

> Vendor: Cisco

> Exam Code: 300-915

# Exam Name: Developing Solutions using Cisco IoT and Edge Platforms (DEVIOT)

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### **QUESTION 1**

An IoT engineer is responsible for security at an organization. Humans and machines need to be allowed to access services like database or compute on AWS. The engineer decides to implement dynamic secrets.

Which method helps to get this implementation accurate from a security point of view?

- A. Create a central secret system for humans and machine to obtain very short-lived dynamic secrets to access any service.
- B. Humans cannot be trusted, and each time they authenticate they should be issued with dynamic secrets. Machines can be trusted, and they can be issued with static credentials.
- C. Maintain a different service associated to secret systems to issue access.
- D. After a user is authenticated by any trusted system, the user can be trusted to use any service.

#### Answer: A

#### QUESTION 2

Which statement explains the correct position of a PLC within the CPwE architecture?

- A. PLCs are always part of Level 0 process control.
- B. PLCs are part of Level 4 site business planning.
- C. PLCs are part of Level 1 basic control.
- D. PLCs are placed at Level 2 area supervisory control.

#### Answer: C

#### **QUESTION 3**

A sensor reads potentially critical data from an industrial device, but most of the data from the sensor is not critical information and does not change unless a critical event happens.

Which data work flow is appropriate for how the critical and non-critical data is processed?

- A. 1. Acquire sensor data.
  - 2. Filter non-actionable data.
  - 3. Perform action on data.
  - 4. Send critical data and action performed on data to cloud for storing.
- B. 1. Acquire sensor data.
  - 2. Send data to cloud for processing and to determine action.
  - 3. Send required action back to edge for action completion.
  - 4. Perform action on data.
- C. 1. Acquire sensor data.
  - 2. Filter non-actionable data.
  - 3. Perform action on data.
- D. 1. Acquire sensor data.
  - 2. Perform action on data
  - 3. Send data and action performed on data to cloud for recording.

### Answer: D

### QUESTION 4

Refer to the exhibit. When a Docker image is built using this Dockerfile, which two statements are valid on Cisco IOx 1.8 and before? (Choose two.)

FROM devhub-docker.cisco.com/iox-docker/ir800/base-rootfs as builder RUN opkg update
RUN opkg install iox-toolchain
RUN mkdir -p /var/helloworld/
COPY helloworld.c /var/helloworld/
WORKDIR /var/helloworld/
RUN gcc helloworld.c -o helloworld

FROM devhub-docker.cisco.com/iox-docker/ir800/base-rootfs
RUN mkdir -p /var/helloworld/
COPY --from=builder /var/helloworld/helloworld /var/helloworld
RUN chmod +x /var/helloworld/helloworld
COPY init\_app.sh /etc/init.d/
RUN chmod +x /etc/init.d/init\_app.sh
RUN update-rc.d init\_app.sh defaults

- A. It builds an image that can be executed on all Cisco platforms.
- B. It builds a Docker image that cannot be used directly on Cisco IOx.
- C. It compiles a "hello world" program in C.



- D. It creates two separate images.
- E. It builds an IOx package that can be deployed directly.

### Answer: BC

### **QUESTION 5**

The environment for an Industrial IoT project in a large open pit mine is being scoped. The location has a large amount of dust and the device will be exposed to less than 1 meter of water temporarily.

When the edge device is being chosen, which Ingress protection rating must be used?

- A. IP37
- B. IP61
- C. IP67
- D. IP76

### Answer: C

#### QUESTION 6

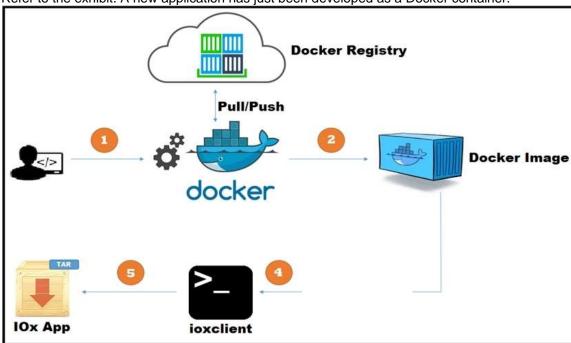
Which two commands inside a Docker container on a gateway help to troubleshoot why the compute performance of the device is slowing down? (Choose two.)

- A. show processes
- B. top
- C. wmic
- D. ps
- E. proc

### Answer: BD

### **QUESTION 7**

Refer to the exhibit. A new application has just been developed as a Docker container.



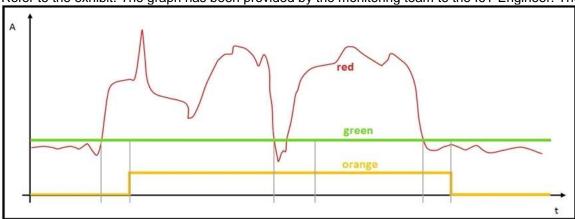
What is the missing step for packaging the container ready for deployment in IOx?

- A. Pull/push the image to the Docker registry.
- B. Build the package yaml files.
- C. Build the package.cert file to sign the app.
- D. Log in to device manager and load the application.

# Answer: B

### **QUESTION 8**

Refer to the exhibit. The graph has been provided by the monitoring team to the IoT Engineer. The red line represents the consumption of energy from an industrial machine.



Which two pieces of information can be captured? (Choose two.)

