AZ-400.VCEplus.premium.exam.60q

Website: https://vceplus.com
VCE to PDF Converter: https://vceplus.com/vce-to-pdf/
Facebook: https://www.facebook.com/VCE.For.All.VN/
Twitter : https://twitter.com/VCE_Plus

AZ-400

Microsoft Azure DevOps Solutions

Version 1.0

Question Set 1

QUESTION 1

You use Azure Artifacts to host NuGet packages that you create.

You need to make one of the packages available to anonymous users outside your organization. The solution must minimize the number of publication points.

What should you do?

A. Change the feed URL of the package
B. Create a new feed for the package
C. Promote the package to a release view.
D. Publish the package to a public NuGet repository.

Correct Answer: B
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Azure Artifacts introduces the concept of multiple feeds that you can use to organize and control access to your packages.
Packages you host in Azure Artifacts are stored in a feed. Setting permissions on the feed allows you to share your packages with as many or as few people as your scenario requires. Feeds have four levels of access: Owners, Contributors, Collaborators, and Readers.

References: https://docs.microsoft.com/en-us/azure/devops/artifacts/feeds/feed-permissions?view=vsts&tabs=new-nav

QUESTION 2

Your company plans to use an agile approach to software development.

You need to recommend an application to provide communication between members of the development team who work in locations around the world. The applications must meet the following requirements:

▪ Provide the ability to isolate the members of different project teams into separate communication channels and to keep a history of the chats within those channels.
▪ Be available on Windows 10, Mac OS, iOS, and Android operating systems.
▪ Provide the ability to add external contractors and suppliers to projects. ▪
Integrate directly with Azure DevOps.

What should you recommend?

A. Microsoft Project
B. Bamboo
C. Microsoft Lync
D. Microsoft Teams

Correct Answer: D
Section: [none]
Explanation

Explanation/Reference:
Explanation:
▪ Within each team, users can create different channels to organize their communications by topic. Each channel can include a couple of users or scale to thousands of users.
▪ Microsoft Teams works on Android, iOS, Mac and Windows systems and devices. It also works in Chrome, Firefox, Internet Explorer 11 and Microsoft Edge web browsers.
▪ The guest-access feature in Microsoft Teams allows users to invite people outside their organizations to join internal channels for messaging, meetings and file sharing. This capability helps to facilitate business-to-business project management.
▪ Teams integrates with Azure DevOps.

References: https://searchunifiedcommunications.techtarget.com/definition/Microsoft-Teams

QUESTION 3
DRAG DROP

You need to recommend project metrics for dashboards in Azure DevOps.

Which chart widgets should you recommend for each metric? To answer, drag the appropriate chart widgets to the correct metrics. Each chart widget may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Lead time
Lead time measures the total time elapsed from the creation of work items to their completion.

Box 2: Cycle time
Cycle time measures the time it takes for your team to complete work items once they begin actively working on them.

Box 3: Burndown
Burndown charts focus on remaining work within a specific time period.

Incorrect Answers:
▪ Velocity provides a useful metric for these activities:
▪ Support sprint planning
▪ Forecast future sprints and the backlog items that can be completed
▪ A guide for determining how well the team estimates and meets their planned commitments

References: https://docs.microsoft.com/en-us/azure/devops/report/dashboards/velocity-guidance?view=vsts

https://docs.microsoft.com/en-us/azure/devops/report/dashboards/cycle-time-and-lead-time?view=vsts

https://docs.microsoft.com/en-us/azure/devops/report/dashboards/configure-burndown-burnup-widgets?view=vsts

QUESTION 4 You manage build pipelines and deployment pipelines by using
Azure DevOps.

Your company has a team of 500 developers. New members are added continually to the team.

You need to automate the management of users and licenses whenever possible.

Which task must you perform manually?

A. modifying group memberships
B. adding users
C. assigning entitlements
D. procuring licenses

Correct Answer: D
Section: [none]
Explanation

Explanation/Reference:
Incorrect Answers:
A: You can seamlessly replace existing solutions with group-based licensing to more easily manage licenses in Azure DevOps. You can use Group rules.

C: Member Entitlement Management APIs allow managing Entitlements that include ▪
License

▪ Extensions
▪ Project/Team memberships

References: https://docs.microsoft.com/en-us/azure/devops/organizations/accounts/migrate-to-group-based-resource-management?view=vsts&tabs=new-nav https://docs.microsoft.com/en-us/rest/api/azure/devops/memberentitlementmanagement/?view=azure-devops-rest-5.0

QUESTION 5
DRAG DROP

You need to increase the security of your team's development process.

Which type of security tool should you recommend for each stage of the development process? To answer, drag the appropriate security tools to the correct targets. Each security tool may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Threat modeling
Threat modeling's motto should be, "The earlier the better, but not too late and never ignore."

Box 2: Static code analysis
Validation in the CI/CD begins before the developer commits his or her code. Static code analysis tools in the IDE provide the first line of defense to help ensure that security vulnerabilities are not introduced into the CI/CD process.

Box 3: Penetration testing
Once your code quality is verified, and the application is deployed to a lower environment like development or QA, the process should verify that there are not any security vulnerabilities in the running application. This can be accomplished by executing automated penetration test against the running application to scan it for vulnerabilities.

References: https://docs.microsoft.com/en-us/azure/devops/articles/security-validation-cicd-pipeline?view=vsts

QUESTION 6
HOTSPOT

Your company uses Team Foundation Server 2013 (TFS 2013).

You plan to migrate to Azure DevOps.

You need to recommend a migration strategy that meets the following requirements:

▪ Preserves the dates of Team Foundation Version Control changesets
▪ Preserves the changes dates of work items revisions
▪ Minimizes migration effort ▪
Migrates all TFS artifacts

What should you recommend? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:
Explanation:

Box 1: Upgrade TFS to the most recent RTM release.
One of the major prerequisites for migrating your Team Foundation Server database is to get your database schema version as close as possible to what is currently deployed in Azure Devops Services.

Box 2: Use the TFS Database Import Service
In Phase 3 of your migration project, you will work on upgrading your Team Foundation Server to one of the supported versions for the Database Import Service in Azure Devops Services.

References: Team Foundation Server to Azure Devops Services Migration Guide

QUESTION 7
You are developing a multi-tier application. The application will use Azure App Service web apps as the front end and an Azure SQL database as the back end. The application will use Azure functions to write some data to Azure Storage.

You need to send the Azure DevOps team an email message when the front end fails to return a status code of 200.

Which feature should you use?

A.   Service Map in Azure Log Analytics
B.   Availability tests in Azure Application Insights
C.   Profiler in Azure Application Insights
D.   Application Map in Azure Application Insights

Correct Answer: D
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Application Map helps you spot performance bottlenecks or failure hotspots across all components of your distributed application. Each node on the map represents an application component or its dependencies; and has health KPI and alerts status.

Incorrect Answers:
A: Service Map automatically discovers application components on Windows and Linux systems and maps the communication between services. You can use it to view your servers as you think of them--interconnected systems that deliver critical services. Service Map shows connections between servers, processes, and ports across any TCP-connected architecture with no configuration required, other than installation of an agent.

References: https://docs.microsoft.com/en-us/azure/azure-monitor/app/app-map

QUESTION 8
During a code review, you discover many quality issues. Many modules contain unused variables and empty catch blocks.

You need to recommend a solution to improve the quality of the code.

What should you recommend?

A.   In a Grunt build task, select **Enabled** from Control Options.
B.   In a Maven build task, select **Run PMD**.
C.   In a Xcode build task, select **Use xcpretty** from Advanced.
D.   In a Gradle build task, select **Run Checkstyle**.

Correct Answer: B
Section: [none]
Explanation

Explanation/Reference:

Explanation:
PMD is a source code analyzer. It finds common programming flaws like unused variables, empty catch blocks, unnecessary object creation, and so forth.

There is an Apache Maven PMD Plugin which allows you to automatically run the PMD code analysis tool on your project's source code and generate a site report with its results.

Incorrect Answers:
C: xcpretty is a fast and flexible formatter for xcodebuild.

References: https://pmd.github.io/

QUESTION 9
Your company has an on-premises Bitbucket Server that is used for Git-based source control. The server is protected by a firewall that blocks inbound Internet traffic.

You plan to use Azure DevOps to manage the build and release processes.

Which two components are required to integrate Azure DevOps and Bitbucket? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. a deployment group
B. a Microsoft-hosted agent
C. service hooks
D. a self-hosted agent
E. an External Git service connection

Correct Answer: DE
Section: [none]
Explanation

Explanation/Reference:
Explanation:
E: GitLab CI/CD can be used with GitHub or any other Git server such as BitBucket. Instead of moving your entire project to GitLab, you can connect your external repository to get the benefits of GitLab CI/CD.

