



Number: AD0-E116 Passing Score: 800 Time Limit: 120 min



Exam Code: AD0-E116

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QUESTION 1

An application contains an OSGi configuration that contains a password.

How should a developer prevent this sensitive information from being stored in plain text in JCR?

- A. 1. Use console at /system/console/crypto to encrypt the value
- 2. Either create an encrypted value for each AEM instance and use runmodes to apply the different values or make sure relevant instances share the same master key
- 3. When loading the value in the code, call CryptoSupport.unprotect(_) before using the value
- B. 1. Use console at /system/console/configMgr and tick the checkbox "encrypt" before saving a configuration
- 2. Use encrypted values work across all instances
- 3. When loading the value in the code, call CryptoSupport.unprotect(...) before using the value
- C. 1. Use console at /system/console/crypto to encrypt the value
- 2. Either create an encrypted value for each AEM instance and use runmodes to apply the different values or make sure relevant instances share the same master key
- 3. Sensitive information is automatically decrypted using the CryptoSupport OSGi service before the value is returned
- D. 1. Use console at /system/console/configMgr and tick the checkbox "encrypt" before saving a configuration
 - 2. Either create an encrypted value for each AEM instance and use runmodes to apply the different values or make sure relevant instances share the same master key
 - 3. Sensitive information is automatically decrypted using the CryptoSupport OSGi service before the value is returned

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 2

A custom bundle of an application is in state "Installed" after deploying it with Maven. What should a developer do to change it to state "Active"?

- A. Use the "Start" action for the bundle in the Apache Felix Web Console
- B. Ensure all OSGi requirements are met and re-deploy using Maven
- C. Use the "Update" action for the bundle in the Apache Felix Web Console
- D. Reinstall the content package using the package manager

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 3

A developer needs to implement a header component for a website. The component has the following requirements:

- The component should be configured once on the page highest in the hierarchy.
- The header component on pages lower in the hierarchy should look the same and show the same data.
- If necessary, the configuration can be overwritten on a child page.
- The component should show a list of links that are configured in the header component.

Which code snippet for returning the list of pages should the developer use?

- A. "public String[] getHeaderLinks(Page page) { final Resource pageContent = page.getContentResource(); final ComponentInheritanceValueMap properties = ComponentInheritanceValueMap(pageContent); return properties.get (HEADER_PAGE_LIST, String[].class);

 ""
- B. "public String[] getHeaderLinks(Resource componentResource) { final ComponentInheritanceValueMap properties = componentResource.adaptTo(ComponentInheritanceValueMap.class); return properties.getInherited (HEADER_PAGE_LIST, String[].class);
- C. "public String[] getHeaderLinks(Resource componentResource) { final HierarchyNodeInheritanceValueMap properties = new HierarchyNodeInheritanceValueMap (componentResource); return properties.getInherited(HEADER_PAGE_LIST, String[].class);
- D. "public String[] getHeaderLinks(Resource componentResource) { final HierarchyNodeInheritanceVauleMap properties = componentResource.adaptTo(HierarchyNodeInheritanceVauleMap.class); return properties.getInherited





(HEADER_PAGE_LIST, String[].class);

Correct Answer: C Section: (none) **Explanation**

Explanation/Reference:

Explanation:

QUESTION 4

A developer is creating a custom component on the page /latestBlogs.html that needs to list all the titles of the blogs pages under /content/blogs. How does this component get the list of child pages?

- A. Instantiate a node object with session.getNode(/content/blogs) and then iterate through the child nodes and print the title for each.
- B. Use the QueryDebugger to look for all children of /content/blogs and then iterate through the result set and print the title for each.
- C. Adapt the resourceResolver to the PageManger service, then use the getPage(/content/blogs) to instantiate a Page object and then iterate through the child pages and print the title for each.
- D. Use PageManager.getPage("/content/blogs") of the static PageManager class to instantiate a Page object and then iterate through the child pages and print the title for each.

