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Theoretical

CLOUD COMPUTING

Advantages

- Cloud computing is flexible
- Disaster recovery keeps data safe
- Never miss an update
- Cloud services minimise capital expenditure
- The cloud promotes collaboration
- Workstations in the cloud
- Streamlined content
- Cloud computing offers security
- Competitive edge through SaaS
- Cloud services save time

Uses

- Infrastructure-as-a-Service (IaaS) and Platform-as-a-Service (PaaS)
- Software-as-a-Service (SaaS)
- Hybrid cloud and multicloud
- Test and development
- Big data analytics
- Cloud storage
- Disaster recovery and data backup

Who is use Cloud Computing:-

Organizations of every type, size, and industry are using the cloud for a wide variety of use cases, such as data backup, disaster recovery, email, virtual desktops, software development and testing, big data analytics, and customer-facing web applications. For example, healthcare companies are using the cloud to develop more personalized treatments for patients. Financial services companies are using the cloud to power real-time fraud detection and prevention. And video game makers are using the cloud to deliver online games to millions of players around the world.

Benefits

- Agility
- Elasticity
- Cost savings
- Deploy globally in minutes

Types

- Infrastructure as a Service (IaaS)
- Platform as a Service (PaaS)
- Software as a Service (SaaS)

note: I know that's more than What you asked, I just loved the search about it

Benefits of cloud

Web apps are becoming very popular and they are a key part of the digital transformation that is happening around the world. A web app is different from other apps in the sense that it is hosted on the internet and requires the internet for functionality. Due to the popularity of web apps, web developers are highly sought-after in the software development industry. For web developers, the cloud can offer a lot more than physical servers and today we will be having a look at some of the benefits of cloud computing for web developers and why they should choose the cloud over physical servers:

Accessibility

One of the major benefits of cloud computing is accessibility, the ability to access files, documents, and computer power from anywhere. This is one of the biggest benefits of the cloud due to which it is used in many industries including web development. The increased accessibility of cloud computing allows developers to access data and programs like the JPG to PDF Converter from anywhere as long as they have internet access.

This allows increased collaboration among developers and they can gain access to different files and documents at any time, from any place in the world. There are some cloud service providers that allow remote access to development programs and software making web development easier.

Scalability

Cloud computing also provides the benefit of scalability, which you don't get with in-house hardware. For web development, having adequate resources all the time is very important. With in-house hardware, scaling up can be expensive and time-consuming due to which most web developers prefer cloud computing. With cloud computing, scaling your resources simply involves increasing your cloud storage with your cloud service provider. This isn't time-consuming at all and you only pay for the services & resources that you use and nothing else.

This is very beneficial for web developers who can scale up the resources at any time they want to and expand their web apps like the Excel to PDF converter without any downtime. A cloud service provider has all the resources set up and you just need to have a word with your service provider to get more resources without paying any additional fees or hidden costs.

Collaboration

Collaboration also becomes easier with the cloud as it allows all the team members to communicate and collaborate in real-time. It allows team members working from different locations to access documents, files, and programs related to the project from anywhere. In addition, all the changes that are made to the cloud happen across the server in real-time, and all the users can see those changes in real-time.

Affordability

Cloud computing is also better for web developers in terms of cost. Establishing your own data center from scratch, maintaining the hardware, and regular hardware repairs can cost a lot. With cloud computing, web developers can get all the resources that they want without making huge investments. There is no upfront fee for buying a cloud subscription and most of the cloud services have a pay-as-you-go model that allows you to pay for the services that you are using only.

This is another reason why web developers are now choosing the cloud over establishing their own data centers. With the cloud, there is no need to buy, set up, and maintain your own hardware & you get the resources that fuel your projects.

Reliability

With in-house servers, web developers are always worried about a system failure or a server failure that can cause a huge disruption in operations. With cloud computing, you rest assured that even if a system failure or a server failure occurs, there are other cloud servers available on which you can fall back on anytime and continue your operations. This means that your business operations or your web app would continue running smoothly on the cloud, even in the event of a system failure, making it a better choice than having an in-house data center.

Cloud computing is taking over the IT world by storm and it is evident from the above discussion that it is a much better choice than having physical servers or an in-house data center. There are minimal risks involved with the cloud and it is easier to manage and deploy while at the same time, saving you some bucks. It also takes off the duty of managing and maintaining servers off your team, allowing you and your team to build a better product and focus on what really matters.

