



ADVANTAGES AND USAGE OF DATABASE CLUSTERING

GROUP 2



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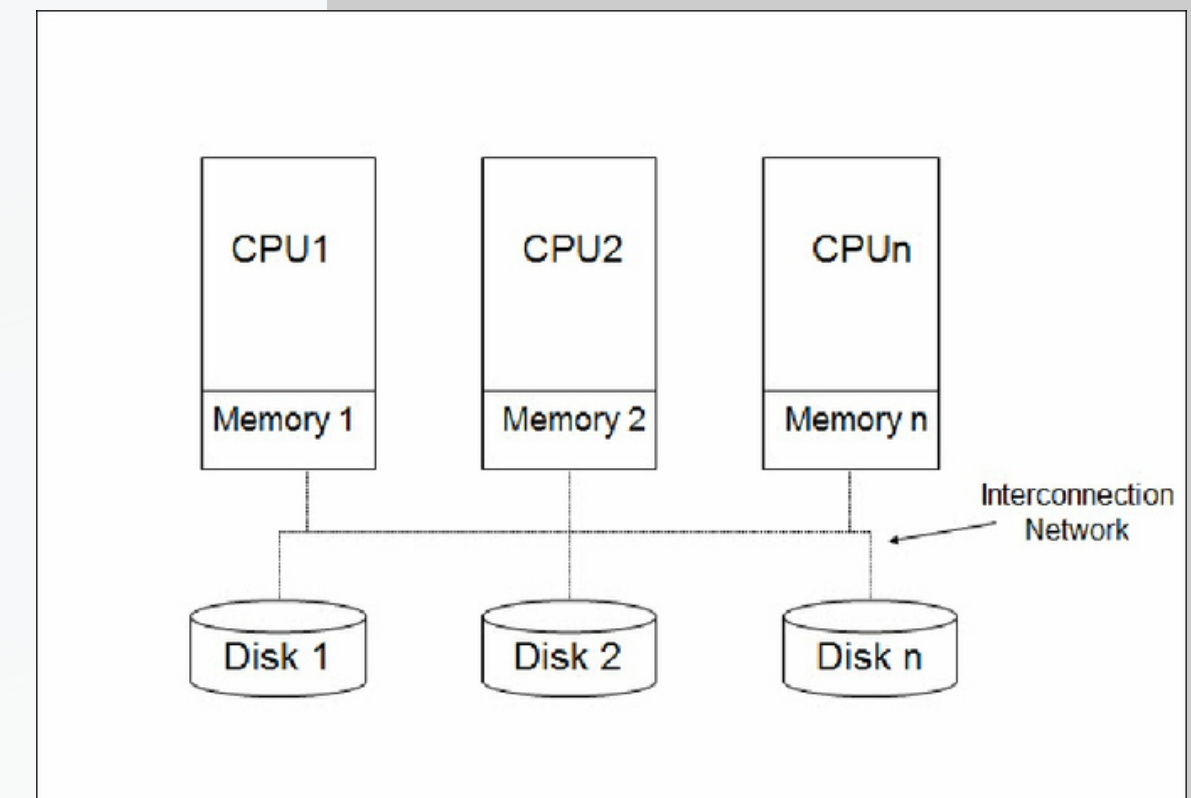
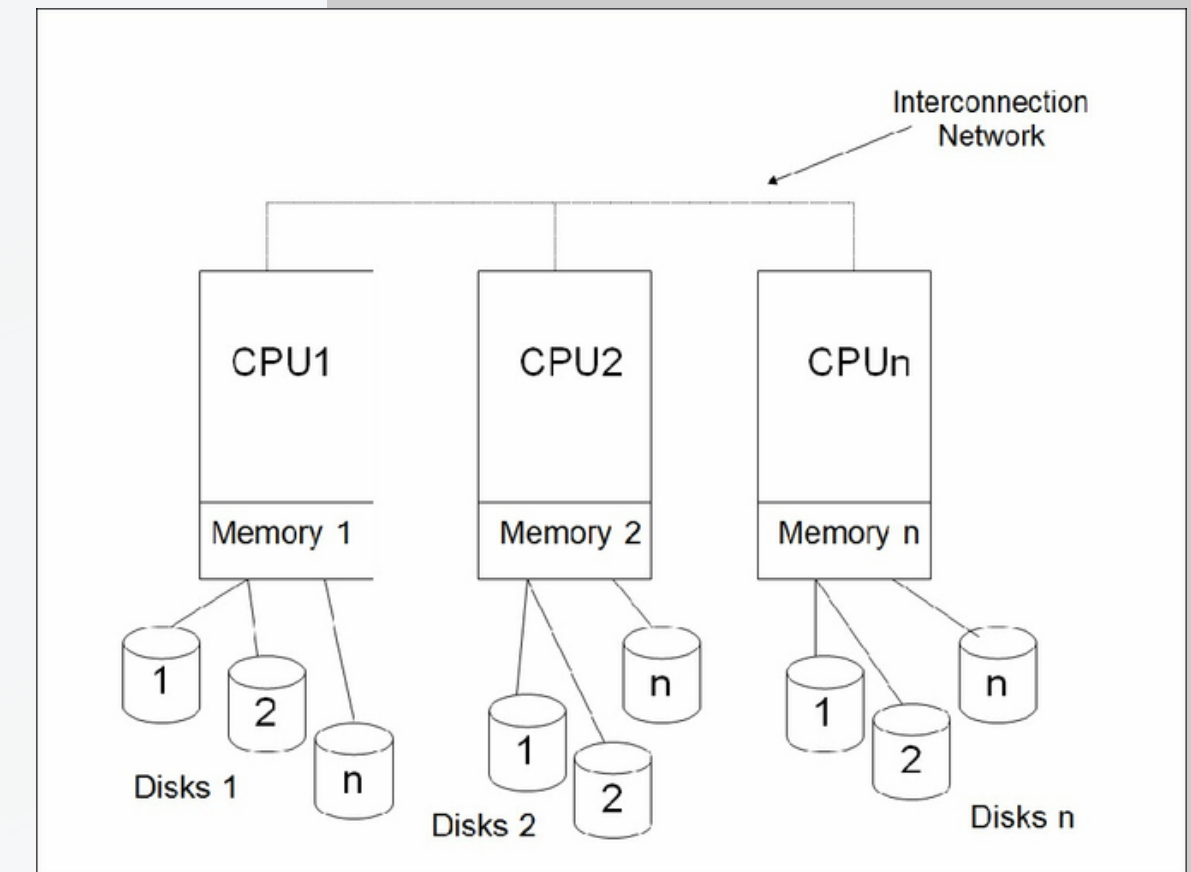
INTRODUCTION



Database clustering is the process of grouping multiple database servers or instances together to act as a single entity, by distributing the workload across multiple servers.



Database clustering provides data redundancy, availability, scalability, and monitoring.



USAGE OF DB CLUSTERING



LARGE DATABASES

Organizations with large databases that are difficult to manage on a single server can benefit from clustering. By splitting the database into smaller chunks and distributing them across multiple servers, clustering can improve manageability and scalability.



HIGH-TRAFFIC WEBSITES

Websites that receive a large amount of traffic can benefit from database clustering to improve response times and handle more user requests, by splitting the database into smaller segments and distributing them among multiple servers.

USAGE OF DB CLUSTERING



MISSION-CRITICAL APPLICATIONS

Applications that require high availability and reliability, such as financial applications or healthcare systems, can benefit from clustering to ensure that data is always available and accessible.



HIGH-VOLUME WORKLOADS

If the database is handling a high volume of transactions or requests, then clustering can help distribute the workload across multiple servers, improving performance and reducing the risk of overloading any individual server.

ADVANTAGES OF DB CLUSTERING



OVERCOME SYSTEM FAILURE

- No Single Point of Failure
- Other Database Servers Are on Standby



DATA REDUNDANCY

- All Nodes Are Synchronised and Has Same Data
- No Data Loss

ADVANTAGES OF DB CLUSTERING



HIGH AVAILABILITY

- Prevent Distribution to Users in the Event of Failure.
- Transferring the Application to a Different Redundant Host.



LOAD BALANCE


- Prevents Servers of Becoming Overloaded.
- Ensure Performance Remain Consistent.

CONCLUSION

Database structuring is **essential** for large databases, busy websites, critical applications, and high volume workloads to maintain load balance, provide high availability, and overcome system failure and data redundancy. Also, it can help businesses **achieve their objectives and long-term success.**



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THANK YOU!



DO YOU HAVE ANY QUESTIONS?