

Healthcare on Cloud

February 2022 • Volume-6



EDITORS

• Dr. Vinita Gaikwad • Dr. Mukesh Gupta

ABOUT TIMSCDR

The Thakur Educational Group comprises of three Trusts namely Thakur Educational Trust (Regd.), Zagdu Singh Charitable Trust (Regd.) and Zagdu Singh Educational Trust (Regd.) managed by the Thakur family and runs 16 Institutes located in Kandivali, western suburb of Mumbai.

TIMSCDR (Thakur Institute of Management Studies, Career Development and Research) is dynamic institute striving to provide quality higher education. The institute is an ISO 9001:2015 certified providing three years MCA (Master of Computer Application) course. The MCA Course of TIMSCDR is NBA Accredited. All possible ways of acquiring academic insight and undertaking appropriate academic initiatives are explored at the institute. TIMSCDR also has an ISTE (Indian Society of Technical Education) chapter. Residence-cum-study facility is available for boys and girls in secured modern Hostel Buildings with green, clean and healthy ambience situated near the Institute.

TIMSCDR is organizing next International Conference ICAIM-2020 which serves as a platform for gathering all academicians, industrialist, researchers and professionals in the disciplines of Information Technology, Agriculture and Medicine (Nutrition).

ABOUT AMC

The Association of Medical Consultants (AMC) was established in 1972 by a small group of energetic active and concerned medical consultants from distant suburbs who often assembled and animatedly discussed their common problems. Over the years, the immense need rose for an organisation of this nature and the Association grew rapidly. It is now one of the fastest growing Associations of Specialist Doctors in Mumbai and boasts of a membership strength of more than 9000 Medical Consultants. AMC represents Consultants practicing at corporate and non corporate Tertiary care referral Hospitals (both Government and Private) and individual Consultants practicing through their own consulting rooms, Clinics & Nursing Homes spread across Greater Mumbai, Navi Mumbai and Thane districts. It is recognized as a frontline Medical Organization and is an important opinion making body which addresses vital public health and professional issues facing the medical profession in general and medical consultants in particular. AMC has effectively brought together consultants of various disciplines on one platform and aims to highlight and offer solutions to all the important day to day problems faced by consultants.

ABOUT MACCIA

Maharashtra Chamber of Commerce, Industry & Agriculture (MACCIA) is the Apex Chamber of the State. The Chamber plays a pivotal role in supplementing and augmenting the efforts of Government for the economic development of the State and advancement of its people. With more than 3500 direct Members, comprising of large, medium and Small-Scale Industries, Traders, Agriculturist and Professionals, MACCIA is the only Chamber in Maharashtra, which has deep-roots in all the 35 Districts encompassing 355 Talukas of Maharashtra. In addition over 800 Local Trade and Industry Associations and professional bodies having collective membership of over 700,000 business organizations from all over the State are affiliated to the Chamber and thus it virtually functions as the State's Apex Chamber.

NCSH

Nordic Center for Sustainable Healthcare (NCSH) is a cross-sectoral arena and network involving stakeholders, organizations, projects and expertise in the area of sustainable healthcare, all sharing the goal to create a more sustainable healthcare sector. The network of NCSH includes companies, hospitals, regions, universities, NGOs, clusters and more. Together they form an arena which generates collaborations, projects, business, knowledge and new innovative ideas.

ABOUT DMI

Development Management Institute (DMI) was set up on February 13, 2014 pursuant to a desire of the Government of Bihar to establish a High Performing Knowledge Institution (HPKI). DMI believes that the livelihoods of small producers and marginalised people can be enhanced by organising them to form member participation based, democratically governed institutions that leverage the strengths of collectives and build enduring partnerships with professionals for reaping the benefits of technology and market integration. Inspired by and recognising the growing need for Development Management Professionals, the Government of Bihar took the initiative to establish DMI as an autonomous institution. The rationale of DMI is best captured in its mission.



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Forward



Dr. Sushmita Bhatnagar
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The current Post-Covid era has brought in enormous modifications in our professional methods as well as our lifestyle. This era is witnessing a technology boom like never before, especially for the medical profession. What is important for us to know is the recent developments in MedTech (Medical Technology) and this year in 2022, the Association of Medical Consultants has taken the lead to spread the awareness as well as initiate discussion amongst various stakeholders. The most recent and the most revolutionary development is The Ayushman Bharat Digital Mission (ABDM) which aims to develop the backbone necessary to support the integrated digital health infrastructure of the country. It will bridge the existing gap amongst different stakeholders of Healthcare ecosystem through digital highways.

ABDM, an initiative of the Union Health Ministry, was launched in August 2020 to develop an integrated digital health infrastructure, with digital Health IDs of citizens, standardised health facility and health professionals registries, a federated personal health record system for sharing health data within the ecosystem, and to store all of the user's health record. With this, the cloud will also become an integrated and an essential platform for which workshop has been scheduled for the medical professionals so that a comprehensive knowledge and hands on training is easily and readily available to them.

I wish the Doctors from AMC attending this unique training program the very best. The training provided by the team of TIMSCDR Professors will surely enrich the IT knowledge of the participants of the workshop so as to make best use of DIGITAL HEALTH MISSION during their daily practice.

Preface



Dr. Mukesh Gupta
Founder Director – Le'Nest,
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CCOVID-19 pandemic brought about many changes in individuals and domains across the globe. Lifestyle changed drastically and people are more mindful about the air they breathe and their health in general.

One of the most prominent change that the COVID-19 pandemic induced was touchless practices. The COVID-19 virus spreads mainly from person to person. The virus is transmitted through droplets or aerosols, airborne, surface or faecal-oral. As surface is one major medium of transmission, adopting touchless practices is essential.

In the Healthcare sector adopting touchless practices is of utmost priority as the Doctors and healthcare workers are continuously dealing and dwelling with COVID-19 infected patients. Healthcare sector requires to consciously transfer its system of working to the touchless platform as and where possible and necessary.

To migrate to the touchless platform, Information Technology will play a crucial role. To begin with, in the initial stages of the pandemic, Telemedicine platform using latest software tools was the means to communicate and treat patients in the touchless form - virtually. After surpassing the third wave of the pandemic it is necessary that individual Doctors and small and large Healthcare facilities should switch to the touchless platform, starting with maintaining Electronic Healthcare Records and sharing the same with hospitals staff and patients and providing e-copy of prescriptions and bills.

Taking a step further, Cloud in Healthcare is the next level of to touchless practices. Data stored at the individual Doctor's Clinic or Hospital is available only within that facility. To share the data with other facilities or with the Government, Cloud technology is essential. The risk of loss of important data and security is also taken care of by the Cloud Technology.

COVID-19 pandemic has brought some necessary and useful changes. Healthcare on Cloud is one of the prominent one.

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Introduction to Cloud Computing

● What is Cloud Computing?

Cloud computing is the on-demand availability of computing services including servers, storage, databases, networking, software, analytics, and intelligence over the cloud, without direct active management by the user. It offers faster innovation, flexible resources, and economies of scale.

One has to pay only for the cloud service which they use, thus helping in lowering operating costs, letting infrastructure to work more efficiently and scale as per user/business requirement.

Cloud computing in the healthcare sector describes use of remote servers which are accessed via the internet to save, manage and process healthcare-related data.

Cloud computing in healthcare sector provides following:

1. Efficient Electronic Medical Record-Keeping
2. Streamlines Collaborative Patient Care
3. Reduces Data Storage Cost
4. Offers Superior Data Security

5. Offers Flexibility and Scales Easily
6. Enhances Patient Safety
7. Drive Medical Research
8. Drive Data Interoperability
9. Connected Medical Devices

● History of Cloud Computing

Millennials may think that cloud computing is something from new generations, but the truth is that it actually roots back from over 60 years. Late in 1950s, organizations were using an increasingly complex and ever-changing system to process their data.

Mainframe system available since then were very huge and highly expensive. Thus it led most organizations to implement “time-sharing” schedules. Using “time-sharing” schedules, the connected stations can access the Mainframe system. Thus computational power was shared which is the basic premise of the cloud. Since then cloud computing kept growing.

In 1961, at MIT a speech was given by John MacCharty that “Computing can be sold as a Utility, like Water and Electricity”. His speech conveyed that it is a brilliant idea. But as the time fleet the idea was caught again after few years and was implemented by Salesforce.com in 1999. They started delivering an enterprise application over the internet and this led to the boom of Cloud computing technology.

In 2002, Amazon started AWS which provided storage and computation over the Internet. Then in 2006 Amazon launched Elastic Compute Cloud Commercial Service which was open for everyone to use.

In 2009, Google Play also started providing CC Enterprise Application and with the emergence of cloud computing it also provided cloud services. Later in 2009 Microsoft launched Microsoft Azure and after that many companies introduced cloud Services.

Cloud Computing history in healthcare-

Cloud computing was creating new opportunities, the ability to build a virtual health care system which is beneficial for all the industry stakeholders, reaching from individual patients who want to track their daily habits to government agencies working with programs for citizens’ healthcare. For the healthcare sector, it’s a huge step forward to treating lifestyle-related non-communicable diseases.

● Why is it used?

Speed to market: Developing in the cloud enables users to get their applications to market quickly.



Data security: Hardware failures do not result in data loss because of networked backups.

Savings on equipment: Cloud computing uses remote resources, saving organizations the cost of servers and other equipment.

Efficiency in business operations is achieved in the following ways through the use of cloud computing:

Accessibility : Cloud computing facilitates the access of applications and data from any location worldwide and from any device with an internet connection.

Cost savings : Cloud computing offers businesses with scalable computing resources hence saving them on the cost of acquiring and maintaining them. These resources are paid for on a pay-as-you-go basis which means businesses pay only for the resources they use. This has proven to be much cheaper than acquiring the resources on their own.

Security : Cloud providers, especially those offering private cloud services, have strived to implement the best security standards and procedures in order to protect client’s data saved in the cloud.

Disaster recovery : Cloud computing offers the most efficient means for small, medium and even large enterprises to backup and restore their data and applications in a fast and reliable way.

Flexibility is achieved in the following ways when using cloud computing:

Scalability : Cloud computing is the best option for businesses with fluctuating workloads since cloud infrastructure scales depending on the demands of the business.

Tools Selection : Cloud computing allows businesses to select specific prebuilt tools and features to derive solutions tailored to their specific needs.

Cloud options : Cloud computing offers private cloud, public cloud and hybrid cloud solutions each with different features. Organizations can choose these options depending on what best serves their needs.

Control choices : Businesses can determine their level of control with as-a-service options offered by the cloud provider. These options include SaaS, PaaS, and IaaS.

Cloud computing allows businesses to gain a strategic edge in their niche in the following ways:



Increased productivity : Cloud service providers acquire and manage underlying cloud infrastructure hence enabling businesses to focus their energies on their core business operations.

Automatic software updates : All the software applications that are accessed through the cloud are usually up-to-date. This enables businesses to access the latest features without having to maintain the system themselves.

Competitiveness : Businesses that employ cloud computing are able to maneuver more nimbly as compared to competitors who devote their energies to acquiring and maintaining IT resources.