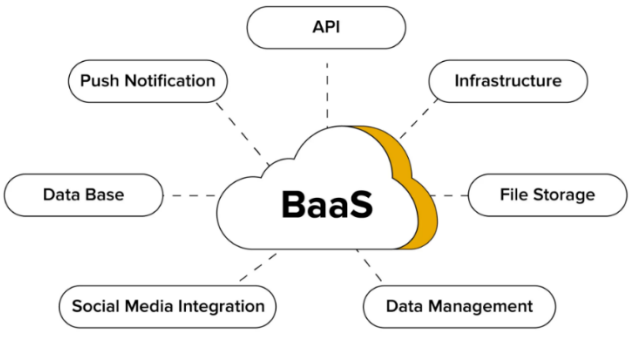
What is BaaS?

A Backend as a Service platform automates server-side development and handles the underlying infrastructure. It delivers ready-to-use backend building blocks, allows users to outsource the infrastructure management, and is used by app developers to build web and mobile apps.

Core Features of a Backend as a Service

The key features of a BaaS include:

- Database
- APIs and SDKs
- Cloud Code Functions
- Notifications (Push Notifications, Email Notifications, etc)
- Cloud Storage
- Authentication (Social Media, Email, etc)
- Cloud Based Hosting



Should I use a BaaS?

The advantages of a BaaS vs. a custom backend rely on a faster time-to-market, lower development cost, and scalability. On the other hand, a custom backend will provide more flexibility, complete control, and customization opportunities.

There is no right or wrong, and the ideal solution will depend on the project being developed.

Benefits of Using BaaS

1. Development Speed

The most evident advantage of using BaaS solutions is accelerating the development speed. A BaaS platform will deliver reusable pieces of code and help end-users avoid recreating the wheel.

Software development is expensive, time-consuming, and pretty much still performed manually. Automating repeatable tasks deliver massive productivity gains and can save up to 80% of the backend coding time depending on the project.

2. Reduce time to market

A faster time to market is a direct consequence of increasing the development speed. Having a project ready in less time has multiple advantages for startups and enterprises.

Early-stage startups usually struggle to find product-market-fit. So, the faster the product is ready, the better. The trial and error experimentation process of finding product-market fit will be faster and streamlined using a Backend as a Service. Simply put, the time and resources invested in each experiment will be lower versus coding every time the backend is from scratch.

Corporations and enterprises will also benefit from using a Backend as a Service. They will launch digital products faster, create satellite systems with fewer resources, and run multiple software tests simultaneously.

A Backend as a Service will play a vital role in simplifying the development process, standardizing tasks, and delivering ready-to-use features. Examples are:

- Test and launch digital products faster
- Run multiple tests
- Get feedback from users quickly

3. Focus on the core business

Another Mobile Backend as a Service mBaaS benefit is that you will support companies focus on core business operations. Companies that focus on their core competences will be able to concentrate efforts on what there are good at, have more time to handle important things, motivate staff, etc.

4. Cost

startups and enterprises shall allocate software engineers to perform high-value-added activities rather than boiler-plate, low-value repetitive tasks. A Backend as a Service will play a vital role and automate most of the repetitive tasks required to create a backend.

5. Standardize backend development

A Backend as a Service will standardize how software engineers build and deploy backend code. It is advantageous for the following reasons:

- Knowledge retention
- Consistent quality
- Delivery predictability
- Compliance
- Security

6. Fewer backend engineers

Hiring developers is complicated, expensive, and time-consuming. So, reducing the size of the development team will reduce the complexity of the hiring process and facilitate team management.

A BaaS or mBaaS will reduce the DevOps team size, allow the organization to work with fewer developers, and focus on delivering exceptional user experiences to the end-users.

7. Focus on UX and frontend development

Frontend, also known as the client-side, is the piece of the code that the end-user sees and interacts with. Examples are an app on a mobile phone or a website on your computer.

A great user experience and is important because it fulfills the user requirements, increases engagement, and the trust on a brand. So, trading off user interface for building repetitive backend tasks is not a smart choice.

A Backend as a Service will free up development resources on the backend and allow companies to invest more energy on the frontend side.

8. Allow developers to focus to high-value lines of code

As described above, developers are expensive! So, they have to focus their effort on creating business-centric lines of code.

Boilerplate code and repetitive tasks are not excellent ways to allocate developer time. For example, why reinvent the wheel and ask a developer to create a social-login integration? It makes no sense, and it's much better to use a pre-built template for this purpose.

