1. Tomcat server adapter shipped with developer studio (DXP and community).Corret
2. Commercial database JDBC drivers are shipped with Liferay server bundles.(Incorrect)
3. Bundle works in the following state of the bundle lifecycle.(Resolved)

Total state:- Installed,Resolved,Starting,Active,Stopping,Uninstalled

1. Why do we declare classes as a component in the first place?

* Can consume services published by other components.
* Can have properties and an activation policy.
* Can publish itself as a service and make itself available to other components.
* Has an independent lifecycle and is reusable.

1. Declarative service is a service that handle OSGi dependency injection and allows you to publish, find and bind services based on XML metadata and annotations.(Correct)
2. @Reference annotation allows you to define a new component.(Incorrect)
3. Export-Package – Import-Package is a method of Sharing classes between bundles.
4. Provide Capability – Required Capability is a method of Sharing package between bundles.(Incorrect)

**Note**:- It is the way to share service

1. You can override an OSGI Service by injecting a Service Wrapper implementation with a higher priority than existing one.(Correct)
2. OSGI Bundle is:-

* The unit of deployment in OSGi.
* Manageable, testable.
* Self-contained.
* A jar file with OSGi headers.

1. All of the Liferay platform’s core applications are OSGi applications.(Correct)
2. Steps to create a component within Liferay are:

* Define component/service properties.
* Implement / override methods.
* Annotate the class with @Component.
* Inject Other components and services with @Reference
* Find the interface or superclass to implement or extend, if available.

1. Overriding is possible even with static and reluctant reference policy.(Correct)
2. Which of the following are the three MVC Commands?(MVC Action,MVC Resource,MVC Render)
3. What are the struts basic concepts?

* Action Controller
* Action Servlet
* Action Form
* View Layer

1. Overriding Struts actions in the context of Liferay means overriding action controller classes.(Correct)
2. Portal lifecycle event Listeners are OSGi components that implement the LifecycleAction interface and the event to catch is defined with the component Event property.(Incorrect)
3. You cannot make event listener that run once for every portal instance that is initialized.(Incorrect)
4. Which of the following key properties are used to make event listeners that run once for every portal instance that is initialized?(application.statup.events.)
5. Synchronous Sending has two operation modes: Default which delivers the message in the same thread of execution and blocks it until it receives a response and Direct which delivers the message in a separate thread with timeout.(Incorrect)
6. The Message Bus System is made up of the following:

* Destinations
* Listeners
* Senders
* Message Bus

1. Portal instance settings can be managed in control panel as well as properties file.(Correct)

* if settings overlap or conflict, this is the order of precedence (the last one remains):
* portal.properties
* portal-ext.properties
* portal-setup-wizard.properties
* settings persisted through the control panel

1. Which of the following statements are true about the MVC event phase?

* Wrapper objects: EventRequest – EventResponse.
* All registered listeners process the event.
* Cause all portlet in the page to re-render.
* Used for inter-portlet communication (IPC).
* Process events triggered in the action phase.

1. MVC Action Commands are handler components for a portlet’s action phase, typically used to process a form submission and perform a model action.(Correct)
2. MVC Render Commands can be used for:

* Get a list of assets to show in the user interface.
* Fetch an asset entry to show in the user interface.

1. Which of the following are steps for overriding struts action?

* Create a new Struts Action component.
* Find the action path you are overriding (struts-config.xml).
* Override and implement methods as needed.
* Create a Liferay Module Project.

1. It’s recommended to use Elastic search in large data set only.(Incorrect)-- bcoz can be use for every data
2. What is Indexing?

* (The process of transforming a portal asset to a search engine index document, which is the storage model type for search engines.)

1. Searching is sending a search query and obtaining results, also called hits, from the search engine.(Correct)
2. What can you not do using Hits processors?

* Modify result summaries when they’re returned to the end user.
* Modify queries before they are executed.
* Modify index documents before they’re sent to the search engine.

1. Service action Events executed on every request, including those for static resource.(Correct)
2. Layout events are triggered when a layout(page) is updated or deleted.(Correct)
3. Which of the following are Steps for creating a Model Listener?