Correct Answer: B Section: (none) **Explanation**

Explanation/Reference:

Explanation:

QUESTION 5

A developer is working with the following HTL expression in a component rendering script: \${'path/page.infinity.json' @extension = 'html', removeSelectors = ['foo'], selectors = ['foo', 'bar'], prependSuffix = 'hello', suffix = 'world' }

A. path/page.foo.bar.html/hello/world

B. path/page.infinity.json.bar.html/world

What is the expected output of this expression?

C. path/page.bar.html/hello/world

D. path/page.bar.html/world

Correct Answer: C Section: (none) **Explanation**

Explanation/Reference:

Explanation:

A custom AEM application has a run time dependency to a third party OSGi bundle that is NOT included in out-of-the-box AEM. The third party dependency needs to be available for multiple applications and be upgraded separately from the custom AEM application.

How should a developer make sure that the bundle is installed on all environments?

- A. Add the dependency to the third party bundle in pom.xml of the project bundle
- B. Embed the third party bundle in the bundle that depends on it
- C. Embed the bundle in a content package to have it automatically deployed
- D. Declare the dependency correctly using a link to the OSGi Bundle Reposirory (OBR)

Correct Answer: C Section: (none) **Explanation**





Explanation/Reference:

Explanation:

QUESTION 7

A developer is working on a complex project with multiple bundles. One bundle provides an OSGi service for other bundles. Which two options are necessary to ensure that the other bundles can reference that OSGi service? (Choose two.)

- A. The bundles consuming the service need to import the fully qualified name of the service interface.
- B. The bundle providing the service needs to contain an adequate SCR descriptor file.
- C. The bundle providing the service needs to export the java package of the service interface.
- D. The bundle providing the service needs to contain a whitelist of allowed consumer bundles.
- E. The service needs to correctly declare metatype information.

Correct Answer: AC Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 8

A developer has a component named foobar with the following file: foobar.html: <div data-one="\${'foo'}" data-two="\${2}" data-three="\${true}"></div> <div data-one="\${"}" data-two="\${0}" data-three="\${false}"></div> What is the output when the component is rendered?

- A. "<div data-one=""foo" data-two=""2" data-three=""true""></div>
 <div data-one=""" data-two=""0" data-three=""false""></div>
- B. "<div data-one=""foo" data-two=2 data-three=""""></div>
 <div data-one=""" data-two=0 data-three=""""></div>
- C. "<div data-one=""foo"" data-two=""2"" data-three></div>
 <div data-two=""0""></div>"
- D. "<div data-one=""foo"" data-two=2 data-three=""""></div>
 <div data-two=0 data-three=""""></div>"

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 9

An AEM site experiences slower page loads. A developer needs to identify the slow running requests. How should a developer analyze the requests with long response times?

- A. Use proxy.jar with the following command java -jar proxy.jar <host> <remoteport> <localport> to debug the webserver and AEM server communication
- B. Use rlog.jar with the following command \$ java -jar ../opt/helpers/rlog.jar -n 10 request.log to identify long running requests
- C. Download Heapdumps from Tools > Operations > Diagnosis and analyze the Heapdumps using the Memory Analyzer Tool
- D. Embed /libs/foundation/components/timing component in the Page Component and verify the page load time

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Explanation:



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QUESTION 10

Which log file should a developer use to search for exception stacktraces?

- A. <aem-install>/crx-quickstart/logs/error.log
- B. <aem-install>/crx-quickstart/logs/request.log
- C. <aem-install>/crx-quickstart/logs/access.log
- D. <aem-install>/crx-quickstart/logs/info.log

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 11

The dependency of an AEM project fails when a developer configures using Apache Maven. Refer to the error information below.

