



# Software as a Services (SaaS)

- For Libraries in Cloud Environment

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# Cloud computing

- Cloud computing, often referred to as simply “the cloud,” is the delivery of on-demand computing resources — everything from applications to data centers — over the internet on a pay-for-use basis.

Source: <https://www.ibm.com/in-en/cloud/learn/cloud-computing>



# Characteristics of Cloud computing

- On Demand Self service
- Broad Network access
- Rapid elasticity
- Measured services



# Advantages

- Lower upfront cost
- Quick setup and deployment
- Easy upgrades
- Accessibility
- Scalability (Horizontal or Vertical Scaling)
- Elasticity
- Compatibility (Installation & updates)



# Disadvantage

- Lack of control
- Security and data concerns
- Limited range of applications
- Connectivity requirement
- Performance

# Disaster Management



(Recovery point objective) RPO

RTO(Recovery time objective)



Transaction Lost



Down time





# Cloud Application Vs Installed Software

- Cloud application is flexible
- Access the application without any boundaries.
- All applications are platform and device portable.
- Free from updates and data backups.
- Installed software are in controlled environment
- Access to the application is restricted.
- All applications are not platform and device portable.
- Updates and data backups has to be done systematically.

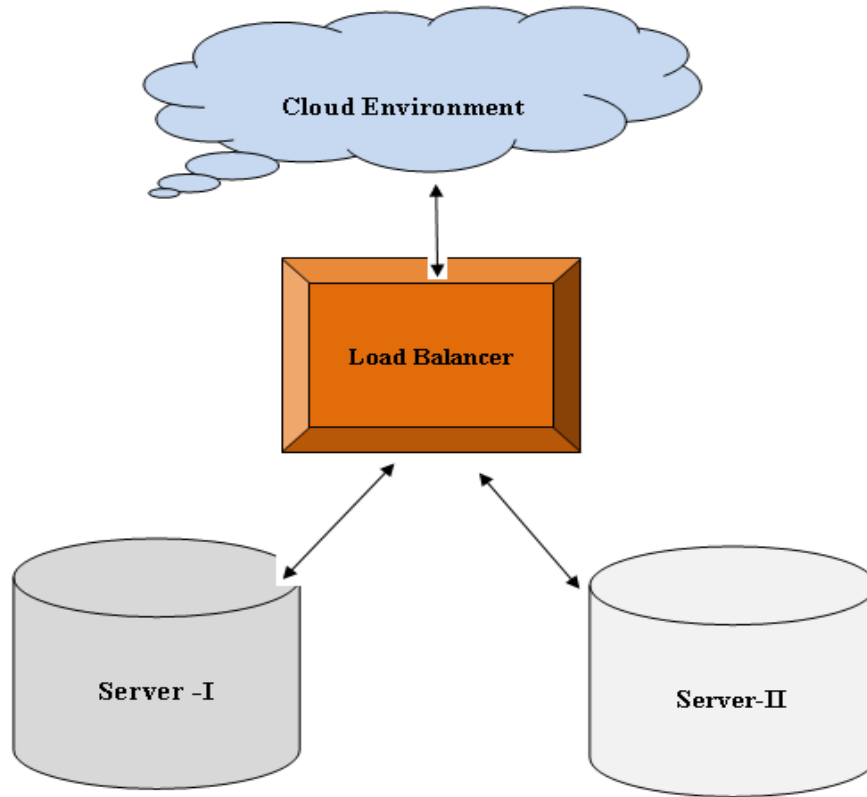


## Capital Vs Operational expenditure

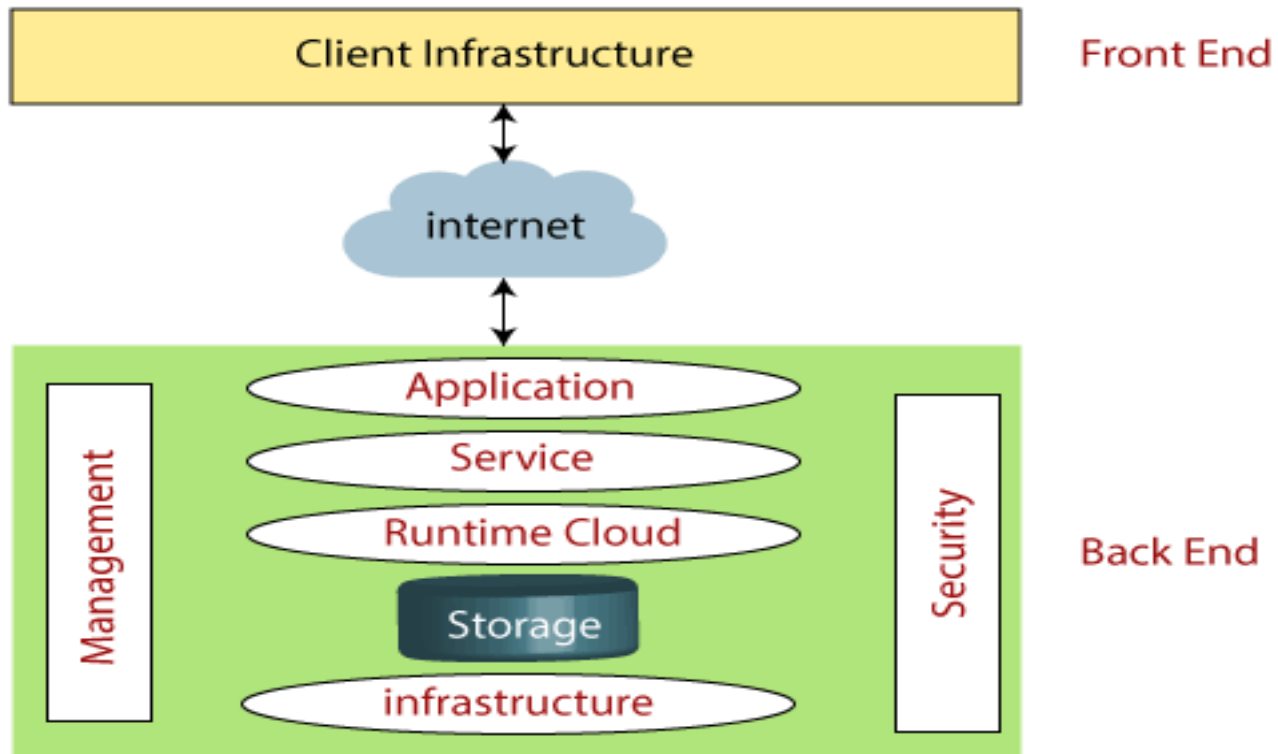
- **CAPEX** : Capital expenditure is the monetary investment made by an organization to buy , maintain its fixed assets like building, equipment etc.,
- **OPEX**: Operational expenditure in an ongoing cost for running the business .



# Basic Cloud Model



# Architecture of Cloud Computing





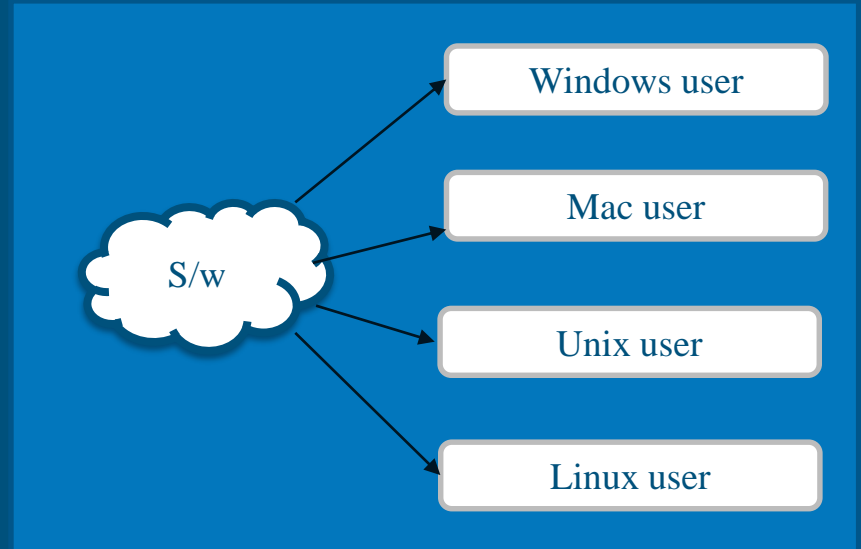


# SaaS Characteristics

- **Software is available over internet**
- **Maintenance of software by vendor**
- **Subscription or usage based on license**
- **Cost effective (Pay as per use)**
- **On demand availability (anywhere, anytime)**
- **Easily scalable as per need**
- **Works on shared model**
- **Automatic updating of software**

# Benefit of SaaS

- Modern software tool
- Platform independence to user
- Multitenant option
- Centralized management.





What are the differences between “cloud based,” “web based,” and “web enabled”?

