Teste de Inglês – Vaga Trainee Proradis

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**Quais são as vantagens e desvantagens deste modelo de arquitetura?**

The article “Monolithic to Microservices” presents the concepts and differences between Monolithic and Microservices architecture, including the advantages and disadvantages of each one.

In the Monolithic Architecture the entire application is packed in one file, typically WAR or EAR file. According to the article, a few years back most of the software architectures designed their project as a Monolithic application. It is easier to integrate all the components of the application but change or correct the application can be difficult, because the team needs to check and test all the application, put it all down and deploy it all again when it is fixed.

The article lists the following positive and negative points for the Monolithic Architecture:

**Advantages of the Monolithic Architecture are:**

* The development process is easy due to the relationship between each component.
* Integration testing is simple. Because all the components are already connected.
* It is easy to monitor. Because we can see exact paths, dependencies.

**Disadvantages of Monolithic**

* Hard to understand and change even if it is a small change. Because no one knows the entire application completely.
* Deployment is hard. Because we need to ensure everything is packaged correctly. It includes all components, all applications, all dependencies, etc.
* The application goes to long offline time due to the deployment.
* Frequently updates are not possible, and updates may be delayed due to the dependencies of other components.
* Less scaleable.
* Less reusable. If the application is developed as small components, it can be used for a similar purpose as well.

The other Architecture described in the article is the Microservices Architecture and the main difference comparing to the Monolithic is that the Microservices architectural style designs the application as a collection of independent services, following the single responsibility principle. The communication in the Microservices Architecture happens using mechanisms as HTTP and API’s.

The article lists the following positive and negative points for the Microservices Architecture:

**Advantages of Microservices**

* Bug fixing, maintaining, adding new features are easy. Because each component is independent.
* Easy to scalable.
* Easy to understand the codebase of a single component.
* Support for the mixed technology stack.
* High availability.

**Disadvantages of Microservices**

* Integration testing is complex.
* Hard to manage dependencies between components.
* Complex to understand overview of the entire application.

After reading the article it is possible to understand that each architecture has its own positive and negative points, that the Microservices architecture can be considered a new approach that separates each responsibility, bringing scalability and making easy to fix bugs, but it makes the integration more complex. In other hand, in the Monolithic architecture the integration is simpler, but can bring more difficulties to fix the bugs and the scalability of the application.