Note: When a pipeline uses a remote, 3rd-party repository host such as Bitbucket Cloud, the repository is configured with webhooks that notify Azure Pipelines Server or TFS when code has changed and a build should be triggered. Since on-premises installations are normally protected behind a firewall, 3rd-party webhooks are unable to reach the on-premises server. As a workaround, you can use the External Git repository type which uses polling instead of webhooks to trigger a build when code has changed.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/repos/pipeline-options-for-git

Testlet 1

Case Study
This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other question on this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next sections of the exam. After you begin a new section, you cannot return to this

section.

To start the case study
To display the first question on this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question.

Application Architecture

The company's primary application is a single monolithic retirement fund management system based on ASP.NET web forms that use logic written in VB.NET. Some new sections of the application are written in C#.

Variations of the application are created for individual customers. Currently, there are more than 80 live code branches in the application's code base.

The application was developed by using Microsoft Visual Studio. Source code is stored in Team Foundation Server (TFS) in the main office. The branch offices access the source code by using TFS proxy servers.

Architectural Issues

Litware focuses on writing new code for customers. No resources are provided to refactor or remove existing code. Changes to the code base take a long time, as dependencies are not obvious to individual developers.

Merge operations of the code often take months and involve many developers. Code merging frequently introduces bugs that are difficult to locate and resolve.

Customers report that ownership costs of the retirement fund management system increase continually. The need to merge unrelated code makes even minor code changes expensive.

Customers report that bug reporting is overly complex.

Planned changes

Litware plans to develop a new suite of applications for investment planning. The investment planning applications will require only minor integration with the existing retirement fund management system.

The investment planning applications suite will include one multi-tier web application and two iOS mobile application. One mobile application will be used by employees; the other will be used by customers.

Litware plans to move to a more agile development methodology. Shared code will be extracted into a series of packages.

Litware has started an internal cloud transformation process and plans to use cloud-based services whenever suitable.

Litware wants to become proactive in detecting failures, rather than always waiting for customer bug reports.

Technical requirements

The company's investment planning applications suite must meet the following requirements:

▪ New incoming connections through the firewall must be minimized.
▪ Members of a group named Developers must be able to install packages.
▪ The principle of least privilege must be used for all permission assignments.
▪ A branching strategy that supports developing new functionality in isolation must be used.
▪ Members of a group named Team Leaders must be able to create new packages and edit the permissions of package feeds.
▪ Visual Studio App Center must be used to centralize the reporting of mobile application crashes and device types in use.
▪ By default, all releases must remain available for 30 days, except for production releases, which must be kept for 60 days.
▪ Code quality and release quality are critical. During release, deployments must not proceed between stages if any active bugs are logged against the release.
▪ The mobile applications must be able to call the share pricing service of the existing retirement fund management system. Until the system is upgraded, the service will only support basic authentication over HTTPS.
▪ The required operating system configuration for the test servers changes weekly. Azure Automation State Configuration must be used to ensure that the operating system on each test server is configured the same way when the servers are created and checked periodically.

Current Technical Issue

The test servers are configured correctly when first deployed, but they experience configuration drift over time. Azure Automation State Configuration fails to correct the configurations.

Azure Automation State Configuration nodes are registered by using the following command.

```
Register-AzureRmAutomationDscNode
  -ResourceGroupName 'TestResourceGroup'
  -AutomationAccountName 'LitwareAutomationAccount'
  -AzureVMName $vmanme
  -ConfigurationMode 'ApplyOnly'
```

QUESTION 1
HOTSPOT

How should you complete the code to initialize App Center in the mobile application? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Scenario: Visual Studio App Center must be used to centralize the reporting of mobile application crashes and device types in use.

In order to use App Center, you need to opt in to the service(s) that you want to use, meaning by default no services are started and you will have to explicitly call each of them when starting the SDK.

Insert the following line to start the SDK in your app's AppDelegate class in the didFinishLaunchingWithOptions method.

MSAppCenter.start("{Your App Secret}", withServices: [MSAnalytics.self, MSCrashes.self]) References:

https://docs.microsoft.com/en-us/appcenter/sdk/getting-started/ios

QUESTION 2
To resolve the current technical issue, what should you do to the **Register-AzureRmAutomationDscNode** command?

A. Change the value of the **ConfigurationMode** parameter.
B. Replace the **Register-AzureRmAutomationDscNode** cmdlet with **Register-AzureRmAutomationScheduledRunbook** C. Add the
    AllowModuleOverwrite parameter.
D. Add the **DefaultProfile** parameter.

Correct Answer: A
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Change the ConfigurationMode parameter from ApplyOnly to ApplyAndAutocorrect.

The Register-AzureRmAutomationDscNode cmdlet registers an Azure virtual machine as an APS Desired State Configuration (DSC) node in an Azure Automation account.

Scenario: Current Technical Issue

The test servers are configured correctly when first deployed, but they experience configuration drift over time. Azure Automation State Configuration fails to correct the configurations.

Azure Automation State Configuration nodes are registered by using the following command.

```
Register-AzureRmAutomationDscNode
  -ResourceGroupName 'TestResourceGroup'
  -AutomationAccountName 'LitwareAutomationAccount'
  -AzureVMName $vmanme
  -ConfigurationMode 'ApplyOnly'
```

References: https://docs.microsoft.com/en-us/powershell/module/azurerm.automation/register-azurermautomationdscnode?view=azurermps-6.13.0

QUESTION 3
HOTSPOT

You need to configure a cloud service to store the secrets required by the mobile applications to call the share pricing service.

What should you include in the solution? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Every request made against a storage service must be authorized, unless the request is for a blob or container resource that has been made available for public or signed access. One option for authorizing a request is by using Shared Key.

Scenario: The mobile applications must be able to call the share pricing service of the existing retirement fund management system. Until the system is upgraded, the service will only support basic authentication over HTTPS.

The investment planning applications suite will include one multi-tier web application and two iOS mobile application. One mobile application will be used by employees; the other will be used by customers.

References: https://docs.microsoft.com/en-us/rest/api/storageservices/authorize-with-shared-key

Testlet 2

Case Study
This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other question on this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next sections of the exam. After you begin a new section, you cannot return to this section.

To start the case study
To display the first question on this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question.

Background

Contoso, Ltd. is a manufacturing company that has a main office in Chicago.

Contoso plans to improve its IT development and operations processes by implementing Azure DevOps principles. Contoso has an Azure subscription and creates an Azure DevOps organization.

The Azure DevOps organization includes:

▪ The Docker extension
▪ A deployment pool named Pool7 that contains 10 Azure virtual machines that run Windows Server 2016

The Azure subscription contains an Azure Automation account.

Contoso plans to create projects in Azure DevOps as shown in the following table.

Project name	Project details
Project 1	Project1 will provide support for incremental builds and third-party SDK components
Project 2	Project2 will use an automatic build policy. A small team of developers named Team2 will work independently on changes to the project. The Team2 members will not have permissions to Project2.
Project 3	Project3 will be integrated with SonarQube
Project 4	Project4 will provide support for a build pipeline that creates a Docker image and pushes the image to the Azure Container Registry. Project4 will use an existing Dockerfile.
Project 5	Project5 will contain a Git repository in Azure Reports and a continuous integration trigger that will initiate a build in response to any change except for changes within /folder1 of the repository.
Project 6	Project6 will provide support for build and deployment pipelines. Deployment will be allowed only if the number of current work items representing active software bugs is 0.
Project 7	Project7 will contain a target deployment group named Group7 that maps to Pool7. Project7 will use Azure Automation State Configuration to maintain the desired state of the computers in Group7.

Technical requirements

Contoso identifies the following technical requirements:

▪ Implement build agents for Project1.
▪ Whenever possible, use Azure resources.

▪ Avoid using deprecated technologies.
▪ Implement a code flow strategy for Project2 that will:
    -Enable Team2 to submit pull requests for Project2.
    -Enable Team2 to work independently on changes to a copy of Project2.
    -Ensure that any intermediary changes performed by Team2 on a copy of Project2 will be subject to the same restrictions as the ones defined in the build policy of Project2. ▪
Whenever possible implement automation and minimize administrative effort.
▪ Implement Project3, Project5, Project6, and Project7 based on the planned changes
▪ Implement Project4 and configure the project to push Docker images to Azure Container Registry.

QUESTION 1 You add the virtual machines as managed nodes in Azure Automation State Configuration.

You need to configure the computers in Group7.

What should you do?

A. Modify the RefreshMode property of the Local Configuration Manager (LCM).
B. Run the **Register-AzureRmAutomationDscNode** Azure Powershell cmdlet.
C. Modify the **ConfigurationMode** property of the Local Configuration Manager (LCM)
D. Install PowerShell Core.

Correct Answer: B
Section: [none]
Explanation

Explanation/Reference:
Explanation:
The Register-AzureRmAutomationDscNode cmdlet registers an Azure virtual machine as an APS Desired State Configuration (DSC) node in an Azure Automation account.

Scenario: The Azure DevOps organization includes:
The Docker extension
A deployment pool named Pool7 that contains 10 Azure virtual machines that run Windows Server 2016

Project 7	Project7 will contain a target deployment group named Group7 that maps to Pool7. Project7 will use Azure Automation State Configuration to maintain the desired state of the computers in Group7.