* Create a new Liferay module using the API template.
* Implement the event handler method(s).
* Create a model listener component using Liferay Component Class wizard.

Note:- can not create ModelListener using extending MOdelListenerClass

1. Destination is a named endpoint for sending a message to and receive messages from, listeners registered to it to receive messages.(Correct)
2. What are the destination types in Liferay message bus system?

* Synchronus
* Serial
* Parrlel

1. Code using the Liferay platform search always communicates through the portal search API.(Correct)
2. There are two operation modes available for Elasticsearch: embedded and remote.(Correct)
3. The default framework used by Liferay DXP for indexing is:(Elastic search)
4. What is meant by analysis phase in Liferay search?

* Can be configured for each field individually in the mapping definition
* A field-level process of transforming input data to search engine data
* Run both the index time and search time

1. What can you do using Hits indexer postprocessors?

* Modify index documents before they’re sent to the search engine
* Modify result summaries when they’re returned, end-user
* Modify queries before they are executed

1. Why does Liferay use Elasticsearch?

* Elastic search uses queries that make an inverted index which is optimized for speed.

1. What are the analysis phases?

* Token filtering.
* Tokenizing.
* Character filtering.

1. The doSearch methods in Liferay’s ElasticsearchIndexSearcher returns:(SearchResponse)
2. Hit processors can process the results search from the search engine before sending it to the front-end.(Correct)
3. We can use only Liferay developer studio and Eclipse IDE to develop Liferay applications.(Incorrect)
4. All the below statements are true about Liferay developer studio except.

* Only allow you to install the Liferay CE bundle automatically.

1. All the below statements are true about Liferay developer studio:-

* Allow you to install the Liferay DXP bundle automatically.
* A commercial, productized version of Eclipse.
* Contains all the tools needed for Liferay development.

1. OSGI is a specification and a set of standards for modular Java software development.(Correct)
2. Every bundle has a unique identifier that has two headers (Bundle-SymbolicName and Bundle-version).(Correct)
3. What is true about bundle version ranges?

* [1.1, 2.0) includes version 1.1 up to 2.0, but excludes 2.0.
* Parentheses ‘(’ and ‘)’ indicate exclusiveness.
* Square brackets ‘[’ and ‘]’ indicate inclusiveness
* Because “[” includes and “)” excludes”

1. Blade CLI can be used within any IDE.(Correct)
2. The main portal configuration file portal.properties cannot be overridden.(Incorrect)
3. What is true about gogo shell commands?

* dm wtf is a command to show any missing dependencies.
* disconnect is a command to disconnect from a shell without shouts down the container.
* exit is a command to disconnect from the shell with shouts down the container.
* lb is a command for listing all bundles.

1. bnd.bnd provides the dependencies while build.gradle wires the dependencies to bundle.(Incorrect)

* build.gradle provides the dependencies while bnd.bnd wires the dependencies to bundle.

1. Liferay developer studio DXP is an open-source publicly available set of Liferay Eclipse Plugins(Incorrect)

* It is A commercial, productized version of Eclipse. contains all tools needed for Liferay development.

1. Liferay server bundles are shipped with:

* Hypersonic database.

1. If a bundle is in an installed state, what does this mean?

* Bundle is missing some dependencies.

1. The hits processors allow you to perform actions on the hits returned.(Correct)
2. What are the characteristics of a service registry?

* Provides a mechanism to look up and bind published services dynamically.
* Provides loose coupling by hiding the implementation details from the client.
* Provides a mechanism to publish services to the OSGi container.
* Allows multiple available services implementation to coexist.
* Consuming clients may have policies and filters for binding specific implementations.

1. Declarative service is a framework that allows you to use @Component annotation and register services.(Correct)
2. Export-Package – Import-Package is a method of Sharing package between bundles.(Correct)
3. All Liferay applications are OSGi applications that run in the OSGi container.(Correct)
4. Not mandatory for Liferay development.

* Can be used separately from the IDE.
* A generated, wrapper environment for Liferay projects.
* Provides tools and a folder structure for projects.
* It is a transportable environment.

