Final presentation
GSoC 2019 CERN-HSF

Project Overview

Title: Create a user interface for Ganga that allows for the execution of tasks inside user specified virtual machines.

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What is Ganga?

Ganga is a computational task-management tool, which allows for the specification, submission, bookkeeping and post-processing of computational tasks on a wide set of distributed resources.

Ganga provides a homogeneous environment for processing data on heterogeneous resources.

Project Description

Let the user define the environment in which their task need to be executed. So the worker node will pull the user defined container and execute the task on it.

This gives more freedom to user in choosing the programming tools and dependencies.

Timeline

3rd week   11th week   14th week

**Research and
Experiment**   **Implementation**   **Finalizing**
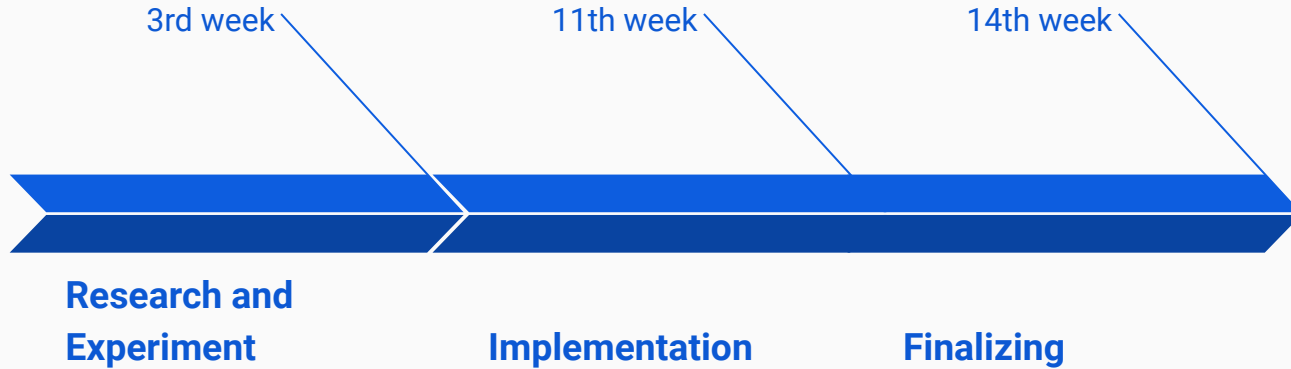
Task Completed

Users can specify Docker or Singularity image which need to be used to run the tasks.

Ganga will try to run Docker containers using Docker if possible, or will download and install uDocker and run the container in user-space.

Task Completed

Currently you can define the container to be used as:

```
j=Job()
// for docker image
j.virtualization = Docker("link_to_docker_image")

// for singularity image from link
j.virtualization = Singularity("link_to_singularity_image")

// for singularity image from file
j.virtualization = Singularity(LocalFile("path_to_simg_file"))
```

Task Remaining

Extend the Virtualization support to other Backends which will be similar to LocalBackend.

Support for handling authentication for private docker hub images.

Thank you