

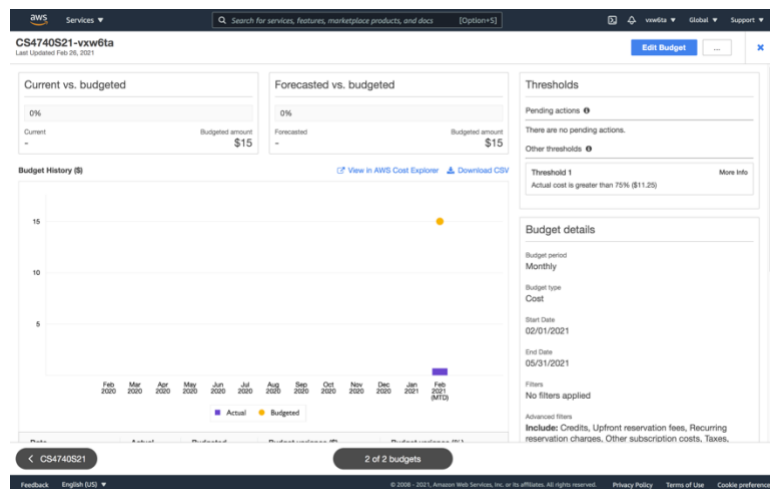
CS4740 Spring 2021 Cloud Computing PA#2

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Instructions: Fill in your answers to the 5 questions and **SUBMIT A PDF to collab (along with your code for Question 4)**

1. [20 points] After completing the “Before you start” section, cut-and-paste a screenshot (7” wide) showing the status of your “CS4740S21-*your_UVA_ID*” budget. It should look something like this (with a different name and a different budget amount):



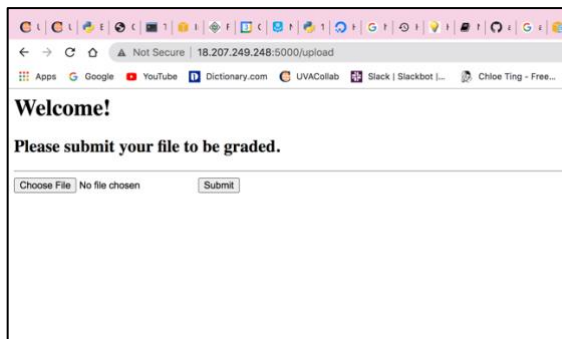
2. [20 points] After completing Part 1 (“Auto-grader Basic System”), cut-and-paste a screenshot (7” wide) showing the execution of autograder.py on the VM, *where it is grading a correct ‘subtract’ submission*. If you were unable to complete this part, explain how far you were able to get and describe the problem (you were unable to debug).

```
ubuntu@ip-172-31-74-159:~/cs4740_S21_pa2$ nano autograder.py
ubuntu@ip-172-31-74-159:~/cs4740_S21_pa2$ nano ./execute_submission_and_assess_output.sh
ubuntu@ip-172-31-74-159:~/cs4740_S21_pa2$ python3 autograder.py
Score: 2 out of 2 correct.
*****Original submission*****
int1 = int(input("Input integer 1: "))
int2 = int(input("Input integer 2: "))
print ("the difference is " + str(int1 - int2))
```

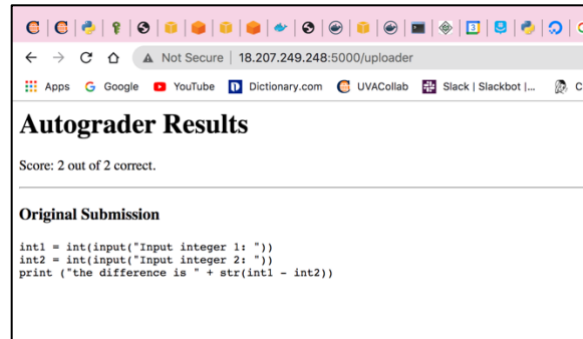
3. [20 points] After completing Part 2 (“Web-based Auto-grader”), cut-and-paste two screenshots (7” wide): [1] the web submission screen, and [2] the results screen (after your autograder has executed). If you were unable to complete this part, explain how far you were able to get and describe the problem (you were unable to debug).

You are required to have a decent User Interface (sufficiently-descriptive Welcome text and instructions on submission page, sufficient results page – if you would be embarrassed to show your boss this, you have probably not done enough!)