1. Blade CLI create a module that can work only inside a workspace.(Incorrect)
2. Which command do you need to execute to close the connection to the Gogo Shell without shutting the OSGi container down?

* disconnect

1. Portlet is:

* Governed by the JSR-168, JSR-286, or JSR-362 portlet specification.
* An application runs in the portlet runtime environment called portlet container.
* A web component/ application producing an HTML fragment of a page.
* In Liferay, an Application has a user interface.

1. Multi versions of bundle can co-exist within OSGi container.(Correct)
2. A component is any java class inside a bundle that doesn’t have a life cycle.(Incorrect)
3. Startup events are called once when either the portal (global prefix) or portal instance (application prefix) starts or shuts down.(Correct)
4. Which of the following statements about OSGi are true?

* An OSGi component can be stopped.
* Declarative services (DS) is a service that handles OSGi dependency injection and allows you to publish, find, and bind services based on XML metadata and annotations.
* An OSGi component has a lifecycle.
* An OSGi component is any Java class inside a bundle that is declared to be a component.

1. Declarative service allows you to declare and consume services via XML metadata and annotation.(Correct)
2. Bndtools is a configuration tool that allows you to:

* Creates OSGi feature-sharing headers automatically.
* Reads information from annotation and the bnd file.
* Creates service declaration XML files and OSGi bundle manifest headers automatically.

1. Below are possible headers to share features between bundle:

* Required Bundle.
* Export Package – Import Package.
* Provide Capability – Required Capability.

1. Below are possible headers to share features between bundle except:

* Static Import.

1. Liferay workspace can be used outside developer studio.(Correct)
2. Which Blade CLI command executes the Gradle command using the Gradle Wrapper?

* gw

1. Best practice to override portal properties is to use:

* portal-ext.properties.

1. Gogo shell cannot be used outside Liferay developer studio.(Incorrect)
2. The MVC Serve Resource command always followed by MVC Render command.(Incorrect)
3. Which of the following statements are true about the MVC Render phase?

* Corresponding standard method: render().
* Wrapper objects: RenderRequest – RenderResponse.
* Generate HTML fragment.
* Every portlet on the page has to go through this initially.

1. MVCPortlet copy all ActionRequest parameters to Render phase and this behavior can be disabled in portlet configuration.(Correct)
2. What are the three portlet window states?

* Normal
* Minimized
* Maxmized

1. JSR-268 established two methods of inter-portlet communication: Events and public render parameters.(Correct)
2. Service builder can be used without persistence to create web services.(Correct)
3. Service Builder can generate two service variants, local and remote service.(Correct)
4. There are two types of finder regular finder(with-permission) and filtered finders(without-permission).(Correct)
5. The portlet contains both the controller and the view layers of the MVC Pattern.(Correct)
6. In order to make MVCActionCommand you should:

* extends BaseMVCActionCommand class.
* implement MVCActionCommand interface.

1. Below are the tag libraries offered by Liferay except:

* liferay-aui

1. Below are the tag libraries offered by Liferay:

* Liferay-theme.
* Liferay-portlet.
* Liferay-util.
* Aui
* liferay-ui

1. Liferay’s server-side validation utility is implemented in:

* com.liferay.portal.kernal.util.Validator

1. A scope where permissions can be applied:

Company

Indivisual

Group

Group Template

1. A Framework to handle objects and features like comments and rates.

* Asset

1. Which method renders your JSP in a class extending BaseJSPAssetRenderer?

* getJspPath

1. Liferay’s tooling supports the 6th edition of ECMAScript specification and provides the ability to use it in all modern browsers with the integration of the Babel JS transpiler.(Correct)
2. Liferay relies on industry-proven standards. The supported standards include:

* Liferay is an active contributor to the standard and the lead of the JSF-Portlet Bridge specification.
* Liferay supports the OSGi family standards through its own implementations and also integrates implementation of Apache Felix and Eclipse Equinox projects.
* Liferay can run any portlets that follow JSR-168, JSR-286 and JSR-362 portlet specifications.
* The Java API for XML Web Services (JAX-WS) and for building RESTful services (JAX-RS) is incorporated as the preferred tooling to create web services

1. Which types of Geolocation filter does Liferay DXP support?

* GeoDistanceFilter.
* GeoPolygonFilter.
* GeoBoundingBoxFilter.

