

- [Record Your Name](#)
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## Quiz 8: Microservices Results for Yufu Liao

Score for this quiz: 12.5 out of 100 \*

\* Some questions not yet graded

Submitted Nov 7 at 3:58pm

This attempt took 37 minutes.

*Move To... This element is a more accessible alternative to drag & drop reordering. Press Enter or Space to move this question.*

Question 1

12.5 / 25 pts

Give the Kubernetes term for each of the following concepts:

1. A physical or virtual machine in a cluster:
2. A collection of one or more related containers:
3. A workload resource for ensuring the completion of a batch execution:
4. A workload resource for managing a server:
5. A low-level workload resource for managing stateful applications:
6. A low-level workload resource for managing replicated applications:
7. A workload resource for providing access to a server:
8. The type of a workload resource for exposing a server outside the cluster on the machine it is running on:
9. The type of a workload resource for exposing a server outside the cluster on the cloud provider:
10. A workload resource for providing access to a Web service:

**Answer 1:**

Correct! Node

Correct! 3007

Node

**Answer 2:**

Correct! Pod

Correct! 864

Pod

**Answer 3:**

You Answered job object

Correct Answer 2130

Job

**Answer 4:**

You Answered worker node

Correct Answer 36

Deployment

**Answer 5:**

Correct! StatefulSet

Correct! 8397

StatefulSet

**Answer 6:**

Correct! ReplicaSet

Correct! 2262

ReplicaSet

**Answer 7:**

You Answered kubectl

Correct Answer 3940

Service

**Answer 8:**

You Answered LoadBalancer

Correct Answer 2722

NodePort

**Answer 9:**

Correct! LoadBalancer

Correct! 3827

LoadBalancer

**Answer 10:**

You Answered Replication Controller

Correct Answer 6966

Ingress

*Move To... This element is a more accessible alternative to drag & drop reordering. Press Enter or Space to move this question.*

Question 2

Not yet graded / 25 pts

Translate the following YAML description into JSON:

```
apiVersion: kafka.strimzi.io/v1beta2
```

```
kind: Kafka
```

```
metadata:
```

```
  name: my-cluster
```

```
spec:
```

```
  kafka:
```

```
    replicas: 1
```

```
    listeners:
```

```
      - name: plain
```

```
        port: 9092
```

```
        type: internal
```

```
        tls: false
```

```
      - name: tls
```

```
        port: 9093
```

```
        type: internal
```

```
        tls: true
```

```
      - name: external
```

```
        port: 9094
```

```
        type: nodeport
```

```
        tls: false
```

```
  storage:
```

```
    type: jbod
```

```
volumes:
- id: 0
  type: persistent-claim
  size: 100Gi
config:
  default.replication.factor: 1
  min.insync.replicas: 1
zookeeper:
  replicas: 1
storage:
  type: persistent-claim
  size: 100Gi
```

Your Answer:

```
{
  "apiVersion": "kafka.strimzi.io/v1beta2",
  "kind": "Kafka",
  "metadata": {
    "name": "my-cluster"
  },
  "spec": {
    "kafka": {
      "replicas": 1,
      "listeners": [
        {
          "name": "plain",
          "port": 9092,
          "type": "internal",
          "tls": false
        },
        {
          "name": "tls",
          "port": 9093,
          "type": "internal",
          "tls": true
        },
        {
          "name": "external",
          "port": 9094,
          "type": "nodeport",
          "tls": false
        }
      ],
      "storage": {
        "type": "jbod",
        "volumes": [
          {
            "id": 0,
            "type": "persistent-claim",
            "size": "100Gi"
          }
        ]
      }
    }
  },
}
```

```
    "config": {
      "default.replication.factor": 1,
      "min.insync.replicas": 1
    },
    "zookeeper": {
      "replicas": 1,
      "storage": {
        "type": "persistent-claim",
        "size": "100Gi"
      }
    }
  }
}
```

*Move To... This element is a more accessible alternative to drag & drop reordering. Press Enter or Space to move this question.*

Question 3

Not yet graded / 25 pts

Give a one-sentence description of each of the twelve factors that underlie cloud native applications.

Your Answer:

**1. Codebase**

**One codebase tracked in revision control, many deploys**

**2. Dependencies**

**Explicitly declare and isolate dependencies**

**3. Config**

**Store config in the environment**

**5. Backing services**

**Treat backing services as attached resources**

**5. Build, release, run**

**Strictly separate build and run stages**

**6. Processes**

**Execute the app as one or more stateless processes**

**7. Port binding**

**Export services via port binding**

**8. Concurrency**

**Scale out via the process model**

**9. Disposability**

**Maximize robustness with fast startup and graceful shutdown**

**10. Dev/prod parity**

**Keep development, staging, and production as similar as possible**

## 11. Logs

**Treat logs as event streams**

## 12. Admin processes

**Run admin/management tasks as one-off processes**

*Move To... This element is a more accessible alternative to drag & drop reordering. Press Enter or Space to move this question.*

Question 4

Not yet graded / 25 pts

1. What are the Jakarta EE APIs that are included in Micro Profile?
2. What are the additional APIs that are included in Micro Profile?

Your Answer:

1. What are the Jakarta EE APIs that are included in Micro Profile?

CDI (Jakarta Contexts and Dependency Injection) 3.0.0

JAX-RS (Jakarta RESTful Web Services) 3.0.0

JSON-B (Jakarta JSON Binding) 2.0.0

JSON-P (Jakarta JSON Processing) 2.0.1

Jakarta Annotations 2.0.0

2. What are the additional APIs that are included in Micro Profile?

MicroProfile Config 3.0

MicroProfile Fault Tolerance 4.0

MicroProfile Health 4.0

MicroProfile JWT Authentication 2.0

MicroProfile Metrics 4.0

MicroProfile OpenAPI 3.0

MicroProfile OpenTracing 3.0

MicroProfile Rest Client 3.0

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## Quiz Submissions

- [This score is pending review, and may change Attempt 1: 12.5](#)

Yufu Liao has no attempts left

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