DevOps

What is DevOps? Basically, it is a combination of software development (Dev) and information-technology operations (Ops). This is a technology aimed at providing cooperation between the professionals in the sphere of development and the information-technology consulting managers. This creates mutual integration of the two spheres and leads to better results in running your business.
Now let us dig into details with **DevOps consulting** and why anyone would need to turn to its services. DevOps consulting covers the whole range of services from competent specialists who will help you with any type of issues. Here are some of them:

- The team of consultants will help you create a more effective and flexible working environment through automating operational and process scaling for flexing resources and infrastructure in the company;
- Establishing a stable, reliable infrastructure that will make your services run smoothly, uninterrupted, without downtime.
- Providing the highest level of security for your infrastructure; you will be able to take track of all the changes and processes running within the system, receiving alerts and notifications when your attention is needed.

All of these services make a solid basis for a stable and lucrative business of yours.

Another important aspect is the tools used to provide all the essential **DevOps services**. They are also referred to as “toolchains” and are meant to fit into one or more of the following categories of **DevOps tools**, depending on the key aspects of delivery process and development:

- Coding – basically implies code development and review, using source code management tools and code merging
- Building – uses continuous integration tools and build status
- Testing – uses continuous testing tools to provide instant feedback on any type of risks occurring in the system
- Packaging – uses artifact repository, which is a software tool created to optimize the storage and downloading of files used in software development; application pre-deployment staging
- Releasing – implies the processes of release automation, release approvals and change management

- Configuring – configuration and management of the infrastructure, infrastructure as code tools
- Monitoring – implies applications performance monitoring and end-user experience

In order to provide high-quality application deployment, scaling and management services, it is essential to use **Kubernetes** – an open-source container-orchestration system. Kubernetes, originally developed by Google, defines a set of building blocks, also “primitives”, that provide mechanisms for deployment, scaling and maintaining based on memory, custom metrics and CPU. It is a loosely coupled system, the elements of which can be replaced with alternative variations that provide the same services in the long run.

Kubernetes and DevOps go hand-in-hand for the enterprises that want to develop complex applications. The use of Kubernetes minimizes the workload and eliminates the conflicts between different environments, making it easier for the developers to cooperate effectively with each other. QA and Testing specialists will be able to create stable and coordinated environments between the test and product; operational teams can come up with unified solutions for scaling, building and shipping software.

Docker is another powerful software, the aim of which is to package an application and its dependencies in a virtual container, run on any Linux server. This contributes to portability and flexibility in the run of your application, whether private or public cloud, or on-premises. Docker allows containers to run within a single Linux instance, keeping away the overhead of starting and maintaining virtual machines.

It is clear that DevOps and all the relatable tools contribute to a more efficient, stable and safe operation of an application, providing numerous opportunities for the convenient managing of the system.