Web Submissions Screen



The Results Screen

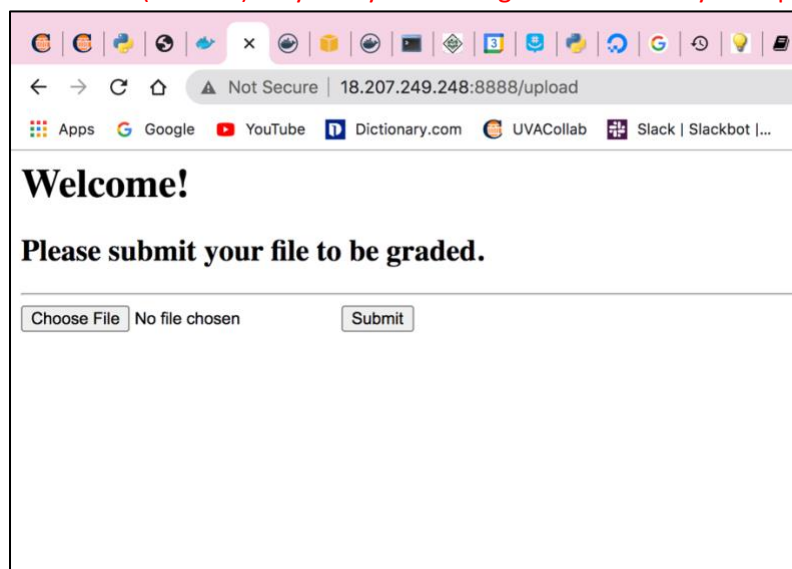


4. [20 points] After completing Part 3 (“Docker-based Auto-Grader”), choose one:

✓ I was able to successfully complete Part 3, “Docker-based Auto-Grader”

_____ I was unable to successfully complete Part 3, “Docker-based Auto-Grader”. Here’s what I got stuck on or here’s why I could not complete it (explain, 5 sentences or less):

Cut-and-paste a screenshot (7” wide) of your system being accessed from your laptop via port 8888.



Cut-and-paste a screenshot (7" wide) of your terminal to the VM *after* executing "docker ps" while your service is running.

```
^Cubuntu@ip-172-31-74-159:~/docker-curriculum/flask-app$ docker run -p 8888:5000 vxw6ta/catnip
* Serving Flask app "app" (lazy loading)
* Environment: production
  WARNING: Do not use the development server in a production environment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on http://0.0.0.0:5000/ (Press CTRL+C to quit)
100.36.32.144 - - [03/Mar/2021 06:55:42] "GET / HTTP/1.1" 200 -
100.36.32.144 - - [03/Mar/2021 06:55:50] "GET /upload HTTP/1.1" 200 -
^Cubuntu@ip-172-31-74-159:~/docker-curriculum/flask-app$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
9a2deba1cdae   vxw6ta/catnip  "python ./app.py"        2 minutes ago  Up 2 minutes  0.0.0.0:49155->5000/tcp           static-site2
```

ALSO attach this source code file to your collab submission (ZIP format). (zip up the directory (and any subdirectories) that would allow a person to run your flask code)

5. [20 points] After completing Part 4 ("Docker in AWS via Elastic Container Service"), choose one:

✓ I was able to successfully complete Part 4, "Docker in AWS via Elastic Container Service"

_____ I was unable to successfully complete Part 4, "Docker in AWS via Elastic Container Service". Here's what I got stuck on or here's why I could not complete it (explain, 5 sentences or less):

If you successfully completed, cut-and-paste

[a] the AWS screen (7" wide) showing your service in ECS – e.g.,
<https://console.aws.amazon.com/ecs/home?region=us-east-1#/clusters/default/services/custom-service/details>

The screenshot shows the AWS ECS console for the 'autograder' cluster. The cluster is in an 'ACTIVE' state. The left sidebar lists navigation options like 'Clusters', 'Task Definitions', and 'Account Settings'. The main content area displays cluster statistics and a table of services.

Cluster : autograder

Get a detailed view of the resources on your cluster.

Cluster ARN: arn:aws:ecs:us-east-1:650569668273:cluster/autograder

Status: ACTIVE

Registered container instances: 0

Pending tasks count: 0 Fargate, 0 EC2

Running tasks count: 3 Fargate, 0 EC2

Active service count: 1 Fargate, 0 EC2

Draining service count: 0 Fargate, 0 EC2

Services: Tasks, ECS Instances, Metrics, Scheduled Tasks, Tags, Capacity Providers

Buttons: Create, Update, Delete, Actions

Last updated on March 3, 2021 3:25:26 PM (0m ago)

Filter in this page: Launch type: ALL, Service type: ALL

Service Name	Status	Service ty...	Task Defini...	Desired ta...	Running ta...	Launch ty...	Platform v...
custom-service	ACTIVE	REPLICA	first-run-tas...	3	3	FARGATE	LATEST(1.3...