1. Expando API allows you to create virtual tables not related to any model class.(Correct)
2. What Liferay Assets and resources let you add new fields to their edit forms:

* Message Boards Message.
* Knowledge Base Article.
* Message Boards Category.
* Knowledge Base Folder.

1. Service wrapper provide a safe way to customize Liferay’s core services.(Correct)
2. Reference Cardinality defines whether a reference has to be satisfied for component to be able to activate.(Correct)
3. Which of the following is not reference cardinality?

* static

1. Which of the following is reference cardinality?

MANDATORY.

Multiple

AT\_LEAST\_ONE

OPTIONAL

1. Liferay support only Elasticsearch engine.(Incorrect)
2. Indexer post processors are components that allow you to modify the way portal assets are be indexed.(Correct)
3. Blade CLI is:-

* Can be used within any IDE.
* Can be independent of Liferay workspace.
* Used by Liferay workspace for managing module projects.
* A set of command line tools.

1. Liferay developer studio community edition is a commercial, productized version of Eclipse.(InCorrect)

## here Its about community edition

1. All the below statements are true about Liferay developer studio community edition except:

* allow you to install the Liferay DXP bundle automatically

1. All the below statements are true about Liferay developer studio community edition :

* an open-source publicly available set of Liferay Eclipse Plugins
* can be installed on top of an existing Eclipse installation
* the same as developer studio DXP but only allows you to install the Liferay DXP bundle automatically
* available as an eclipse bundle

1. It highly recommended to use Hypersonic database in production environment.(Incorrect)
2. Liferay is built on OSGI technology.(Correct)
3. Bundle can be stopped while it is in the resolved state.(Incorrect)
4. Public render parameter is a method of sharing parameters between different portlets and available in all lifecycle phases that can define in portal.xml.(Incorrect)
5. What are the two non-standard communication methods?

* Client-Side IPC.
* Portlet sessions.

1. Portlet class act as a class and a component at the same time.(Corect)
2. Service Builder is a model-driven code generation tool that takes an XML input file and generates persistence code, CURD methods and service layer automatically.(Correct)

* Explanation:-

1- A model-driven code generation tool

2- Takes an XML input file and generate it automatically

2.1 - Persistence code

2.2 - Caching code

2.3 - CRUD methods and service layer

2.4 - Optionally JSON and SOAP remote services

3- Defines a zone where all the persistence operations are run within the same transaction

4- A development pattern used in all Liferay core services

5- Can be used without persistence to create, for example, web services

5.1 - Service Builder basic concepts:

5.2 - Service and persistence schema definition file service.xml

5.3 - Database modeling and validation hint file portlet-model-hints.xml

5.4 - Local service

5.5 - Remote service

5.6 - Implementation classes

5.7 - Finders

5.8 - Service Wappers

5.9 - Service Context

1. If you are using Service Builder, in which file would you specify data restrictions (e.g field size, validation, ..).

* portlet-model-hints.xml

1. Remote service meant for accessing the service remotely through web service and accessing the service locally but with permission checks.(Correct)

* Explanation:- Let’s check the difference between the local and remote services generated by Liferay service builder tool:
* Local Service Responsible for calling the persistence layer to retrieve and store data entities Meant for accessing the generated service without permission checks
* Can be invoked from the same Java Virtual Machine If permission checks are not needed, use the local service for better performance.
* Remote Service Responsible for accessing the service remotely through web service and locally but with permission checks
* Usually contains facade methods adding permission checks for the local service methods
* All user-level access to services should use the remote service.

1. Service wrappers are typically used for overriding the core service classes.(Correct)
2. In order to make MVCRenderCommand you should:

* implement MVCRenderCommnand interface.

1. The following classes provide support for providing custom success and error messages to the client:

* SessionErrors.
* SessionMessage.