Increased collaboration : With the capabilities of cloud computing, individuals from different places can collaborate in business projects without necessarily having to meet.



Types of Cloud

1. Private Cloud

A private cloud is a single-tenant environment, meaning the organization using it (the tenant) does not share resources with other users. Those resources can be hosted and managed in a variety of ways. The private cloud might be based on resources and infrastructure already present in an organization's on-premises data center or on new, separate infrastructure, which is provided by a third-party organization. In some cases, the single-tenant environment is enabled solely using virtualization software. In any case, the private cloud and its resources are dedicated to a single user or tenant.

Private cloud is a type of cloud computing that delivers similar advantages to public cloud, including scalability and self-service, but through a proprietary architecture. A private cloud, also known as internal or corporate cloud, is dedicated to the needs and goals of a single organization whereas public clouds deliver services to multiple organizations.

2. Public Cloud

Public cloud is an alternative application development approach to traditional on-premises IT architectures. In the basic public cloud computing model, a third-party

provider hosts scalable, on-demand IT resources and delivers them to users over a network connection, either over the public internet or a dedicated network.

The public cloud model encompasses many different technologies, capabilities and features. At its core, however, a public cloud consists of the following key characteristics:

- On-demand computing and self-service provisioning
- Resource pooling
- Scalability and rapid elasticity
- Pay-per use pricing
- Measured service
- Resiliency and availability
- Security
- Broad network access

The public cloud provider supplies the infrastructure needed to host and deploy workloads in the cloud. It also offers tools and services to help customers manage cloud applications, such as data storage, security and monitoring.

A public cloud is a platform that uses the standard cloud computing model to make resources -- such as virtual machines, applications or storage -- available to users remotely. Public cloud services may be free or offered through a variety of subscription or on-demand pricing schemes, including a pay-per-usage model.

Other public cloud vendors with cloud storage services include the following:

- Amazon Web Services (AWS)
- Microsoft Azure
- Oracle cloud
- Box
- Google

3. Hybrid Cloud

Hybrid cloud refers to a mixed computing, storage, and services environment made up of on-premises infrastructure, private cloud services, and a public cloud—such as Amazon Web Services (AWS) or Microsoft Azure—with orchestration among the various platforms. Using a combination of public clouds, on-premises computing, and private clouds in your data center means that you have a hybrid cloud infrastructure.

Although cloud services can drive cost savings, their main value lies in supporting a fast-moving digital business transformation. Every technology management

organization runs under two agendas: the IT agenda and the business transformation agenda. Typically, the IT agenda has been focused on saving money. However, digital business transformation agendas are focused on investments to make money.

The primary benefit of a hybrid cloud is agility. The need to adapt and change direction quickly is a core principle of a digital business. Your enterprise might want (or need) to combine public clouds, private clouds, and on-premises resources to gain the agility it needs for a competitive advantage.

4. Community Cloud

A collaborative effort where infrastructure is shared between several organization belonging to specific community who shares common concerns, which are managed internally or third-party and hosted externally or internally

Community cloud has great potential for organizations seeking cost-effective cloud services to work on joint projects and work collaboratively.

Advantages:

- Openness and Impartiality
- Flexibility and Scalability
- High Availability and Reliability
- Security and Compliance
- Convenience and Control
- Less Work for the IT Department

● QTS Healthcare Community Cloud (HCC)

It is a purpose-built community cloud solution by affiliated service providers for healthcare organizations. It provides on demand consolidation of information and data sharing conveniently and securely. Thus, physician groups, hospitals, health plan administrators, healthcare clearinghouses, and other members of the healthcare community are revolutionizing the way they collaborate via the cloud.

Concern about the healthcare community is security of patients' data i.e. patient records, lab/test analyses, and broader health information. QTS has a proven history of achieving compliance standards and serving the infrastructure needs for healthcare IT.



Services of Cloud

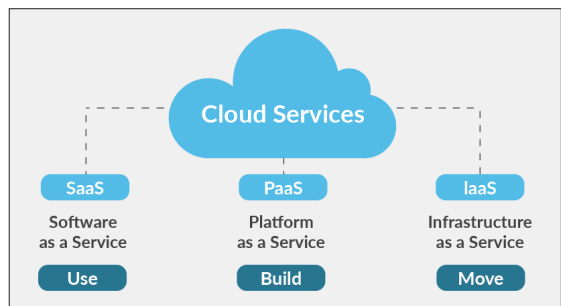
The cloud enables cloud computing. The cloud allows software and services to run on the Internet, instead of only locally (i.e. on only one device), because the data is stored remotely across a variety of different servers. These software and services can be accessed on any Internet browser, or via online apps that can be accessed on different devices (such as smartphones, mobile phones, iPads, tablets etc.).

Cloud services are infrastructure, platforms, or software that are hosted by third-party providers and made available to users through the internet. ... Users can access cloud services with nothing more than a computer, operating system, and internet connectivity or virtual private network (VPN).

Types of cloud services

Cloud Computing provides the following services.

1. Software as a Service-SaaS
2. Platform as a Service-PaaS
3. Infrastructure as a Service-IaaS
4. Storage as a Service-STaaS



1. Software as a Service (SaaS) :

The most widely recognized type of cloud service is known as software as a service, or SaaS. This broad category encompasses a variety of services, such as file storage and backup, web-based email, and project management tools.

Examples of SaaS cloud service providers include Dropbox, G Suite, Microsoft Office 365, Slack and Citrix Content Collaboration. In each of these applications, users can access, share, store, and secure information in “the cloud.”

For example : Google Group, Google Calendar, Google Meet / Google Duo, Google Chat, Keep, Task Reminder, Google Business Message

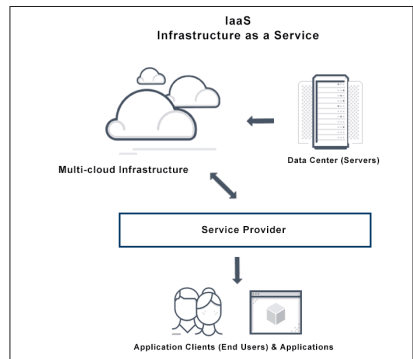
2. Infrastructure as a Service (IaaS)

Infrastructure as a service, or IaaS, provides the infrastructure that many cloud service providers need to manage SaaS tools—but don’t want to maintain themselves. It serves as the complete data center framework, eliminating the need for resource-intensive, on-site installations.

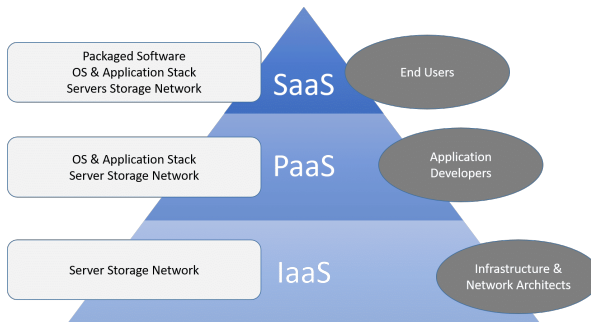
Examples of IaaS are Amazon Web Services (AWS), Microsoft Azure and Google Compute Engine. These providers maintain all storage servers and networking hardware, and may also offer load balancing, application firewalls, and more.

IaaS includes hardware and software components which give IT administrators more control over their cloud environment. IaaS resources include servers, storage, network, security, and operating system (OS) licensing.

The biggest difference between IaaS and the two other most common forms of cloud computing, Software-as-a-Service (SaaS) and Platform-as-a-Service (PaaS), is shown through the following diagram:



Cloud Service Models



BENEFITS OF IAAS IN THE HEALTHCARE ENVIRONMENT

- Facing the expense of a technology or hardware refresh
- Ready to implement EHR solutions that require complex environments
- Short-staffed due to changing needs or loss of experienced IT professionals
- Desiring a disaster recovery environment outside their own region
- Concerned about ePHI security or other compliance issues (HIPAA compliant providers).
- Seeking a more predictable cost structure

3. Platform as a Service (PaaS)



- Platform as a Service (PaaS) refers to a cloud computing configuration that helps enterprises operate with an efficient cloud-based strategy.
- PaaS provides a platform for customers to develop, run, and manage applications without building and maintaining the cloud infrastructure required to develop and launch applications.
- PaaS permits more efficient application development since the organization can focus on the application itself.

Users of PaaS may also choose to subscribe to iPaaS, integration platform-as-a-service. This model is a set of automated tools which link applications deployed in different environments. Large business-to-business (B2B) enterprises looking to integrate on-premises applications and data with cloud applications and data, in environments such as hybrid cloud, often use iPaaS to meet this need. Companies who provide iPaaS include MuleSoft, SnapLogic, Dell Boomi, and Informatica. Microsoft and Oracle offer iPaaS as well.

Benefits of a PaaS

- API development and management
- Business analytics/intelligence

- Business process management (BPM)
- Communications
- Database
- Master data management (MDM)

4. Storage as Service (SaaS):

Storage as a service was originally seen as a cost-effective way for small and mid-size businesses that lacked the technical personnel and capital budget to implement and maintain their own storage infrastructure. Today, companies of all sizes use storage as a service.

Storage as a service in cloud computing

Instead of storing data on-premises, organizations that use STaaS will typically utilize a public cloud for storage and backup needs. Public cloud storage may also use different storage methods for STaaS. These storage methods include backup and restore, disaster recovery, block storage, SSD storage, object storage and bulk data transfer. Backup and restore refers to the backing up of data to the cloud, which provides protection in case of data loss. Disaster recovery may refer to protecting and replicating data from virtual machines (VMs).

Benefits of STaaS

- Storage costs: Personnel, hardware and physical storage space expenses are reduced.
- Disaster recovery: Having multiple copies of data stored in different locations can better enable disaster recovery measures.
- Scalability: With most public cloud services, users only pay for the resources that they use.
- Syncing: Files can be automatically synced across multiple devices.
- Security: Security can be both an advantage and a disadvantage, as security methods may change per vendor. Data tends to be encrypted during transmission and while at rest

Popular storage-as-a-service vendors

Examples of STaaS vendors include Dell EMC, Hewlett Packard Enterprise (HPE), NetApp and IBM. Dell EMC provides Isilon NAS storage, EMC Unity hybrid-flash storage and other storage options. HPE has an equally large, if not larger, presence in storage systems compared to Dell EMC.

Cloud based applications can help to optimize Electronic Medical Records (EMR) and improve patient care coordination. But this is only one of the many benefits of the integration of cloud services in the healthcare sector.

To effectively address the needs of business and patients, tech-savvy healthcare professionals are turning towards cloud computing for all its benefits. Cloud computing, with its on-demand availability, internet-based services, and high-data availability, has transformed the entire healthcare domain and converted it into HealthTech.

● **The Role of Cloud Computing in Transforming the Healthcare Industry**

1. Collaboration :

With cloud computing, the process of data sharing has become a lot easier and simpler. As healthcare organizations going towards value-based care payment methods, the collaboration between doctors, departments, and even institutions are essential. Medical providers can transfer data between each other through a cloud computing server, boosting cooperation for better treatment.

