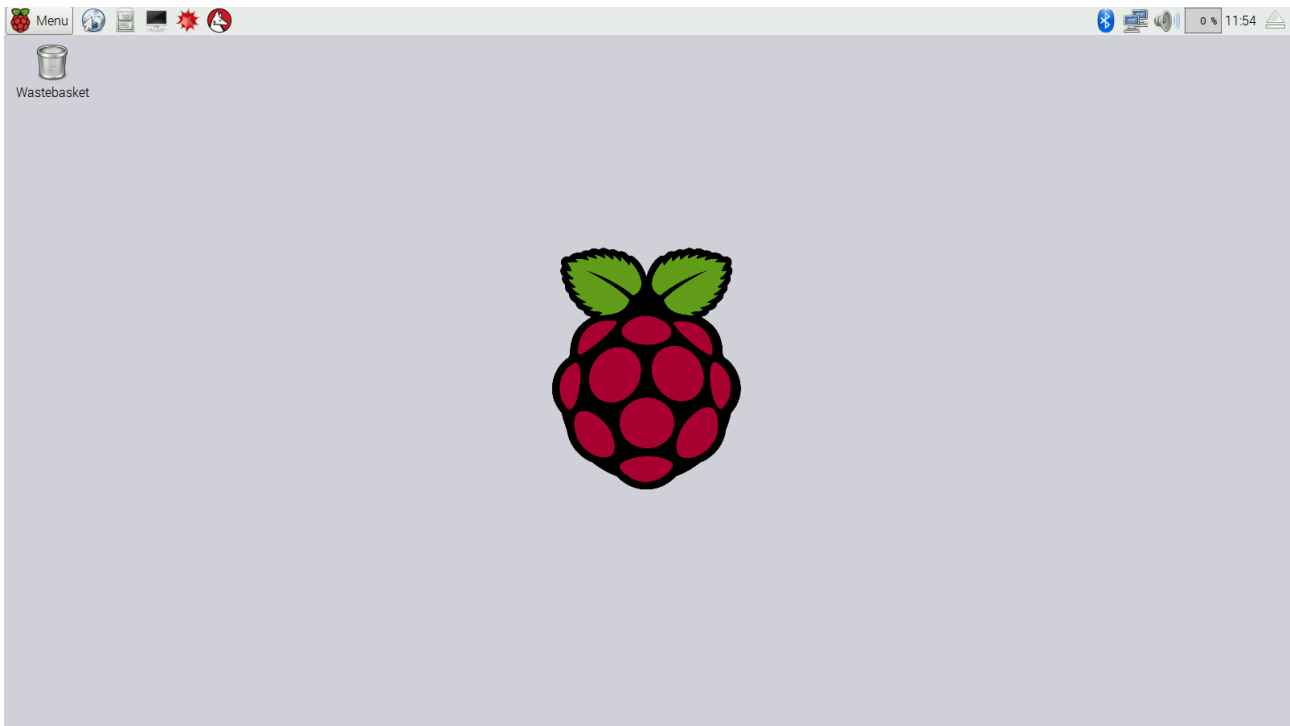


Assignment 3

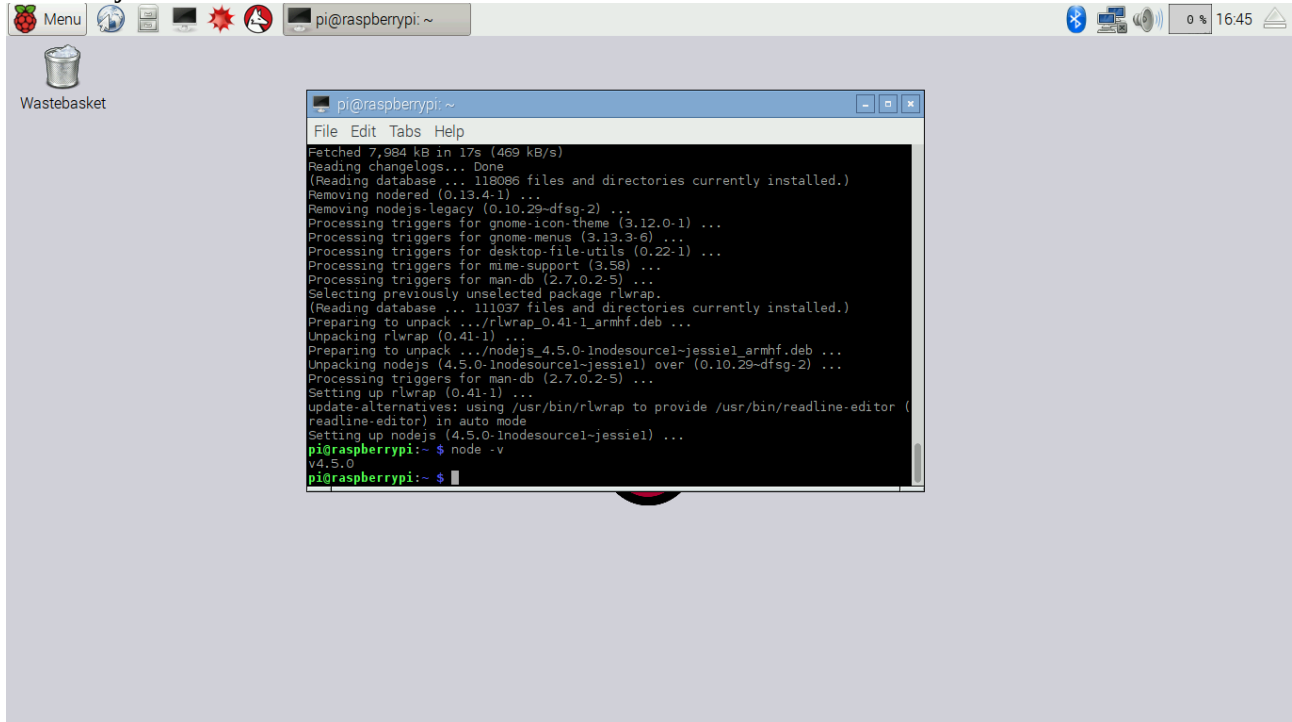


Desktop background of Rasbian.

1. Kernal version

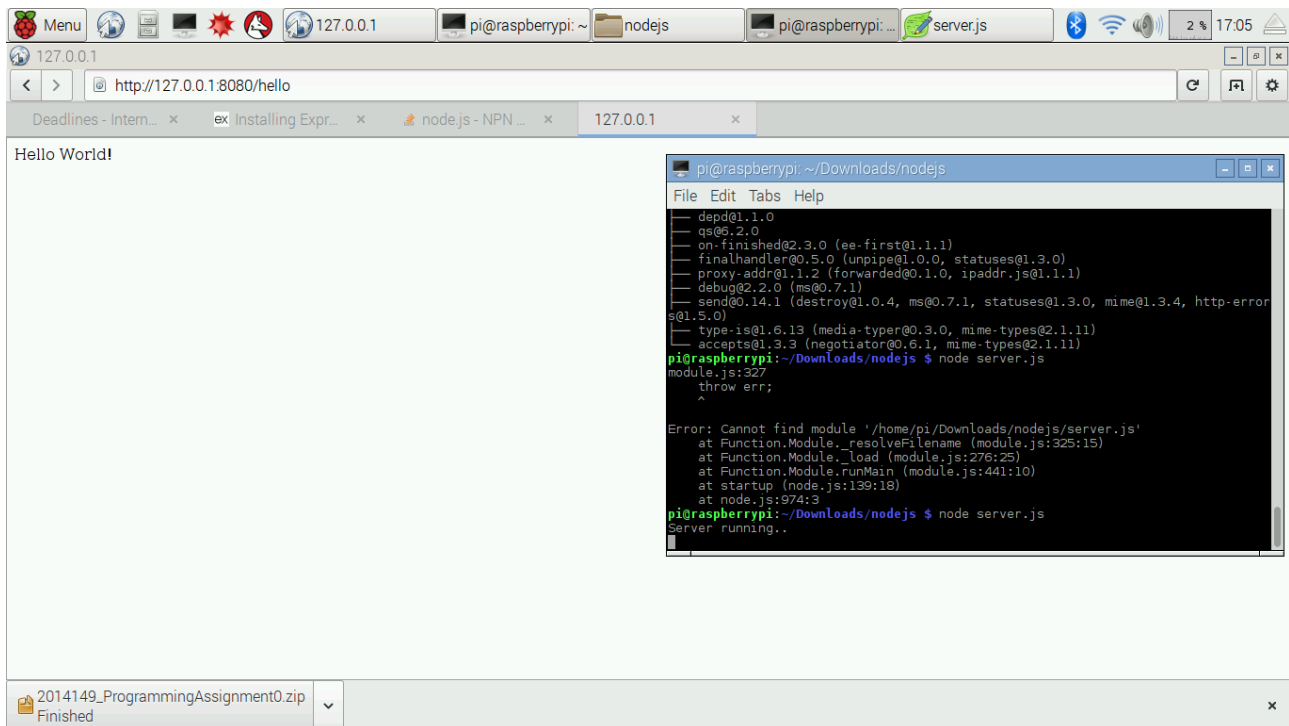
A screenshot of a web browser displaying a course page. The browser's address bar shows the URL <https://www.usebackpack.com/iitd/m2016/cse576andcse576/deadlines>. The page content includes a header with '4 credits', an instructor profile for 'Vinayak Naik', and a 'Leave Course' button. A 'Programming Assignment' section is visible, listing tasks such as installing Raspbian, Node.js, and Git. A terminal window is overlaid on the page, showing the command `uname -r` being executed, with the output `4.4.11-v7+`. The terminal window title is `pi@raspberrypi: ~`. The browser's status bar at the bottom shows the URL <https://www.usebackpack.com/iitd/m2016/cse576andcse576/grades>.