[ERROR] COMPILATION ERROR :

[ERROR]

/training/core/src/main/java/com/adobe/training/core/filters/LoggingFilter.java:[18,28] package org.apache.sling.api does not exist [ERROR] /training/core/src/main/java/com/adobe/training/core/filters/LoggingFilter.java:[26,28] package org.apache.sling.api does not exist [ERROR] /training/core/src/main/java/com/adobe/training/core/src

/training/core/src/main/java/com/adobe/training/core/models/HelloWorldModel.java:[25,33] package org.apache.sling.api.settings does not exist [ERROR]

/training/core/src/main/java/com/adobe/training/core/models/HelloWorldModel.java:[31,13] cannot find symbol symbol: class SlingSettingsService location: class com.adobe.training.core.models.HelloWorldModel What should a developer add to the pom.xml to fix the Maven build?

A. "<dependency>

<groupId>com.adode.aem</groupId>

<artifactId>aem-api</artifactId>

<version>6.4.0</version>

<classifier>apis</classifier>

<scope<pre>rovided</scope>

</dependency>"

B. "<dependency>

<groupId>com.adode.aem

<artifactId>uber-jar</artifactId>

<version>6.4.0</version>

<classifier>apis</classifier>

<scope<pre>rovided</scope>

</dependency>"

C. "<resources>

<resource>

<directory>src/main/content/jcr_root</directory>

<filtering>false</filtering>

<excludes>

<exclude>**/.vlt</exclude>

<exclude>**/.vltignore</exclude>

<exclude>libs</exclude>

</excludes>

</resource>

</resources>"

"<repositories>

D. <repository>

<id>adobe-public-releases</id>

<name>Adobe Public Repository</name>

<url>https://repo.adobe.com/nexus/content/groups/public/</url>

<layout>default</layout>

</repository>

</repositories>"



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Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 12

AEM is installed in \$AEM HOME.

In which subfolder are the command line startup and shutdown scripts located?

A. \$AEM_HOME/

B. \$AEM_HOME/crx-quickstart/scripts

C. \$AEM_HOME/crx-quickstart/opt/

D. \$AEM HOME/crx-quickstart/bin/

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 13

Two AEM publish instances feed a single Dispatcher.

Which part of the Dispatcher configuration should a developer review to ensure both AEM publish instances are used?

A. virtualhosts

B. farms

C. filter

D. cache

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 14

In which maven build phase is the content package assembled?

A. install

B. compile

C. package

D. deploy

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 15

The developer is presented with a component "Component A" which inherits from a component "Component B". The dialog of Component A on path ../cq:dialog/../../items looks like:

+ align

- jcr:primaryType="nt:unstructured"





```
- sling:resourceType="granite/ui/components/coral/foundation/form/select"
- fieldLabel="Align Text"
- name="./align"
The dialog of Component B on path ../cq:dialog/../../items looks like:
- jcr:primaryType="nt:unstructured"
- sling:resourceType="granite/ui/components/coral/foundation/form/textarea"
- fieldLabel="Title"
- name="./title"
+ description
jcr:primaryType="nt:unstructured"
- sling:resourceType="granite/ui/components/coral/foundation/form/textarea"
- fieldLabel="Description"
- name="./description"
The requirement for the dialog is that the *Align Text* field is shown after the *Title* field.
What should the developer do without changing Component B?
A. Move the align node from Component A to Component B and order them according the requirements.
B. Move all the nodes under the item node from Component B to Component A and order them according the requirements.
C. Extend Component B with the functionality of Component A
D. Add the property sling:orderBefore="description" to the align node.
Correct Answer: D
Section: (none)
Explanation
Explanation/Reference:
Explanation:
QUESTION 16
A developer is working on the following Sling Model that is being used in a component.
@Model(adaptables = SlingHttpServletRequest.class, defaultInjectionStrategy = DefaultInjectionStrategy.OPTIONAL)
public class SampleModel {
@Inject
private Page currentPage;
private boolead matchingTitle;
@PostConstruct
private void init(){
matchingTitle = title.equals(currentPage.getName());
public boolean isMatchingTitle(){
return matchingTitle;
The model must check if the configured value of the jct:title property for the component matches the same name of the current page. If the jcr:title property of the component has NOT been configured, then isMatchingTitle() must return
How should the developer inject the title property in this model?
A. "@ValueMapValue
  @Via(""jcr:title"")
   @Required private String titile;"
B. "@ValueMapValue
   @Named(""jcr:title"")
   @Default(values = """") private String titile;"
C. "@ValueMapValue
  @Named(""jcr:title"")
   @Required private String titile;"
D. "@ValueMapValue
  @Via(""jcr:title"")
  @Default(values = """") private String titile;"
```





Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 17

How should a developer configure the replication agent to flush the dispatcher cache for a newly activated page?

- A. Create a dispatcher flush agent in publish instance
- B. Create a reverse replication agent on the author instance
- C. Create a new replication agent and set transport URI to point to the dispatcher
- D. Set the serialization type property of the default agent to dispatcher flush

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 18

In which two ways can a developer keep simple and maintanable CRX Access Control Lists? (Choose two) Use Deny statements extensively

- A. Delete the 'everyone' group
- B. Use Deny statements sparingly
- C. Assign access rights to user groups rather than users
- D. Assign access rights user by user

Correct Answer: AD Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 19

A developer determines that the dispatcher is NOT refreshing the cached page /content/sampleproject/sample.html after it is updated.

The dispatcher.any contains the following entries:

```
Ine dispatcher.any contains the following entries:
/cache
{
/docroot "/opt/dispatcher/cache"
/statfile "/tmp/dispatcher-website.stat"
/statfileslevel "2"
/rules
{
/0000 { /glob "*" /type "allow" }
}
/invalidate
{
/0000 { /glob "*" /type "deny" }
}
Refer to the $DOCROOT directory below:
[user@group /opt/dispatcher/cache]$ Is -la
total 2
drwxr-xr-x. 5 apache apache 4096 Feb 11 11:41 .
drwxr-xr-x. 3 apache apache 4096 Nov 29 16:07 ..
drw-r--r--. 4 root root 4096 Feb 7 03:21 content
```





-rw-r--r-. 1 apache apache 0 Feb 7 03:19 .stat

The dispatcher needs to cache the page and refresh it after it gets updated.

What action should the developer take to meet these requirements?

- A. Add the entry /0001 { /glob "*.html" /type "allow" } in the /invalidate section
- B. Change the value of the entry /statfileslevel to "3"
- C. Delete the contents of the DOCROOT directory
- D. Remove /statfile or /statfileslevel

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 20

After a recent code deployment, an AEM site is experiencing longer than usual query execution time.

The deployment package contained some new Lucene index definitions. A developer needs to identify the long running queries and confirm that the new index definitions are getting applied correctly. Which action should the developer take to investigate this problem?

- A. Goto Tools > Operations > Diagnosis > Log Messages. Configure DEBUG log level on com.day.cq.search to monitor search queries.
- B. Goto Tools > Operations > Diagnosis > Query Performance > Slow Queries. Select a Query and Click on Explain
- C. Goto Tools > Operations > Diagnosis > Index Manager. Select the new Indexes and run a consistency check.
- D. Goto Tools > Operations > Diagnosis > Download Thread Dumps. Analyze the Thread Dumps to identify long running requests.

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 21

The following stack trace is written in the error.log file after installing a custom application package.

Could not start bundle com.adobe.cq.sample-bundle [526]. Reason: {}. Will retry. org.osgi.framework.BundleException: Unable to resolve com.adobe.cq.sample-bundle [526](R 526.0): missing requirement [com.adobe.cq.sample-bundle] osgi.wiring.package What are two different ways that the developer could resolve the OSGi bundle dependency error? (Choose two)