Cloud has also facilitated remote conferencing, quick updates on healthcare developments, and patients' conditions, which altogether make it a perfect companion for healthcare professionals.

2. Security :

Most cloud providers nowadays offer security, risk management, and monitoring services to protect their users from unauthorized access and breaches. The cloud network ensures safety as it has specific security tools that can inform you about suspicious attempts.

As cloud acts as a repository of data, cloud service providers like AWS or Azure are extra cautious in complying with the privacy standards like HIPAA and GDPR. These service providers resort to different safeguard mechanisms like network fireball, customer-controlled encryption, etc., which makes it the safest and most reliable option for data-related needs.

3. Cost :

Cloud can hold an enormous amount of information at a very minimal cost. Since it runs under a subscription model and pay-as-you-go model, that means you only have to pay for those services which you are availing. So, ultimately it can reduce your in-house infrastructural costs and other operational costs to a great extent. It ultimately makes it even possible for smaller hospitals with a tight budget to adopt a cloud-based model.

4. Speed :

It is one of the important criteria before making decisions about selecting

any technology. Cloud-based tools can update and upgrade their features at a commendable pace with minimal intervention, and you can get real-time updates as well on all the relevant information.

The advantages of cloud computing in healthcare include unmatched speed and faster access to information, which can overcome the stumbling blocks which the industry stakeholders and patients are encountering. In the future this technology has also modified the scope of clinical research, and the cloud can facilitate clinical trial management and knowledge sharing.

5. Scalability and Flexibility :

Cloud facilitates technologies that are used in healthcare like electronic medical records, mobile apps, patient portals, devices with IoT, big data analytics. It provides hassle-free scalability and flexibility, which in turn improves the ultimate decision-making process.

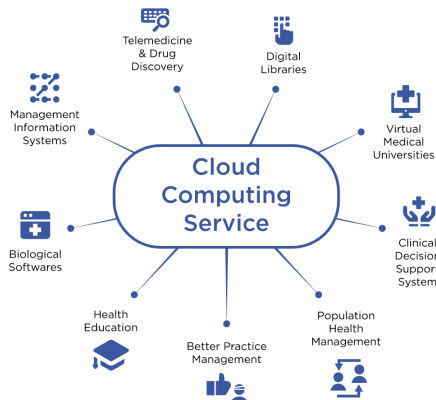
Since cloud computing runs under a subscription model, healthcare providers can save money from not purchasing expensive systems and equipment, as well as reduce costs by using the cloud provider’s resources.

Along with 24*7 availability, healthcare providers drastically need to scale the data storage and network requirements as per the service demands. Cloud technology can increase or decrease these storage needs as per the need of healthcare professionals.

Even the Cloud migration strategy not only reduces risks but also minimizes the chances of downtime, prevents information leaks, improves data handling, and strengthens security practices.

● Applications of Cloud Computing in Healthcare

Following are some of the cloud computing application services that can be used in healthcare:



- **Electronic Health Record (EHR) Software**

EHR software is one of the most popular (if not the single most popular) type of software used by hospitals and clinics. In many ways, it's similar to a CRM, only adjusted to the medical industry.

EHR software collects information on patients – for example, the medication they take, doctors' recommendations, and the procedures that they have undergone in the past.

The two most popular types of EHR software are:

- **Electronic patient record software (EPR)** – used internally by hospitals to store and process their patient information.
 - **Electronic medical record software (EMR)** – used to store data like medication types and dosage, past and planned procedures, and data on the patient's recovery course.
- **Telemedicine Application :**

In some software, the video conferencing feature is complemented by e-prescriptions and a billing module.

It helps hospitals, clinics, and medical practices manage their appointment systems online. Typically, the software features a patient panel that lets individuals schedule appointments via an app or website. Often, it also has an email notification system and automatic reminders for doctors and patients about upcoming appointments.

Example : Google calendar, Zcal, Google meet

- **Health Tracking Apps**

In 2019, the global mHealth (short for 'mobile health') app industry was valued at \$37 billion. A large portion of the market can be attributed to the following app categories:

Fitness – for example, the popular 8fit app.

Diet – for example, Fitatu Calorie Counter and Diet.

Meditation and stress reduction – for example, the incredibly popular Calm and Shine apps

There's also an increasing number of apps that integrate with IoT devices worn to source and analyze users' health data. Some of the most popular types are wristbands for sleep tracking (for example, FitBit), jewelry (for example, the health-tracking Oura Ring), glucometers, and thermometers (used, amongst other things, for menstrual cycle tracking – for example, the Kindara app).




Google Cloud has been one of the top cloud providers in the IT industry. The services they offer can be accessed by software developers, as it provides a reliable and highly scalable infrastructure to build, test, and deploy their applications. It provides a suite of communication and collaboration apps that include Mail, Calendar, Drive, Docs, Sheets, Slides, and Forms.





It provides computing services to do everything from data management to delivering web and video over the web to AI and machine learning tools. Customers are able to access computer resources housed in Google’s data centers around the world for free or on a pay-per-use basis.





Google Cloud v/s Google Cloud Platform





Google Cloud includes a combination of services available over the internet that can help organizations to go digital. Google Cloud Platform provides public cloud infrastructure for hosting web-based applications and is the focus of this blog post as a part of Google Cloud.





List of Google’s Cloud based Products

Search and Explore		
		
Search Ask questions. Find answers.	Maps Explore your neighbourhood and get around with real-time traffic information.	Translate Speak, scan, type, or draw to translate in over 100 languages.

Watch and Play			
			
YouTube Music A new music streaming app. Made by YouTube.	Chromecast Stream movies, music and more from your phone to your TV.	Google Play Movies & TV The newest releases, plus all your favourite, even on your TV.	YouTube Discover, watch, and share your favourite videos and music.

Talk and Text			
			
Gmail Email by Google—secure, smart, and easy to use—helping you save time and do more with your inbox	Messages Simple, helpful messaging to help you connect with those who matter.	Google Duo Simple, high-quality video calling for Android and iOS.	Google Chat Google Chat allows you to securely message with your team.

Stay Organized			
			
Google Photos All your photos, organized, and easy to find.	Contacts Keep your address book clean, safely backed up, and available everywhere.	Calendar Organize your schedule and share events with those in your life.	Keep Save your thoughts as notes, lists, and voice memos from anywhere.

Work Smarter			
			
Docs All your documents, editable and shareable, wherever you are.	Sheets Smart spreadsheets you can work on from anywhere.	Slides Tell stories with presentations you can create and take anywhere.	Drive A safe place to keep, access, and share your files.

Google cloud v/s Google Drive

- Google Cloud Storage is a developer service and Google Drive is a personal service. For instance, Google Drive seems to be much cheaper than Google Cloud.
- In conclusion, we can say that Google Cloud is more often used by Developers to save backups and time for solving problems whereas Google Drive is made for personal data backups like hard disk backups YouTubers use.
- Google Cloud, as well as Google Drive both, are Google's products though they have a different level of storage and prices taking consideration of the economic conditions of every individual. But if an individual is looking for tighter security then Google Cloud is the one to go for.
- Many times, we find it hard to send attachments on mail which exceeds the limit, but Google Cloud and Google Drive have a solution for that, we just need to upload our document on drive or cloud and share the link. And it's done.
- Google Cloud is a kind of disk storage whereas Google Drive is User Interface storage.

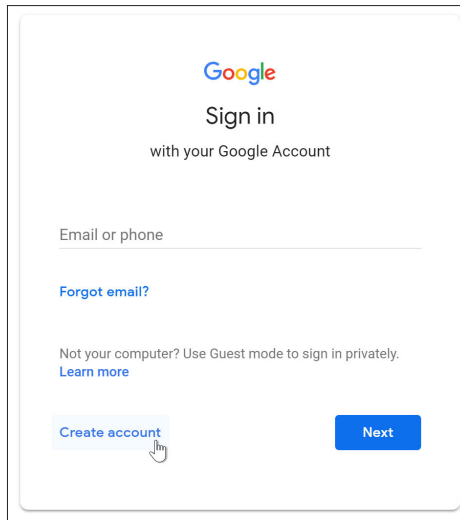
Google's Storage As a Service

1. Google Drive

- Google Drive is a cloud-based storage solution that allows you to save files online and access them anywhere from any smartphone, tablet, or computer.

- Using a cloud storage service like Google Drive has plenty of advantages, such as easier file sharing and having a remote location to backup your files.
- If you have a Google account, you already have 15 GB of free storage on Google Drive.
- Google Drive gives you the power to upload and save a range of file types — documents, photos, audio, and videos — to Google servers, or the “cloud.” Drive can serve as a backup solution, or as a way to free up space on your device.

● Steps to Create a Google Account



1. Go to <http://www.google.com>. select the Sign in button in the top-right corner of the page.
2. Click Create an account, if you are a new user otherwise sign in with an existing email address or password.
3. The sign-up form will appear. Follow the directions and enter the required information.
4. Next enter your phone number. Google will send a verification code to your phone that you will use to complete the sign-up process.
5. Enter the verification code sent to your phone and click Verify.
6. The personal information page will appear. Follow the directions and enter your information, including your birth date and gender.
7. Review Google’s Terms of Service and Privacy Policy, then click I agree.
8. Your account will be created.

● Assessing Google Drive

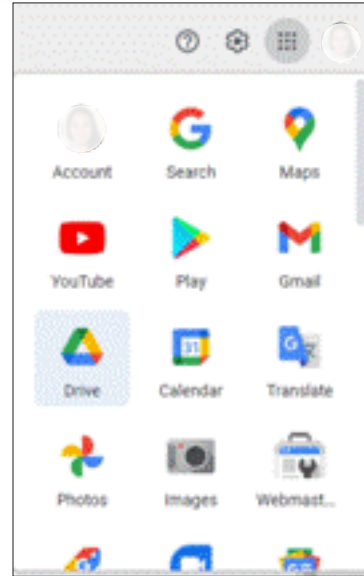
Once you've set up your Google account, you can access Google Drive by going to <http://drive.google.com> in your web browser.

You can also navigate to Google Drive from any Google page (such as Gmail or Google search) by selecting the grid icon near the top-right corner, then clicking Drive.

Uploading and creating files

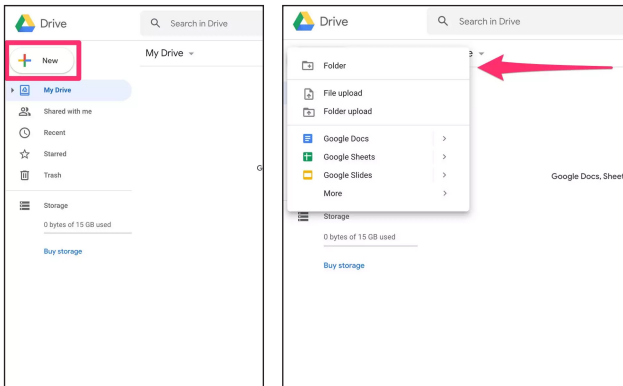
To get started, you can drag and drop files into Drive, or create something new. To access files on Google Drive, you'll need to upload them.