- **Cloud-based software**
- **Web-based software**
- **Web-enabled software**

# Cloud Deployment Models



**Manufacturing organization has its own private cloud**



**Manufacturing organization shares cloud with general public**



**Combination of cloud deployment models**



**Manufacturing organization shares cloud with other organizations with similar interests**

# Map of Major Cloud Providers



Source: <https://www.atomia.com/2016/11/24/comparing-the-geographical-coverage-of-aws-azure-and-google-cloud/>



# Cloud provider from India



cloud.gov.in/about.php

भारत सरकार  
GOVERNMENT OF INDIA

इलेक्ट्रॉनिक्स और सूचना प्रौद्योगिकी मंत्रालय  
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY

हिन्दी

 **NATIONAL CLOUD**  
INITIATIVE OF *MeghRaj*

Get Cloud Services | My Cloud Dashboard

Help Line 1800 111 555

Home About Services What's New Gallery FAQ Contact

NIC Cloud Coordinators

## About NIC

National Informatics Centre (NIC) was established in 1976, and has rich experience in providing ICT and eGovernance support to the Government for the last 4 decades and bridge the digital divide. It has emerged as a promoter of digital opportunities for sustainable development. NIC spearheaded "Informatics-Led-Development" by implementing ICT applications in social and public administration and facilitates electronic delivery of services to the government (G2G), business (G2B), citizen (G2C) and government employee (G2E). NIC, through its ICT Network, "NICNET", has institutional linkages with all the Ministries /Departments of the Central Government, 37 State Governments/ Union Territories, and about 720+ District Administrations of India.

## Services

On-Boarding Procedure

Get the power of NIC cloud services to host your websites, portal and web applications with the speed and scalability that your business demands. NIC Cloud Services offers variety of service model to meet your requirements like Platform as a Service (PaaS), Infrastructure as a Service (IaaS) and Software as a Services (SaaS).



### Infrastructure as a Service (IaaS) :

IaaS provides you basic virtual compute infrastructure resources like CPU, Memory, Disk Storage attached to blank VMs with allowing you to install OS, using ISOs, from scratch and customization. However you have to use your own licenses for OS and Application software (if any). [More..](#)



### Platform as a Service (PaaS) :

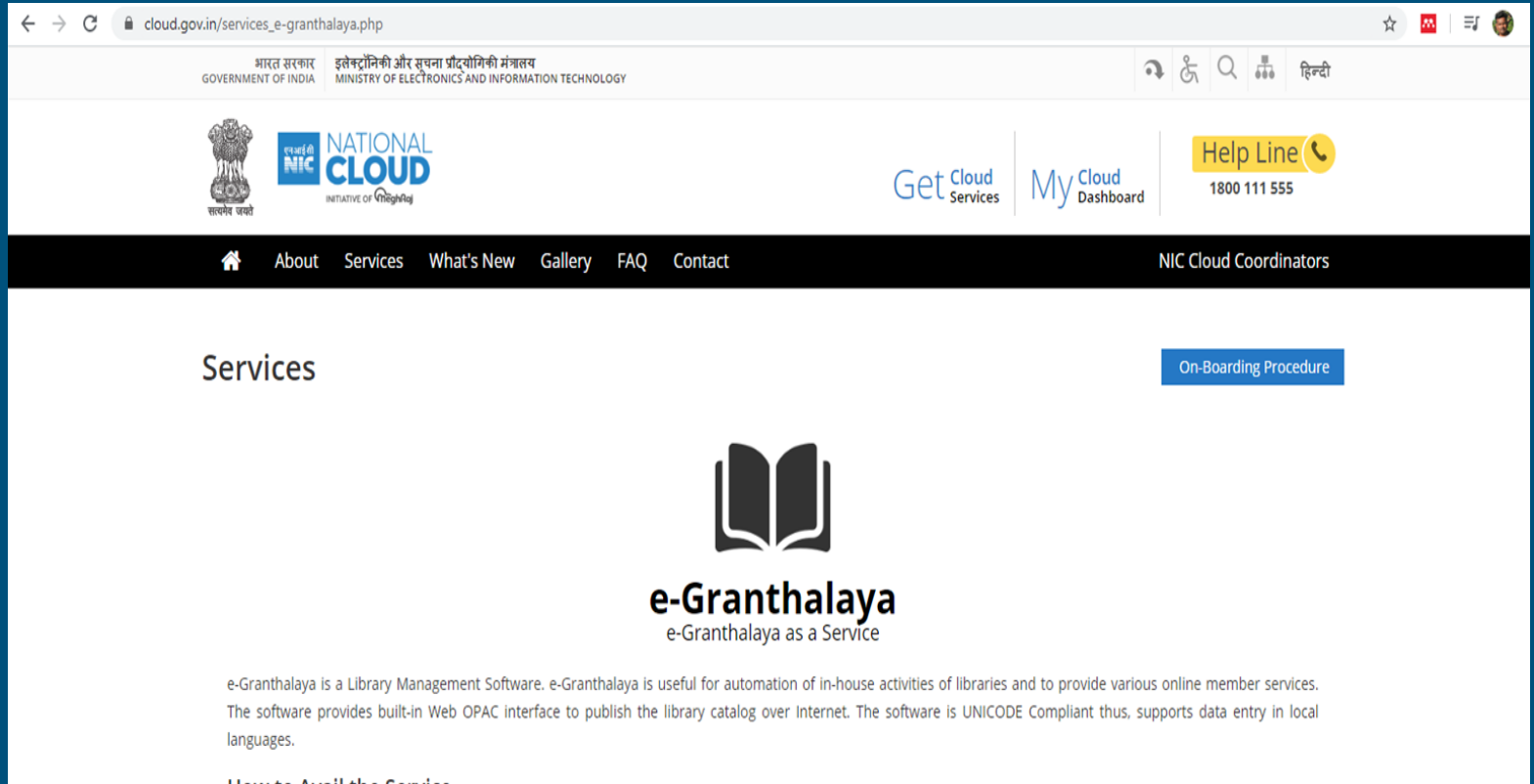
PaaS provides pre-installed web and database servers so that you can publish and run web application without worrying about server setup. The servers are pre configured ready with basic security hardening. Use PaaS service to quickly deploy servers and publish your web applications. The OS & Application Software licenses are provided by us as part of offering. [More..](#)



### Software as a Service (SaaS) :

This provides ready-to-use applications like CRM, ERP, HRM, etc. These are hosted on the cloud and accessed through the application layer of the

# Cloud services specific to Libraries



The screenshot shows the web browser interface for the e-Granthalaya service. The address bar displays the URL `cloud.gov.in/services_e-granthalaya.php`. The header includes the Government of India logo and the Ministry of Electronics and Information Technology. The main navigation bar contains links for Home, About, Services, What's New, Gallery, FAQ, and Contact, along with a link for NIC Cloud Coordinators. The main content area features the title "Services" and a button for "On-Boarding Procedure". The central focus is the "e-Granthalaya" logo, which consists of an open book icon, the text "e-Granthalaya", and the tagline "e-Granthalaya as a Service". Below the logo, a paragraph describes the service as a Library Management Software used for automating library activities and providing online member services. The text states: "e-Granthalaya is a Library Management Software. e-Granthalaya is useful for automation of in-house activities of libraries and to provide various online member services. The software provides built-in Web OPAC interface to publish the library catalog over Internet. The software is UNICODE Compliant thus, supports data entry in local languages."

Services [On-Boarding Procedure](#)

## e-Granthalaya

e-Granthalaya as a Service

e-Granthalaya is a Library Management Software. e-Granthalaya is useful for automation of in-house activities of libraries and to provide various online member services. The software provides built-in Web OPAC interface to publish the library catalog over Internet. The software is UNICODE Compliant thus, supports data entry in local languages.

[How to Avail the Service](#)

## Open Source Application available for Installation on cloud (Single Click)

Search...

### Most Popular



WordPress  
5.4.1



PrestaShop  
1.7.6.5



Drupal  
8.8.5

phpBB  
powered by phpBB

phpBB  
3.3.0



Joomla  
3.9.18



OpenCart  
3.0.3.2

OrangeHRM is an open source  
human resource management

## Open Source Application available for Installation on cloud (Single Click)



Composr CMS  
10.0.18



MODx  
2.7.3-pl



Drupal  
8.8.5



Soholaunch  
4.9.4r43



Zend Framework  
2.5.2



Dotclear  
2.16.2



Moodle  
3.8.2



Omeka  
2.7.1



eFront  
3.6.15.18023



PHP-Fusion  
9.03.00



Tiki Wiki CMS  
Groupware  
21.0



Chamilo  
1.11.10



Serendipity  
2.3.5



concrete5  
8.5.2



CakePHP  
3.8.5

## Koha Installation on Local Server

Install Linux OS in your Server like (Ubuntu 19.04 & Debian 9)

### Step 1 :

Select Operating System



### Step 2:

Add Koha software channel into Debian. It will install the current (latest) version of Koha. Apply commands one by one in terminal page: Link: [https://wiki.koha-community.org/wiki/Koha\\_on\\_ubuntu\\_-\\_packages](https://wiki.koha-community.org/wiki/Koha_on_ubuntu_-_packages)

## Koha on Cloud

Select Cloud Provider as per requirement

### Step 1:

Install OS on Cloud.

### Step 2:

Click the Koha Image File (if available in cloud provider application list).

If not Follow this link : [https://wiki.koha-community.org/wiki/Koha\\_on\\_ubuntu\\_-\\_packages](https://wiki.koha-community.org/wiki/Koha_on_ubuntu_-_packages)



## DSpace Installation on Local Server

Install Linux OS in your Server like (Ubuntu 18.04 & Centos 8)

### Step 1 :

Select Operating System



### Step 2:

Add DSpace software channel into Repository. It will install the current (latest) version of DSpace. Apply commands one by one in terminal page: Link: <http://www.ischp.org/blog/installing-dspace-6-3-on-ubuntu-18-04-lts/>

## DSpace on Cloud

Select Cloud Provider as per requirement

### Step 1:

Install OS on Cloud.

### Step 2:

Click the DSpace Image File (if available in cloud provider application list).

If not Follow this link :

<http://www.ischp.org/blog/installing-dspace-6-3-on-ubuntu-18-04-lts/>

# Cloud Backup System for Koha & DSpace:

## Droplet backups



**jncollege 2020-04-20**  
Backup created 24 days ago

[More](#) ▾



**jncollege 2020-04-27**  
Backup created 17 days ago

[More](#) ▾



**jncollege 2020-05-04**  
Backup created 10 days ago

[More](#) ▾



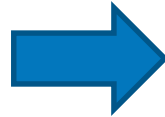
**jncollege 2020-05-11**  
Backup created 3 days ago

[More](#) ▾

Convert to snapshot

Create Droplet

Restore Droplet





## Moodle Installation on Local Server

Install Process on Server

### Step 1 :

Select Operating System Like Ubuntu, Debian, Windows, Centos.

### Step 2:

Add Moodle software channel into Repository. It will install the current (latest) version of Moodle. Apply commands one by one in terminal page for Linux: Link:

[https://docs.moodle.org/38/en/Step-by-step\\_Installation\\_Guide\\_for\\_Ubuntu](https://docs.moodle.org/38/en/Step-by-step_Installation_Guide_for_Ubuntu)

Windows Link: <https://download.moodle.org/windows/>

## Moodle on Cloud

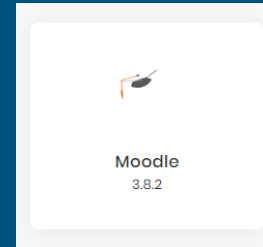
Select Cloud Provider as per requirement

### Step 1:

Select Application list from the Cloud

### Step 2:

Click Moodle application for installation.



## Omeka Installation on Local Server

Install Process on Server

### Step 1 :

Select Operating System Like Ubuntu, Debian, Centos

### Step 2:

Add Omeka software channel into Repository. It will install the current (latest) version of Omeka. Apply commands one by one in terminal page for Linux: Link:

<https://websiteforstudents.com/install-omeka-classic-cms-on-ubuntu-16-04-17-10-18-04-with-apache2-mariadb-and-php-7-2/>

## Omeka on Cloud

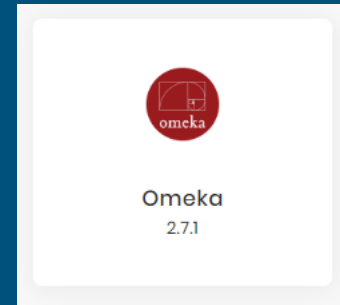
Select Cloud Provider as per requirement

### Step 1:

Select Application list from the Cloud

### Step 2:

Click Omeka application for installation



## Drupal Installation on Local Server

Install Process on Server

### Step 1 :

Select Operating System Like Ubuntu, Debian, Windows, Centos.

### Step 2:

Add Drupal software channel into Repository. It will install the current (latest) version of Drupal. Apply commands one by one in terminal page for Linux: Link: <https://linuxize.com/post/how-to-install-drupal-on-ubuntu-18-04/>

Windows Link: <https://www.drupal.org/documentation/install/windows>

## Drupal on Cloud

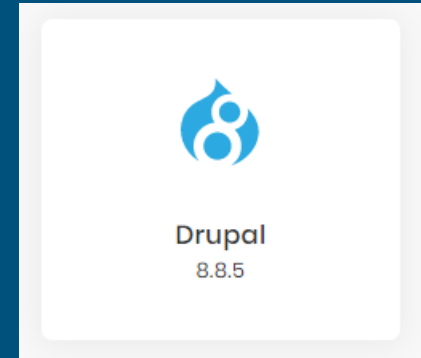
Select Cloud Provider as per requirement

### Step 1:

Select Application list from the Cloud

### Step 2:

Click Drupal application for installation



# Top Cloud Provider in the World

vmware®



Thank you all