2. Node js version

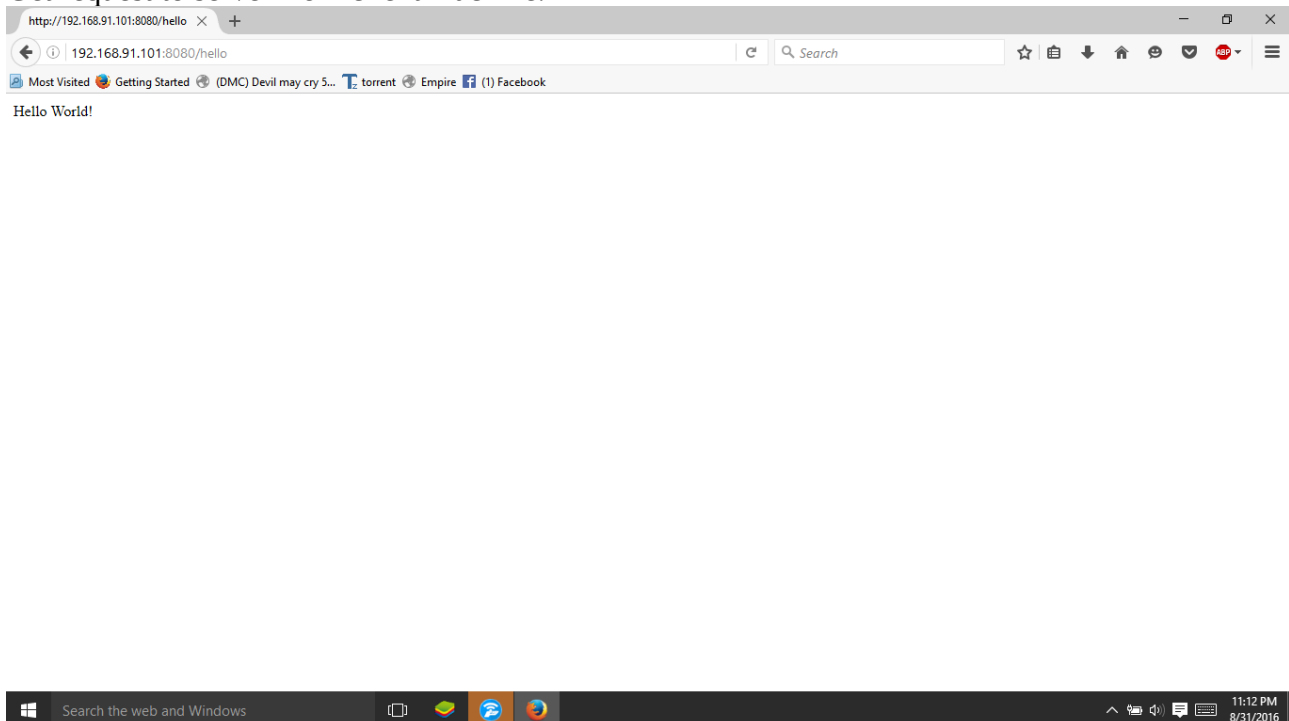


3. web server in Node.js

Runnig server... on rpi machine



Get request to server from client machine.



The screenshot shows a web browser at the URL <https://www.usebackpack.com/iitd/m2016/cse576andcse576/deadlines>. The page title is "Deadlines - Intern...". The main content area has tabs for "Course Info", "Announcements", and "Deadlines". Under the "Deadlines" tab, it says "Programming Assignment 3".