You can also use the "New" button to create a new file, document, spreadsheet, or presentation. Depending on your needs, just click on the app from the dropdown menu. All new files are automatically saved and accessible from your Drive.



Managing and organizing files and folders

Creating folders is an easy way to organize your files. Once you have enough files, you may want to organize them.



Much like organizing files on your desktop, the easiest way to manage your Drive is to create folders. To create a new folder on the web interface, navigate to your Drive and click "New," then "Folder."

After you name your folder, you'll be able to drag and drop files to the folder, which can be found under "My Drive" on the pane to the left of your screen.

Sharing files and folders

The biggest draw of Google Drive is the ability to share files and folders with others. From sharing videos to entire Drive folders, Drive makes sharing simple. To share a Google Drive file or folder, right-click on it to bring up the context menu, then click “Share.”

Accessing Google Drive

Now that we have some basics out of the way, it’s important to note that there are multiple ways to access your Drive. In addition to using Drive in your web browser, you can also access the cloud from your mobile device or desktop.

The Google Drive mobile app is available for both iOS and Android, and it’s a must-have for anyone who wants immediate access to their files from anywhere.

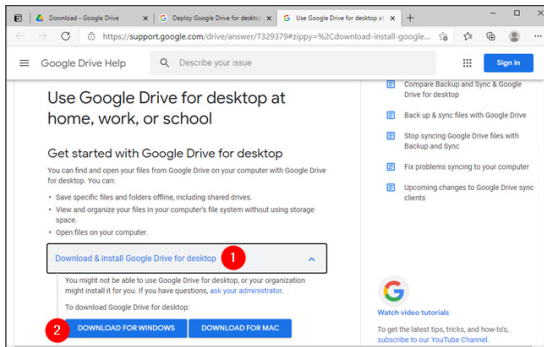
The app lets you to view, download, upload and delete files, all from your mobile device.

If you’re interested in creating, editing, and organizing files on-the-go, you’ll need to download the relevant standalone mobile app. Each app has offline support built in so they can function on their own without internet connection, but they’re also designed to work seamlessly with the Google Drive app:

- Google Docs
- Google Sheets
- Google Slides
- Google Calendar
- Google Meet

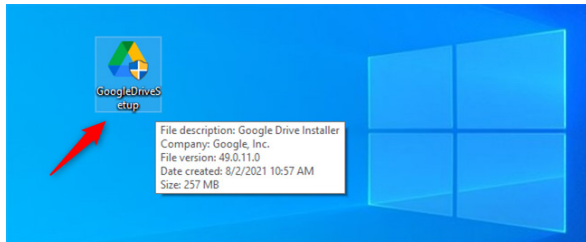
How to install and add Google Drive to File Explorer (or Windows Explorer) ?

To add Google Drive to Quick access and as a drive in File Explorer, you must first download and install it on your Windows PC or device. Go to the app’s download page from your web browser and click or tap on the “Download & install Google Drive for desktop.” Then, press the “Download for Windows” button, as seen below.



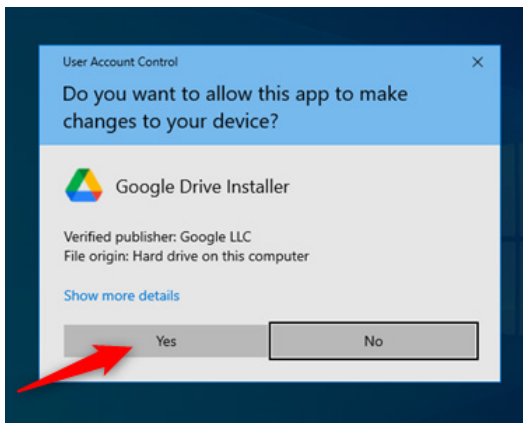
Download Google Drive for desktop

When your web browser asks you what you want to do with the downloaded file, choose to save it somewhere on your PC. The desktop is fine, for example. Then, double-click or tap on it to launch the installer.



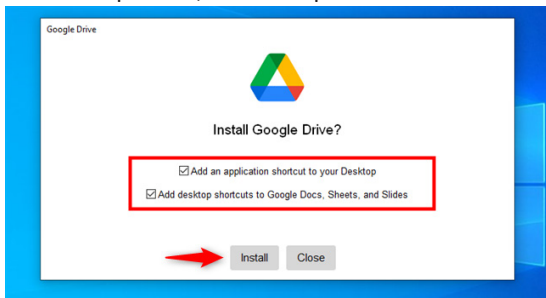
The GoogleDriveSetup.exe installer file

Approve the installation when Windows asks your permission. Note that you need to use an administrator account to do that.



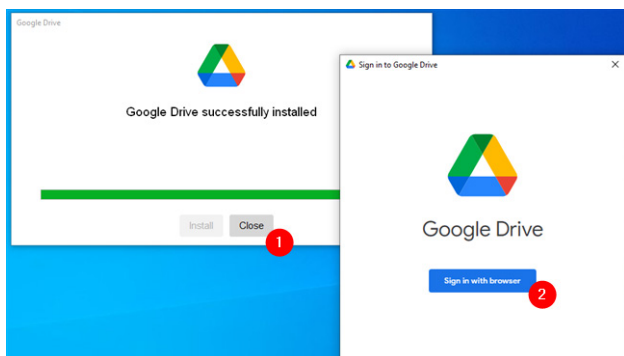
Approving the installation of Google Drive for desktop

Choose whether you want to add shortcuts for *Google Drive*, *Google Docs*, *Sheets*, and *Slides* to your desktop. Then, click or tap Install.



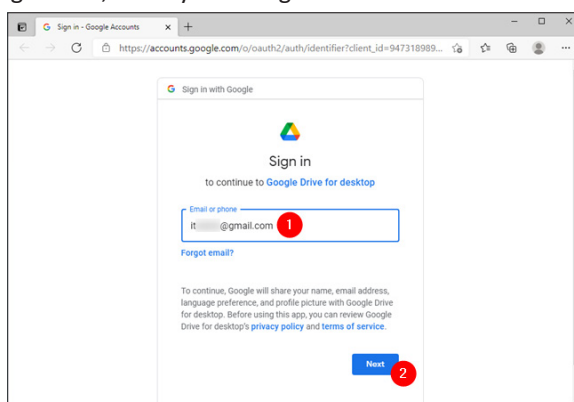
Choosing whether and where to add shortcuts to Google Drive for desktop

Wait for “Google Drive for desktop” to install. When done, you can Close the installation dialog. Then, click or tap on the “Sign in with browser” button from the “Sign in to Google Drive” window.



Google Drive was installed and now you need to sign in to your Google account

The previous action launches your default web browser and takes you to the Google sign-in webpage. On it, enter your Google Account email address and press Next.

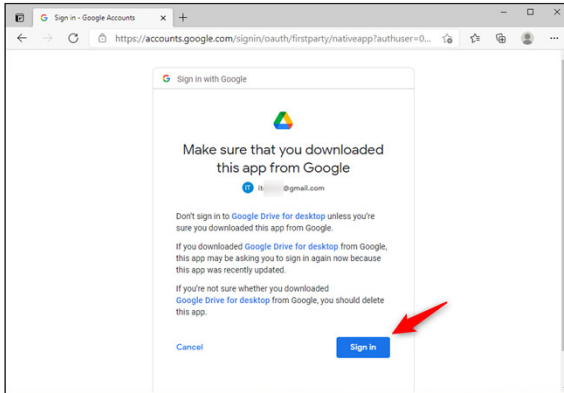


Entering the Gmail address

Now, enter your Gmail account email and password

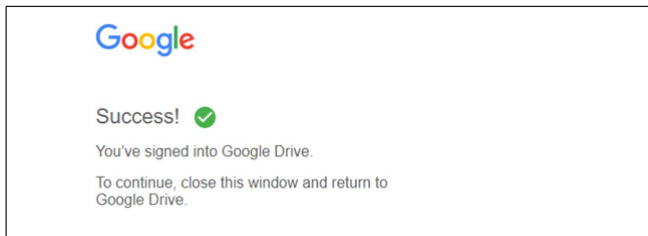
NOTE: If you enabled 2-Step verification for your Google Account, you must also approve the sign-in using your smartphone.

Once you enter your Google credentials correctly, you are now asked to confirm that you downloaded the “Google Drive for desktop” app from Google. If you’ve followed the steps shown in this tutorial, you did, so click or tap on Sign in to confirm.



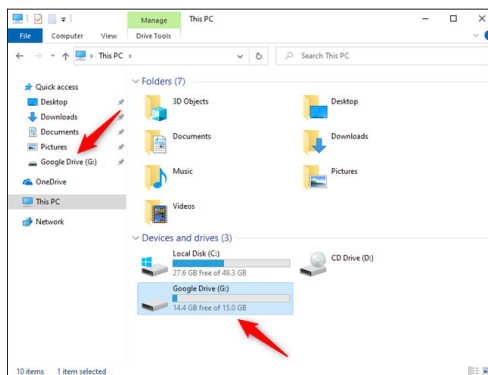
Confirming that you've downloaded Google Drive for desktop from Google

Once you are authenticated, Google tells you that "You've signed into Google Drive." You can now close the browser window and start using "Google Drive for desktop" on your Windows PC.



You've signed in to Google

Open File Explorer. You should now see your Google Drive listed both in the Quick access section of the navigation panel (left side of the window), as well as a regular drive listed in the "Device and drives" section of "This PC."



*Google Drive in File Explorer listed in Quick access and as a regular drive
You've successfully added Google Drive to File Explorer.*



Google Photos

Google's free service stores and organizes every photo and video you shoot.


You probably have thousands of photos scattered between your smartphone, your tablet, your camera, and your laptop, with no easy way of knowing which pictures are where. Google Photos is an easy and free way to organize and sync all of your images, so you can access them no matter where you are and which device you're using. That's why Google Photos is one of the best photo storage and sharing sites around.

The service uses Google's image-analysis technology to organize photos and videos, making them easier to search and share. Google Photos provides unlimited storage for free, and offers paid options for people who want to store higher-quality versions of their media.

Create a new album

1. On your computer, open photos.google.com.
2. Sign in to your Google Account.
3. On a photo, click Select .
4. Choose other photos that you want in your album.
5. At the top, click Add +.
6. Select Album > New album.
7. Optional: Add a title to your new album.
8. Click Done .

Create a live album

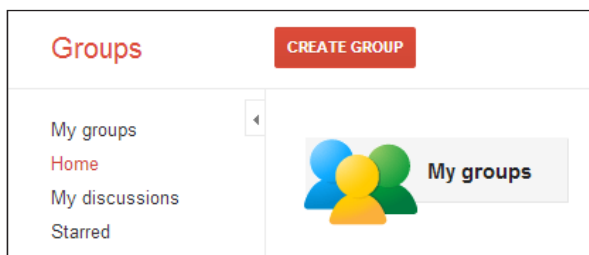
1. On your computer, open photos.google.com.
2. Sign in to your Google Account.
3. On the left, click Albums > Create album.
4. Click Select people & pets.
5. On any face group, click Select .
6. At the top right, click Confirm.
7. Add a title, then click Edit album.

