

Innovative Teaching Practice

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Course Name : Cloud Computing
Class : IV B.Tech I Semester
Academic Year : 2022-2034
Title of the Topic : Resource Bundling
Activity Name : Think-Pair-Share

Objective of the Activity:

The objective of this Think-Pair-Share activity is to help students understand the concept of resource bundling by analyzing its role in optimizing resource allocation and management. Through this activity, students will explore how bundling resources together can improve efficiency, reduce overheads, and enhance system performance in various computing contexts. By discussing and reflecting on real-world examples, students will develop a deeper understanding of the trade-offs and benefits of resource bundling, fostering collaboration and critical thinking skills in the process.

Activity Procedure:

1. Preparation:

1. Provide students with a set of resources (e.g., CPU, memory, disk, etc.) and their usage patterns (e.g., resource demand, availability, and type).
2. Prepare worksheets for students to calculate the performance metrics (e.g., efficiency, throughput, and resource utilization) when applying resource bundling techniques.
3. Briefly explain the concept of resource bundling, its objectives, and scenarios where it can be effectively used. Discuss the benefits (e.g., improved resource utilization, reduced overhead) and trade-offs (e.g., potential resource conflicts, complexity).

Phase 1 – Think (5-7 minutes):

- Students work individually to analyze a given set of resource bundles.
- They calculate the efficiency, throughput, and resource utilization based on the provided resources, documenting their results on the worksheet.
- Students also think about how bundling resources affects performance under different conditions.

Phase 2 – Pair (10-15 minutes):

- Students collaborate with a partner to compare their results and discuss the impact of resource bundling on system performance.
- Each pair debates the trade-offs between bundling resources versus using them individually, taking into consideration factors such as system load, resource contention, and performance goals.
- Students explore how bundling different types of resources together (e.g., CPU with memory, or CPU with disk) can change resource allocation and management strategies.

Phase 3 – Share (10-12 minutes):

- Each pair shares their findings with the class, explaining the performance improvements or challenges they observed while applying resource bundling.
- A class-wide discussion is conducted, where the instructor helps analyze and compare the effectiveness of resource bundling in various scenarios (e.g., high load, resource scarcity, or real-time systems).

Wrap-Up (5 minutes):

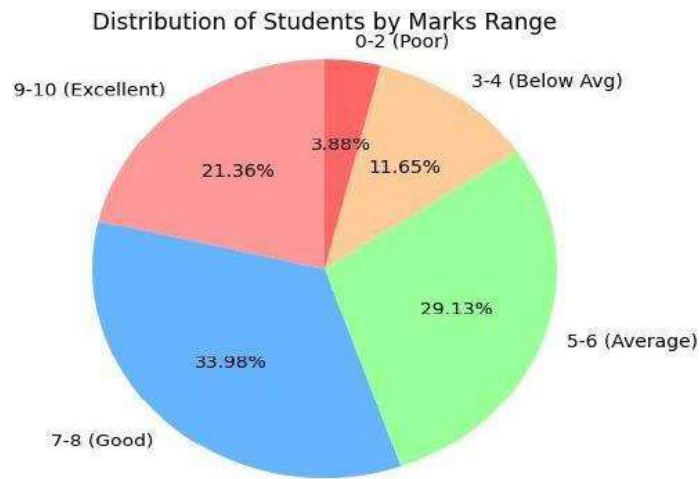
- Reflection on the results and key learning outcomes of the activity.
- Students discuss when resource bundling should be applied and which types of systems or use cases benefit the most from it.
- The instructor summarizes the pros and cons of resource bundling, reinforcing its practical applications in real-world system management and performance optimization.

Screenshots of the Practice



Assessment Analysis

Marks Range	Number of Students	Percentage
9-10 (Excellent)	22	21.36%
7-8 (Good)	35	33.98%
5-6 (Average)	30	29.13%
3-4 (Below Avg)	12	11.65%
0-2 (Poor)	4	3.88%
Total	103	100%



Conclusion

The Think-Pair-Share activity on Resource Bundling effectively engaged students in exploring the concept of optimizing resource allocation through bundling. Through collaboration and discussion, students were able to analyze the impact of resource bundling on system performance, efficiency, and resource utilization.

Signature of the Faculty

Head of the Department