Free Questions for SAFe-DevOps

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Question 1

Question Type: MultipleChoice

Which technical practice is key to enabling trunk-based development?

Options:

A- Gated commits
B- Refactoring
C- Code freezes
D- Feature branching

Answer:

A

Explanation:

Gated commits are a key technical practice that enables trunk-based development. Gated commits are a mechanism that ensures that only code that passes certain quality checks and tests can be committed to the main trunk of the shared codebase. Gated commits prevent broken changes from affecting other developers or the Continuous Delivery Pipeline. Gated commits typically involve the following steps:

A developer writes code and runs local tests on their own machine or branch.

The developer pushes the code to a remote repository, where a pre-commit hook triggers a build and test process on a separate server.

The build and test process verifies that the code meets the quality standards and does not introduce any errors or conflicts with the existing code on the trunk.

If the build and test process succeeds, the code is automatically merged into the trunk and becomes available for other developers and downstream activities.

If the build and test process fails, the code is rejected and the developer is notified of the issues that need to be fixed before retrying the commit.

Gated commits support trunk-based development by ensuring that the trunk is always in a releasable state, which means that at least once a day, developers must integrate their changes to the trunk. This is accomplished through short-lived feature branches related to project tasks.Gated commits reduce the complexity and conflicts of merging long-lived branches, improve the quality and consistency of the code by enforcing frequent testing and validation, accelerate the delivery and deployment of new functionality by minimizing the transaction cost

and risk, and foster a culture of collaboration and transparency among developers

Question 2

Question Type: MultipleChoice

Why are canary releases used?

Options:

A- To prevent outages
B- To introduce minimum viable features
C- To reduce deployment times
D- To allow incremental release

Answer:

D

Explanation:

Canary releases are used to allow incremental release of new functionality to customers. A canary release is a change management strategy for software releases that reduces the downtime and risk of deploying new versions of software. A canary release involves having two identical but separate environments: one is the active environment that serves the user traffic, and the other is the inactive environment that hosts the new version of the software. The release process consists of switching a small portion of the user traffic from the active environment to the inactive environment, after verifying that the new version is working properly. The portion of users who receive the new version are called canaries, as they serve as early indicators of the quality and performance of the new version. The canary release has several benefits, such as:

It allows for fast and reliable rollback, in case of any issues or errors in the new version, by simply switching back to the active environment.

It eliminates the need for complex and error-prone migration scripts, as the inactive environment can be prepared and tested in advance, without affecting the active environment.

It enables testing and experimentation of the new version with a subset of users, by directing some user traffic to the inactive environment, before switching completely.

It facilitates continuous delivery and deployment, by automating the switching process and reducing the transaction cost and risk of moving changes to production

Question 3

Question Type: MultipleChoice

When preparing a DevOps backlog, prioritizing features using WSJF includes which two factors? (Choose two.)

Choose the correct option from below list

Options:

A- Cost of delay
B- Business value
C- Total count of items on the Program Backlog
D- Team velocity
E- Duration/job size

Answer:

A, E

Explanation:

When preparing a DevOps backlog, prioritizing features using WSJF includes two factors: cost of delay and duration/job size. WSJF stands for Weighted Shortest Job First, which is a prioritization model used to sequence work for maximum economic benefit. WSJF is estimated as the relative cost of delay divided by the relative job duration. Cost of delay is the money lost by delaying or not doing a job for a specific time. It is a measure of the economic value of a job over time. Job duration is the time it takes to complete a job. Jobs that can deliver the most value in the shortest duration provide the best economic return.WSJF also considers other factors that contribute to the cost of delay, such as user and business value, time criticality, and risk reduction and/or opportunity enablement

Question 4

Question Type: MultipleChoice

How should developers integrate refactoring into their workflow?

Choose the correct option from below list

Options:

A- Refactor continuously as part of test-driven development
B- Allocate a portion of their capacity to refactoring in every Iteration
C- Create and estimate refactoring Stories in the Team Backlog
D- Create and estimate refactoring tasks for each Story in the Team Backlog

Answer:

C

Explanation:

Refactoring is the activity of improving the internal structure or operation of a code or component without changing its external behavior. The goal of software development is the continuous delivery of business value to users and stakeholders. Constantly changing technology and evolving business objectives make maintaining and continuously increasing business value difficult. Refactoring enables an emergent design, ensuring the system continues to meet future business needs. Refactors are a particular type of Enabler story in SAFe, and, like any other Story, they must be estimable, verifiable, and valuable, as well as accepted by the Product Owner. SAFe emphasizes the importance of keeping all work visible, including refactoring. Like user value work, refactoring must be planned for, estimated, and prioritized.Therefore, developers should create and estimate refactoring Stories in the Team Backlog, and work on them according to their WSJF1

Question 5

Question Type: MultipleChoice

The Release on Demand aspect enables which key business objective?

Options:

A- Business value
B- Quality
C- Time-to-market
D- Alignment

Answer:

A

Explanation:

The Release on Demand aspect enables the key business objective of delivering business value to customers. Release on Demand is the process by which features deployed into production are released incrementally or immediately to customers based on market demand. It is the final aspect of the Continuous Delivery Pipeline (CDP) in SAFe DevOps, which enables the delivery of value to the end user as fast as possible, based on market demand. The decision of what and when to release is a critical economic driver that requires careful consideration of the customer needs, market rhythms, and economic outcomes. Release on Demand is decoupled from the Continuous Deployment activity, which automates the migration of new functionality from a staging environment to production, where it is made available for release. Release on Demand involves four activities: release, stabilize and operate, measure, and learn.These activities help to deliver the solution to end users, ensure the solution is working well from a functional and nonfunctional perspective, quantify the value delivered by the solution, and collect feedback and prepare for the next loop through the CDP3

Question 6

Question Type: MultipleChoice

What are two aspects of the Continuous Delivery Pipeline, in addition to Continuous Integration? (Choose two.)

Choose the correct option from below list

Options:

A- Continuous Release
B- Continuous Deployment
C- Continuous Improvement
D- Continuous Exploration
E- Continuous Testing

Answer:

B, D

Explanation:

In addition to Continuous Integration, two other aspects of the CDP are Continuous Deployment and Continuous Exploration. Continuous Deployment automates the migration of new functionality from a staging environment to production, where it is made available for release. Continuous Deployment enables the ability to release value at any time, in a sustainable way. Continuous Exploration focuses on creating alignment on what needs to be built, using design thinking and hypothesis-driven development.Continuous Exploration enables the discovery of the most valuable solutions for the customers and the enterprise

Question 7

Question Type: MultipleChoice

Mapping the value stream helps accomplish which two actions? (Choose two.)

Options:

A- To prioritize the Program Backlog
B- To gain insight into organizational efficiency
C- To serve as a blueprint for development
D- To understand how the flow of value can be improved
E- To add or remove user segments based on business decisions

Answer:

B, D

Explanation:

Mapping the value stream helps accomplish two actions: to gain insight into organizational efficiency and to understand how the flow of value can be improved. A value stream is the series of steps that an organization uses to implement solutions that provide a continuous flow of value to a customer. Mapping the value stream involves identifying the steps, people, inputs, outputs, tools, and metrics involved in delivering value from concept to cash. By mapping the value stream, the organization can gain insight into the current state of the delivery process, such as the lead time, cycle time, throughput, quality, and waste. This insight can help the organization identify bottlenecks, dependencies, handoffs, delays, and inefficiencies that affect the flow of value. Mapping the value stream also helps the organization understand how the flow of value can be improved by applying the principles and practices of DevOps, such as culture, automation, lean flow, measurement, and recovery.By improving the flow of value, the organization can

increase customer satisfaction, reduce costs, accelerate time-to-market, and enhance business agility

Question 8

Question Type: MultipleChoice

Which statement is true about DevOps?

Options:

A- It enables low-risk releases and fast recovery with fast fix-forward
B- It enables low-risk releases and fast recovery with no room for errors
C- It enables high-risk releases and fast recovery with fast fix-forward
D- It enables a tolerance for low-risk, low-failure, and rapid recovery

Answer:

A

Explanation:

The statement that is true about DevOps is that it enables low-risk releases and fast recovery with fast fix-forward. DevOps is a mindset, culture, and set of technical practices that supports the integration, automation, and collaboration needed to effectively develop and operate a solution. DevOps aims to deliver value to customers whenever there is a business need, by applying the principles of continuous delivery, continuous integration, continuous deployment, and release on demand. DevOps also embraces a culture of learning and experimentation, where failures are opportunities for improvement and feedback. DevOps enables low-risk releases by breaking down large and complex changes into smaller and more frequent batches, which are easier to test, deploy, and rollback if needed. DevOps also enables fast recovery by implementing practices such as monitoring, alerting, incident response, and disaster recovery, which help to detect and resolve issues quickly, minimize the impact of failures, and restore normal operations as soon as possible. DevOps also supports the fast fix-forward approach, which means fixing errors in production by deploying new code, rather than rolling back to a previous state.This approach reduces the risk of introducing new errors, preserves the value of the new functionality, and accelerates the learning cycle

Question 9

Question Type: MultipleChoice

Which two areas should be monitored in the Release on Demand aspect to support DevOps and Continuous Delivery? (Choose two.)