1. Top-level actions are actions for existing resources while Resource action are model actions for non-existing resources(Incorect)

* Explanation:- Top-level action: moel actions for non-existing resources (ex: ADD\_ENTRY for the model name com.liferay.blogs)
* Resource action: actions for existing resource (ex: DELETE for model name com.liferay.blogs.model.BlogsEntry)

1. What are the two descriptor files that are used in building java standard portlets?

* Portlet.xml
* web.xml

1. The MVC Render phase always followed by Action phase.(InCorrect)
2. You can use MVC Render command to get a list of assets to show in the user interface.(Correct)
3. The MVC Action Commands used for:

* Upload documents.
* Add, edit or delete and item.

1. We can set portlet window state in JSP as well as portlet class.(Correct)
2. Public render parameter is a method of sharing parameters between different portlets and available in all lifecycle phases that can define in portlet.xml.(Correct)

## here portlet.xml while in 112 portal.xml

1. What are possible ways for portlets to share parameters between each other?

* Public render parameters.
* Events
* Client-Side IPC.
* Portlet sessions

1. All Liferay core services are build using Service Builder.(Correct)
2. Service Builder is a model-driven code generation tool that takes a cfg input file and generates code automatically.(Incorrect)
3. Service Builder generate a portlet-model-hints.xml file that contains Hibernate SQL column mapping for entities and provides a way to customize field types, size and validation.(Correct)
4. Both local and remote service have the same performance.(Incorrect)
5. Which of the following is a valid way to invoke a Liferay web service?

* From a browser, logged into Liferay and supplying a valid p\_auth authentication token.
* From a non-browser client, using basic authentication.
* Via JavaScript using Liferay.service(…).
* Using Liferay JSON web service API page (/api/jsonws).

1. Using MVC command benefits are:

* Register to a portlet with javax.portlet.name component property.
* Reduce boilerplate portlet coding.
* Handle user interaction with the portlet.
* Register to a command name with mvc.command.name property.

1. The Liferay JavaScript object contains helpful tools like:

* Liferay.ThemeDisplay.
* Liferay.Service.
* Liferay.Language.
* Liferay.Browser.

1. The following points are true about permissions in Liferay except:

* Permissions granted to users permanently once it is created.

1. The following points are true about permissions in Liferay:-

* Define an action that can be performed on a resource.
* Granted to Role not user.
* A combination of a resource and an action.

1. A role is a collection of permissions that can be assigned to:

* Users,Sites,Organizations,UserGrous etc

1. default.xml is the file where we declare resources and their permissions.(Correct)
2. Exporting a bundle explicitly defines which packages to export and make available to other bundles.(Correct)
3. Liferay DXP still support the traditional WAR-based portlet development.(Correct)
4. Which Blade CLI command connects to Liferay and executes the Gogo command and returns output?

* sh

1. The MVC event phase cause all portlet in the page to re-render.(Correct)
2. Which of the following statements are true about the MVC Action phase?

* Can also trigger events of other portlets.
* Always followed by render phase.
* Corresponding standard method:processAction().
* Usually triggered by a form submit.

1. What are the three portlet standard modes?

* View,Edit,Help

1. Which method would you use to obtain a summary of your asset?

* The getSummary method of the AssetRenderer instance.

1. Liferay relies on industry-proven standards such as the Portlet standard and JSF.(Correct)
2. Which of the following are requirements that Liferay architecture satisfies?

* Facilitates swapping components.
* Leverages development standards.
* Supports using common development technologies
* Its runtime is easy to configure and inspect.
* Starts fast and perform well.

1. Which four entities represent Expandos in the database?

* ExpandoRow,ExpandoTable,ExpandoColumn,ExpandoValue

1. What Liferay Assets and resources let you add new fields to their edit forms?

* Roles,Page,Site,Organization

1. An OSGi container allows multiple service implementations to co-exist.(Correct)
2. The reference policy defines whether an injected services reference can be replaced dynamically.(Correct)
3. Which of the following are the available reference policy options?