References: https://docs.microsoft.com/en-us/powershell/module/azurerm.automation/register-azurermautomationdscnode

QUESTION 2
DRAG DROP

You need to implement the code flow strategy for Project2 in Azure DevOps.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Step 1: Create a repository
A Git repository, or repo, is a folder that you've told Git to help you track file changes in. You can have any number of repos on your computer, each stored in their own folder.

Step 2: Create a branch
Branch policies help teams protect their important branches of development. Policies enforce your team's code quality and change management standards.

Step 3: Add a build validation policy
When a build validation policy is enabled, a new build is queued when a new pull request is created or when changes are pushed to an existing pull request targeting this branch. The build policy then evaluates the results of the build to determine whether the pull request can be completed.

Scenario:
Implement a code flow strategy for Project2 that will:
Enable Team2 to submit pull requests for Project2.
Enable Team2 to work independently on changes to a copy of Project2.
Ensure that any intermediary changes performed by Team2 on a copy of Project2 will be subject to the same restrictions as the ones defined in the build policy of Project2.

Project2 will use an automatic build policy. A small team of developers named Team2 will work independently on changes to the project. The Team2 members will not have permissions to Project2.

References: https://docs.microsoft.com/en-us/azure/devops/repos/git/manage-your-branches

QUESTION 3
DRAG DROP

You need to configure Azure Automation for the computers in Group7.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Actions

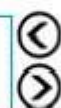Run the `Import-AzureRmAutomationDscConfiguration` Azure PowerShell cmdlet.

Create a Desired State Configuration (DSC) configuration file that has an extension of .ps1.

Run the `New-AzureRmResourceGroupDeployment` Azure PowerShell cmdlet.

Run the `Start-AzureRmAutomationDscCompilationJob` Azure PowerShell cmdlet.

Create an Azure Resource Manager template file that has an extension of `.json`.

Answer Area

Correct Answer:

Actions

Run the `New-AzureRmResourceGroupDeployment` Azure PowerShell cmdlet.
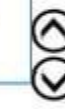
Create an Azure Resource Manager template file that has an extension of `.json`.

Answer Area

Create a Desired State Configuration (DSC) configuration file that has an extension of .ps1.

Run the `Import-AzureRmAutomationDscConfiguration` Azure PowerShell cmdlet.

Run the `Start-AzureRmAutomationDscCompilationJob` Azure PowerShell cmdlet.

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Step 1: Create a Desired State Configuration (DSC) configuration file that has an extension of .ps1.

Step 2: Run the Import-AzureRmAutomationDscConfiguration Azure Powershell cmdlet
The Import-AzureRmAutomationDscConfiguration cmdlet imports an APS Desired State Configuration (DSC) configuration into Azure Automation. Specify the path of an APS script that contains a single DSC configuration.

Example:
PS C:\>Import-AzureRmAutomationDscConfiguration -AutomationAccountName "Contoso17"-ResourceGroupName "ResourceGroup01" -SourcePath "C:\DSC\client.ps1" -Force

This command imports the DSC configuration in the file named client.ps1 into the Automation account named Contoso17. The command specifies the Force parameter. If there is an existing DSC configuration, this command replaces it.

Step 3: Run the Start-AzureRmAutomationDscCompilationJob Azure Powershell cmdlet
The Start-AzureRmAutomationDscCompilationJob cmdlet compiles an APS Desired State Configuration (DSC) configuration in Azure Automation.

References: https://docs.microsoft.com/en-us/powershell/module/azurerm.automation/import-azurermautomationdscconfiguration

https://docs.microsoft.com/en-us/powershell/module/azurerm.automation/start-azurermautomationdsccompilationjob Question
Set 3

QUESTION 1 Your company builds a multi-tier
web application.

You use Azure DevOps and host the production application on Azure virtual machines.

Your team prepares an Azure Resource Manager template of the virtual machine that you will use to test new features.

You need to create a staging environment in Azure that meets the following requirements:

▪ Minimizes the cost of Azure hosting
▪ Provisions the virtual machines automatically
▪ Uses the custom Azure Resource Manager template to provision the virtual machines

What should you do?

A. In Azure Cloud Shell, run Azure CLI commands to create and delete the new virtual machines in a staging resource group.
B. In Azure DevOps, configure new tasks in the release pipeline to deploy to Azure Cloud Services.
C. From Azure Cloud Shell, run Azure PowerShell commands to create and delete the new virtual machines in a staging resource group.
D. In Azure DevOps, configure new tasks in the release pipeline to create and delete the virtual machines in Azure DevTest Labs.

Correct Answer: D
Section: [none]
Explanation

Explanation/Reference:
Explanation:
You can use the Azure DevTest Labs Tasks extension that's installed in Azure DevOps to easily integrate your CI/CD build-and-release pipeline with Azure DevTest Labs. The extension installs three tasks: ▪
Create a VM
▪ Create a custom image from a VM ▪
Delete a VM

The process makes it easy to, for example, quickly deploy a "golden image" for a specific test task and then delete it when the test is finished.

References: https://docs.microsoft.com/en-us/azure/lab-services/devtest-lab-integrate-ci-cd-vsts

QUESTION 2
DRAG DROP

You need to recommend a solution for deploying charts by using Helm and Tiller to Azure Kubernetes Service (AKS) in an RBAC-enabled cluster.

Which three commands should you recommend be run in sequence? To answer, move the appropriate commands from the list of commands to the answer area and arrange them in the correct order.

Select and Place:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Step 1: Kubectl create
You can add a service account to Tiller using the --service-account <NAME> flag while you're configuring Helm (step 2 below). As a prerequisite, you'll have to create a role binding which specifies a role and a service account name that have been set up in advance.
Example: Service account with cluster-admin role
$ kubectl create -f rbac-config.yaml
serviceaccount "tiller" created
clusterrolebinding "tiller" created $
helm init --service-account tiller
Step 2: helm init
To deploy a basic Tiller into an AKS cluster, use the helm init command.

Step 3: helm install
To install charts with Helm, use the helm install command and specify the name of the chart to install.

References: https://docs.microsoft.com/en-us/azure/aks/kubernetes-

helm https://docs.helm.sh/using_helm/#tiller-namespaces-and-rbac

QUESTION 3
DRAG DROP

Your company has a project in Azure DevOps.

You plan to create a release pipeline that will deploy resources by using Azure Resource Manager templates. The templates will reference secrets stored in Azure Key Vault.

You need to recommend a solution for accessing the secrets stored in the key vault during deployments. The solution must use the principle of least privilege.

What should you include in the recommendation? To answer, drag the appropriate configurations to the correct targets. Each configuration may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
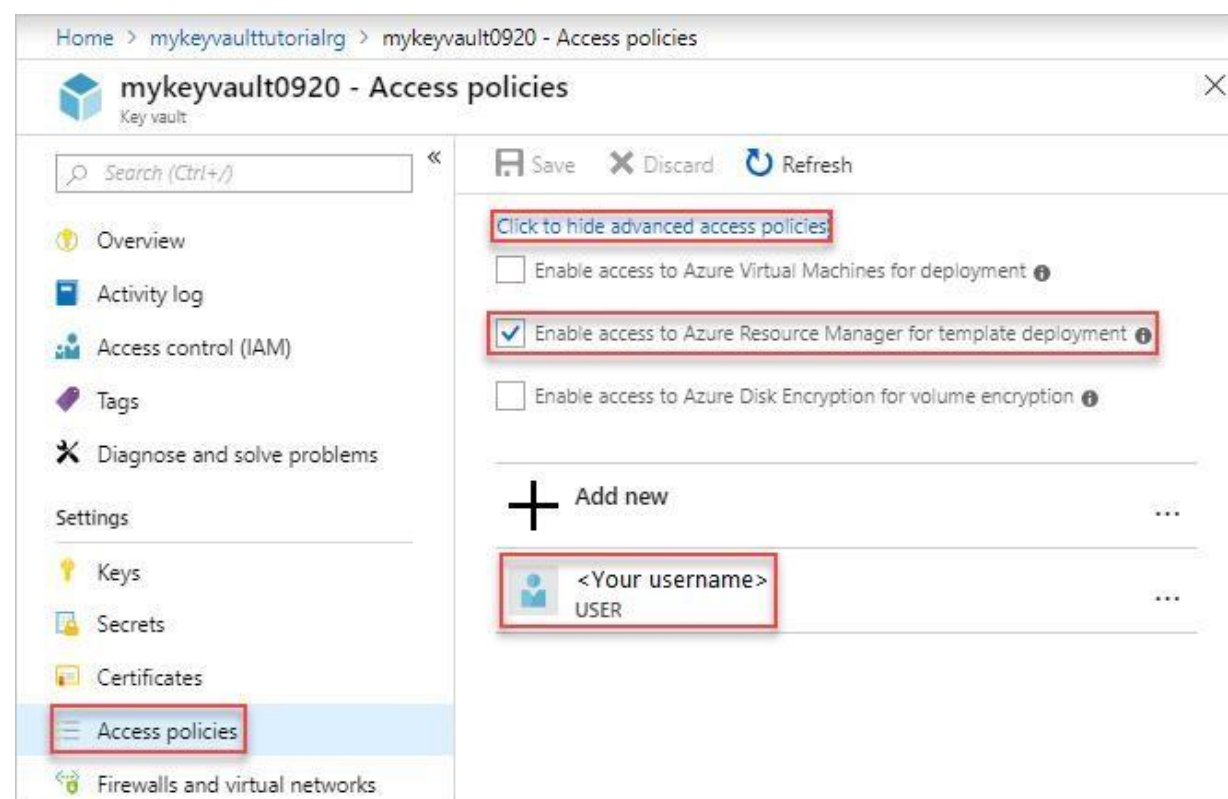
Select and Place:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: A key Vault advanced access policy

Box 2: RBAC
Management plane access control uses RBAC.
The management plane consists of operations that affect the key vault itself, such as:

▪ Creating or deleting a key vault.
▪ Getting a list of vaults in a subscription.
▪ Retrieving Key Vault properties (such as SKU and tags).
▪ Setting Key Vault access policies that control user and application access to keys and secrets.

