

🚫 This quiz has been regraded; your new score reflects 3 questions that were affected.

CMPE 281 - MIDTERM FALL 17 (PART 1)

Due Oct 14 at 10am **Points** 50 **Questions** 35
Available until Oct 14 at 10am **Time Limit** 30 Minutes
Requires Respondus LockDown Browser

Instructions

CMPE 281 - MIDTERM (PART 1)

Multiple Choice / Short Answer Questions

- You have **30 minutes** on this part of the exam
- This part of the exam is worth **50 points**
- This is a closed book, closed notes exam
- Close all documents, programs and windows on your computer
- The only allowed window should be this Canvas window
- Make sure the Canvas Lockdown Browser window is maximized
- Any violations of this will result in an immediate ZERO score on this exam
- Questions will be presented one-at-a-time and your answers will be locked once submitted
- You may not return to your answers to change them, so make sure allow for enough time on each question

This quiz was locked Oct 14 at 10am.

Attempt History

	Attempt	Time	Score	Regraded
LATEST	Attempt 1	29 minutes	28.6 out of 50	31.1 out of 50

Score for this quiz: **31.1** out of 50

Submitted Oct 14 at 9:52am

This attempt took 29 minutes.

Question 1 **Original Score: 0 / 1 pts** **Regraded Score: 0.5 / 1 pts**

 **This question has been regraded.**

Where can you find AWS Products and Services?

☐ Only via API

Correct Answer

☐ On the AWS Management Console

Correct!

☒ Service Catalog

Question 2

0 / 1 pts

What service would you use if your developers need a simple, scalable location to easily deploy their Java, .NET, Python, PHP, Ruby and Docker applications?

Correct Answer

☐ Elastic Beanstalk

☐ AWS IAM

You Answered

☒ AWS CodeDeploy

Question 3

0.8 / 1 pts

For Each of the following, match the most appropriate AWS Service.

Correct!

Firewall

Security Group

Correct!

AWS Users

IAM

Correct!

Subnet Control

Correct!

You Answered

VPC

Server

EC2

DNS

Elastic DNS

Correct Answer

Route 53

Other Incorrect Match Options:

- SWF
- Elastic DNS
- ELB
- SQS

Question 4

0 / 1 pts

Physically distinct groups of AWS datacenters isolated from each other from a natural disaster.

Correct Answer

You Answered

☐ AWS Region

☒ AWS AZ

☐ AWS VPC

☐ AWS ELB

Question 5

0.5 / 1 pts

What Amazon service allows you to automatically expand EC2 capacity?

Correct!☒ Auto Scaling☐ Route 53**Correct Answer**☐ Elastic Beanstalk**Question 6****0 / 1 pts**

In the AWS "Shared Responsibility Model":

- **Compute**

Is the Responsibility of?

You Answered☒ AWS Tenant**Correct Answer**☐ AWS**Question 7****1 / 1 pts**

What would you do if you need to allow your web servers to access your application servers on port 8080?

Correct!☒ Modify EC2 Security Group☐ Modify EC2 Instance☐ Modify EC2 Network Interface**Question 8****1 / 1 pts**

Your web application needs credentials and authorization to read/write a Amazon DynamoDB table and a Amazon S3 bucket. What AWS service would you use?

Correct!

☐ CloudFormation

☒ AWS IAM

☐ Elastic Beanstalk

Question 9

1 / 1 pts

Important application and operations data needs to be durably backed up and archived. What AWS service can help?

Correct!

☐ Import/Export

☒ S3

☐ Lambda

Question 10

0.5 / 1 pts

For Each of the following, match the most appropriate AWS Service.

Correct!

Managed SQL DBs

RDS

You Answered

Storage for Servers

S3

Correct Answer

EBS

Correct!**Backups**

Glacier

**You Answered****File Server**

EBS

**Correct Answer****S3**

Other Incorrect Match Options:

- ELB
- S2
- DynamoDB
- SimpleDB

Question 11**2 / 2 pts**

Which of the following is NOT an Essential Characteristic for Cloud Computing?

- ☐ On-Demand Self-Service
- ☐ Rapid Elasticity
- ☒ Service-Oriented Architecture (SOA)
- ☐ Resource Pooling
- ☐ All of these are essential as defined by NIST

Correct!**Question 12****0.5 / 2 pts**

Matching the statements below to the best Selection Strategy for Cloud Services:

Correct!**Using VM's or Containers**

Default to Virtual



You Answered

Outsource Infrastructure

Cost Based

**Correct Answer**Leverage Provider
Expertise

You Answered

Short Term / Temporary Use

Contract for On-Premise

**Correct Answer**

Ephemeral Computing

You Answered

Compare Public vs. Private

Security Requirements

**Correct Answer**

Cost Based

Other Incorrect Match Options:

- Quick Time to Market
- Bare Metal Cloud
- Overflow to Cloud
- Contract for On-Premise
- Security Requirements

Question 13**2 / 2 pts**

NIST Defines how many different deployment models?

