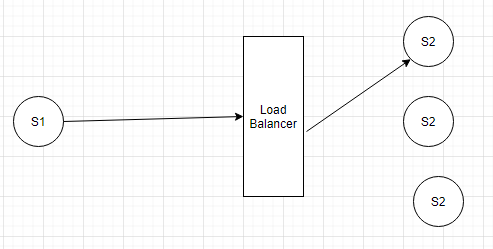
**Microservices**

Microservice can have many definitions.

* It is architectural style or an approach to developing a single application as a suit of small services, each running in its own process and communicating with light weight mechanisms, often HTTP resource API.
* Each service is independently deployable by fully automated deployment tools.
* Each can be written in different programming language. And different persistence can be used. Where as in monolith we have to stick on same language.
* If we compare microservice with monolith application it is easier to understand and developer can be more productive.
* Here we can accomplish parallel development. Where as in Monolith application it may create some issue.
* It can be easily scaled in terms of resources. Where as it is hard to scaled Monolith application.
* Each microservice can be deployable independently, it also improves fault isolation and conflicting resource can be resolved.

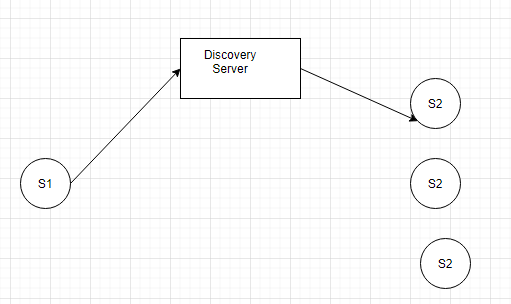
**Challenges and Solution of Microservices:**

1. In microservice generally one service calls another service take as example below.



In above example we have two microservice i.e. S1 and S2, S1 is making a call to S1 and based on LB logic instance of S2 is assigned to that call. Here we can see we are having two remote calls. S1 to load balancer and then LB to S2. So, it will affect performance.

Now to over come this issue what microservice architect do that they have introduced another component call discovery server as shown in below diagram.



Discovery server will keep track of all the instance of S2. So, when call coming from S1 it will assign one instance of S2 to serve that request. But still our above problem is not resolve. So now what they do they have introduced another concept called client-side load balancing as shown in below diagram.