Google Groups

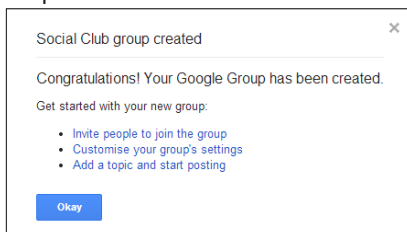
Google Groups allow you to communicate with colleagues, by sharing a common email address. Once a group has been created, you can use the group to set up chat rooms, invite all users to a Google Meet and share documents for collaboration.

Permissions are tied to the group rather than the individual members. When a user joins a group, they will automatically get permission to view all items that the group has access to. If they leave the group, those permissions will be revoked automatically. Here are some of the Google Groups features.

Steps to Create Google Groups



1. Google Groups has its own app in Google Workspace which you can view using the App Launcher.
2. If you have permission to create Google Groups, the Create Group option will show on the Groups home page.
3. Click on the Create Group button
4. Enter a name for the new group
5. Type the first part of the group's email address - this will be followed with @ and your company domain
6. Enter a description of the group to enable your colleagues to find it easily
7. Choose the type of group you wish to create (see below)
8. Click on Create Group

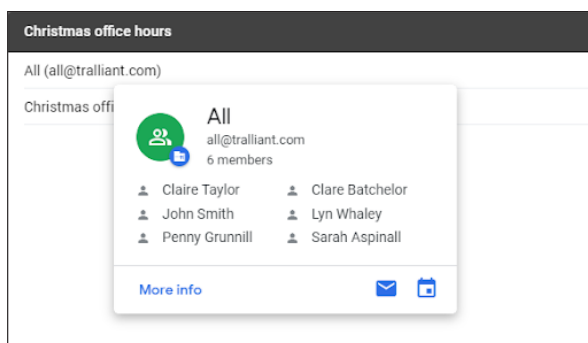


The group will be created, and you will be presented with links to invite people to the group, customize settings or create a message to the group.

Google Group Types

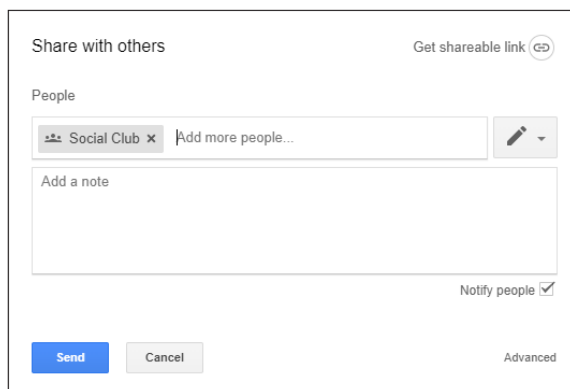
The following types of groups can be created:

1. **Email list** — Allows you to contact all group members at once by emailing the Google Group email address.
2. **Web forum** — Allows group members to post and reply to topics.
3. **Q&A forum** — Allows group members to post questions, add answers, and mark addressed questions as answered.
4. **Collaborative inbox** — Allows you to assign questions or topics to specific group members.



If you communicate with a Google Group in Gmail, you can now position the mouse over the group name to show the group contact card. From this card you can create a new email to the group, schedule an event with the group and view group members. You can also click on the More Info link to view the group's page in Google Groups.

If you are a Google Group user, you can share Google Docs, Sheets, Slides and Forms with all members of the group in one step, allowing everyone in the group access to the document.



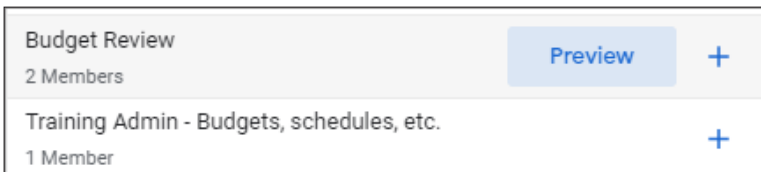
Permissions are tied to the group rather than the individual members. When a user joins a group, they will automatically get permission to access the document, and if they leave the group, those permissions will be revoked automatically.

You can add a Google Group to a Google Chat room using the Add people and bots button in the Chat room.

If you are invited to a chat room as part of a Google Group, you will receive an email message which includes a link to join the room.

Rather than joining the room immediately, you can preview the room to see if it will be relevant to you:

1. Go to the Google Chat home page
2. Click in the Find people, rooms, bots box then click on Browse Rooms
3. Click on the room you have been invited to - it will show at the top of the list
4. Position the mouse over the room name and choose Preview to view conversations in the room without the ability to respond to messages

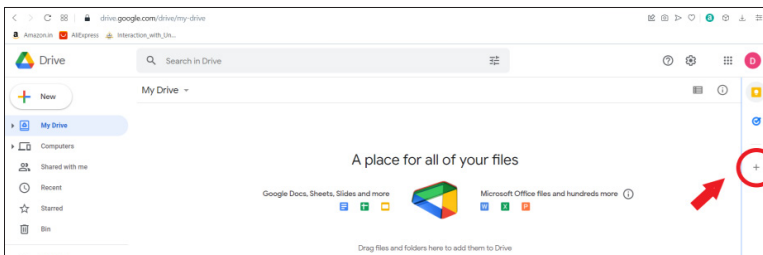


If you decide to join the room, click on the Join button near the bottom of the screen.

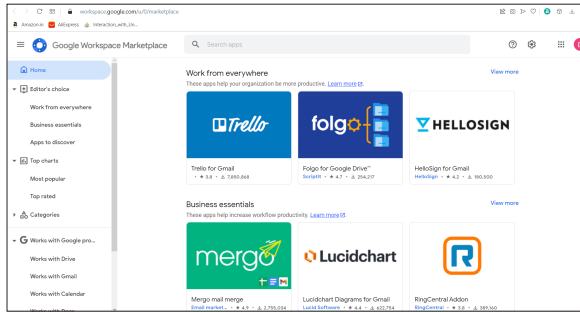
Virtual Appointment Booking using Google Cloud:

Steps to use Google Apps for Online Appointment Booking

1. Sign in to your google account.
2. Go to google drive using following link - <https://drive.google.com/drive/my-drive>



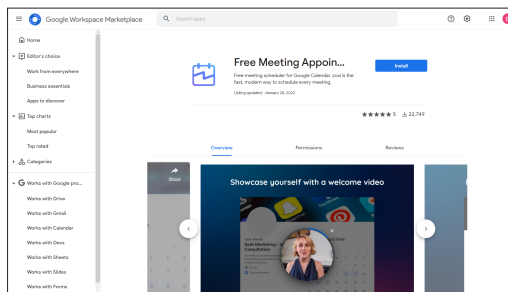
3. You will get the plus sign to insert Add on with your google account.



4. It will open Google Workplace Marketplace in that you can search the applications that work with your Google Drive, Gmail, Calendar, Docs, Sheets, Slides and Forms.

5. For online Appointment Booking user can select “Free Appointment Booking Scheduler” from the Marketplace or you can go to the following link

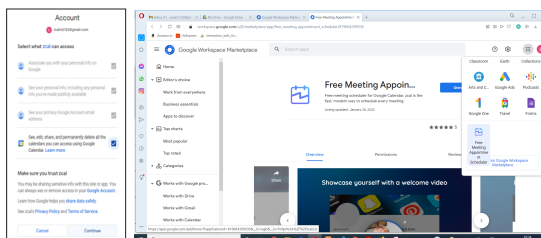
https://workspace.google.com/u/0/marketplace/app/free_meeting_appointment_scheduler/819664399036?pann=ogb



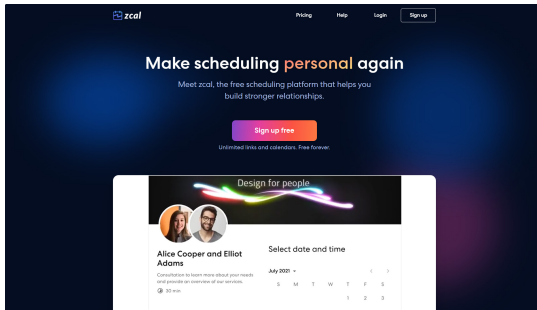
6. Click on Install. It will ask you for permission in order to start installation. Click continue and allow for the permission.

7. Again Sign In with the same credentials. And give all permissions and click on continue.

8. Now you can see the shortcut added in your account.

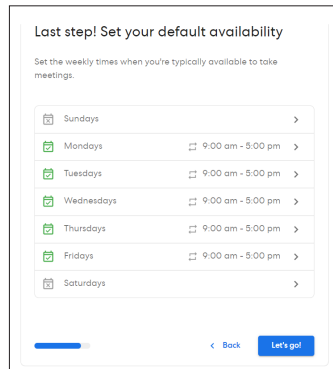


9. Click on 'Free Meeting Appointment Scheduler'. And Sign up for a Zcal account.



10. Doctors can make appointment scheduling using Zcal. It is a free platform for personalized meeting scheduling. Doctors can use

- Unlimited Links
- Unlimited synced calendars
- Easy meeting polls
- Automatic video conference links

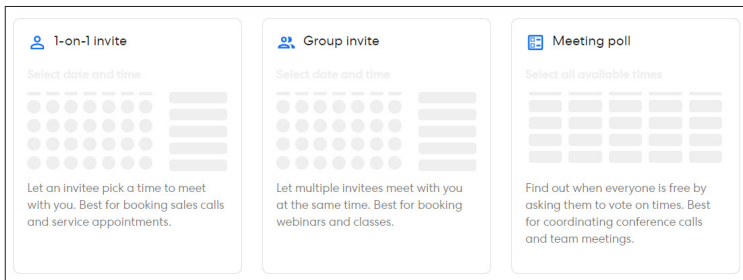


11. You can sign up with your Gmail Account. Zcal asks you for permission to access your account details. Click continue and give all the permissions.

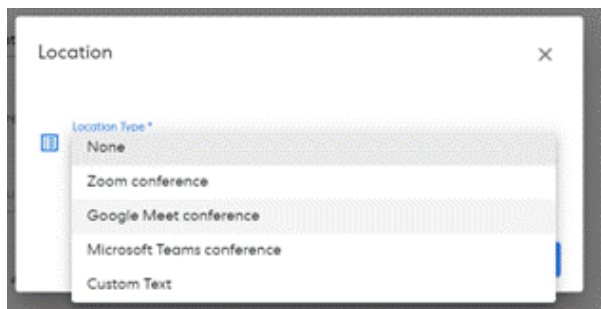
12. Doctors can fill in the basic details like username, profile picture, time zone, company name, position name, city and bio information. You can also add social media links.

13. The last step is to set your default availability of the doctor. You can set the weekly times when you're typically available to take meetings.

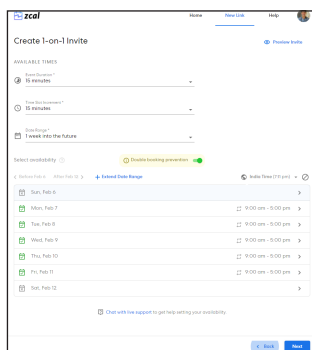
14. You can see the home page of zcal. Click on 'New Link' and select link type.