* RELUCTANT
* Greedy

1. Services and functionalities within the Liferay platform leverage the OSGi component and services model.(Correct)
2. The MVC Resource phase can be use for:

* Auto-completion of search field.
* Refreshing portlet content without page refresh.
* Continuous loading of content feeds.
* Doing any background operation without page refresh.

1. ActionRequest parameters are not automatically available in the Render phases, but can be passed with an ActionResponse object.(Correct)
2. The window state can only be set in the Action phase.(Correct)
3. Public render parameters and Events are the only two ways for inter-portlet communication.(Incorrect)

* Ex:- Portlet Sessions IPC
* Public Render Parameters IPC
* IPC Events
* Client Side IPC with AJAX
* Client Side IPC with Cookies
* PortletSession IPC

1. Below are benefits of using Liferay workspace:

* Provides a complete working environment when bundled with portal server.
* Is transportable environment.
* Provides all tools needed to create Liferay modules.
* Supports Gradle and Maven.

1. We can access the gogo shell using blade CLI command: blade sh [gogo\_shell\_command].(Correct)
2. Asset is an abstract, generic representation of any model, acts like a wrapper and provides some metadata in regards to the content itself.(Correct)
3. Liferay is built on many core technologies except:

* Hypersonic

1. Liferay is built on many core technologies:

* OSGI,Elasticsearch,OSGI etc

1. The Java API for XML Web Services (JAX-WS) and for building RESTful services (JAX-RS) is incorporated as the preferred tooling to create web services.(Correct)
2. What is the Portlet filter?

* Is an API-based method of overriding the application JSPs.

1. What Is not supported in the custom field?

* Image

1. What are Liferay Assets and resources that let you add new fields to their edit forms?

* Document
* Blogs Entry
* Calendar Events
* Document Folder
* But not form

1. The reference has to be satisfied (available and injected) for the component to start by default using:

* Cardinality.MANDATORY.

1. Which of the following are the available reference policies?

* Static
* Dynamic

1. MVC Resource Commands can be used for:

* Update list without page refresh.
* Do a captcha check
* Autocompletion
* Fetch an item in the user interface with an AJAX call

1. Which of the following are steps for overriding MVC Commands?

* Locate the mvc.command.name parameter.
* Find the MVC Command class to override.
* Locate the target portlet bundle and its bundle name.
* Implement an overriding component with a higher service ranking.

1. Service action Events are processed only before (not after) the request is processed.(Incorrect)
2. What is true about Model Listeners?

* Available for both core services and custom, service builder-generated services.
* OSGi component that implement ModelListener interface.
* Listen to persistence events on models and their associations.

1. Model listeners are called before a database transaction is complete and that the order in which the listeners are invoked cannot be set.(Correct)
2. What is true about listeners registration?

* Listeners can register to destination to receive messages in one of three methods
* Publish the listener to OSGi registry as a Declarative services component that specifies a destination. The message Bus automatically wires the listener to the destination.
* Obtain a reference to a destination and use it directly to register the listener with that destination.
* Obtain a reference to Message Bus and use it directly to register the listener to a destination.

1. In Asynchronous, the sender sends the message to Message Bus, and the message blocks the processing for the rest of the sender’s request.(Incorrect)
2. Liferay workspace is Mandatory for Liferay development.(Incorrect)
3. What are the benefits of extending the MVCportlet class?

* Reduce the boilerplate code.
* Still inherits the javax.portlet.Portlet.
* Still extends a javax.portlet.GenericPortlet.

1. Liferay has it’s own implementation of a portlet that extends GenericPortlet.(Correct)
2. When you build Service Builder, it automatically generates:

* Spring and Hibernate configurations.
* Model, Persistence and service Layers.
* Local and remote services.

1. Asset framework is a content-related framework that allows you to aggregate all of the different types of content under one umbrella or one name known as an asset.(Correct)
2. Which of the following aspects of your asset are defined in the AssetRenderFactory implementation?

* If the asset is active.
* If the asset is categorizable.
* If the asset is linkable.
* If the asset is selectable.