- A. The green graph visualizes the mean value of the data points.
- B. The green graph visualizes if the electronic device is not in stand-by mode.
- C. The orange graph visualizes a boolean: power on/off.
- D. The orange graph contains more information than the red graph.

### Answer: AC



#### QUESTION

Which two data sources are used with a visualization tool such as Grafana? (Choose two.)

- A. Microsoft Power BI
- B. Kibana
- C. InfluxDB
- D. Elasticsearch
- E. Tableau

### Answer: CD

#### **QUESTION 10**

A customer is deploying sensors with Cisco IR829 routers in moving trucks to continuously monitor the health of engines using a cloud application. Which data extraction and processing strategy is best suited in this environment?

- A. No need to store data locally, upload in real time to the cloud for processing.
- B. Generate local alerts and create reports at the edge, and upload to the cloud at the end of the day.
- C. Use the store and forward mechanism to upload the information at the earliest to cloud.
- D. Ensure that data is stored for a longer duration locally and upload to the cloud every week.

### Answer: B

### **QUESTION 11**

Refer to the exhibit. Based on the MQTT client output, which action should be taken so that the connection to the broker can be established?

```
log: Sending CONNECT (u1, p1, wr0, wq0, wf0, c1, k60) client_id=b'IR829_gateway'
log: Sending PUBLISH (d0, q0, r0, m1), 'b'/v1/json/dev2app/modbussensor'', ... (23 bytes)
log: Received CONNACK (0, 4)
Connected with result code 4
Disconnected with result code 0
```

- A. Change the username/password.
- B. Open port 1883 on the network firewall.
- C. Change the IP address of the broker.
- D. Add the certificate.

### Answer: A

### **QUESTION 12**

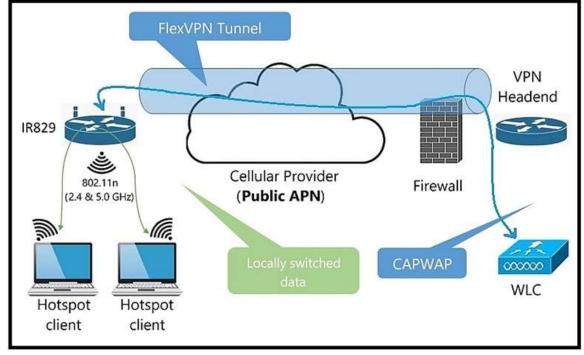
Which lightweight protocol is used to send data from the edge compute resources to the cloud?

- A. MQTT
- B. XMPP
- C. AMQP
- D. MT Connect

# Answer: A

### **QUESTION 13**

Refer to the exhibit. Which protocol is used to make a FlexVPN connection from a Cisco IR829 router to a headend router?



- A. SSL
- B. IKEv2
- C. NAT
- D. IS-IS

# Answer: B

# **QUESTION 14**

Which method is used to gather data from a sensor?



- A. Configure the edge application to push data to the cloud.
- B. Set up a rendezvous point where the sensor and edge application meet.
- C. Set up a dedicate process for each sensor that grabs data.
- D. Pull data from the sensor.

#### Answer: A

### **QUESTION 15**

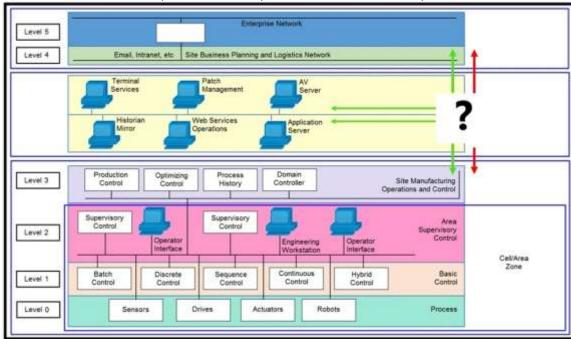
Which element ensures that PKI is used to establish the identity of IoT devices?

- A. unique device identifier
- B. encryption key
- C. air gap
- D. hashed routes

#### Answer: A

### **QUESTION 16**

Refer to the exhibit. Which product must be positioned where the "?" is placed to connect these different network levels?



- A. firewall
- B. switch
- C. router
- D. wireless access port

### Answer: C

# **QUESTION 17**

Which computer security concept is violated when a web server is written that uses the "root" account for all interactions with a Linux system?

- A. principle of least privilege
- B. PermitRootLogin
- C. certificate-based authentication
- D. RBAC

### Answer: A

### **QUESTION 18**

Which method defines the integration of Cisco Industrial Network Director with the Cisco identity Service Engine?

- A. Cisco IND integrates with ISE via Cisco Strealthwatch services.
- B. Cisco IND integrates with ISE using RADIUS services.
- C. Cisco IND is registered with pxGrid on ISE as a publisher.
- D. Cisco IND pulls the profiling information from ISE.

# Answer: C

# **QUESTION 19**

Mosquitto was installed correctly on the Cisco IR829 router as a Cisco IOx application. When the sensor is connected to the broker on the Cisco IR829 router with the default port, the connection is refused (Error Code 5).

Which action should be done to resolve the issue?

- A. Insert in the IOS config: ip nat inside source static tcp <CAF IP> 1883 interface GigabitEthernet0 1883
- B. Insert in the package\_config.ini file under section ports: tcp: ["8883"]
- C. Use the correct username and password.
- D. Insert in the package.yaml file under section ports: tcp: ["1883"]

### Answer: C