.conf example.route`

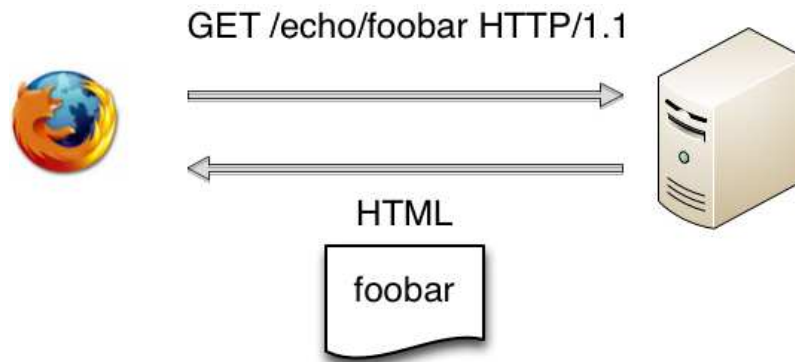
Stopping Mighty (2)

- `% kill `cat /var/run/mighty.pid``
- `% sudo kill `cat /var/run/mighty.pid``

Yesod

Goal

- Creating a echo server



Scaffolding

- % cd <ANY_DIR>
- % yesod init

Your name: Kazu Yamamoto
Project name: echo-server
DB: s (sqlite)

Installing necessary libraries

- `% cd echo-server`
- `% cabal install --only-dependencies`

You can omit `--only-dependencies`
but it installs unnecessary "echo-server"
in the cabal directory.

Running development server

- `% yesod devel`
- **Access with your browser**
 - `http://localhost:3000/`

Adding route and handler

- The top of "config/routes"

```
/echo/#String EchoR GET
```

- The bottom of "Handler/Home.hs"

```
getEchoR :: String -> Handler RepHtml  
getEchoR theText = defaultLayout  
  [whamlet | <h1>#{theText} | ]
```

- Access with your browser

- `http://localhost:3000/echo/foobarbaz`

- Stopping "yesod devel"

- Just type "RET"

Mighty and Yesod

Compiling Yesod

- `% cabal clean`
- `% cabal configure`
- `% cabal build`

`"dist/build/echo-server/echo-server"`
is created.

Yesod config

- "config/settings.yml"

```
Default: &defaults
```

```
  host: "127.0.0.1"
```

```
  port: 3000
```

```
  copyright: IIJ-II
```

```
  approot: "http://localhost:3000"
```

```
Development:
```

```
  <<: *defaults
```

```
Production:
```

```
  approot: "http://localhost/app/echo"
```

```
  <<: *defaults
```

Running Yesod as devel version

- `% dist/build/echo-server/echo-server`
Development
 - Binding to 127.0.0.1:3000
 - Doc root is `http://localhost:3000`
- **Access with your browser**
 - `http://localhost:3000/echo/foobaz`
- **Stopping echo-server**
 - Just type "C-c"

Running Yesod as product version

- `% dist/build/echo-server/echo-server`
Production
 - Binding to 127.0.0.1:3000
 - Doc root is `http://localhost/app/echo`

- To daemonize echo-server
 - User `daemontools` or `angel` (in Haskell)

Reverse proxy with Mighty

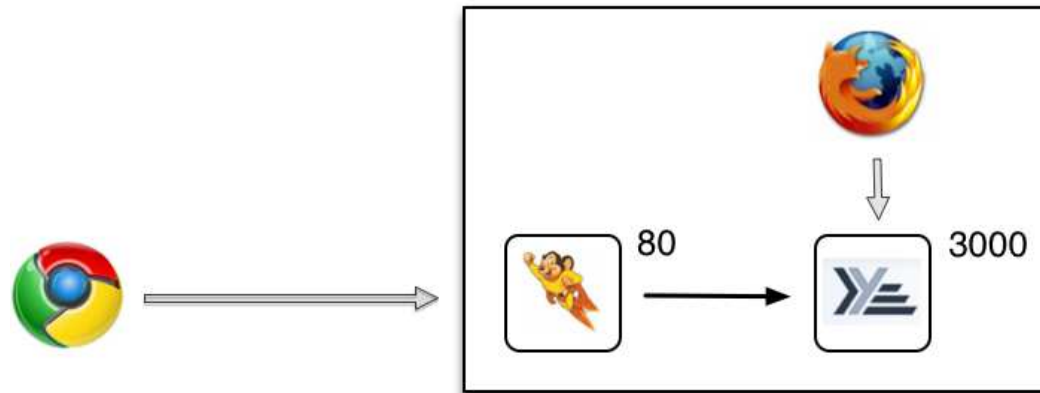
- The top of "example.route"

```
/app/echo/ >> 127.0.0.1:3000/
```

- % sudo mighty example.conf example.route

- Access with your browser

- `http://localhost/app/echo/echo/foobarbaz`



Learning more

- **Mighty**

- **Mighty home page**

- <http://mew.org/~kazu/proj/mighttpd/>

- **Yesod**

- **Yesod home page**

- <http://www.yesodweb.com/>

- **Haskell web programming**

- <http://yannesposito.com/Scratch/en/blog/Yesod-tutorial-for-newbies/>