1. Bundle activators is a class that implement org.osgi.framework.BundleActivator interface and Liferay use bundle activator to control different lifecycle state of bundle.(Incorrect)

* Explanation:- Bundle activator is a class that implements org.osgi.framework.BundleActivator interface but Liferay doesn't really deal with these bundle activators.

1. Below are characteristic of component:

* An object managed by the component framework of OSGi.
* Usually, implement an interface.
* Like a bundle, a component has a lifecycle: it can be started and stopped.
* Any java class inside a bundle declared as a component

1. Below are characteristic of component except:

* It takes care of its lifecycle.

1. By default, bundle have private package visibility.(Correct)
2. A capability is described by two main attributes:

* Attributes
* Namespace

1. The Gradle buildService task generates the code based on service.xml.(Correct)
2. Wrapper classes are generated in the service module.(Incorrect)

* Wrapper classes are created in wrapper module

1. When you need to rebuild your Service Builder:

* If the implementation class method signature has been changed.
* If portlet-model-hints.xml has been changed.
* If service.xml has been changed.

1. Service Builder is a code generation tool that takes an xml configuration file as an input and generates a complete service layer as an output.(Correct)
2. Service Wrapper allows you to override Service Builder generated services from within external modules.(Correct)
3. In Liferay world only one validation is enough to grantee security, client side or server side.(Incorrect)
4. A scope where roles can be applied:

* Within a site or organization (Team).
* Site or organization.
* Global

1. Permissions are always granted to users directly.(Incorrect)

* Permission are Granted to roles,not to user directly

1. What is the asset framework?

* A framework providing ways to associate and link any type of content with other portal assets, tags, and categories.
* A framework making it is possible to publish and manage different kind of contents in a unified way and through a standard API.
* A framework providing a way to integrate content, for example, with platform search and workflows.

1. Asset Renderer factory is a component that provides an Asset Renderer to calling application API, and provides a facility to create multiple renders for an asset type.(Correct)
2. Target attributes allow you to filter the service implementation to be injected.(Correct)
3. When using MULTIPLE option in reference cardinality, a setter method has to be defined.(Correct)
4. Portal lifecycle events allow you to execute actions on:

* Servlet service call.
* Login and logout.
* Portal startup and shutdown.
* Layout (page) update.

1. Start up and shutdown events called once on portal startup or shutdown.(Correct)
2. Login Events allow you to catch an event pre- and post-login and logout.(Correct)
3. In Asynchronous sending, after a message is sent (in a different thread), the sender is free to continue processing.(Correct)
4. In Asynchronous sending, after a message is sent (in a different thread), the sender is free to continue processing.(Correct)

* Explanation:- For @Async annotation
* # Message Bus calls to a public method annotated with @Async will be asynchronous.
* # Allows you to implement fire and forget capabilities to the services.
* # Useful for features like notifications.
* For @Clusterable annotation
* # Any service method annotated with @Clusterable will be invoked across the cluster.
* # This annotation has two attributes :
* onMaster: if set to true will only execute the request if the current portal JVM is holding the cluster-wide "master" token.
* acceptor: specifies a custom ClusterInvokeAcceptor to determine whether a given portal JVM should accept and execute the request.

1. Blade CLI commands:-

* *convert*: Converts a Plugins SDK plugin project to a Gradle Workspace project.
* *create*: Creates a new Liferay module project from available templates.
* *deploy*: Builds and deploys bundles to the Liferay module framework.
* *gw*: Executes Gradle command using the Gradle Wrapper, if detected.
* *help*: Gives help on a specific command.
* *init*: Initializes a new Liferay Workspace.
* *install*: Installs a bundle into Liferay’s module framework.
* *open*: Opens or imports a file or project in Liferay Dev Studio DXP.
* *samples*: Generates a sample project.
* *server*: Starts or stops server defined by your Liferay project.
* *sh*: Connects to Liferay DXP, executes succeeding Gogo command, and returns output.
* *update*: Updates Blade CLI to latest version.
* *upgradeProps:* Analyzes your old portal-ext.properties and your newly installed 7.x server to show you properties moved to OSGi configuration files or removed from the product.
* *version*: Displays version information about Blade CLI.