Monolithic Services vs. Microservices Problem

* [**Details**](https://cognizant.e-box.co.in/problem/show/9599#tab1)

Reference Code : FSE-MCR-003Complexity : Level1

**Monolithic Services vs. Microservices**   
  
**Monolithic Services** - A large number of critical enterprise applications hosted as a single web application is called as monolithic service.  
  
The following are the drawbacks of this Monolithic Services:

* As everything is packaged in one EAR/WAR. If any one service has a performance or memory leak issue, it brings down all the services.
* There is no possiblity to try a different technology stack for building the services

**Microservices**- Instead of having a single monolithic service, the services can be split into multiple services. Taking the example from the bank, insurance related operations can be handled by a separate service. Each microservice will be running   
  
**Advantages of Microservices**

* Decentralized
* Independent (Let us consider the bank application, the get balance service failure resulted in bringing down other services related to insurance and loan processing. This single point failure can be avoided when implementing as microservices)
* Doing one this well
* Agility in development of a service
* Scalable - add multiple instances of a service with new hardware included without affecting the existing production environment
* Easier to identify which service is in fault
* Makes it easier for a new developer to understand the functionality of a service, enables continuous delivery.

**Challenges of Microservices**

* Developing distributed systems can be complex
* Initial implementation of microservice is difficult