☐ 5☒ 4**Correct!**

☐ 3☐ 2☐ 1**Question 14****2 / 2 pts**

Match the Correct Option the the AKF Scale Cube Dimension:

Correct!**Replica Split**

x-axis

Correct!**Resource Split**

y-axis

Correct!**Data Split**

z-axis

Question 15**Original Score: 0 / 2 pts Regraded Score: 2 / 2 pts** **This question has been regraded.**

What was the analogy used for Cloud Computing in the "Power of the Cloud" talk?

☐ Rental Car☐ Online Service☐ Renting**Correct!**☒ Pay-as-you-Go

☐ Hotel**Question 16****0.5 / 2 pts**

Select the ways discussed in the course text on how to manage "Distributed State":

orrect Answer☐ State sharded and replicated**orrect Answer**☐ Queries for state deleated from master server to reply servers**orrect Answer**☐ Store on one machine☐ State transfered to browser client**Correct!**☒ State sharded with cached data**Question 17****0 / 2 pts**

In the MSDN Paper, the Three Approaches to Managing Multi-Tenant Data Discussed were:

☐ Scalable, Configurable and Multi-Tenant-Efficient**'ou Answered**☒ Separated Database, Separate Schema and Shared Schema☐ Preallocated Fields, Name-Value Pairs, Custom Columns**orrect Answer**☐

Dedicated, Shared with Fixed Extension Set, Shared with Custom Extensions

☐ None of these

Question 18**2 / 2 pts**

A feature toggle is the ability for a release of a feature to be rolled-out into production only for specific tenants.

Correct!☒ True☐ False**Question 19****2 / 2 pts**

Which of the following is NOT a Cloud Enabling Technology?

☐ Virtualization☐ Web Technology☐ Multi-Tenant Technology☐ Service-Oriented Architecture (SOA)**Correct!**☒ Cloud Security**Question 20****2 / 2 pts**

Steal time is the time a Tenant VM on shared hardware loses to another VM due to over commits.

Correct!☒ True☐ False

Question 21**0.8 / 1 pts**

Match the attributes for Containers:

Correct!**Virtualization Level**

Operating Systems Virtualiz: ⬆⬇⬆

Correct!**Resource Consumption**

Lightweight ⬆⬇⬆

Correct!**Provisioning Speed**

Real-time Provisioning ⬆⬇⬆

Correct!**Performance Characteristics**

Native Performance ⬆⬇⬆

You Answered**Isolation Model**

Fully Isolated ⬆⬇⬆

Correct AnswerProcess-Level
Isolation

Other Incorrect Match Options:

- Slow Provisioning
- Hardware-Level Virtualization
- Fully Isolated
- Limited Performance
- Heavyweight

Question 22**1 / 1 pts**

Select the appropriate sequence of commands to clean-up your Docker Host by removing all Containers and locally downloaded Images:

Correct!☒

`docker stop $(docker ps -a -q) ; docker rm -f $(docker ps -a -q) ; docker rmi $(docker images -q)`

☐

`docker rm -f $(docker ps -a -q) ; docker stop $(docker ps -a -q) ; docker rmi $(docker images -q)`

☐

`docker rmi $(docker images -q) ; docker stop $(docker ps -a -q) ; docker rm -f $(docker ps -a -q)`

☐

`docker stop $(docker ps -a -q) ; docker rmi $(docker images -q) ; docker rm -f $(docker ps -a -q)`

Question 23**1 / 1 pts**

The "FROM" directive below in a Dockerfile tells Docker to build an image based on the "**openjdk**" image.

FROM openjdk

CMD ["java", "-version"]

Correct!☒

True

☐

False

Question 24**1 / 1 pts**

Docker Hub is a Repository for Sharing Docker Images

Correct!☒ True☐ False**Question 25****0 / 1 pts**

To build a Docker image, the following is needed:

☒ Makefile☒ Gradle Build☒ Dockerfile☐ Docker Run Command**Correct!****Question 26****1 / 1 pts**

CQRS stands for: Command Query REST Service

☐ True☒ False**Correct!****Question 27****1 / 1 pts**

The following REST API is consider what type of API according to Richardson's API Maturity Model?