15. Choose a 1-on-1 invite for patient consultation.
16. Provide Basic Information in the next step. Set name of the meeting, location, description, cover photo of the meeting. Note that in a location you can choose a virtual meeting platform. Meeting location can be any virtual conferencing platform. We are selecting the Google Meet Conference.



17. Next step is to select Available Timing. In that you can select the following information of the meeting



- Event Duration - How long the meeting will take.
 - Time Slot Increment - How frequently time slots are displayed.
 - Date Range - The dates when the meeting can be scheduled.
 - Select Weekly Availability of the doctor. You can also add multiple intervals.
18. Next step is to set Additional Options in that the doctor can set the following information.
 - Custom Questions - Ask patients to more than just Name and Email
 - Event Name Format - Customize the meeting name that will appear on the calendar event.
 - Minimum Notice - To avoid last minute booking by setting the minimum time between when a meeting is scheduled and when it starts.

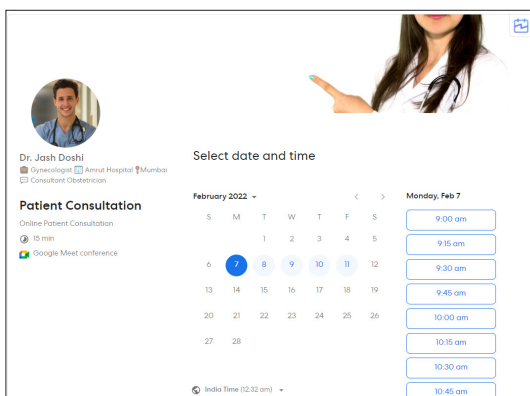
- Buffer Before Event, Buffer After Event - Avoid back to back meeting by adding a buffer before or after your meeting
- Displayed Timezone - Select patients local time zone for virtual meeting calls.
- You can also hide Intro and profile page from the scheduling page

19. Click on “Create Invite”.

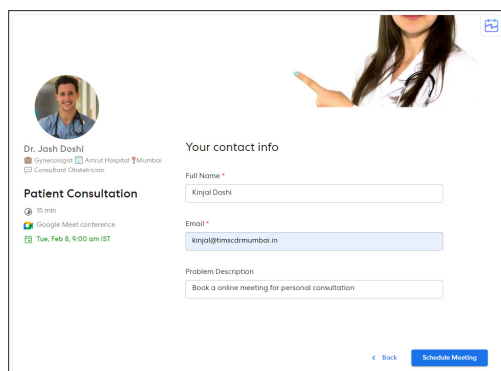
20. Paste the link above into a mailing list email, webpage, social media post, or email signature. No signup is required to book meetings.

21. Send this meeting link to your patients to book your appointment. Select your preferred meeting slot and book appointment.

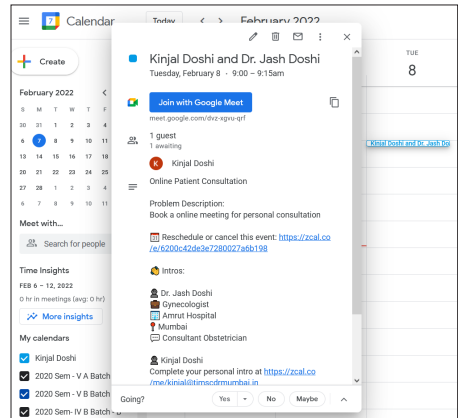
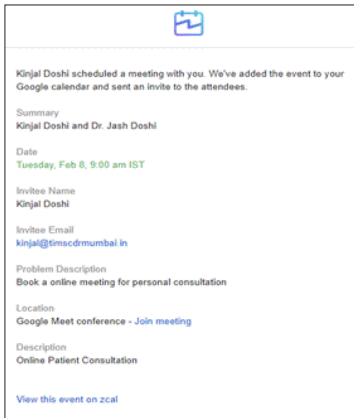
zcal is the fastest way to schedule every meeting. No more emailing back-and-forth, switching tabs to see your calendar, or checking off time slots to find the best meeting time. Schedule 1-on-1’s, team meetings, and more with our modern, easy-to-use web app.



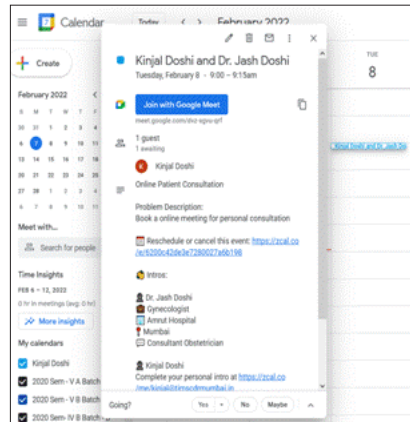
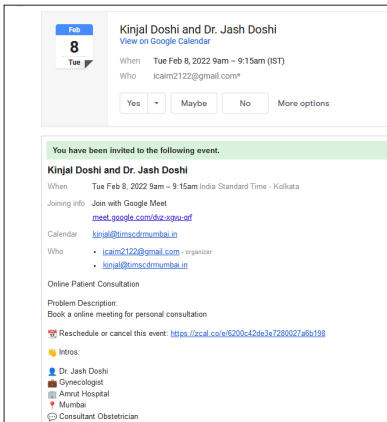
A patient can book an appointment by selecting the slot displayed in the meeting schedule. Fill your contact information with email address and click on schedule meeting



Note that a calendar invitation has been sent to your given email address. Doctor received all the information via email along with the meeting link. Rescheduling and cancellation of meetings will be done from both the side doctor as well as patient.



Patients can receive the calendar event update as well as email invitation on the registered mail address.





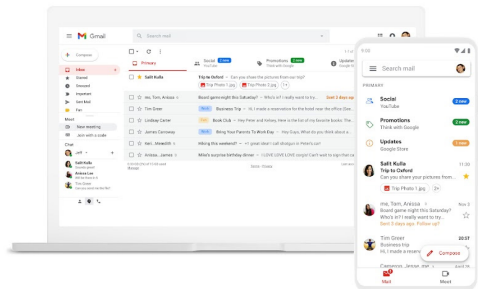
Security Features

We will discuss following security features

- a. Gmail
- b. WhatsApp
- c. Facebook
- d. Instagram
- e. Twitter

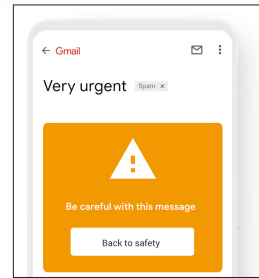
1. GMAIL

Email that keeps your private information safe.



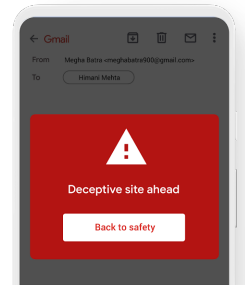
Phishing protections

Many malware and phishing attacks start with an email. Gmail blocks more than 99.9% of spam, phishing attempts and malware from reaching you.



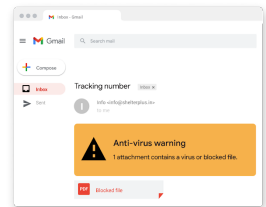
Safe Browsing

Safe Browsing protects you by identifying dangerous links in email messages and warning you before you visit the site.



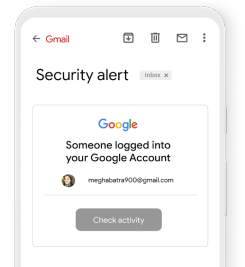
Proactive alerts

Gmail warns you before you download an attachment that could put your security at risk.



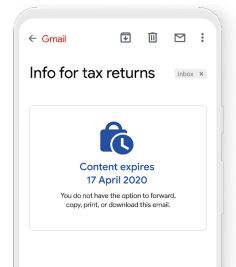
Account safety

We protect your account against suspicious logins and unauthorized activity by monitoring multiple security signals. We also offer the Advanced Protection Programme for accounts most at risk of targeted attacks.



Confidential mode

You can make your messages expire after a set period of time and remove the option for recipients to forward, copy, download or print your message from Gmail.



WhatsApp :

WhatsApp uses super strong **end-to-end encryption** for all texts, chats, and video calls, This is great! WhatsApp can't read your messages or see your calls.



a. Personal Messaging

- It provides super strong end-to-end encryption of messages. i.e. Only sender and receiver can read and listen to each other's message.
- This is because with end-to-end encryption, your messages are secured with a lock, and only the recipient and you have the special key needed to unlock and read them. All of this happens automatically: no need to turn on settings or set up special secret chats to secure your messages.

b. Business Messaging

- Every WhatsApp message is protected by the same Signal encryption protocol that secures messages before they leave your device.
- WhatsApp considers chats with businesses that use the WhatsApp Business app or manage and store customer messages themselves to be end-to-end encrypted. Once the message is received, it will be subject to the business's own privacy practices.
- The business may designate a number of employees, or even other vendors, to process and respond to the message.
- Some businesses will be able to choose WhatsApp's parent company, Facebook, to securely store messages and respond to customers. You can always contact that business to learn more about its privacy practices.

c. Payments

- Payments on WhatsApp, which are available in select countries, enable transfers between accounts at financial institutions. Card and bank numbers are stored encrypted and in a highly-secured network.

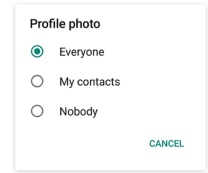
d. You're in control

- WhatsApp wants to make sure you know what's happening with your messages.
- If you don't want to receive messages from a person or business, you can always block them directly from the chat or delete them from your contact list. We want to make sure you understand how your messages are being handled and have the options you need to make the right decisions for you.

WhatsApp Safety Tips

1. Control Your Privacy Settings

Set your profile photo, last seen, and about, to be seen by everyone, contacts only, or no one



2. Block Unwanted Users

Stop someone from contacting you directly from a chat.



3. Request Account Info

Get a report of your WhatsApp account information and settings.



4. Clear Messages Inside a Chat

Delete all messages inside an individual or group chat, or all chats at once.



5. Turn off Read Receipts

Choose if someone can see if you've read their message



6. Delete and Report Spam

Report spam from inside the app



7. Leave a Group

Exit the group at any time.



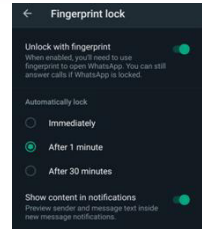
8. Enable Two-Step Verification

Create a six-digit pin to enable extra security.



9. Enable fingerprint lock

You will need to use your fingerprint to Open WhatsApp.