9. Cross-platform development

sing a BaaS or mBaaS allows companies to implement a cross-platform development strategy very easily. Most BaaS vendors offer SDK – Software Development Kits that integrate with Android/ iOS and web applications.

So, a Backend as a Service solution will simplify cross-platform development and allow companies to integrate Android, iOS, and web applications under a single and standardized backend infrastructure.

10. React to feedback fast

MVPs – Minimum viable products are delivered faster using a Mobile Backend as a Service solution. As a result, companies can get feedback from end-users in a shorter time frame than traditional backend coding.

Let's consider a hypothetical example of a software product launched in 12 months using a traditional backend infrastructure. It means that end-users will start providing feedback to the MVP only after 12 months. Most likely, the first version of every MVP has low user ratings and needs to be improved. So, developing a backend from scratch will only allow the feedback cycle and improvement process to start after a long time.

On the other hand, a Backend as a Service will allow a much faster launch of the MVP. Supposing it takes four months, it means the end-user feedback cycle will start much earlier.

Based on the feedback, the development team will have time to improve the product, make new releases, and have a much more stable version after 12 months.

11. Serverless Environment

BaaS provides a serverless architecture to the users. So, another one of the essential mBaaS benefits that you will get from this service is no need for servers. The benefits of a serverless infrastructure includes:

- No server management hassles
- Lower-cost
- Flexibility
- Scalability
- Quick deployment and updates

12. Outsource cloud infrastructure management

Running, managing, and scaling server infrastructure is complex and time-consuming. It demands specialized and expensive DevOps engineers, adding unnecessary complexity to the application management process.

A BaaS implementation will free companies from this hassle, save them costs, and focus on more critical aspects of the business.

13. Scalability

Startups, in particular, may need to scale up resources very quickly. A Backend as a Service will make this process very smooth and straightforward. Most BaaS providers have a substantial quantity of servers under the hood, and scaling an application will be as easy as clicking a button.

14. Performance

Another one of the most important things that you will get as the Backend as a Service benefit is increased performance. The BaaS platforms run on robust and well-designed infrastructure. In most cases, that leads to better performance than deploying an application without professional support.

Examples of features that lead to better performance are the implementation of ready-to-use CDNs, multi-region deployments, and new-generation virtual machines.

15. Security

With the help of Backend as a Service, users will get enhanced security to their applications. A mBaaS solution will work with well-established security practices, update security patches, and provide a more robust environment than a self-coded backend.

16. Privacy Requirements

Along with the security, Backend as a Service offers ready-to-use GDPR protocols. Using a BaaS, companies will outsource the data processing requirements to a third party and save additional server setup time.

17. Continuous Delivery and Integration

CD and CI are two features commonly offered by backend providers. The benefits of a unified development include fault isolation, shorter review time, and a smoother path to production.

18. Testing and staging environments

Backend as a Service offers you a significant edge to test applications easily. Using a Backend as a Service building a new testing environment may be as easy as clicking a button. The user only needs to clone an existing application, and replicating all the data and schema will be an automated process.

19. Backup procedures

Most BaaS providers offer ready-to-use backup procedures. It will reduce the risk of losing data and streamline the backup recovery process.

20. Reliability

Most backend as service players will deliver a fully redundant infrastructure with applications running on multiple servers. It means the apps will never run on a single server that could be a single point of failure.

Even if a server fails, the application will operate normally with a fully redundant architecture because multiple servers are running simultaneously. The infrastructure setup will vary from provider to provider, and it’s essential to clarify this aspect before committing to a plan.

Below we are going to speak about the advantages and disadvantages of Cloud storage:

It's 2020, and now cloud storage has become one of the most convenient and efficient methods to store data online. There are many storage service providers on the internet, and this area is so vast now every big tech company owns a separate storage facility, which helps to generate a significant margin of revenue from the users. In cloud storing, the user, rather than saving the data at local storage or hard disk, stores data somewhere at the remote location, which can be accessed using internet service. There are various cloud storage service providers who sell storage services for different ranges.

Like other technologies and services, cloud storage has its pros and cons. Here in this article, we will discuss the ten benefits of using a cloud storage service. You should also be aware of all the cons of the particular tool, so here we have also provided some significant disadvantages of using cloud storage services.

