Date: 23/08/2020

WS Assignment – 6064 – TYCS

1. **List some benefits of an SOA.**

**Sol­­n:**

1. SOAwhich expands to Service Oriented Architecture is a logical way of designing a software system provide services to end users via a distributed network.
2. **Service Oriented Architecture** is an architectural approach in which application components makes use of a collection of services available in a network, which communicates with each other.

Benefits of SOA:

1. In SOA, we build a new application, by reusing the service of an existing system.
2. SOA allows adding new services or upgrading existing services according to the new business requirements.
3. As SOA allow making of a new complex application by integrating the service from a different source, independent of platform.
4. SOA application is more reliable because debugging the small code is easier to maintain than huge code.
5. In SOA, service can run on a different server within an environment, which scale a business to meet the needs of the client.
6. **How do Web services differ from application service providers and Web-based applications?**

**Sol­­n:**

|  |  |
| --- | --- |
| **Web Service** | **Web App** |
| A web service doesn’t have a user interface. | A Web App has a user interface or GUI. |
| Web services are meant for other applications to be interacted with over the internet. | Web App are meant for use by humans. |
| Web services are platform independent as they use open protocols | Web Apps are cross-platform as they require tweaking to operate on different browsers, operating systems, etc. |
| Web services are accessed by HTTP methods – GET, POST, PUT, DELETE, etc. | Web Apps are accessed by using their GUI components – buttons, text boxes, forms, etc. |
| Web Services are provides the data services to the Web apps. | Web app uses web services to provide functionality to users. |
| E.g. Google maps API is a web service that can be used by websites to display Maps by passing coordinates to it. | E.g. Google Maps is a Web App which uses it’s respective web service and provides the functionality. |

1. **What are stateful and stateless services? Give examples.**

**Sol­­n:**

**Stateful**

1. Stateful Web services are those that can preserve their state for long running or distributed transactions.
2. Stateful Web services automatically use the session server suspend/resume functionality.
3. Stateful Web Services are not independent of storage and session data.

E.g.-Cassandra, MongoDB, Postgres, and MySQL are great examples. They require some form of persistent storage that will survive service restarts.

**Stateless**

1) A stateless service is a type of service that is currently the norm in cloud applications.

2) It is considered stateless because the service itself does not contain data that needs to be stored reliably or made highly available.

3) If an instance of a stateless service shuts down, all of its internal state is lost.

4) Stateless services are completely independent.

5) Stateless works on request basis.

E.g.-Facebook continually uses a stateless service. When the server requests a list of recent messages using the Facebook API, it issues a GET request with token and date. The response is independent of any server state, and everything is stored on the client's machine in the form of cache.