

# ORACLE基本觀念與實務



# 1

## 與SQL SERVER不同處

## SQL Server

僅支援Windows系統  
( 2017後支援Linux )

TPC分析：效益最高

2003年SQL Slammer

只有圖形介面，容易操作

使用T-SQL，擴充功能用C#或VB.NET  
寫SQL CLR函數

## Oracle

支援Windows、Linux、macOS等系統

TPC分析：效能最快

獲得最高認證級別的ISO標準認證

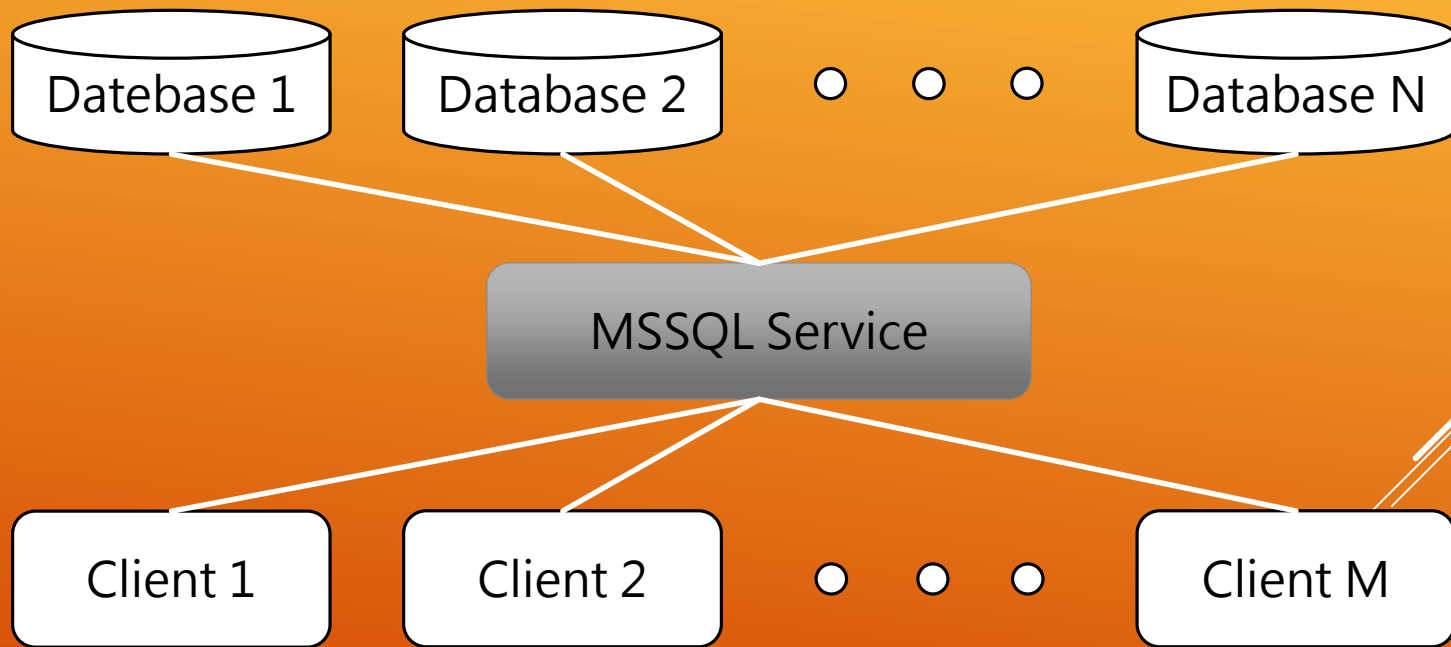
比較複雜，但提供圖形介面和命令列

可使用PL/SQL、SQL、Java，擴充功能  
用C或Java寫External Procedures

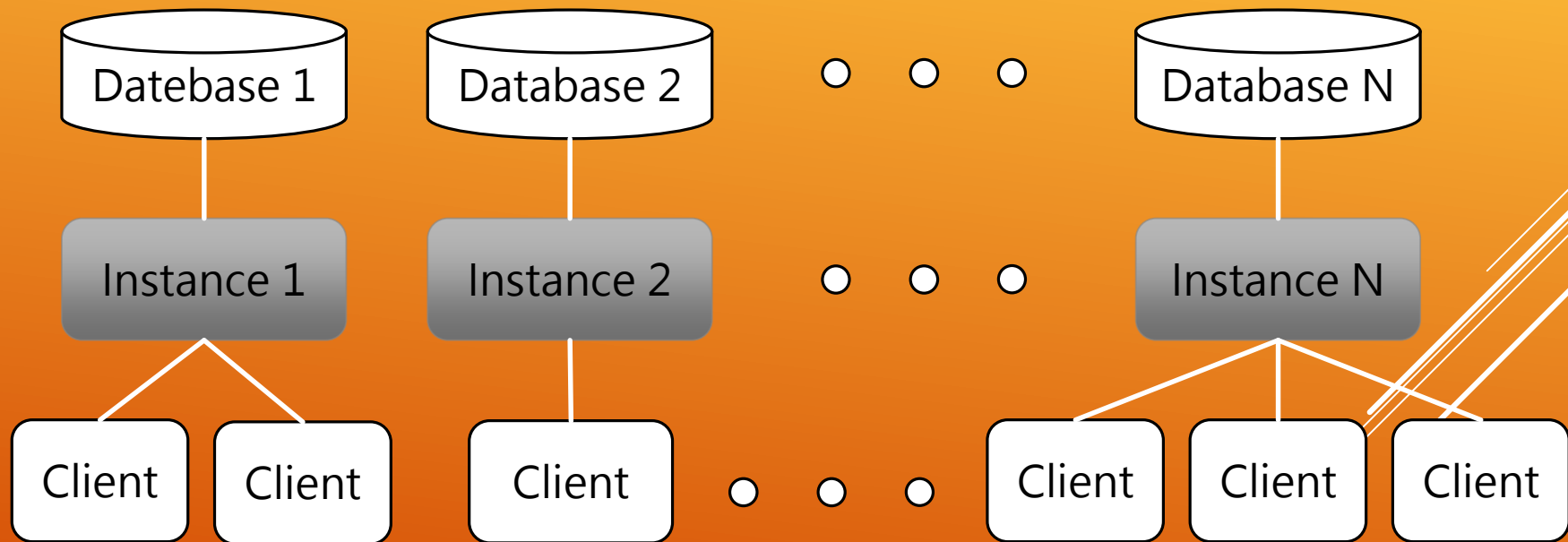
## 資料型態 差異

Oracle	SQL Server
Number(19,0)	BigInt
Int or Number(10,0)	Int
SmallInt or Number(6,0)	SmallInt
Number(3,0)	TinyInt