Vinayak Naik updated 9 days ago
Due: Thursday, September 1 2016, 23:55 , a day from now

1. Install Rasbian via NOOBS on your RPI
Submit a screenshot of the output that finds version of kernel on your RPI
2. Install LTS version of Node.js for ARMv7 on your RPI
Submit a screenshot of the output that finds version of Node.js on your RPI
3. Start a web server in Node.js on your RPI such that on your laptop you can access http://<IP_address_of_RPi>:8080/hello, a message saying "Hello World"
Submit a screenshot of the client showing the message
4. Install git on your RPI using apt-get
Submit a screenshot of the output that finds version of git on your RPI
5. Install Node GPIO library onoff using npm from <https://github.com/nodemcu/nod-gpio>
Submit a screenshot of the output that shows npm has installed the module
6. Find layout of GPIO pins and submit it

Upload a single PDF containing all the output asked above. You can upload multiple files.

21 students have submitted this deadline.

Collection of mac addresses of your RPi's WiFi interface

Vinayak Naik updated 5 days ago
Due: Friday, September 2 2016, 11:55 , a day from now
<https://goo.gl/forms/CfquTo210ueJnF83>

At the bottom, there is a task bar showing "2014149_ProgrammingAssignment0.zip" as "Finished". On the right side, there is a terminal window titled "pi@raspberrypi: ~/Downloads/nodejs" showing the command `git --version` being executed twice, both returning `git version 2.1.4`.

The screenshot shows a terminal window on a Raspberry Pi. The terminal output is as follows:

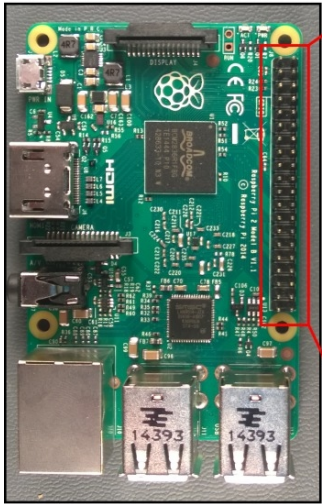
```

pi@raspberrypi: ~/Downloads/nodejs
File Edit Tabs Help
pi@raspberrypi:~/Downloads/nodejs $ npm install onoff
npm WARN package.json server.js@1.0.0 No description
npm WARN package.json server.js@1.0.0 No repository field.
npm WARN package.json server.js@1.0.0 No README data
/
> epoll@0.1.20 install /home/pi/Downloads/nodejs/node_modules/onoff/node_modules/epoll
> node-gyp rebuild

make: Entering directory '/home/pi/Downloads/nodejs/node_modules/onoff/node_modules/epoll/build'
CXX(target) Release/obj.target/epoll/src/epoll.o
SOLINK_MODULE(target) Release/obj.target/epoll.node
COPY Release/epoll.node
make: Leaving directory '/home/pi/Downloads/nodejs/node_modules/onoff/node_modules/epoll/build'
onoff@1.1.1 node_modules/onoff
└─ epoll@0.1.20 (bindings@1.2.1, nan@2.4.0)
pi@raspberrypi:~/Downloads/nodejs $
  
```

The background of the terminal window shows a Raspberry Pi board with a USB drive and a breadboard.

6. layout of GPIO pins



A photograph of a Raspberry Pi board with the 40-pin GPIO header highlighted by a red box. Red lines connect the header pins to the corresponding entries in the pin layout table.

Alternate Function						Alternate Function
	3.3V PWR	1		2	5V PWR	
I2C1 SDA	GPIO 2	3		4	5V PWR	
I2C1 SCL	GPIO 3	5		6	GND	
	GPIO 4	7		8	UART0 TX	
	GND	9		10	UART0 RX	
	GPIO 17	11		12	GPIO 18	
	GPIO 27	13		14	GND	
	GPIO 22	15		16	GPIO 23	
	3.3V PWR	17		18	GPIO 24	
SPI0 MOSI	GPIO 10	19		20	GND	
SPI0 MISO	GPIO 9	21		22	GPIO 25	
SPI0 SCLK	GPIO 11	23		24	GPIO 8	SPI0 CS0
	GND	25		26	GPIO 7	SPI0 CS1
	Reserved	27		28	Reserved	
	GPIO 5	29		30	GND	
	GPIO 6	31		32	GPIO 12	
	GPIO 13	33		34	GND	
SPI1 MISO	GPIO 19	35		36	GPIO 16	SPI1 CS0
	GPIO 26	37		38	GPIO 20	SPI1 MOSI
	GND	39		40	GPIO 21	SPI1 SCLK