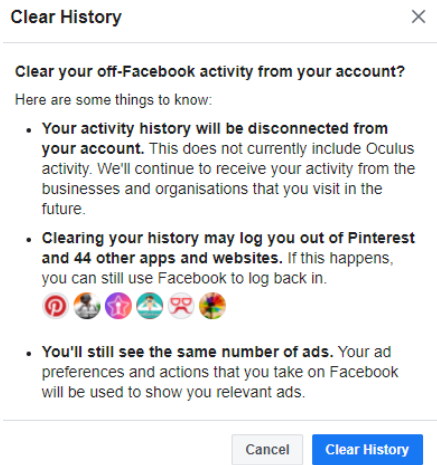
Facebook :

1. Clear your history using 'Off-Facebook Activity'

- Facebook is constantly keeping tabs on your activity — on and off its site. Apps and websites automatically check if you're still logged in and report what you're doing online back to Facebook.
- To clear your history on the mobile app:
- Tap the three-line menu in the bottom right of the Facebook app.
- Select Settings.
- Scroll down and select Off-Facebook Activity.
- Examine the apps that use your activity and make sure you want to remove the information.
- Tap Clear History.

2. To clear your history on the Facebook website:

- Click on the dropdown menu arrow at the top right of Facebook and click Settings & Privacy.
- Select Settings.
- Tap Your Facebook Information in the left column.
- Click Off-Facebook Activity to review. From here, click Manage Your Off-Facebook Activity.
- You'll be asked to re-enter your password. Once you're verified, it will show you the apps and sites that have shared ads with your Facebook account.
- When you're ready to clear this information, click Clear History.



3. Hide your location

Facebook uses location data to serve you news or sell you things. If you disable location services, it won't be able to use your precise location to target you with ads.

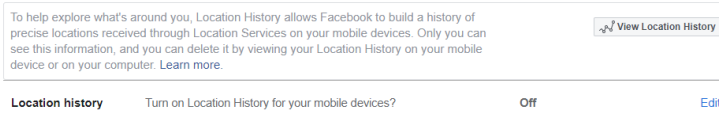
To disable location services on an iPhone:

- Go to the phone's Settings and tap Privacy.
- Tap Location Services, followed by Facebook.
- Tap Never to disable location services.

To disable location services on an Android phone:

- Go to the phone's Settings and tap Privacy.
- Tap Permissions Manager, followed by Location. Choose Facebook.
- Tap Deny to disable location services.

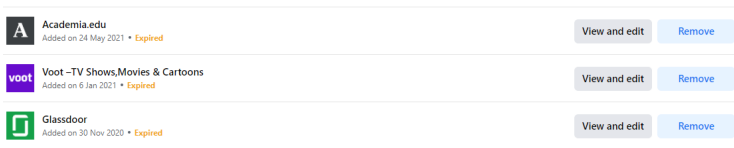
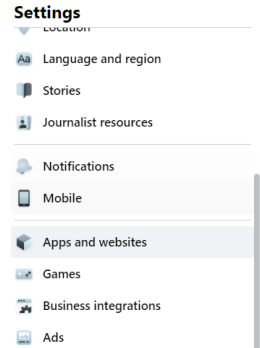
Location settings



4. Get rid of apps that track you off Facebook

Logging into other platforms or websites with your Facebook username gives those companies access to your personal data and may permit them to share your activity with Facebook.

- Disable third-party app tracking from your desktop:
 - Click the downward-pointing arrow in the top right of the screen.
 - Select Settings & Privacy, followed by Settings.
 - Tap Apps and Websites on the left menu.
 - Select Active.
 - Click on the box next to the app's name to stop tracking you and click Remove. This will disable it from tracking you.

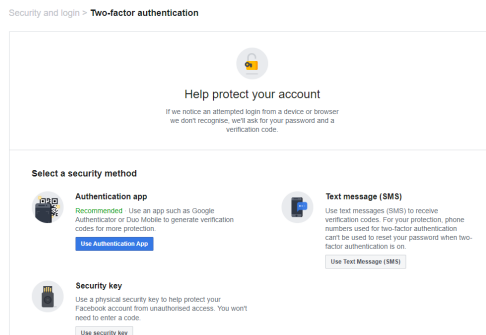


5. Enable two-factor authentication to lock out hackers

Two-factor authentication is one of the strongest ways to secure your profile from unwanted logins. When someone tries to break into an account with 2FA enabled, they can't get in without a text-message code. Since the code goes to your phone, only you will be able to log in.

Activate 2FA from your desktop

- Click the downward-pointing arrow in the top right of the screen.
- Tap Settings & Privacy, followed by Settings.
- Select Security and Login.
- Scroll down to Two-Factor Authentication and tap Use two-factor authentication.
- Enter your phone number and confirm the code in the text to complete the setup.



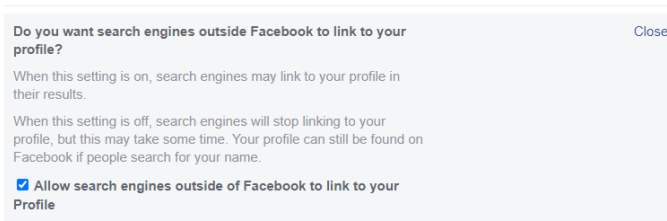
6 . Stop Google from showing your Facebook account

Did you know your Facebook profile is indexed on Google? That means anyone looking up your name will be able to find your social media account, along with all the publicly visible data.

If you're not comfortable with this, we don't blame you. Google and people-search engines have a nasty way of making your private life public

With Facebook, at least, you can keep your profile out of searches. Follow these steps:

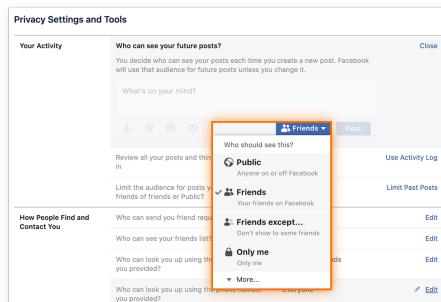
- On your computer, open Facebook and click the downward-pointing arrow in the top right of the screen.
- Tap Settings & Privacy, then Settings followed by Privacy.
- Under “Do You Want Search Engines Outside of Facebook to Link to Your Profile?” click Edit.
- Click the checkbox on the bottom to turn off the setting.



7. Limit the audience for your personal posts

From your computer, follow these steps:

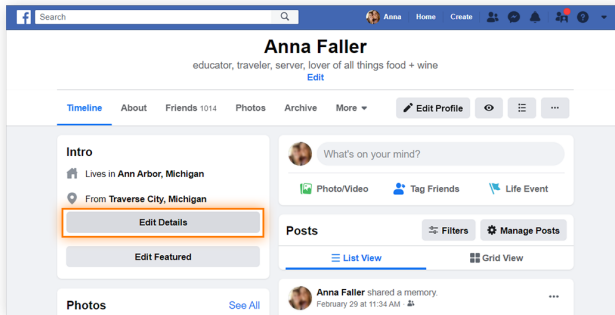
- Open Settings & Privacy again, then Settings and click on Privacy.
- Scroll down to Who can see your future posts? and click Edit. You can adjust the settings for specific audiences here.
- Scroll down to Limit Past Posts to change who can access your previous content.



8. Hide your personal profile information

Facebook profile privacy settings will automatically be set to the public. Here's how to select who can see your intro information:

1. Head to your personal Facebook profile by clicking your name in the top left of the Facebook homepage.
2. Under your Intro on the left side of the screen, click Edit Details.

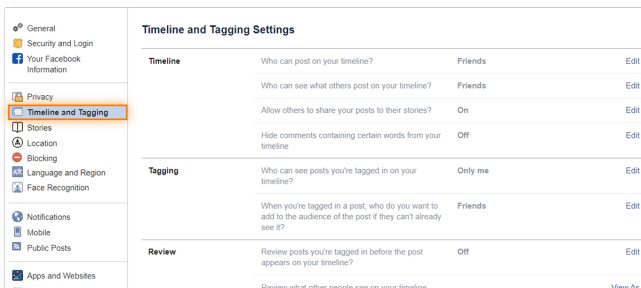


3. Unselect any personal information you do not want publicly visible by toggling the gray bars at the left of each item.
4. Hit Save to update your preferences.

9. Stop being tagged in Facebook posts

If you've ever been tagged in an unflattering photo, you'll appreciate the ability to control your Facebook tagging settings. You can make it so that you need to approve any tags before a photo or post appears on your timeline. To do this:

1. Choose Timeline and Tagging from the top of the list on the left side of your General Account Settings screen.



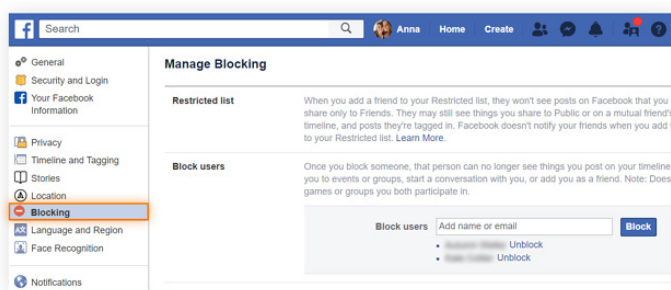
2. Scroll down to the last section labeled Review. From here, you can elect to look over both posts and tags that other people have added before they go public on your page.

3. Click Edit on the far right of the page to enable this setting. Now you've got the power!
4. Review your settings and finalize your choices.

10. Block certain users

If you're a seasoned social media user, you've almost certainly come across someone you don't want to be connected with. Knowing how to limit what certain friends see on Facebook is a crucial step in staying safe. You can choose to restrict or block people. Here's how to block specific Facebook users:

1. Select Blocking from the top of the list on the left side of your General Account Settings screen.
2. From here, scroll down to the Block Users section. Use the search bar to find specific Facebook accounts using either a name or an associated email address.

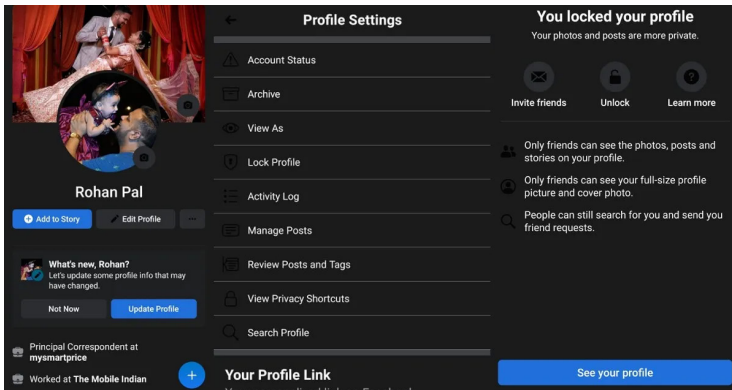


3. Once you've found who you're looking for, simply hit the blue Block button to disable any and all communication between the two of you on Facebook. If they try to search for you, it'll be like you don't even exist.

11. Lock Facebook Profile

Facebook Android and iOS applications allow you to easily lock your profile from stalkers. Here's a step-by-step guide for locking Facebook profile:

1. Open the Facebook app and tap on your Profile
2. Now tap on the three-dot menu next to the 'Add to Story' section.
3. Here, you will find the 'Lock Profile' option. Tap on it and you will be taken to the Lock Profile page.
4. Tap on the 'Lock Your Profile' button to confirm.



Instagram

Managing your privacy settings :

By default, your Instagram account is public and you can choose to make your account private at any time.