Number(p,0)	Decimal(p,s)
Number(p,0)	Numeric(p,s)
Float or DoublePrecision or Number(38)	Float
Number(1)	Bit
Number(19,4)	Money
Number(10,4)	SmallMoney

# SQL Server架構



# Oracle架構



2

# GRID架構

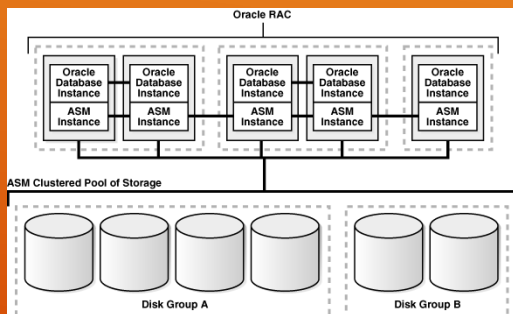
# Grid

- ◆ Grid Computing ( 網格計算 )
  - ◆ 透過網路分散運算需求到多台主機
  - ◆ 靈活、低成本
- ◆ Oracle Grid架構：一個眾多伺服器、儲存裝置以及網路整合在一起的pool

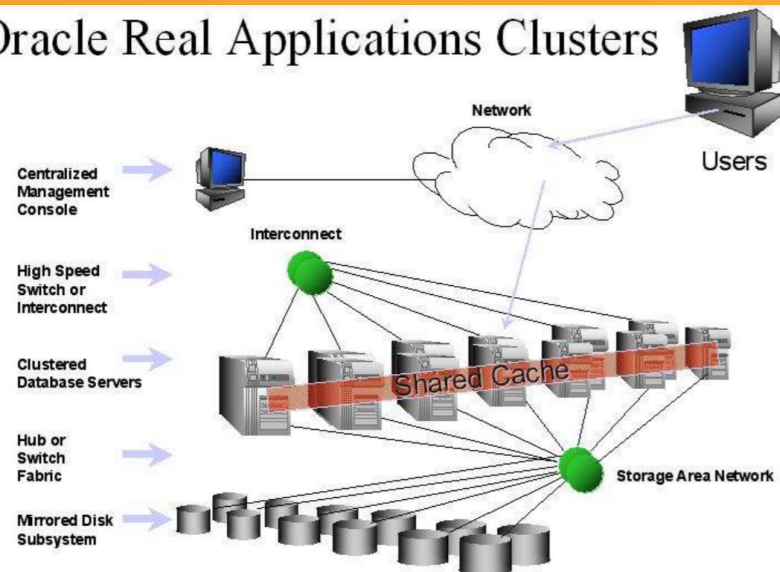


# 使用技術

- ◆ Automatic Storage Management
- ◆ High-Speed Infiniband Network
- ◆ Real Application Cluster