The Advantages:

1. Usability and accessibility

Most all of the cloud services come with an easy-to-use user interface and provide a feature of drag and drop. For instance, you can think of Google drive from Google or iDrive from Apple. They both have a simple interface, and you

can easily upload your file on your online drive without any expert knowledge. For example, if you have saved a file in drive using a mobile device, you can retrieve that file using a computer or any other device with internet connectivity. It doesn't matter where you are right now. If you have a good internet connection, you can access your files, which is saved online somewhere on the data centres.

2. Security

If anything is associated with the internet, then safety becomes our primary concern, and mostly the big and small businesses use cloud storage services, so before they choose a cloud service for their business, they make sure that service provided giving them better security.

The cloud storage saves your data across the redundant servers, so even if one of the data centers gets collapsed, your data will be managed by the other data centers, which make your data safe and supervised. If all the data centers of the storage provider get collapse or destroyed, then only your data could be lost, and this is entirely impossible phenomena because a cloud storage service is formed of thousands of data centers.

Some of the cloud storage vendors keep the copies of your data at the different data centers, so even if the data get lost or corrupted at the server, the backup must be there.

3. Cost-efficient

By only using the cloud storage service, the business outsources the storage problem. By using online data storage, the enterprise reduces the expenses of internal resources. With this technology, the company itself does not need any inner power and support to manage and store their data; the cloud storage vendor handles all. There are some cloud storage services provided which give cloud storage for a lifetime at an affordable price, which is a win-win offer for small business and individual users.

4. Convenient sharing of files

Every cloud storage service provides the file-sharing features, which helps you to share your file with other users. You can either send a file to another user or invite multiple users to view your data. Mostly all the vendors provide a cloud environment in which two users using the same cloud service can share their data, though there are only a few service vendors that offer the cross-platform file sharing features.

5. Automation

Cloud storage works like a hard disk on your system, and if you want to store any file in the cloud, it will not temper any ongoing task. There may be more than one user using a cloud storage service, and the current responsibility of one user would not affect the task of another since it is all is managed and automated by the cloud vendor.

6. Multiple users

The same cloud environment can have more than one use associated with it. With cloud storage, multiple users can collaborate with the common file. For instance, you can give access to your files to multiple users so they can access and edit your file. The authorized person can access your file from any part of the world in real-time.

7. Synchronization

Every storage vendor gives the sync feature. With synchronization, you can sync the cloud storage data with any device you want. As we have discussed, we can access our data from any device and any part of the world, but this accessibility is done with the help of synchronization. With proper credentials, you can log in to your subscribed storage service with any device, and you will be able to access your all data that have been stored in that cloud storage. There is no need to copy data from one device to another, but you need a good internet connection to have access to all of your files.

8. Convenient

You do not need any hard disk or flash drive to access or view your data — all is done online. However, if you want to download any file or data, you may require a storage device or you can download that data in your device. But if you want to surf your data, then it would not occupy any space on your device. Even if you make any changes to the data, all the changes will reflect on every device which is synced with that storage service. You do not require any expert or technical

knowledge to use the cloud storage service. All the heavy lifting is managed by the vendor itself.

9. Scalable

Cloud storage is scalable and flexible. If the current plan of storage is not enough, you can upgrade the service plan. And you do not need to move any data from one location to another, the extra space will be added to your storage environment with some extra features.

10. Disaster recovery

Every business has a backup storage plan where they store all the copies of their data. If they encounter any collapse or loss of data problem, they can retrieve data from their backup plan, and that is why cloud storage is the best method to deal with this problem. Cloud storage service provides the best platform for disaster recovery data. Any business can use cloud storage as a data backup storage, so if there is a data loss, the company can retrieve backup data from the cloud.

Drawbacks to using cloud storage

1. Drag and drop

The drag and drop option may move your original data from one location to another, so make sure instead of using the drag and drop option. Simply use the copy and paste method.

2. Internet dependency

Without the internet, you cannot access your data while downloading the file from cloud storage. If there is an internet failure, it might corrupt the data which you were downloading.

