

## Docker: Container Management Service

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Docker is secure and efficient service capable of handling load for the different type of applications including web services.

Docker Containers are becoming increasingly popular for its better performance, lower cost, higher utilization, and easy deployment of applications. Containers can provide sandbox environment to run an application in milliseconds. The time to start containers is approx 350ms as fast as a typical Linux process takes to start.

### Usage

- Users can request for containers by logging on to <https://docker.iitd.ac.in/baadal>
- While making a request users will have to specify the number of CPUs and RAM. The CPU constraints on containers are imposed only when there was a competition for resources among containers. The Memory constraints are hard limits.
- Users will need to select from a standard set of app templates. based on ubuntu:14.04 operating systems with standard required utilities like git.
- Requests made by students will have to be approved by their faculty supervisors through the workflow system available at <https://docker.iitd.ac.in/baadal>
- Once a request has been approved by a cloud administrator, a container instance will start running. The container will be owned by a faculty member who can then grant access rights to other users registered in IITD LDAP.
- Containers are not provided any public IP Addresses. Web services based containers are reverse-proxied with <container\_name>. [apps.iitd.ac.in](https://apps.iitd.ac.in) .
- A User can login in docker interface and through container execute option can launch container shell and do maintenance stuff.
- From the user interface, users can pause, resume, stop, restart their container instances. Users can also monitor live resource utilization of their service and the processes running inside the container.
- Users can also take backup of their container using snapshot option. Only single backup is allowed. Users are requested to maintain code through git repository running at <https://git.iitd.ac.in> for code backup. If somehow your container gets corrupted, you can recreate your container. Users can also download their working directory as the archive.
- Desktop containers for MATLAB are also available with NoVnc access.
- A User can also request for MySQL database if required for their application.