References: https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-manager-tutorial-use-key-vault

QUESTION 4
DRAG DROP

You need to configure access to Azure DevOps agent pools to meet the following requirements:

▪ Use a project agent pool when authoring build or release pipelines.
▪ View the agent pool and agents of the organization. ▪
Use the principle of least privilege.

Which role memberships are required for the Azure DevOps organization and the project? To answer, drag the appropriate role memberships to the correct targets. Each role membership may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Reader

Members of the Reader role can view the organization agent pool as well as agents. You typically use this to add operators that are responsible for monitoring the agents and their health.

Box 2: Service account
Members of the Service account role can use the organization agent pool to create a project agent pool in a project. If you follow the guidelines above for creating new project agent pools, you typically do not have to add any members here.

Incorrect Answers:
In addition to all the permissions given the Reader and the Service Account role, members of the administrator role can register or unregister agents from the organization agent pool. They can also refer to the organization agent pool when creating a project agent pool in a project. Finally, they can also manage membership for all roles of the organization agent pool. The user that created the organization agent pool is automatically added to the Administrator role for that pool.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/agents/pools-queues

QUESTION 5
You have a branch policy in a project in Azure DevOps. The policy requires that code always builds successfully.

You need to ensure that a specific user can always merge changes to the master branch, even if the code fails to compile. The solution must use the principle of least privilege.

What should you do?

A. Add the user to the Build Administrators group.
B. Add the user to the Project Administrators group.
C. From the Security settings of the repository, modify the access control for the user.
D. From the Security settings of the branch, modify the access control for the user.

Correct Answer: D

Section: [none]
Explanation

Explanation/Reference:
Explanation:
In some cases, you need to bypass policy requirements so you can push changes to the branch directly or complete a pull request even if branch policies are not satisfied. For these situations, grant the desired permission from the previous list to a user or group. You can scope this permission to an entire project, a repo, or a single branch. Manage this permission along the with other Git permissions.

References: https://docs.microsoft.com/en-us/azure/devops/repos/git/branch-policies

QUESTION 6
Your company uses a Git repository in Azure Repos to manage the source code of a web application. The master branch is protected from direct updates. Developers work on new features in the topic branches.

Because of the high volume of requested features, it is difficult to follow the history of the changes to the master branch.

You need to enforce a pull request merge strategy. The strategy must meet the following requirements:

▪ Consolidate commit histories.
▪ Merge the changes into a single commit.

Which merge strategy should you use in the branch policy?

A. squash merge
B. fast-forward merge
C. Git fetch
D. no-fast-forward merge

Correct Answer: A
Section: [none]
Explanation

Explanation/Reference:
Explanation:

Squash merging is a merge option that allows you to condense the Git history of topic branches when you complete a pull request. Instead of each commit on the topic branch being added to the history of the default branch, a squash merge takes all the file changes and adds them to a single new commit on the default branch.

A simple way to think about this is that squash merge gives you just the file changes, and a regular merge gives you the file changes and the commit history.

Note: Squash merging keeps your default branch histories clean and easy to follow without demanding any workflow changes on your team. Contributors to the topic branch work how they want in the topic branch, and the default branches keep a linear history through the use of squash merges. The commit history of a master branch updated with squash merges will have one commit for each merged branch. You can step through this history commit by commit to find out exactly when work was done.

References: https://docs.microsoft.com/en-us/azure/devops/repos/git/merging-with-squash

QUESTION 7 Your company uses cloud-hosted
Jenkins for builds.

You need to ensure that Jenkins can retrieve source code from Azure Repos.

Which three actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Create a webhook in Jenkins.
B. Add the **Team Foundation Server (TFS)** plug-in to Jenkins.
C. Add a domain to your Jenkins account.
D. Create a personal access token in your Azure DevOps account.
E. Create a service hook in Azure DevOps.

Correct Answer: BDE

Section: [none]
Explanation

Explanation/Reference:
Explanation:
B: Jenkins' built-in Git Plugin or Team Foundation Server Plugin can poll a Team Services repository every few minutes and queue a job when changes are detected.

D: Use Azure DevOps/ Visual Studio Team Services to create an access token, and use th

E: For those who need tighter integration, Team Services provides two additional ways to achieve it: 1) the Jenkins Service Hook, and 2) Jenkins build and release tasks.)

References: https://blogs.msdn.microsoft.com/devops/2017/04/25/vsts-visual-studio-team-services-integration-with-jenkins/

http://www.aisoftwarellc.com/blog/post/how-to-setup-automated-builds-using-jenkins-and-visual-studio-team-foundation-server/2044

QUESTION 8
DRAG DROP

Your company has four projects. The version control requirements for each project are shown in the following table.

Project	Requirement
Project 1	Project leads must be able to restrict access to individual files and folders in the repository.
Project 2	The version control system must enforce the following rules before merging any changes to the main branch: • Changes must be reviewed by at least two project members. • Changes must be associated to at least one work team.
Project 3	The project members must be able to work in Azure Repos directly from Xcode.
Project 4	The release branch must only be viewable or editable by the project leads.

You plan to use Azure Repos for all the projects.

Which version control system should you use for each project? To answer, drag the appropriate version control systems to the correct projects. Each version control system may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Team Foundation Version Control

TFVC lets you apply granular permissions and restrict access down to a file level.

Box 2: Git
Git is the default version control provider for new projects. You should use Git for version control in your projects unless you have a specific need for centralized version control features in TFVC.

Box 3: Subversion
Note: Xcode is an integrated development environment (IDE) for macOS containing a suite of software development tools developed by Apple

Box 4: Git

Note: Perforce: Due to its multitenant nature, many groups can work on versioned files. The server tracks changes in a central database of MD5 hashes of file content, along with descriptive meta data and separately retains a master repository of file versions that can be verified through the hashes.

References: https://searchitoperations.techtarget.com/definition/Perforce-Software

https://docs.microsoft.com/en-us/azure/devops/repos/git/share-your-code-in-git-xcode

https://docs.microsoft.com/en-us/azure/devops/repos/tfvc/overview

QUESTION 9 You have an Azure Resource Manager template that deploys a multi-tier application.

You need to prevent the user who performs the deployment from viewing the account credentials and connection strings used by the application.

What should you use?

A. Azure Key Vault
B. a Web.config file
C. an Appsettings.json file
D. an Azure Storage table
E. an Azure Resource Manager parameter file

Correct Answer: A
Section: [none]
Explanation

Explanation/Reference:
Explanation:
When you need to pass a secure value (like a password) as a parameter during deployment, you can retrieve the value from an Azure Key Vault. You retrieve the value by referencing the key vault and secret in your parameter file. The value is never exposed because you only reference its key vault ID. The key vault can exist in a different subscription than the resource group you are deploying to.

References: https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-manager-keyvault-parameter

QUESTION 10
HOTSPOT

Your company is creating a suite of three mobile applications.

You need to control access to the application builds. The solution must be managed at the organization level.

What should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Microsoft Visual Studio App Center distribution Groups
Distribution Groups are used to control access to releases. A Distribution Group represents a set of users that can be managed jointly and can have common access to releases. Example of Distribution Groups can be teams of users, like the QA Team or External Beta Testers or can represent stages or rings of releases, such as Staging.

Box 2: Shared
Shared distribution groups are private or public distribution groups that are shared across multiple apps in a single organization. Shared distribution groups eliminate the need to replicate distribution groups across multiple apps.

Note: With the Deploy with App Center Task in Visual Studio Team Services, you can deploy your apps from Azure DevOps (formerly known as VSTS) to App Center. By deploying to App Center, you will be able to distribute your builds to your users.

References: https://docs.microsoft.com/en-us/appcenter/distribution/groups

QUESTION 11
DRAG DROP

You are configuring Azure DevOps build pipelines.

You plan to use hosted build agents.

Which build agent pool should you use to compile each application type? To answer, drag the appropriate build agent pools to the correct application types. Each build agent pool may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Hosted macOS
Hosted macOS pool (Azure Pipelines only): Enables you to build and release on macOS without having to configure a self-hosted macOS agent. This option affects where your data is stored.

Box 2: Hosted
Hosted pool (Azure Pipelines only): The Hosted pool is the built-in pool that is a collection of Microsoft-hosted agents.

Incorrect Answers:

Default pool: Use it to register self-hosted agents that you've set up.

Hosted Windows Container pool (Azure Pipelines only): Enabled you to build and release inside Windows containers. Unless you're building using containers, Windows builds should run in the Hosted VS2017 or Hosted pools.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/agents/v2-osx

Testlet 1

Case Study

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other question on this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next sections of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question on this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question.

Background

Contoso, Ltd. is a manufacturing company that has a main office in Chicago.

Contoso plans to improve its IT development and operations processes by implementing Azure DevOps principles. Contoso has an Azure subscription and creates an Azure DevOps organization.

The Azure DevOps organization includes:

▪ The Docker extension
▪ A deployment pool named Pool7 that contains 10 Azure virtual machines that run Windows Server 2016

The Azure subscription contains an Azure Automation account.

Contoso plans to create projects in Azure DevOps as shown in the following table.

Project name	Project details
Project 1	Project1 will provide support for incremental builds and third-party SDK components
Project 2	Project2 will use an automatic build policy. A small team of developers named Team2 will work independently on changes to the project. The Team2 members will not have permissions to Project2.
Project 3	Project3 will be integrated with SonarQube
Project 4	Project4 will provide support for a build pipeline that creates a Docker image and pushes the image to the Azure Container Registry. Project4 will use an existing Dockerfile.
Project 5	Project5 will contain a Git repository in Azure Reports and a continuous integration trigger that will initiate a build in response to any change except for changes within /folder1 of the repository.
Project 6	Project6 will provide support for build and deployment pipelines. Deployment will be allowed only if the number of current work items representing active software bugs is 0.
Project 7	Project7 will contain a target deployment group named Group7 that maps to Pool7. Project7 will use Azure Automation State Configuration to maintain the desired state of the computers in Group7.

Technical requirements

Contoso identifies the following technical requirements:

▪ Implement build agents for Project1.
▪ Whenever possible, use Azure resources.

▪ Avoid using deprecated technologies.
▪ Implement a code flow strategy for Project2 that will:
      -Enable Team2 to submit pull requests for Project2.
      -Enable Team2 to work independently on changes to a copy of Project2.
      -Ensure that any intermediary changes performed by Team2 on a copy of Project2 will be subject to the same restrictions as the ones defined in the build policy of Project2. ▪
Whenever possible implement automation and minimize administrative effort.
▪ Implement Project3, Project5, Project6, and Project7 based on the planned changes
▪ Implement Project4 and configure the project to push Docker images to Azure Container Registry.

QUESTION 1
HOTSPOT

How should you configure the filters for the Project5 trigger? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Set a [▼] /folder1.
- branch filter to exclude
- branch filter to include
- path filter to exclude
- path filter to include

Set a [▼] /.
- branch filter to exclude
- branch filter to include
- path filter to exclude
- path filter to include

@

Correct Answer:

Answer Area

Set a [path filter to exclude ▼] /folder1.

- branch filter to exclude
- branch filter to include
- **path filter to exclude**
- path filter to include

Set a [branch filter to include ▼] /.

- branch filter to exclude
- **branch filter to include**
- path filter to exclude
- path filter to include

@

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Scenario:

> Project5 will contain a Git repository in Azure Reports and a continuous
> integration trigger that will initiate a build in response to any change except for
> changes within /folder1 of the repository.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/build/triggers

QUESTION 2 In Azure DevOps, you
create Project3.

You need to meet the requirements of the project.

What should you do first?

A. From Azure DevOps, modify the build definition.
B. From SonarQube, obtain an authentication token.
C. From Azure DevOps, create a service endpoint.
D. From SonarQube, create a project.

Correct Answer: C
Section: [none]
Explanation

Explanation/Reference:
Explanation:
The first thing to do is to declare your SonarQube server as a service endpoint in your VSTS/DevOps project settings.

References: https://docs.sonarqube.org/display/SCAN/Analyzing+with+SonarQube+Extension+for+vsts-TFS **Question Set 2**

QUESTION 1
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

Your company has a project in Azure DevOps for a new web application.

You need to ensure that when code is checked in, a build runs automatically.

Solution: From the Continuous deployment trigger settings of the release pipeline, you enable the **Pull request trigger** setting.

Does this meet the goal?

A. Yes
B. No

Correct Answer: A
Section: [none]
Explanation

Explanation/Reference:
Explanation:
On the Triggers tab you specify the events that will trigger the build. You can use the same build pipeline for both CI and scheduled builds.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/build/triggers

QUESTION 2
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

Your company has a project in Azure DevOps for a new web application.

You need to ensure that when code is checked in, a build runs automatically.

Solution: From the Pre-deployment conditions settings of the release pipeline, you select **After stage**.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Use a Pull request trigger.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/build/triggers

QUESTION 3
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

Your company has a project in Azure DevOps for a new web application.

You need to ensure that when code is checked in, a build runs automatically.

Solution: From the Pre-deployment conditions settings of the release pipeline, you select **Batch changes while a build is in progress**.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Use a Pull request trigger.

Note: Batch changes
Select this check box if you have a lot of team members uploading changes often and you want to reduce the number of builds you are running. If you select this option, when a build is running, the system waits until the build is completed and then queues another build of all changes that have not yet been built.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/build/triggers

QUESTION 4
DRAG DROP

You need to use Azure Automation State Configuration to manage the ongoing consistency of virtual machine configurations.

Which five actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

NOTE: More than one order of answer choices is correct. You will receive credit for any of the correct orders you select.

Select and Place:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Step 1: Assign the node configuration.
You create a simple DSC configuration that ensures either the presence or absence of the Web-Server Windows Feature (IIS), depending on how you assign nodes.

Step 2: Upload a configuration to Azure Automation State Configuration. You
import the configuration into the Automation account.

Step 3: Compiling a configuration into a node configuration
Compiling a configuration in Azure Automation
Before you can apply a desired state to a node, a DSC configuration defining that state must be compiled into one or more node configurations (MOF document), and placed on the Automation DSC Pull Server.

Step 4: Onboard the virtual machines to Azure State Configuration
Onboarding an Azure VM for management with Azure Automation State Configuration

Step 5: Check the compliance status of the node.
Viewing reports for managed nodes. Each time Azure Automation State Configuration performs a consistency check on a managed node, the node sends a status report back to the pull server. You can view these reports on the page for that node.

On the blade for an individual report, you can see the following status information for the corresponding consistency check:
The report status — whether the node is "Compliant", the configuration "Failed", or the node is "Not Compliant" (when the node is in ApplyandMonitor mode and the machine is not in the desired state).

References: https://docs.microsoft.com/en-us/azure/automation/automation-dsc-getting-started

QUESTION 5
You have 50 Node.js-based projects that you scan by using WhiteSource. Each project includes Package.json, Package-lock.json, and Npm-shrinkwrap.json files.

You need to minimize the number of libraries reports by WhiteSource to only the libraries that you explicitly reference.

What should you do?

A. Configure the File System Agent plug-in.
B. Add a devDependencies section to Package-lock.json.
C. Configure the Artifactory plug-in.
D. Delete Package-lock.json.

Correct Answer: B
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Separate Your Dependencies
Within your package.json file be sure you split out your npm dependencies between devDependencies and (production) dependencies. The key part is that you must then make use of the --production flag when installing the npm packages. The --production flag will exclude all packages defined in the devDependencies section.

References: https://blogs.msdn.microsoft.com/visualstudioalmrangers/2017/06/08/manage-your-open-source-usage-and-security-as-reported-by-your-cicd-pipeline/

QUESTION 6 Your company deploys applications in
Docker containers.

You want to detect known exploits in the Docker images used to provision the Docker containers.

You need to integrate image scanning into the application lifecycle. The solution must expose the exploits as early as possible during the application lifecycle.

What should you configure?

A. a task executed in the continuous integration pipeline and a scheduled task that analyzes the image registry
B. manual tasks performed during the planned phase and the deployment phase
C. a task executed in the continuous deployment pipeline and a scheduled task against a running production containerD. a task executed in the continuous integration pipeline and a scheduled task that analyzes the production container

Correct Answer: A
Section: [none]
Explanation

Explanation/Reference:
Explanation:
You can use the Docker task to sign into ACR and then use a subsequent script to pull an image and scan the container image for vulnerabilities. Use
the docker task in a build or release pipeline. This task can be used with Docker or Azure Container registry.

Incorrect Answers:
C: We should not wait until deployment. We want to detect the exploits as early as possible.
D: We should wait until the image is in the product container. We want to detect the exploits as early as possible.

References: https://docs.microsoft.com/en-us/azure/devops/articles/security-validation-cicd-pipeline?view=vsts

QUESTION 7
Your company uses Azure DevOps for the build pipelines and deployment pipelines of Java-based projects.

