Microservices

1.Why Microservices ?

Ans:-As we know that before that ,There is concept of monolithic architecture style of application where all component are inter-connected and inter-dependent each other to make the all component as single software

So In order to execute compile and execute the application all component should be in one big container which makes the application as tightly couple . This is called Monolithic architecture.

Monolithic architecture where different types of layers are involved like

Presentation Layer

Service layer(Business layer)

Database layer

Application integration (integration with other services like Rest, massaging etc)

All ther are packaged and deploy as single application is called Monolothic architecture

Advantages of Microservices

* Simple to develop.
* Simple to test. For example you can implement end-to-end testing by simply launching the application and testing the UI with Selenium.
* Simple to deploy. You just have to copy the packaged application to a server.
* Simple to scale horizontally by running multiple copies behind a load balancer.

What is load blancer?

Load blancer is Hardware device which distribute the application’s traffic to different cluster of server to increase the response and availability.

What is cluster of server ?

A group of server which acts as single system

Disadvantages/challenges of/in microservices application

1.unscable

Its very difficult to scale the each module because of conflict resources required by the each module.we can scale each component at resource lavel.

2.if need to modify the code of application, need to deploy the entire application again.

3.Slow development:-

4.Large and complex application:-

Application is too large and difficult to understand the application fully .

5.The size of the application may increase the startup time.

6.Unreliable:-

Because of tightly couple if one component is shutdown or not available then entire system go down.

7.Monolithic application has barrier to adopt the new technologies .since changes in language or framework effect the entire application and would be very costly in time and cost also.

So finally over come the above problem we got the MIcroservices concept.

2.What is Microservices ?

Ans:- Microservices is an structural architecture style where it structures an application as collection of small autonomous services, modelled around the business domain.

Microservices is stateless by nature and performs its one functionality independently.

In given figure ,There are many services numbered with 1---n

In Microservices architectural style each module is self contained and implement a single business capability.