- A. Go to the Dependency Finder in the System Console to find if another bundle is exporting a similar version of the classes and change the project pom.xml to match the same version
- B. Install the jar in AEM via the curl command 'curl -u username:password -F file=@"./com.example.customlib-3.8.jar" -F name="Dependency" -F force=true -F install=true http://localhost:4502/crx/packmgr/service.jsp --progress-bar -o upload.txt'
- C. Create a folder named "deploy" under \$AEM_HOME/crx-quickstart/ and copy com.example.customlib-3.8.jar in there so AEM uploads it automatically
- D. Go to the project parent pom.xml file and add the dependency with the scope "compile" and instruct the bundle plugin to include the dependency in runtime
- E. Upload the file com.example.customlib-3.8.jar into /apps//cproject/libs folder in CRX DE to make it available for the OSGi bundle

Correct Answer: AD Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 22

A developer creates an OSGi service to access JCR content. Refer to the code snippet from the OSGi service below. public class AccessRepository { private static final String SERVICE_ACCOUNT_IDENTIFIER = "sample-service"; ... private final String getServiceUser() { final Map<string, object=""> authInfo = Collections.singletonMap(ResourceResolverFactory.SUBSERVICE, (Object) SERVICE_ACCOUNT_IDENTIFIER); ResourceResolver serviceResolver = resourceResolverFactory.getServiceResolver(authInfo))





Bundle ID = com.adobe.aem.samples-bundle

Which set of steps should the developer take to make sure that the code works?

- A. "1. Create a System User called systemUser with appropriate ACLs
- 2. Modify the Apache Sling Service User Mapper Service
- Set user.default to com.adobe.aem.samples-bundle:sample-service=systemUser
- B. "1. Create an AEM User called systemUser with appropriate ACLs
- 2. Modify the Apache Sling Service User Mapper Service
- 3. Set user.default to com.adobe.aem.samples-bundle:sample-service=systemUser"
- C. "1. Create a System User called systemUser with appropriate ACLs
- 2. Modify the Apache Sling Service User Mapper Service Amendment
- 3. Set user.default to com.adobe.aem.samples-bundle:sample-service=systemUser"
- D. "1. Create an AEM User called systemUser with appropriate ACLs
- 2. Modify the Apache Sling Service User Mapper Service Amendment
- 3. Set user.default to com.adobe.aem.samples-bundle:sample-service=systemUser"

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 23

A Client-Side Library has the category "library.example".

Which HTL statement should a developer use to reference only the CSS files of this Client-Side library

- A. <sly data-sly-use.clientlib="/libs/granite/sightly/templates/clientlib.html" data-slycall="\${ clientlib.css @ categories='library.example'}"/>
- B. <sly data-sly-use.clientlib="/libs/granite/sightly/templates/clientlib.html" data-slycall="\${ clientlib.css @ category='library.example'}"/>
- C. <sly data-sly-use.clientlib="/libs/granite/sightly/templates/clientlib.html" data-slycall="\${ clientlib.all @ type='css' categories='library.example'}"/>
- D. <sly data-sly-use.clientlib="/libs/granite/sightly/templates/clientlib.html" data-slycall="\${ clientlib.all @ categories='library.example.css'}"/>

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 24

A custom AEM application contains a service component that needs to access the JCR repository within the activate method. The activate method uses ResourceResolverFactory.getServiceResourceResolver(...) without specifying a subservice name.

What should a developer do to make sure the user service mapping for the service component is available?

- A. Create a field of type ServiceUserMapper and annotate it with @Reference using ReferencePolicy.STATIC
- B. Wait for the service ServiceUserMapper via BundleContext.getServiceReference(...)
- C. Create a field of type ServiceUserMapped and annotate it with @Reference using ReferencePolicy.DYNAMIC
- D. Create a field of type ServiceUserMapped and annotate it with @Reference

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 25

A developer creates a template-type for building editable templates.

The resulting editable templates and pages must always contain a specific layout container that can NOT be deleted by the author. How should the developer meet this requirement?





- A. Add the layout container component to the structure section of the template-type
- B. Add the layout container component by including it on the actual page component
- C. Add a content policy to the template-type to disable the removal of the layout container
- D. Add the layout container component to the initial section of the template-type

Correct Answer: D Section: (none) **Explanation**

Explanation/Reference:

Explanation:

QUESTION 26

A developer creates a Sling Servlet. The Sling Servlet is bound to a path (/service/sling/sample).

