Homework 2: Web Tech

Problem 1 Sign up for a free-tier account on AWS. Setup an EC2 instance using an Amazon Linux 2 AMI or pick a linux distribution if you have a preference. Use chatgpt as much as you can to help out. The only answer you have to give is a statement that it has been done.

yes

Problem 2 Log into your EC2 instance and run a python flask web server that returns a "Hello World" web page. Create a domain name that points at this server. You can obtain a free domain name from no-ip.com. Point the DNS A record to your EC2 instance.

Answer with the URL to the web server that I can click on to open the "Hello World" web page. This web page should reside at

<http://me.ddnsking.com:5000/> (If it doesn’t work then I don’t have it running)

http://yourdomainname/index.html

Here yourdomainname is the domain you recevied from noip.com or some other dynamic DNS service.

Problem 3 Add a hyperlink to your index.html that opens a web page on the same server at

http://yourdomainname/prob3.html

foo.html uses each of the following elements:

A title (<title>)

A heading (<h1>)

A paragraph (<p>)

An image (<img>)

A link to another webpage (<a>)

Cut-and-paste the URL of the web page prob3.html as your answer.

http://me.ddnsking.com:5000/prob3.html

Problem 4 Read about fetch.

https://developer.mozilla.org/en-US/docs/Web/API/Fetch\_API/Using\_Fetch

Add a web API call to your flask server that implements a function that returns the time of day (e.g., "12:45"). Add the source code below, and show a linux shell command-line call to this API using curl or wget.

from flask import Flask, render\_template, jsonify

from datetime import datetime

app = Flask(\_\_name\_\_)

@app.route('/')

def home():

return render\_template('index.html')

@app.route('/prob3.html')

def prob3():

return render\_template('prob3.html')

@app.route('/api/time')

def get\_time():

current\_time = datetime.now().strftime('%H:%M')

return jsonify(time=current\_time)

if \_\_name\_\_ == "\_\_main\_\_":

app.run(host='0.0.0.0',debug=True)

(base) C:\Users\logan\myflaskapp>curl http://me.ddnsking.com:5000/api/time

Problem 5 Create a new web page prob5.html This web page should use the <script> tag to load a script that queries the web API built in problem 4. Use fetch to make the call. The call returns the curren time. Show the current time on the web page.

http://me.ddnsking.com:5000/prob5.html

Problem 6 Provide a 2-3 sentence answer describing the role of the security sandboxes provided by your web browser.

It is a security measure implemented on websites and apps that runs the code and scripts within a “box” separate from the device. This protects the device from lazy attacks and cross site attacks.

Problem 7 What is same-origin policy? Provide 2-3 sentences.

Same-Origin Polocy is a security protocol that tells the website that it can only access data from the same port, same domai, and same protocol. This prevents credientalstealer.com from accessing the bank information I entered on another site.

Problem 8 What is cross-site scripting? Provide 2-3 sentences.

This is where hackers insert malishous scripts into content that is then delivered to other users. This can be a multitude of different malisouse csripts such as keylogging, phishing, redirects, and so many more.

Problem 9 Set up a second flask web server running on a different domain name your2nd that offers the same time API as in problem 5. Create a prob9.html served from yourdomainname with URL <http://yourdomainname/prob9.html> prob9.html should include a script that tries to obtain the time from your2nd. THIS SHOULD FAIL! Same origin policy should prevent the call across domains.

Yeah it don’t work :C

Problem 10 Add CORS support to your flask server running on your2nd domain in order to permit the cross-site scripting.

I receive the same error as if CORS isn’t there. I am unsure why because when I curl the app2.py it gives me the time. When I look at the console app.py tells me that when I curl it goes through 3 times but when I press the button it only goes through twice

Nvm I fixed it. It was querying yourdomainname.com not http://me.ddnsking.com:5001/api/time