Week 10 Graded Questions

Q1: Which of the following statement(s) is/are true regarding Webhooks?

A. A Webhook should give an immediate response.
B. A Webhook cannot post form encoded data.
C. A Webhook cannot be secured, if the receiver URL to be accessed is publicly available.
D. A Webhook receiver can be a trivial flask application.

Answer: A and D

Solution: A Webhook is meant to work synchronously and should result in an instant response. Webhooks can post JSON as well as form-encoded data.
A public receiver URL can be secured using security tokens to authenticate the request. A trivial flask application (with at least 1 endpoint) can easily act as webhook receiver.

Q2: Which of the following statement(s) is/are correct, regarding Webhooks and Web sockets?

A. A Webhook uses HTTP protocol in general.
B. A web socket is used to achieve 2-way communication.
C. A Webhook is primarily used for server-to-server communication.
D. A Webhook generally keeps the connection open.

Answer: A, B and C

Solution: Webhooks use HTTP protocol to post messages. A web socket is meant to be used to achieve 2-way communication between the client and the server, where the connection between the two is left open, unlike webhooks.
A webhook is primarily used for server-to-server communication because the receiver URL also belongs to an application, which is responding to the requests it gets.

Q3: Which of the following statement(s) is/are true regarding polling and long poll?

A. In Polling, a client make repetitive calls to the server at fixed time intervals.
B. Polling requires a persistent connection to the server.
C. In long polling, the connection is kept open till the response is sent.
D. All of the above

Answer: A and C

Solution: Polling (i.e., short polling) is a process in which a client repeatedly requests the information from the server at a fixed time interval. It doesn't require a persistent connection, as the client makes request to the server again and again.
While, in long polling, the client makes a request to the server, and waits or keeps the connection open till the server responds.

Q4: Which of the following statements is false regarding server sent events?

A. It is a mechanism at the server to push events to the client.
B. It requires a task queue to be maintained.
C. It requires the service workers on the client.
D. The service workers should run in the background.

Answer: B

Solution: Server sent events are used to push information to the clients, which are currently connected via a sse stream, which is meant to be an infinite stream. It requires the service workers to be running in the background to ensure a smooth flow of information from the server to the client.

Q5: Which of the following statement(s) is/are true regarding short polling?

A. The client sends a request to the server, and the server responds to the client immediately, even if it does not have data.
B. The client sends a request to the server, and the server waits to respond to the client if it does not have data and keep the connection open.
C. Request is sent after fixed delay periodically.
D. All of the above

Answer: A, C

Solution: Polling (i.e., short polling) is a process in which a client repeatedly requests the information from the server at a fixed time interval.

Q6: Which of the following is true regarding long polling?

A. The client sends a request to the server, and the server responds to the client even if it does not have data.
B. The client sends a request to the server, and the server waits to respond to the client if it does not have data and keep the connection open.
C. Request is sent after fixed delay periodically.
D. The client must send the next request immediately after it receives the response.

Answer: B

Solution: In long polling, the client makes a request to the server, and waits or keeps the connection open till the server responds.
It is not at all must or required to send the request new request to the server as soon as it responds, and depends on the application.

Q7: Which of the following statement(s) is/are correct?

A. A Webhook pushes the messages to an application.
B. In general, webhook pulls the messages from an application, but an API pushes the messages to an application.
C. Webhooks are generally synchronous in nature.
D. An API can pull and push the messages from/to an application.

Answer: A, C and D

Solution: An API is capable of both pushing (POST, PUT etc.) and pulling (GET) messages from/to an application. A Webhook is meant to work synchronously, and it usually pushes (POST) messages to an application.

Q8: Which of the following is correct regarding pub/sub messaging?

A. It can be used to enable event driven architecture.
B. Any message published to a topic should be immediately received by the subscriber(s) of the topic.
C. The communication is synchronous in nature.
D. The communication is asynchronous in nature.

Answer: A, B and D

Solution: Reference to read: [What is Pub/Sub Messaging? (amazon.com)]

Q9: What is the role of the message broker?

A. It ensures that the message gets delivered to the correct recipient.
B. If the message is undelivered in the first try, it fails and doesn't retry.
C. It ensures that the messages are processed in LIFO manner.
D. It can send messages to multiple recipients, if required.

Answer A and D

Solution: A message broker performs various functions. It makes sure that the message is delivered only to that recipient, it is meant for, and can be configured to deliver messages to multiple recipients. It generally processes the messages in FIFO (First-In-First-Out) order.

Q10: Which of the statement(s) is/are true for webhook?

A. The message content is sent as part of the request body.
B. The message content in the response body should be detailed.
C. Webhooks are usually invoked by the human clients.
D. Webhooks are one way messages.

Answer: A and D

Solution: A Webhook typically pushes (POST) the messages to an application, and the content is sent as part of the request body. A webhook response should indicate the status code of the request, and should have minimal or no data in the response body.
Webhooks are meant for one way messaging (i.e., the connection is not kept open), and they are typically invoked by machine clients, when the event a webhook is configured for, is triggered.