FORMAT: 1A

HOST: <http://restbucksapi.apiblueprint.org/>

RestBucks API

Example from REST in Practice Book

Orders [/order]

Get All Orders [GET]

+ Response 200 (application/json)

```
[
  {
    "id" : 1
    "location": "takeAway",
    "items" : [
      "item": {
        "name" : "latte",
        "quantity" : 1,
        "milk" : "whole",
        "size" : "small"
      }
    ],
    "status" : "pending"
  }
]
```

Create a New Order [POST]

+ Request (application/json)

```
{
  "location": "takeAway",
  "item": {
    "name" : "latte",
    "quantity" : 1,
    "milk" : "whole",
    "size" : "small"
  }
}
```

+ Response 201 (application/json)

+ Headers

Location: /order/1

+ Body

```
{
  "id" : 1,
  "location": "takeAway",
  "items" : [
    "item": {
      "name" : "latte",
      "quantity" : 1,
      "milk" : "whole",
      "size" : "small"
    }
  ],
  "status" : "pending"
}
```

Order [/order/{id}]

Get Order by ID [GET]

+ Response 200 (application/json)

+ Attributes (object)

+ id: 1 (number)

+ Body

```
{
  "id" : 1,
  "location": "takeAway",
  "items" : [
    "item": {
      "name" : "latte",
      "quantity" : 1,
      "milk" : "whole",

```

```
        "size" : "small"
      }
    ],
    "status" : "pending"
  }
}
```

Update Order by ID [PUT]

+ Request (application/json)

```
{
  "location": "takeAway",
  "item": {
    "name" : "cappuccino",
    "quantity" : 1,
    "milk" : "skim",
    "size" : "large"
  }
}
```

+ Response 200 (application/json)

+ Attributes (object)

+ id: 1 (number)

+ Body

```
{
  "id" : 1
  "location": "takeAway",
  "items" : [
    "item": {
      "name" : "cappuccino",
      "quantity" : 1,
      "milk" : "skim",
      "size" : "large"
    }
  ],
  "status" : "preparing"
}
```


Delete Order by ID [DELETE]

+ Response 204 (application/json)

Correct!

☐ Hypermedia

☒ CRUD API

☐ SOAP API

☐ Richardson Level 0

Question 28

0 / 1 pts

In Distributed Transactions, there are not ACID / Data Locks and thus it is not possible to rollback changes across multiple nodes. As such, we can use **Sagas**, which accomplishes this goal using what approach?

Enter your answer in "lower case" with not leading/trailing spaces and only one space in between words (if any)

You Answered

distributed

Correct Answers

compensating transaction

routing slip

compensating

compensation

Question 29

0 / 1 pts

Microservices are Distributed and Share Nothing Architectures.

Correct Answer☐ True**You Answered**☒ False**Question 30****1 / 1 pts**

Event Sourcing stores "Facts" and not "State". State is derived from the set of "Facts".

Correct!☒ True☐ False**Question 31****2 / 2 pts**

The following two Go import syntax do the same thing:

```
import (  
    "fmt"  
    "math"  
)
```

And

```
import "fmt"  
import "math"
```

Correct!☒ True☐ False

Question 32**0 / 2 pts**

Exported functions in Go Packages are named with a beginning lowercase letter.

You Answered☒ True**Correct Answer**☐ False**Question 33****2 / 2 pts**

Go has two types of loops:

1) For Loops

2) Until Loops

☐ True**Correct!**☒ False**Question 34****0 / 2 pts**

The "i := 1" declares a variable similar to "var a int" below and is valid Go syntax

```
package main

import "fmt"

i := 1

func main() {
    var a int
```

```
fmt.Println(a)
}
```

You Answered

☒ True

Correct Answer

☐ False**Question 35****0 / 2 pts**

Which of the following line number will cause a Go Compiler Error?

```
1: package main
2:
3: import (
4:     "fmt"
5:     "math"
6: )
7:
8: func pow(x, n, lim float64) float64 {
9:     if v := math.Pow(x, n); v < lim {
10:         return v
11:     }
12:     else {
13:         fmt.Printf("%g >= %g\n", v, lim)
14:     }
15:     return lim
16: }
17:
18: func main() {
19:     fmt.Println(
20:         pow(3, 2, 10),
21:         pow(3, 3, 20),
22:     )
23: }
```

☐ 11☐ 10☐ 1

You Answered

☐ 3☒ 20Quiz Score: **31.1** out of 50