Refer to the resulting code below.

@Component (immediate=true, service = {Servlet.class})

@SlingServletPaths(value = {"/service/sling/sample"})

What should the developer do to make the servlet access controlled using the default ACLs?

- A. Add @SlingServletPrefix (value = "/apps") annotation
- B. Use @SlingServletResourceTypes instead of @SlingServletPaths
- C. Modify @SlingServletPaths(value = {"/bin/sling/sample"})
- D. Add @SlingServletName(servletName = "AccessControlServlet") annotation

Correct Answer: B Section: (none) **Explanation**

Explanation/Reference:

Explanation:

QUESTION 27

Refer to the following Client Library node structure.

- +clientlibs
- jcr:primaryType="cq:ClientLibraryFolder"
- categories="[clientlibs.example]"
- + js.txt
- jcr:primaryType="nt:file"
- + css.txt
- jcr:primaryType="nt:file"
- jcr:primaryType="nt:folder"
- javascript1.js
- javascript2.js

The js.txt looks like javascript1.js javascript2.js The JavaScript is NOT present in the Client Library when it is loaded.

What should a developer do to resolve this issue?

- A. Change the js folder to a Client Library node and add the property categories = "[clientlibs.example]"
- B. Change the js folder to a Client Library node and embed it on the clientlibs node
- C. Add #base=is as the first line in the is.txt file
- D. Split the js and css into 2 Client Libraries since they can't be in the same Client Library

Correct Answer: C Section: (none) **Explanation**

Explanation/Reference:

Explanation:





QUESTION 28

A banking AEM application contains functionality to calculate a mortgage rate based on user input. A servlet in place calculates the result in the backend. A call to an internal third-party REST service is required to retrieve the average object value based on a given zip code.

The following three service interfaces are used:

MortgageCalculationServlet, MortgageCalculationService and ObjectValueLookupRestService where MortgageCalculationServlet has a dependency to MortgageCalculationService and MortgageCalculationService has a dependency to ObjectValueLookupRestService.

The calculation has many combinations of input parameters and edge cases, so the JUnit coverage must be as high as possible.

Which two strategies should the developer use to ensure testability of the application code? (Choose two)

- A. Use the standard OSGi @Reference annotation to wire the dependencies in application code
- B. Use BundleContext.getServiceReference(...) and BundleContext.getService(...) in application code to look up for the required services just before usage
- C. Deploy a third party dependency injection container to wire dependencies more efficiently in application code
- D. Use a mock framework to be able to create and inject mocks in the test code
- E. Use static methods to avoid boilerplate in application code

Correct Answer: AD Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 29

A custom application contains a service component com.proj.ServiceComponent. A developer needs to configure the string value name and integer value intVal. The actual configuration must be deployed using a content package. What should the developer do to meet these requirements?

- A. "Use a file com.proj.ServiceComponent.cfg with content name=""Service name"" intVal=I""5"""
- B. "Use a file com.proj.ServiceComponent.config with content name=""Service name"" intVal=I""5"""
- C. "Use a file com.proj.ServiceComponent.xml with content <?xml version=""1.0"" encoding=""UTF-8""?>
- <jcr:root jcr:primaryType=""sling:OsgiConfig"" name=""Service Name"" intVal=""5""/>"
- D. "Use a file com.proj.ServiceComponent.xml with content
- <?xml version=""1.0"" encoding=""UTF-8""?>
- <jcr:root xmlns:jcr=""http://www.jcp.org/jcr/1.0"" jcr:primaryType=""sling:OsgiConfig""name=""Service Name""intVal=""{Integer}5""/>"

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Explanation:

QUESTION 30

What is not available in globel.jsp?

A. currentPage

B. currentNode

C. currentDesign

D. currentResource

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Explanation:

