

Cloud Based Virtual Machines - To be used in Open Source Lab environments

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1 Project Proposal

MSc(FOSS) is a post graduate course offered by the Anna University as an on-line program to allow students to learn about Free and Open Source Software systems. The course is an online course which allows working professionals to enrol for the same as well. Lab sessions are also provided, where the course instructor makes students do programs and other activities on open source operating systems and software frameworks. This project aims at creating virtual machines using a cloud based infrastructure which students who are attending the online course can use during their lab sessions. The virtual machines would be hosted centrally in the AUKBC center and can be administered by the course co-ordinators themselves. Students would be provided with customised environments where they can execute their lab programs. Storage space would also be provided so that all the lab sessions can be saved on the central server. The challenge would be to scale the infrastructure and ensure that the students get un-interrupted usage of their virtual machines when they log in for the lab sessions. Different virtual machines can be defined as per the requirement and the student can choose according to the requirement for the lab session

The project would be done using a virtualization software called OVirt, which would allow for the creation of virtual machines, usage of different OSes and also administration of the virtual machines through a centralised UI based interface. This needs to be integrated to the portal which is used for the MSc(FOSS) course, so that the user who logs into the portal is allowed to create a virtual machine and use it for the duration of the lab classes. On logging out from the portal, the user would also get disconnected from the virtual machine. Storage space would be provided in the cloud for the work done on the virtual machine so that it can be accessed for later use.