**BỘ GIÁO DỤC VÀ ĐÀO TẠO**

**TRƯỜNG ĐẠI HỌC NHA TRANG**

**KHOA CÔNG NGHỆ THÔNG TIN**

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**BÁO CÁO NHÓM**

**TIẾNG ANH CHUYÊN NGÀNH CÔNG NGHỆ THÔNG TIN**

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**CLOUD COMPUTING AND ITS IMPORTANT ROLE FOR STUDENTS IN THE DIGITAL AGE**

In the era of digital transformation, Cloud Computing has become an indispensable technology platform, contributing to changing the way people store, process and access information. Not only a technology for large organizations and businesses, Cloud Computing also opens up many valuable opportunities for students – who are studying, researching and shaping their professional future in a world that is gradually “going to the cloud”.

Cloud Computing is a model that provides computing resources such as software, services, databases, and hardware through the Internet. Instead of having to rely on local devices, users – including students – can access data and applications stored on virtual servers from anywhere, at any time. This model operates based on two main parts, the front-end (user interface) and the back-end (servers, infrastructure), which are connected through the Internet and managed by a central system, helping to ensure that everything operates stably and efficiently.

Cloud computing is divided into four main models: Public Cloud, Private Cloud, Hybrid Cloud, and Multi-Cloud. In particular, Public Cloud is the most popular and accessible service, with familiar names such as Google Cloud, Amazon Web Services (AWS) or Microsoft Azure. Not only do these platforms provide robust infrastructure, but they also support students through free plans or special offers, which are great for learning, archiving, programming, or deploying simple applications.

In fact, Cloud Computing has been widely applied in education and learning. Tools like Google Drive, GitHub, Google Classroom, OneDrive, Canva, Zoom, GitLab,... are typical examples that help students host assignments, share source code, work in teams, learn online, and even design presentations without heavy software installation. In the field of programming, students can use the cloud to code, test, and deploy applications directly in the browser – saving time and effort.

The benefits that the cloud brings to students are extremely obvious. The first is the ability to access anytime, anywhere, helping students learn flexibly without being constrained by devices. The second is the ability to work effectively as a team, when everyone can edit documents, discuss, and respond directly on the same platform. The third is cost-effective, as many cloud services are free or offer incentives to students, and there is no need to invest in expensive hardware. In addition, the cloud also supports automatic data backup, reducing the risk of loss due to device failure.

However, besides those benefits, cloud computing also poses many challenges. Security and privacy issues are always a major concern, especially if users don't know how to properly configure accounts, decentralize, or protect data. Additionally, the dependency on the vendor can cause difficulties if the platform crashes or changes policies. Switching between different cloud platforms is also not always easy, especially for students who do not have much experience. More importantly, cloud technology is always developing rapidly, requiring students to actively update their knowledge, participate in courses, self-study and practice regularly if they want to keep up with trends and make the most of the potential of the cloud.

Cloud computing is no longer a distant technology or just for professionals. For students - the future owners of the digital economy - the cloud is the foundation for learning, practicing technology skills, accessing modern tools and preparing for a solid career. Mastering the deployment models, practical applications, benefits and challenges of cloud computing will help students be more proactive in learning and better adapt to the global work environment. In an increasingly digital world, understanding and mastering Cloud Computing is the key for students to open the door to a promising future.

**Tài Liệu Tham Khảo**

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