

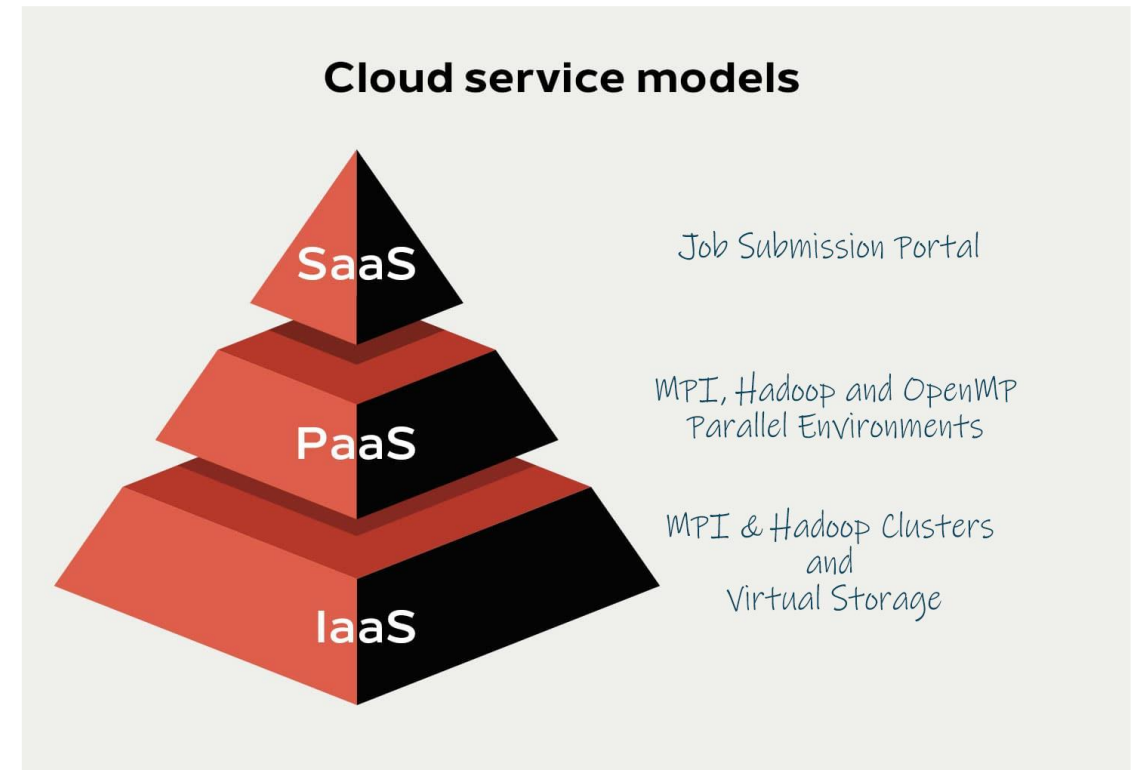
SuMegha Cloud Stack

Build Your Own Private Cloud

SuMegha Cloud Stack



- SuMegha is a scientific cloud providing cost effective and scalable HPC to researchers and organizations.
- It offers convenient access to reliable HPC clusters and storage without the need to purchase and maintain sophisticated hardware.



Features of SuMegha Cloud Stack



Auto Installation

Provides auto installation of cloud stack to establish HPC Cloud

Golden Images

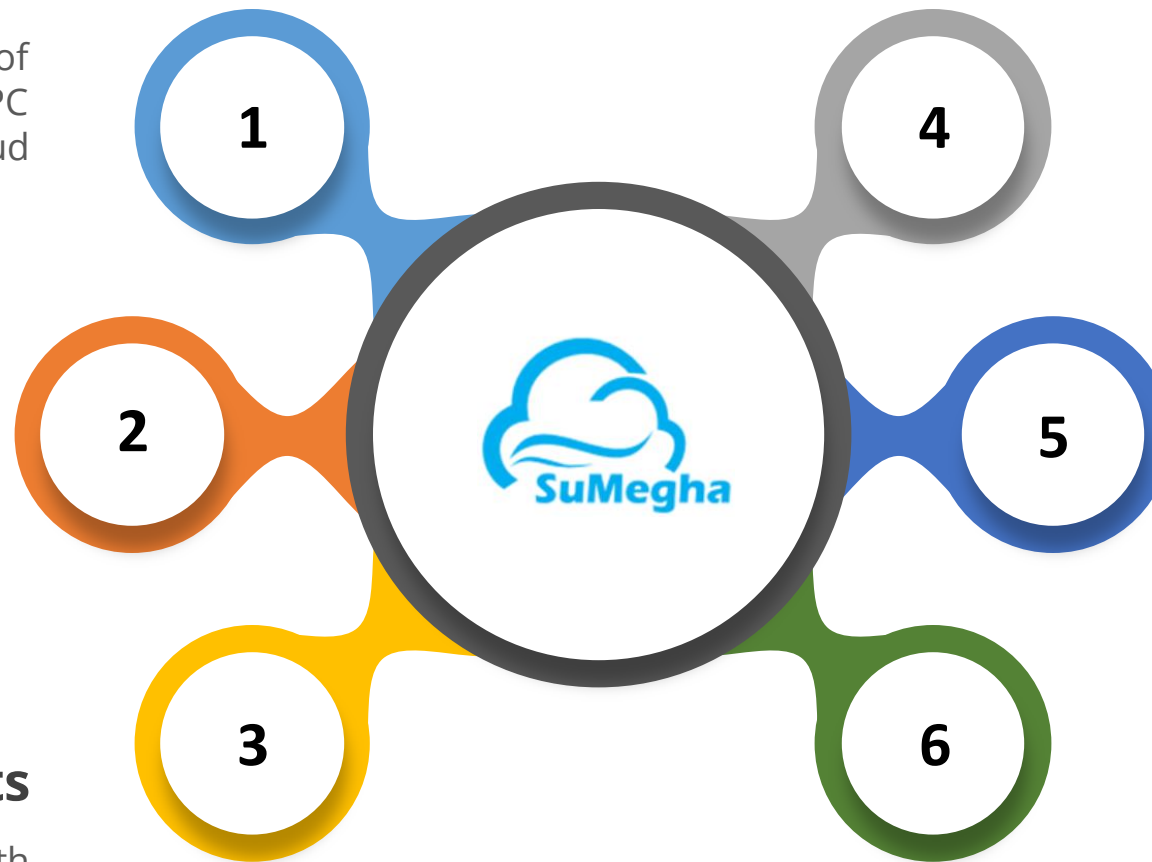
Provides golden images with pre-loaded HPC Applications like seasonal forecast model

Job Management Portal

Provides a portal for Job Submission and Management

Lab Manuals, Exercises and Project Ideas

Helps the Academicians with Lab Manuals, Lab exercises and new project Ideas.



On-demand virtual clusters

Create on-demand scientific virtual clusters and virtual machines easily and quickly

HPC Environments

Provides HPC PaaS with OpenMP, MPI and Map-reduce Parallel environments

28th March 2023

Skoch Order of Merit Award for 2015 & 2019



Integration of SuMegha Cloud with eVidhyalaya



- Recently we have deployed SuMegha Cloud Stack at NCRB, Delhi, integrated with eVidhyalaya Moodle Platform (CDAC, Trivandrum)
 - We have deployed SuMegha Cloud Stack on Servers at NCRB, Delhi
 - Integrated eVidhyalaya with SuMegha Cloud for Instances and Image management
 - We have provided API's for integration with SuMegha Cloud from eVidhyalaya
 - We have configured free trial versions of Windows 10 and Windows 2019 Servers Virtual Desktop Images
 - We have configured CentOS & Ubuntu linux desktop images
 - Applications required for training is deployed on pre-built Images
 - Through eVidhayalaya, a number of VM's will be spun by students during training for Hands-on

Deployments of SuMegha

- Previously deployed at:
 - CDAC, Trivandrum
 - NIT Sikkim
 - Bhagalpur College of engineering, Bihar
 - Rajiv Gandhi University, Arunachal Pradesh
 - JIS University, Kolkata



SuMegha

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About SuMegha

Cloud computing is a useful model for on-demand access to the shared pool of configurable HPC resources (e.g., servers, storage, networks, applications, software, and services) that can be easily provisioned as and when needed. For research groups, cloud computing will provide convenient access to reliable, high performance clusters and storage, without the need to purchase and maintain sophisticated hardware.

High Performance Computing (HPC) allows scientists and engineers to solve complex science, engineering and business applications that require very high compute capability, massive storage, high bandwidth and low latency networking. Scientists and engineers either wait in long queues to access shared cluster resources or acquire expensive hardware (clusters) at their organization.

Benefits

- Provisioning of commodity servers, pool of HPC and storage resources as IaaS
- On demand Provisioning MPI & Map Reduce clusters to support compute intensive and data intensive applications.
- CloudVault- Storage as a Service to Easily store, import, share, and query images.



Login

Login ID

Password

Login

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SuMegha Web Portal Instances Page

Running Instances

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Host Name	IP Address	Status	Created on	Updated on	Disk space(GB)	RAM (MB)	Save VM
Windows10	10.180.32.69	ACTIVE	2022-04-12T06:26:45Z	2022-04-12T06:27:08Z	42	8192	<input type="text"/> <input type="button" value="Save"/>
chdemocs11-1	10.180.32.124	ACTIVE	2022-02-14T03:52:01Z	2022-02-14T03:52:22Z	20	2048	<input type="text"/> <input type="button" value="Save"/>
chdscs1-1	10.180.32.102	ACTIVE	2022-04-25T03:55:49Z	2022-04-25T04:00:33Z	20	2048	<input type="text"/> <input type="button" value="Save"/>
chdscs1-2	10.180.32.123	ACTIVE	2022-04-25T03:55:49Z	2022-04-25T04:01:21Z	20	2048	<input type="text"/> <input type="button" value="Save"/>

NOTE :- All the members of cluster will have same handle name

Maximum no. of VMs allowed

Additional Storage

Host Name Name Size in GB



Destroy Machines

Host Name



Run Cluster

Enter Cluster name
Type
Size
Nodes



Run Instance

Name of the VM
Image File
Size

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Storage Facility

[Refresh](#)

Host Name	IP Address	Name	Size (GB)	Location	Actions
vmcdcs1	10.180.32.51	Test	2	/dev/vdb	<button>Remove</button>

NOTE :- All the member of cluster will have same handle name

Additional Storage

Handle Name Windows10 Name Size in GB 2 Add Storage

SuMegha Web Portal — Storage Page



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Repository Images

• [Refresh](#)

Name	Format	Size(GB)	Status on	Delete Image
CentOS7	qcow2	8.58	active	Delete
CentOS7GUI	qcow2	6.32	active	Delete
Windows10	qcow2	4.29	active	Delete
WindowsServer2012	qcow2	1.20	active	Delete
centOS-SP	qcow2	1.33	active	Delete
cent_test	qcow2	9.15	active	Delete
centos-7-image	qcow2	8.97	active	Delete
centos7_san	qcow2	8.97	active	Delete
myinstanceimage	qcow2	9.14	active	Delete
ub_test	qcow2	1.19	active	Delete

NOTE :- The above repository images saved by the User to create Virtual Machine

SuMegha Web Portal – Images Page



SuMegha Web Portal – Logs Page

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Build Your Own Private Cloud



vmcs21



Current Running's

Handle

vmcs21



Show Logs

[[32m OK [0m] Started Hostname Service.
[[32m OK [0m] Started Initial cloud-init job (metadata service crawler).
[[32m OK [0m] Reached target Network is Online.
Starting Crash recovery kernel arming...
Starting System Logging Service...
Starting Notify NFS peers of a restart...
Starting Permit User Sessions...
[[32m OK [0m] Reached target Cloud-config availability.
Starting Apply the settings specified in cloud-config...
Starting OpenSSH Server Key Generation...
[[32m OK [0m] Started Notify NFS peers of a restart

28th March 2023

Contact Details



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