You need to recommend a strategy for managing technical debt.

Which two actions should you include in the recommendation? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Configure post-deployment approvals in the deployment pipeline.
B. Configure pre-deployment approvals in the deployment pipeline.
C. Integrate Azure DevOps and SonarQube.
D. Integrate Azure DevOps and Azure DevTest Labs.

Correct Answer: BC
Section: [none]
Explanation

Explanation/Reference:

QUESTION 8 Your company has a hybrid cloud between Azure
and Azure Stack.

The company uses Azure DevOps for its full CI/CD pipelines. Some applications are built by using Erlang and Hack.

You need to ensure that Erlang and Hack are supported as part of the build strategy across the hybrid cloud. The solution must minimize management overhead.

What should you use to execute the build pipeline?

A. a Microsoft-hosted agent
B. Azure DevOps self-hosted agents on Azure DevTest Labs virtual machines.
C. Azure DevOps self-hosted agents on Hyper-V virtual machines
D. Azure DevOps self-hosted agents on virtual machines that run on Azure Stack

Correct Answer: D
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Azure Stack offers virtual machines (VMs) as one type of an on-demand, scalable computing resource. You can choose a VM when you need more control over the computing environment.

References: https://docs.microsoft.com/en-us/azure/azure-stack/user/azure-stack-compute-overview

QUESTION 9 You need to recommend a Docker container build strategy that meets the following
requirements:

▪ Minimizes image sizes
▪ Minimizes the security surface area of the final image

What should you include in the recommendation?

A. multi-stage builds
B. PowerShell Desired State Configuration (DSC)
C. Docker Swarm
D. single-stage builds

Correct Answer: A
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Multi-stage builds are a new feature requiring Docker 17.05 or higher on the daemon and client. Multistage builds are useful to anyone who has struggled to optimize Dockerfiles while keeping them easy to read and maintain.

Incorrect Answers:
C: A swarm consists of multiple Docker hosts which run in swarm mode and act as managers (to manage membership and delegation) and workers (which run swarm services). References:

https://docs.docker.com/develop/develop-images/multistage-build/

QUESTION 10 You are automating the build process for a Java-based application by using
Azure DevOps.

You need to add code coverage testing and publish the outcomes to the pipeline.

What should you use?

A. Cobertura
B. NUnit
C. Coverage.py
D. Coverlet

Correct Answer: A
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Use Publish Code Coverage Results task in a build pipeline to publish code coverage results to Azure Pipelines or TFS, which were produced by a build in Cobertura or JaCoCo format.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/tasks/test/publish-code-coverage-results

QUESTION 11 You plan to create an image that will contain a .NET
Core application.

You have a Dockerfile file that contains the following code. (Line numbers are included for reference only.)
```
01 FROM microsoft/dotnet:2.1-sdk
02 COPY ./
03 RUN dotnet publish -c Release -o out
04 FROM microsoft/dotnet:2.1-sdk
05 COPY -from=0 /out /
06 WORKDIR /
07 ENTRYPOINT ["dotnet", "appl.dll"]
```

You need to ensure that the image is as small as possible when the image is built.

Which line should you modify in the file?

A. 1
B. 3
C. 4
D. 7

Correct Answer: A
Section: [none]
Explanation

Explanation/Reference:

Explanation:
Multi-stage builds (in Docker 17.05 or higher) allow you to drastically reduce the size of your final image, without struggling to reduce the number of intermediate layers and files.

With multi-stage builds, you use multiple FROM statements in your Dockerfile. Each FROM instruction can use a different base, and each of them begins a new stage of the build. You can selectively copy artifacts from one stage to another, leaving behind everything you don't want in the final image.

References: https://docs.docker.com/develop/develop-images/multistage-build/#use-multi-stage-builds

QUESTION 12 You are developing an open source solution that uses a
GitHub repository.

You create a new public project in Azure DevOps.

You plan to use Azure Pipelines for continuous build. The solution will use the GitHub Checks API.

Which authentication type should you use?

A. OAuth
B. GitHub App
C. a personal access token
D. SAML

Correct Answer: A
Section: [none]
Explanation

Explanation/Reference:
Explanation:
You can authenticate as a GitHub App.

References: https://developer.github.com/apps/building-github-apps/authenticating-with-github-apps/

Testlet 1

Case Study
This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other question on this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next sections of the exam. After you begin a new section, you cannot return to this section.

To start the case study
To display the first question on this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question.

Application Architecture

The company's primary application is a single monolithic retirement fund management system based on ASP.NET web forms that use logic written in VB.NET. Some new sections of the application are written in C#.

Variations of the application are created for individual customers. Currently, there are more than 80 live code branches in the application's code base.

The application was developed by using Microsoft Visual Studio. Source code is stored in Team Foundation Server (TFS) in the main office. The branch offices access the source code by using TFS proxy servers.

Architectural Issues

Litware focuses on writing new code for customers. No resources are provided to refactor or remove existing code. Changes to the code base take a long time, as dependencies are not obvious to individual developers.

Merge operations of the code often take months and involve many developers. Code merging frequently introduces bugs that are difficult to locate and resolve.

Customers report that ownership costs of the retirement fund management system increase continually. The need to merge unrelated code makes even minor code changes expensive.

Customers report that bug reporting is overly complex.

Planned changes

Litware plans to develop a new suite of applications for investment planning. The investment planning applications will require only minor integration with the existing retirement fund management system.

The investment planning applications suite will include one multi-tier web application and two iOS mobile application. One mobile application will be used by employees; the other will be used by customers.

Litware plans to move to a more agile development methodology. Shared code will be extracted into a series of packages.

Litware has started an internal cloud transformation process and plans to use cloud-based services whenever suitable.

Litware wants to become proactive in detecting failures, rather than always waiting for customer bug reports.

Technical requirements

The company's investment planning applications suite must meet the following requirements:

▪ New incoming connections through the firewall must be minimized.
▪ Members of a group named Developers must be able to install packages.
▪ The principle of least privilege must be used for all permission assignments.
▪ A branching strategy that supports developing new functionality in isolation must be used.
▪ Members of a group named Team Leaders must be able to create new packages and edit the permissions of package feeds.
▪ Visual Studio App Center must be used to centralize the reporting of mobile application crashes and device types in use.
▪ By default, all releases must remain available for 30 days, except for production releases, which must be kept for 60 days.
▪ Code quality and release quality are critical. During release, deployments must not proceed between stages if any active bugs are logged against the release.
▪ The mobile applications must be able to call the share pricing service of the existing retirement fund management system. Until the system is upgraded, the service will only support basic authentication over HTTPS.
▪ The required operating system configuration for the test servers changes weekly. Azure Automation State Configuration must be used to ensure that the operating system on each test server is configured the same way when the servers are created and checked periodically.

Current Technical Issue

The test servers are configured correctly when first deployed, but they experience configuration drift over time. Azure Automation State Configuration fails to correct the configurations.

Azure Automation State Configuration nodes are registered by using the following command.

```
Register-AzureRmAutomationDscNode
  -ResourceGroupName 'TestResourceGroup'
  -AutomationAccountName 'LitwareAutomationAccount'
  -AzureVMName $vmanme
  -ConfigurationMode 'ApplyOnly'
```

QUESTION 1
What should you use to implement the code quality restriction on the release pipeline for the investment planning applications suite?

A. a pre-deployment approval
B. a deployment gate
C. a post-deployment approval
D. a trigger

Correct Answer: A
Section: [none]
Explanation

Explanation/Reference:
Explanation:

When a release is created from a release pipeline that defines approvals, the deployment stops at each point where approval is required until the specified approver grants approval or rejects the release (or re-assigns the approval to another user).

Scenario: Code quality and release quality are critical. During release, deployments must not proceed between stages if any active bugs are logged against the release.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/release/approvals/approvals

QUESTION 2
HOTSPOT

How should you configure the release retention policy for the investment planning applications suite? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Scenario: By default, all releases must remain available for 30 days, except for production releases, which must be kept for 60 days.

Box 1: Set the default retention policy to 30 days
The Global default retention policy sets the default retention values for all the build pipelines. Authors of build pipelines can override these values.

Box 2: Set the stage retention policy to 60 days
You may want to retain more releases that have been deployed to specific stages.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/policies/retention

Question Set 2

QUESTION 1
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an approval process that contains a condition. The condition requires that releases be approved by a team leader before they are deployed.

You have a policy stating that approvals must occur within eight hours.

You discover that deployment fail if the approvals take longer than two hours.

You need to ensure that the deployments only fail if the approvals take longer than eight hours.

Solution: From Post-deployment conditions, you modify the Time between re-evaluation of gates option.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: [none]
Explanation

Explanation/Reference:

Explanation:
Use a gate From Pre-deployment conditions instead.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/release/approvals/gates

QUESTION 2
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an approval process that contains a condition. The condition requires that releases be approved by a team leader before they are deployed.

You have a policy stating that approvals must occur within eight hours.

You discover that deployment fail if the approvals take longer than two hours.

You need to ensure that the deployments only fail if the approvals take longer than eight hours.

Solution: From Pre-deployment conditions, you modify the Time between re-evaluation of gates option.

Does this meet the goal?

A. Yes
B. No

Correct Answer: A
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Gates allow automatic collection of health signals from external services, and then promote the release when all the signals are successful at the same time or stop the deployment on timeout. Typically, gates are used in connection with incident management, problem management, change management, monitoring, and external approval systems.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/release/approvals/gates

Approvals and gates give you additional control over the start and completion of the deployment pipeline. Each stage in a release pipeline can be configured with pre-deployment and post-deployment conditions that can include waiting for users to manually approve or reject deployments, and checking with other automated systems until specific conditions are verified.

QUESTION 3
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an approval process that contains a condition. The condition requires that releases be approved by a team leader before they are deployed.

You have a policy stating that approvals must occur within eight hours.

You discover that deployment fail if the approvals take longer than two hours.

You need to ensure that the deployments only fail if the approvals take longer than eight hours.

Solution: From Pre-deployment conditions, you modify the Timeout setting for pre-deployment approvals.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Use a gate instead of an approval instead.

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/release/approvals/gates

QUESTION 4
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You plan to create a release pipeline that will deploy Azure resources by using Azure Resource Manager templates. The release pipeline will create the following resources:

▪ Two resource groups
▪ Four Azure virtual machines in one resource group ▪
Two Azure SQL databases in other resource group

You need to recommend a solution to deploy the resources.

Solution: Create two standalone templates, each of which will deploy the resources in its respective group.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Use a main template and two linked templates.

References: https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-linked-templates

QUESTION 5
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You plan to create a release pipeline that will deploy Azure resources by using Azure Resource Manager templates. The release pipeline will create the following resources:

▪ Two resource groups
▪ Four Azure virtual machines in one resource group ▪
Two Azure SQL databases in other resource group

You need to recommend a solution to deploy the resources.

Solution: Create a main template that will deploy the resources in one resource group and a nested template that will deploy the resources in the other resource group.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Use two linked templates, instead of the nested template.

References: https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-linked-templates

QUESTION 6
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You plan to create a release pipeline that will deploy Azure resources by using Azure Resource Manager templates. The release pipeline will create the following resources:

▪ Two resource groups
▪ Four Azure virtual machines in one resource group ▪
Two Azure SQL databases in other resource group

You need to recommend a solution to deploy the resources.

Solution: Create a main template that has two linked templates, each of which will deploy the resource in its respective group.

Does this meet the goal?

A. Yes
B. No

Correct Answer: A
Section: [none]

Explanation

Explanation/Reference:
Explanation:
To deploy your solution, you can use either a single template or a main template with many related templates. The related template can be either a separate file that is linked to from the main template, or a template that is nested within the main template.

References: https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-linked-templates

QUESTION 7
HOTSPOT

You have a project in Azure DevOps.

You plan to create a build pipeline that will deploy resources by using Azure Resource Manager templates. The templates will reference secrets stored in Azure Key Vault.

You need to ensure that you can dynamically generate the resource ID of the key vault during template deployment.

What should you include in the template? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: "Microsoft.Resources/deployments"
Reference a secret with dynamic ID. You need to reference a key vault secret that varies based on the current deployment.

Example:
 "resources": [
    {
        "apiVersion": "2018-05-01",
        "name": "dynamicSecret",
        "type": "Microsoft.Resources/deployments",
        "properties": {
            "mode": "Incremental",
            "templateLink": {

Box 2: "templateLink"
In your parent template, you add the linked template and pass in a parameter that contains the dynamically generated resource ID.

References: https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-manager-keyvault-parameter

QUESTION 8 Your company has a project in Azure DevOps for a new
web application.

The company uses ServiceNow for change management.

You need to ensure that a change request is processed before any components can be deployed to the production environment.

What are two ways to integrate ServiceNow into the Azure DevOps release pipeline? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

A. Define a deployment control that invokes the ServiceNow REST API.

B. Define a pre-deployment gate before the deployment to the Prod stage.
C. Define a deployment control that invokes the ServiceNow SOAP API.
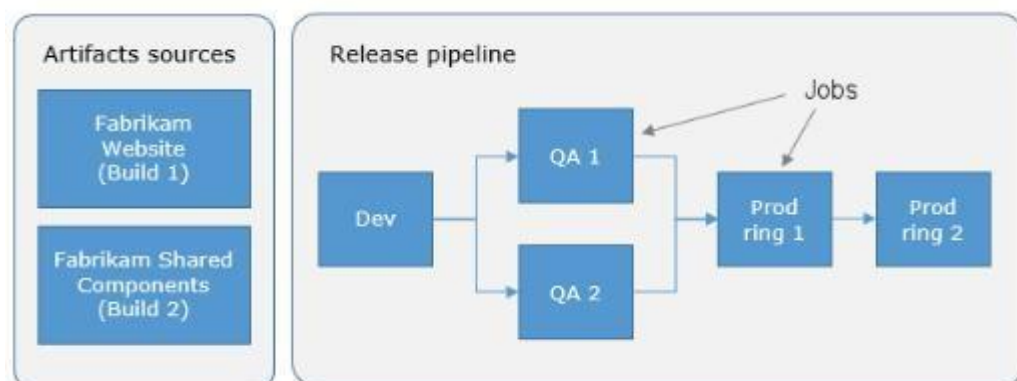D. Define a post-deployment gate after the deployment to the QA stage.

Correct Answer: BD
Section: [none]
Explanation

Explanation/Reference:
Explanation:
An example of a release pipeline that can be modeled through a release pipeline in shown below:

In this example, a release of a website is created by collecting specific versions of two builds (artifacts), each from a different build pipeline. The release is first deployed to a Dev stage and then forked to two QA stages in parallel. If the deployment succeeds in both the QA stages, the release is deployed to Prod ring 1 and then to Prod ring 2. Each production ring represents multiple instances of the same website deployed at various locations around the globe. References: https://docs.microsoft.com/en-us/azure/devops/pipelines/release

QUESTION 9
HOTSPOT

You are configuring a release pipeline in Azure DevOps as shown in the exhibit.
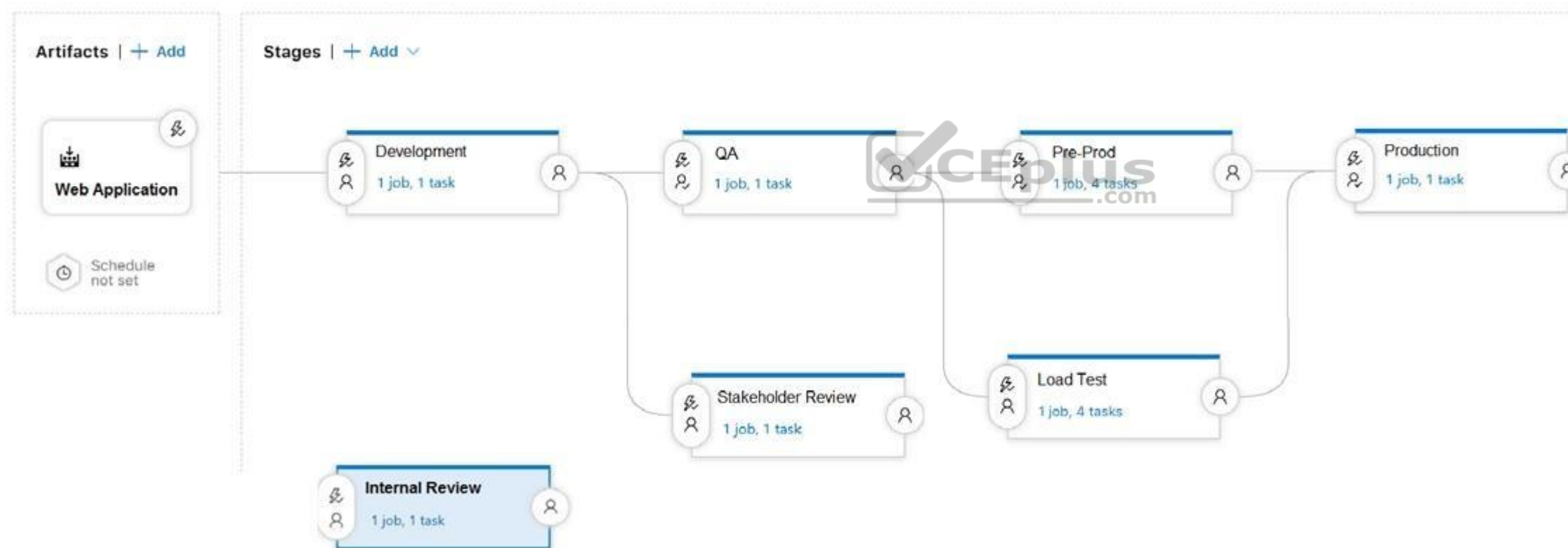
Use the drop-down menus to select the answer choice that answers each question based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: 5
There are five stages: Development, QA, Pre-production, Load Test and Production. They all have triggers.

Box 2: The Internal Review stage

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/release/triggers

QUESTION 10

DRAG DROP

Your company plans to deploy an application to the following endpoints:

▪ Ten virtual machines hosted in Azure
▪ Ten virtual machines hosted in an on-premises data center environment

All the virtual machines have the Azure Pipelines agent.

You need to implement a release strategy for deploying the application to the endpoints.

What should you recommend using to deploy the application to the endpoints? To answer, drag the appropriate components to the correct endpoints. Each component may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: A deployment group
When authoring an Azure Pipelines or TFS Release pipeline, you can specify the deployment targets for a job using a deployment group.
If the target machines are Azure VMs, you can quickly and easily prepare them by installing the Azure Pipelines Agent Azure VM extension on each of the VMs, or by using the Azure Resource Group Deployment task in your release pipeline to create a deployment group dynamically.

Box 2: A deployment group

References: https://docs.microsoft.com/en-us/azure/devops/pipelines/release/deployment-groups

Question Set 1

QUESTION 1
You plan to share packages that you wrote, tested, validated, and deployed by using Azure Artifacts.

You need to release multiple builds of each package by using a single feed. The solution must limit the release of packages that are in development.

What should you use?

A. local symbols
B. views
C. global symbols
D. upstream sources

Correct Answer: D
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Upstream sources enable you to manage all of your product's dependencies in a single feed. We recommend publishing all of the packages for a given product to that product's feed, and managing that product's dependencies from remote feeds in the same feed, via upstream sources. This setup has a few benefits:
▪ Simplicity: your NuGet.config, .npmrc, or settings.xml contains exactly one feed (your feed).
▪ Determinism: your feed resolves package requests in order, so rebuilding the same codebase at the same commit or changeset uses the same set of packages
▪ Provenance: your feed knows the provenance of packages it saved via upstream sources, so you can verify that you're using the original package, not a custom or malicious copy published to your feed
▪ Peace of mind: packages used via upstream sources are guaranteed to be saved in the feed on first use; if the upstream source is disabled/removed, or the remote feed goes down or deletes a package you depend on, you can continue to develop and build

References: https://docs.microsoft.com/en-us/azure/devops/artifacts/concepts/upstream-sources?view=vsts

QUESTION 2
Your company is concerned that when developers introduce open source libraries, it creates licensing compliance issues.

You need to add an automated process to the build pipeline to detect when common open source libraries are added to the code base.

What should you use?

A. Microsoft Visual SourceSafe
B. PDM
C. WhiteSource
D. OWASP ZAP

Correct Answer: C
Section: [none]
Explanation

Explanation/Reference:
Explanation:
WhiteSource is the leader in continuous open source software security and compliance management. WhiteSource integrates into your build process, irrespective of your programming languages, build tools, or development environments. It works automatically, continuously, and silently in the background, checking the security, licensing, and quality of your open source components against WhiteSource constantly-updated definitive database of open source repositories.

Azure DevOps integration with WhiteSource Bolt will enable you to:

1. Detect and remedy vulnerable open source components.
2. Generate comprehensive open source inventory reports per project or build.
3. Enforce open source license compliance, including dependencies' licenses.
4. Identify outdated open source libraries with recommendations to update.

References: https://www.azuredevopslabs.com/labs/vstsextend/WhiteSource/

Question Set 1

QUESTION 1
DRAG DROP

You have an Azure Kubernetes Service (AKS) implementation that is RBAC-enabled.

You plan to use Azure Container Instances as a hosted development environment to run containers in the AKS implementation.

You need to configure Azure Container Instances as a hosted environment for running the containers in AKS.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Step 1: Create a YAML file.
If your AKS cluster is RBAC-enabled, you must create a service account and role binding for use with Tiller. To create a service account and role binding, create a file named rbac-virtual-kubelet.yaml

Step 2: Run kubectl apply.
Apply the service account and binding with kubectl apply and specify your rbac-virtual-kubelet.yaml file.

Step 3: Run helm init.
Configure Helm to use the tiller service account: helm

init --service-account tiller

You can now continue to installing the Virtual Kubelet into your AKS cluster.

References: https://docs.microsoft.com/en-us/azure/aks/virtual-kubelet

Your company uses ServiceNow for incident management.

You develop an application that runs on Azure.

The company needs to generate a ticket in ServiceNow when the application fails to authenticate.

Which Azure Log Analytics solution should you use?

A. Application Insights Connector
B. Automation & Control
C. IT Service Management Connector (ITSM)
D. Insight & Analytics

Correct Answer: C
Section: [none]
Explanation

Explanation/Reference:
Explanation:
The IT Service Management Connector (ITSMC) allows you to connect Azure and a supported IT Service Management (ITSM) product/service.

ITSMC supports connections with the following ITSM tools:
▪ ServiceNow

Question Set 1

QUESTION 1
- System Center Service Manager
- Provance
- Cherwell

With ITSMC, you can
- Create work items in ITSM tool, based on your Azure alerts (metric alerts, Activity Log alerts and Log Analytics alerts).
- Optionally, you can sync your incident and change request data from your ITSM tool to an Azure Log Analytics workspace. References:

https://docs.microsoft.com/en-us/azure/azure-monitor/platform/itsmc-overview

QUESTION 2
HOTSPOT

Your company is building a new web application.

You plan to collect feedback from pilot users on the features being delivered.

All the pilot users have a corporate computer that has Google Chrome and the Microsoft Test & Feedback extension installed. The pilot users will test the application by using Chrome.

You need to identify which access levels are required to ensure that developers can request and gather feedback from the pilot users. The solution must use the principle of least privilege.

Which access levels in Azure DevOps should you identify? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Basic

Assign Basic to users with a TFS CAL, with a Visual Studio Professional subscription, and to users for whom you are paying for Azure Boards & Repos in an organization.

Box 2: Stakeholder
Assign Stakeholders to users with no license or subscriptions who need access to a limited set of features.

Note:
You assign users or groups of users to one of the following access levels:

Basic: provides access to most features
VS Enterprise: provides access to premium features
Stakeholders: provides partial access, can be assigned to unlimited users for free

References: https://docs.microsoft.com/en-us/azure/devops/organizations/security/access-levels?view=vsts

QUESTION 3 You use Azure SQL Database Intelligent Insights and Azure Application Insights
for monitoring.

You need to write ad-hoc queries against the monitoring data.

Which query language should you use?

A. Azure Log Analytics
B. PL/pgSQL
C. PL/SQL
D. Transact-SQL

Correct Answer: A
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Data analysis in Azure SQL Analytics is based on Log Analytics language for your custom querying and reporting. References:

https://docs.microsoft.com/en-us/azure/azure-monitor/insights/azure-sql

QUESTION 4 You have a multi-tier application that has an Azure Web Apps front end and an Azure SQL
Database back end.

You need to recommend a solution to capture and store telemetry data. The solution must meet the following requirements:

▪ Support using ad-hoc queries to identify baselines.
▪ Trigger alerts when metrics in the baseline are exceeded.
▪ Store application and database metrics in a central location.

What should you include in the recommendation?

A. Azure Event Hubs
B. Azure SQL Database Intelligent Insights
C. Azure Application Insights
D. Azure Log Analytics

Correct Answer: D
Section: [none]
Explanation

Explanation/Reference:
Explanation:
Azure Platform as a Service (PaaS) resources, like Azure SQL and Web Sites (Web Apps), can emit performance metrics data natively to Log Analytics.
The Premium plan will retain up to 12 months of data, giving you an excellent baseline ability.

There are two options available in the Azure portal for analyzing data stored in Log analytics and for creating queries for ad hoc analysis.

Incorrect Answers:
B: Intelligent Insights analyzes database performance by comparing the database workload from the last hour with the past seven-day baseline workload. However, we need handle application metrics as well.

References: https://docs.microsoft.com/en-us/azure/azure-monitor/platform/collect-azurepass-posh

QUESTION 5 Your company creates a
web application.

You need to recommend a solution that automatically sends to Microsoft Teams a daily summary of the exceptions that occur in the application.

Which two Azure services should you recommend? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Azure Logic Apps
B. Azure Pipelines
C. Microsoft Visual Studio App Center
D. Azure DevOps Project
E. Azure Application Insights

Correct Answer: AE
Section: [none]
Explanation

Explanation/Reference:
Explanation:
E: Exceptions in your live web app are reported by Application Insights.

Note: Periodical reports help keep a team informed on how their business critical services are doing. Developers, DevOps/SRE teams, and their managers can be productive with automated reports reliably delivering insights without requiring everyone to sign in the portal. Such reports can also help identify gradual increases in latencies, load or failure rates that may not trigger any alert rules.

A: You can programmatically query Application Insights data to generate custom reports on a schedule. The following options can help you get started quickly:
▪ Automate reports with Microsoft Flow ▪ Automate reports with Logic Apps

References: https://docs.microsoft.com/en-us/azure/azure-monitor/app/asp-net-

exceptions https://docs.microsoft.com/en-us/azure/azure-monitor/app/automate-custom-

reports