

SIT315- Seminar 6 - Distributed Computing

Overview

Welcome to the third seminar of SIT315. Form a group of 5-6 students and work on the following activities.

Submission Details

Each student should submit the answers in the onTrack individually. Please write the names of all of your group members in the first page of your submission.

Activity 1- Distributed Computing

During the week six lecture, we discussed several new terms and concepts. Based on what you have learnt, answer the following questions.

1. Briefly describe scale-out, scale-up, their differences, and their use cases.
 2. Provide concrete definitions and examples of the following terms/concepts and provide an: Distributed database, Distributed computing, Distributed file systems, Distributed applications.
 3. Name and explain the seven major challenges in designing an ideal distributed system. If possible, provide a use case for each to highlight their importance.
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Activity 2 - Hello MPI

In this activity, you will set the environment for distributed programming and run your first MPI program.

1. Setting up your VMs (Master and Head).
2. On each VM, compile the MPI Code provided in the resources. <https://www.open-mpi.org/faq/?category=mpi-apps>
3. Run the MPI code. <https://www.open-mpi.org/faq/?category=running>
4. Describe the steps you have taken similar to an instruction manual. Use bullet points, screenshots, and be concise when possible. Your instructions should be enough for another person reading them to recreate what you have done.

After finishing these activities, use the remaining time of the seminar to work on TaskM2.T1P, TaskM2.T2C and TaskM2.T3D individually. You can find the task description from OnTrack.