3. Data security and privacy

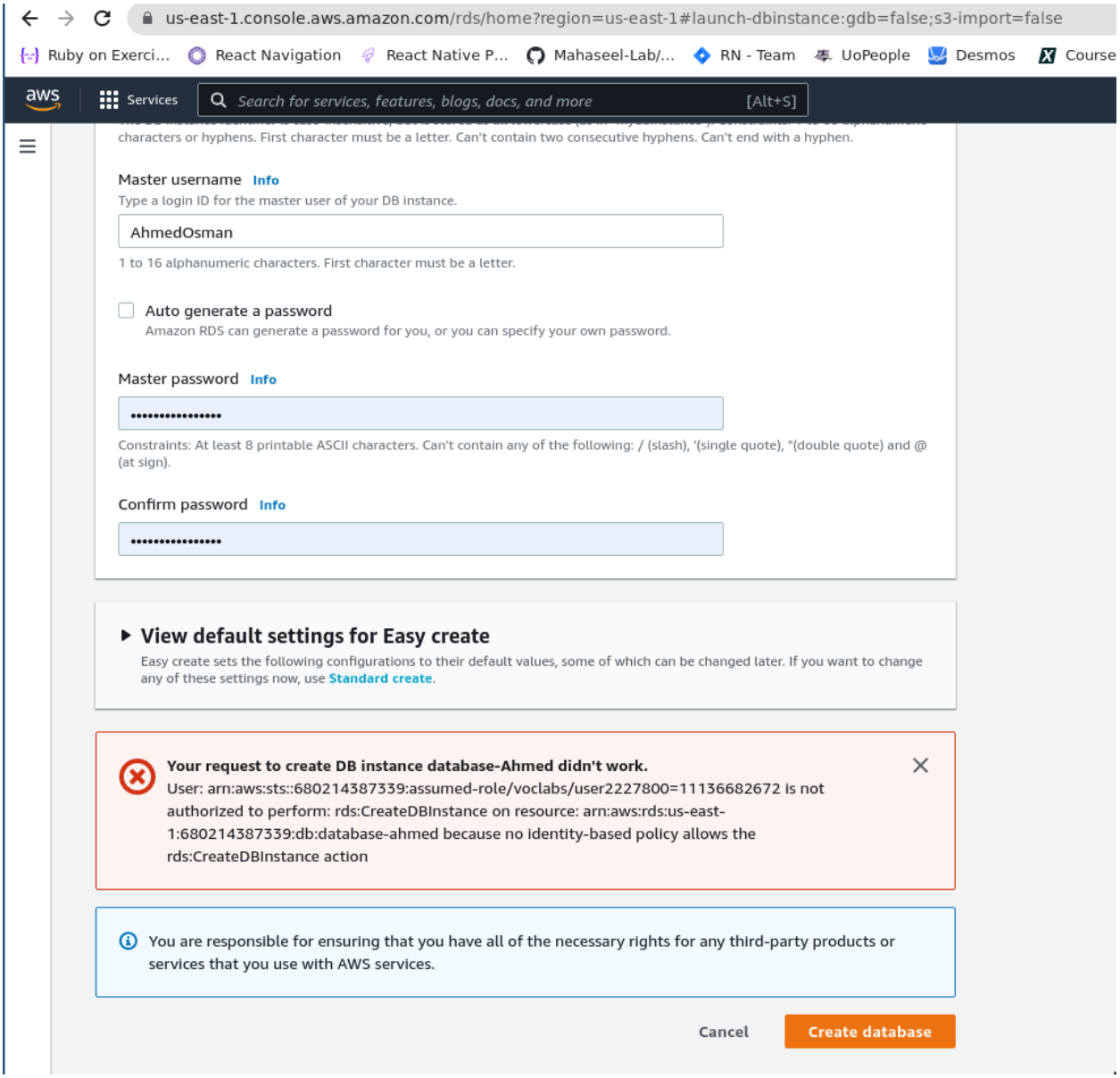
Many cloud storage vendors lack data security and privacy fields, and there are many cases where the data from the cloud storage gets leaked.

4. Expensive cloud storages

Most of the best cloud services are expensive; this is because they are specially designed for business purposes. If you go for a less expensive plan, you might have to compromise with some of the features.

Conclusion

In the last decade, cloud services have gained so much popularity in the software industry — and now every big tech company has its cloud service. No matter whether it's a small or big business, everyone requires cloud service to store data because data is the next power weapon. Big tech is investing a lot in the cloud industry because it holds the potential to change the complete structure of storage and communication.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characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.
Master username Info
Type a login ID for the master user of your DB instance.
AhmedOsman
1 to 16 alphanumeric characters. First character must be a letter.
Auto generate a password
Amazon RDS can generate a password for you, or you can specify your own password.
Master password Info
Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), '(single quote), "(double quote) and @ (at sign).
Confirm password Info
View default settings for Easy create
Easy create sets the following configurations to their default values, some of which can be changed later. If you want to change any of these settings now, use Standard create.
Your request to create DB instance database-Ahmed didn't work.
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You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.
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Create database