The screenshot shows the AWS ECS console for the 'custom-service' within the 'autograder' cluster. The service is in an 'ACTIVE' state. The left sidebar is the same as the previous screenshot. The main content area displays service configuration and tabs for various details.

Service : custom-service

Buttons: Update, Delete

Cluster: autograder

Status: ACTIVE

Task definition: first-run-task-definition:8

Service type: REPLICA

Launch type: FARGATE

Service role: AWSServiceRoleForECS

Created By: arn:aws:iam::650569668273:root

Desired count: 3

Pending count: 0

Running count: 3

Details: Tasks, Events, Auto Scaling, Deployments, Metrics, Tags, Logs

Load Balancing

Target Group Name	Container Name	Container Port
EC2Co-Defau-189J5Z06XYTGR	custom	80

Network Access

Health check grace period: 0

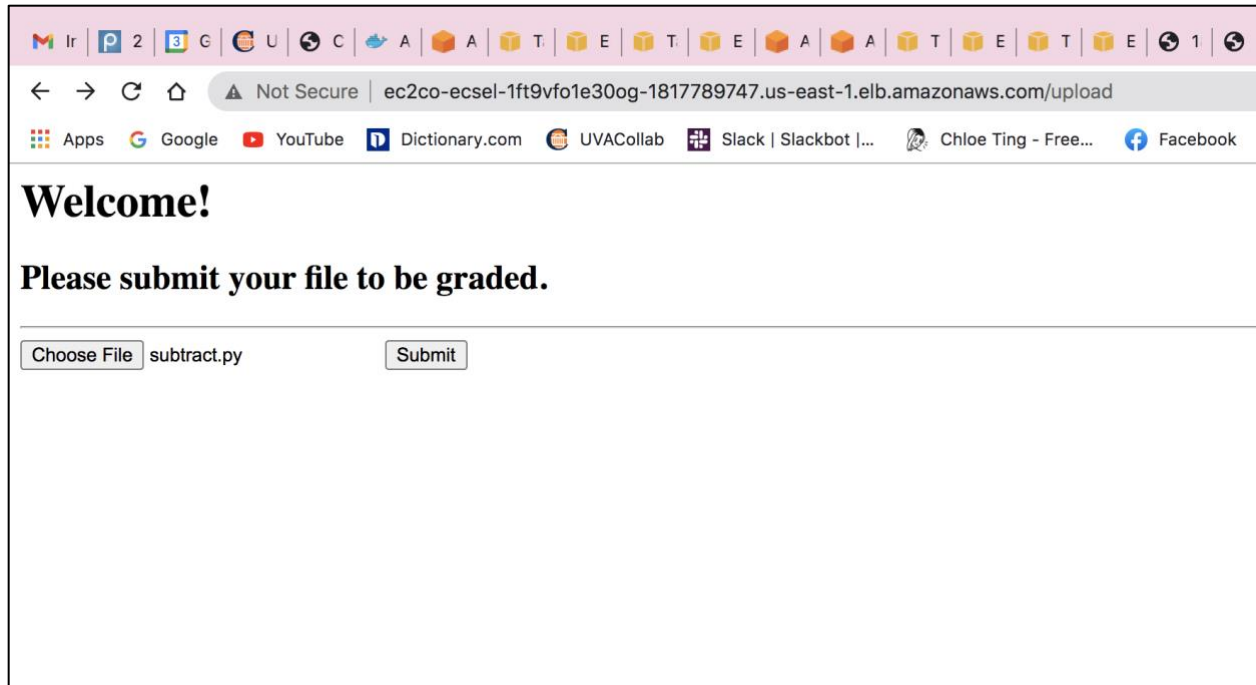
Allowed VPC: vpc-004726c1bce8cf0e4

Allowed subnets: subnet-0ff6914fbd60aa9da, subnet-0fb4dde82a88bdd53

Security groups: sg-08aec9def57fd3b7f

Auto-assign public IP: ENABLED

[b] the browser page (7" wide) to your Elastic Container Service-based student submission portal, and



[c] the browser page (7" wide) to your Elastic Container Service-based results page (after a student submission has been auto-graded). You must show the URLs in the pictures.