## Oracle Real Applications Clusters



# 特色

- ◆ 資源集中管理
- ◆ 隨需求動態調整資源供應
- ◆ 虛擬化（使用者不知道資源來源）

# 3

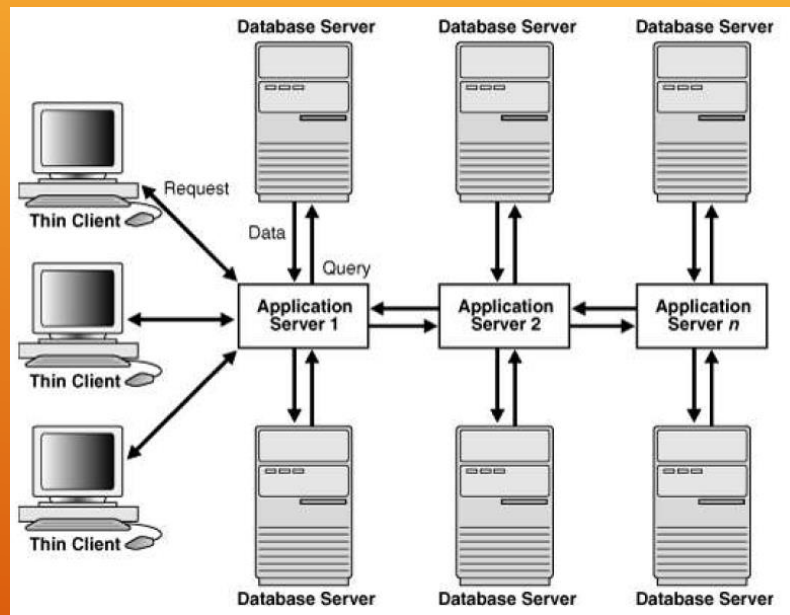
## APPLICATION架構

# Client-Server架構

- ◆ Server
  - ◆ 接收Client的指令，執行後回傳結果
- ◆ Client
  - ◆ 將用戶指令轉為SQL傳送給Server
  - ◆ 顯示Server回傳的資料

# 多層架構

- ◆ Application Server
  - ◆ 和Client溝通
- ◆ Database Server
  - ◆ 找用戶所需資料



# Resources

1. Oracle Academy:  
<https://academy.oracle.com/>
2. Oracle Cloue Infrastructure:  
<https://www.oracle.com/tw/cloud/>
3. Oracle APEX:  
<https://apex.oracle.com/zh-tw/>

# Other Resources

1. OCI YouTube channel:  
<https://www.youtube.com/channel/UC60OcDzeEtn194-UPYNJs8A>
2. OCI documentation:  
<https://docs.cloud.oracle.com/iaas/Content/home.htm>
3. OCI Foundation Training:  
<https://cloud.oracle.com/iaas/training/foundation>
4. OCI Advanced Training:  
<https://cloud.oracle.com/iaas/training/advanced>
5. Jump Start Learning Labs:  
<https://ocitraining.cloudable.com/>
6. Oracle Cloud Native Labs tutorials:  
<https://cloudnative.oracle.com/learn.html>
7. OCI Fundamentals course:  
[https://education.oracle.com/oracle-cloud-infrastructure-fundamentals/courP\\_9331](https://education.oracle.com/oracle-cloud-infrastructure-fundamentals/courP_9331)
8. Architecting OCI Solutions course:  
[https://education.oracle.com/architecting-oracle-cloud-infrastructure-solution/courP\\_10239](https://education.oracle.com/architecting-oracle-cloud-infrastructure-solution/courP_10239)
9. OCI learning subscription:  
[https://education.oracle.com/oracle-cloud-infrastructure-learning-subscription/ls\\_35644](https://education.oracle.com/oracle-cloud-infrastructure-learning-subscription/ls_35644)