Options:

A- Full-stack system behavior
B- Build status
C- Agile Release Train velocity
D- Deployment cycle time
E- Business Metrics

Answer:

B, D

Explanation:

Two areas that should be monitored in the Release on Demand aspect to support DevOps and Continuous Delivery are the build status and the deployment cycle time. The build status is the measure of whether the code and components can be successfully compiled, linked, packaged, and verified into deployable binaries. The build status indicates the quality and consistency of the code and the readiness for deployment. Monitoring the build status helps to support the Release on Demand aspect in SAFe by providing valuable information for the following purposes:

To identify and fix any errors or defects that may prevent the code from being deployed or released

To ensure that the code meets the quality standards and security checks, such as static code analysis, code coverage, and code review

To verify that the code and components are integrated and merged correctly into the trunk

To track the progress and status of the features and capabilities that are being developed and delivered

The deployment cycle time is the measure of how long it takes to deploy the code and components from the source control system to the production environment. The deployment cycle time indicates the efficiency and reliability of the deployment process and the speed of delivery. Monitoring the deployment cycle time helps to support the Release on Demand aspect in SAFe by providing valuable information for the following purposes:

To optimize the deployment process and reduce the lead time and variability

To automate the deployment process and eliminate manual steps and errors

To align the deployment process with the market demand and release strategy

To evaluate the impact and value of the deployed features and capabilities7

Question 10

Question Type: MultipleChoice

Identifying the Minimal Marketable Feature is part of what?

Choose the correct option from below list

Options:

A- Lean Principles
B- Lean Leadership
C- Lean Startup
D- Lean UX

Answer:

D

Explanation:

Identifying the Minimal Marketable Feature (MMF) is part of Lean UX, which is a user-centric approach to designing and delivering products. An MMF is a small, self-contained feature that can be developed quickly and that delivers significant value to the user. It is the smallest unit of functionality that can be released to the market and generate feedback.Lean UX advocates for releasing MMFs as early and often as possible, to validate assumptions, learn from users, and iterate on the product

Question 11

Question Type: MultipleChoice

What falls outside the scope of the Stabilize activity?

Options:

A- Continuous security monitoring is done
B- Features are monitored after release
C- Blue/green deployment
D- Failover and recovery processes are in place

Answer:

C

Explanation:

Blue/green deployment falls outside the scope of the Stabilize activity. The Stabilize activity is part of the Release on Demand aspect of the Continuous Delivery Pipeline, which is responsible for releasing new functionality to end users, either immediately or incrementally, based on business and customer needs. The Stabilize activity ensures that the solution is working well from a functional and nonfunctional perspective, and that it can be operated and supported effectively. The Stabilize activity involves the following practices:

Continuous security monitoring -- Applying automated tools and processes to detect and respond to security threats and vulnerabilities in the production environment, and ensuring compliance with security policies and standards.

Failover and recovery processes -- Establishing and testing backup and restore mechanisms, disaster recovery plans, and business continuity procedures, to ensure the availability and resilience of the solution in case of failures or disruptions.

Features monitoring -- Collecting and analyzing data on the usage, performance, and outcomes of the released features, to measure their value and impact, and to identify any issues or defects that need to be fixed or improved.

Support and maintenance -- Providing ongoing support and maintenance for the solution, such as resolving incidents, handling requests, applying patches, and performing upgrades, to ensure the reliability and quality of the solution.

Blue/green deployment, on the other hand, is a technical practice that belongs to the Continuous Deployment aspect of the Continuous Delivery Pipeline, which is responsible for deploying new functionality into the production environment, where it can be tested and validated. Blue/green deployment is a change management strategy that reduces the downtime and risk of deploying new versions of software. It involves having two identical but separate environments: one is the active environment that serves the user traffic (blue), and the other is the inactive environment

that hosts the new version of the software (green). The deployment process consists of switching a small portion of the user traffic from the blue environment to the green environment, after verifying that the new version is working properly. The portion of users who receive the new version are called canaries, as they serve as early indicators of the quality and performance of the new version. If the canary release is successful, the entire user traffic is gradually switched to the green environment, which becomes the new active environment. If the canary release fails, the user traffic is switched back to the blue environment, which remains the active environment. Blue/green deployment has several benefits, such as:

It allows for fast and reliable rollback, in case of any issues or errors in the new version, by simply switching back to the active environment.

It eliminates the need for complex and error-prone migration scripts, as the inactive environment can be prepared and tested in advance, without affecting the active environment.

It enables testing and experimentation of the new version with a subset of users, by directing some user traffic to the inactive environment, before switching completely.

It facilitates continuous delivery and deployment, by automating the switching process and reducing the transaction cost and risk of moving changes to production