When your account is:


Public: Your profile and posts can be seen by anyone, on or off Instagram, even if they don't have an Instagram account.

Private: Only the followers you approve can see what you share, including your photos or videos on hashtag and location Pages, and your followers and following lists.


Note: If you are under 16 when you sign up for an Instagram account, you'll have the option to choose between a public or private account, but private will be selected by default.

- A. How do I set my Instagram account to private so that only approved followers can see what I share?

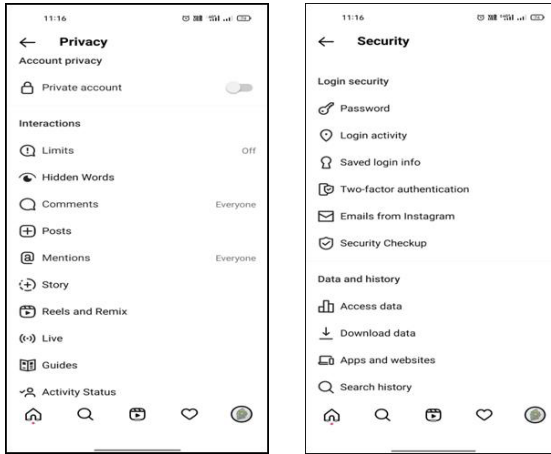
Instagram.com from a computer:

1. Click your profile picture in the top right-hand corner, then click  Settings.
2. Click Privacy and security.
3. Below Account privacy, click to tick the box next to Private account.

Instagram.com from a mobile browser:

1. Tap your profile picture in the bottom right to go to your profile.
2. Tap  Settings in the top left.
3. Tap Privacy and security.
4. Below Account privacy, tap to tick the box next to the Private account.

You can see the same Privacy and Security Features of facebook for Instagram



Twitter :

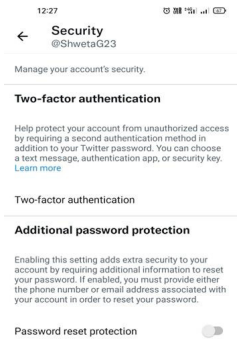
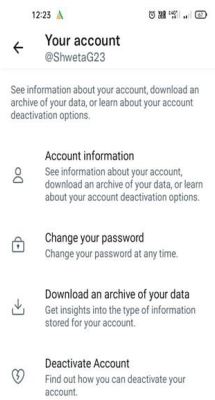
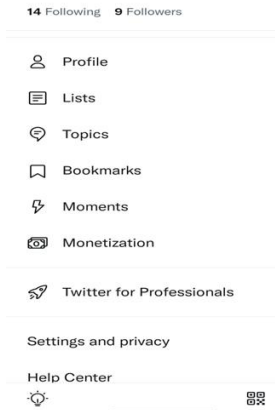
We're committed to protecting the information you share with us. Our commitment to serve the public conversation is also a commitment to protect the information you share with us and to provide meaningful privacy controls.



Is Twitter more secure than Facebook?

YES.

Twitter allows you to censor your feed on your settings. Though Facebook has its own features too, Twitter usually censored sensitive content appearing on your feed by blocking or blurring the said photo or media content.



DigiLocker

A simple and Secure Document wallet. It aims at 'Digital Empowerment' of people by providing them access to their authenticated digital document wallet. DigiLocker targeted the idea of a platform which will let issuance and verification of documents and certificates for Indian citizens, therefore making a paperless governance. Documents in the wallet (Aadhaar card, Fitness Certificate, etc) are considered as valid identity proof at Indian Railways and Airports.

Documents which a citizen can access:

Aadhaar Card

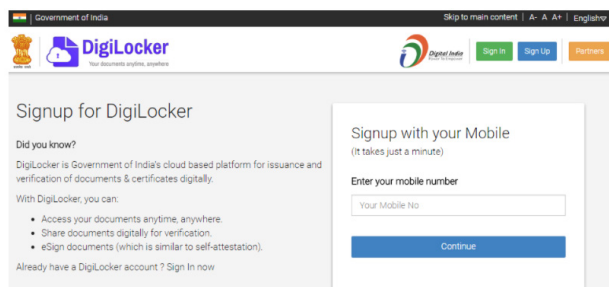
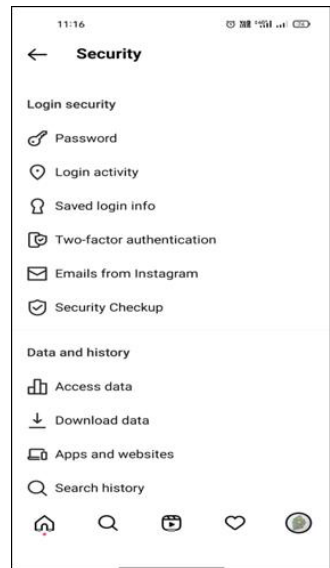
PAN card

Fitness Certificate

Pradhan Mantri Jan Arogya Yojna (PMJAY)

Covid Vaccine Certificate/International Covid Vaccine Certificate

Insurance - Health, etc



Digilocker (Mobile Application and Website)

Benefits



Accessibility



Authenticity



Paperless Processing



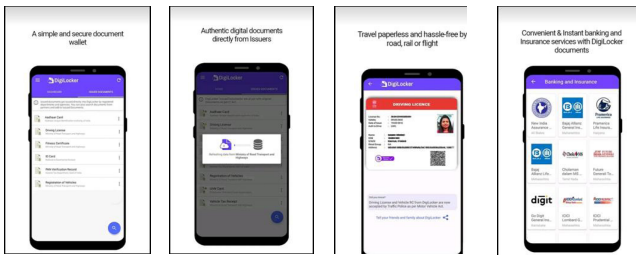
eSign

Easy accessibility: Documents issued on the account can be accessed online from anywhere. Accessing Digilocker App will help to avail all services on the smartphone.

Authentication: Documents are authentic as they are issued by various government Departments and Institutions. User cannot make any modification in the documents. Thus these documents can be used easily for e-KYC process,

Paperless Processing: As authentic soft copy of each document is easily available, thus, hard copies of documents are not required. The delay due to paperwork is decreased and helps in improving the processing time in all sectors.

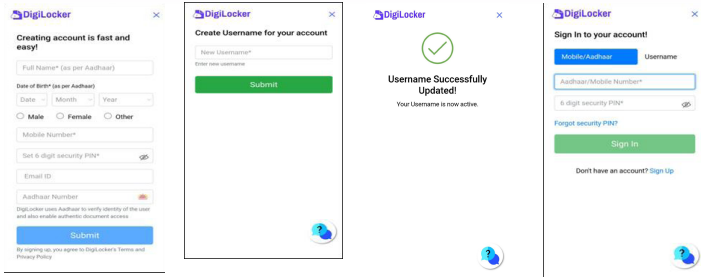
E-sign: Self-attestation of documents can be done online as well, in the form of eSign. A digitally signed authentic e-document can be provided for verification to agencies or institutions.



Digilocker Benefits

User Registration

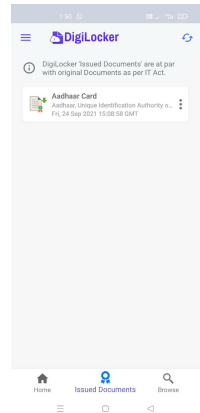
Registration process includes users Aadhaar Number and Registered phone number. Before signup, One has to ensure that the Mobile number is linked to the Aadhar card. Signup process includes entering all the personal details as mentioned in the form below. i.e. Name as per Aadhar card, birth date, mobile number, email id and set a 6 digit security pin. After submitting the details and once they are verified user will be prompted to set unique username for the account. Finally username will be updated and will be redirected to the Home page where user can login.



User Registration

Issued Documents tab:

After login, the dashboard consists of home and issued document tab. Issued document tab consists of e-document which have been issued by the government agencies. Documents are stored as URLs in the issued document tab. User can access these documents anytime, anywhere.

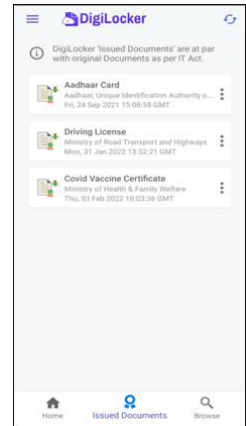
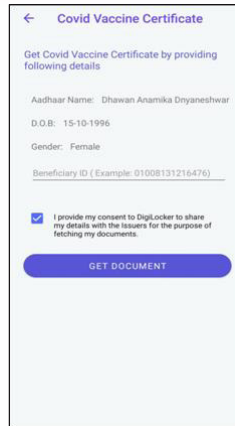
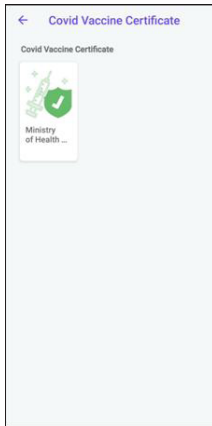
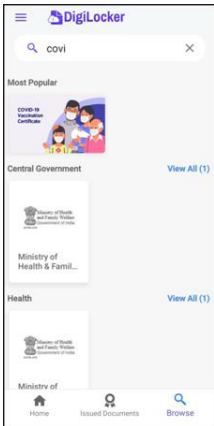


Issued Documents Tab

Citizen can get different issued documents in the Issued Document Tabs:

How to fetch and store documents in Digilocker?

1. Go to the browse tab.
2. Enter the name of the concerned authority who issued that document.
3. Select the correct option available. Example: Covid Vaccination
4. Select the concerned authority. Example: Ministry of Health & Family Welfare.
5. Provide the details as required in the form. Example: For Certificate it asks for Beneficiary ID.
6. Click on Get Document.
7. Check your Issued Document tab to check the status of the document, if available you can access it.



Fetch and store document in digilocker

INSTITUTES MANAGED BY



THAKUR EDUCATION GROUP



Thakur Vidya Mandir
High School &
Junior College
(1990)



Thakur College of
Science &
Commerce
(1992)



Thakur
Polytechnic
(1998)



Thakur College of
Engineering and
Technology
(2001)



Thakur Institute of
Management Studies,
C D and R
(2001)



Thakur Institute
of Career
Advancement
(2001)



Thakur Institute
of Management Studies
and Research
(2002)



Thakur Public
School
(2003)



Thakur Institute
of Aviation
Technology
(2006)



Thakur Shyamnarayan
College of Education
and Research
(2007)



Thakur International
School
(2008)



Thakur Shyamnarayan
High School
(English Medium)
(2013)



Thakur School of
Architecture &
Planning
(2014)



Thakur Vidya Mandir
Global School
(Azamgarh, U.P.)
(2016)



Thakur College of
Science
(2016)



Thakur Ramnarayan
College of
Arts & Commerce
(2017)



Thakur Ramnarayan
College of Law
(2018)



Thakur Global
Business School
(2020)



Thakur Institute of
Hotel Management
(2020)



Thakur Educational Campus, Shyamnarayan Thakur Marg, Thakur Village,
Kandivali (E), Mumbai - 400 101.

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