Pertemuan 2

Instalasi Oracle Database 21c Software

Workshop Administrasi Basis Data

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Tujuan

- Setelah menyelesaikan bab ini, anda seharusnya dapat melakukan halhal berikut:
 - Menjelaskan peran dan tugas seorang database administrator
 - Penjelasan tentang Oracle 21c
 - Menginstall Database Oracle 21c
 - Menginstall SQL Developer

Tugas Oracle Database Administrator

- Memprioritaskan pendekatan untuk merancang, mengimplementasi, dan memelihara Oracle Database:
 - Mengevaluasi hardware database server
 - Menginstall software Oracle
 - Merencanakan sebuah database
 - Membuat dan membuka sebuah database
 - Back up database
 - Enroll system users
 - Mengimplementasi desain database
 - Recover dari kerusakan database
 - Memonitor kemampuan database

Oracle Database 21c

- Oracle Database 21c adalah versi terbaru dari database relasional yang sangat populer, Oracle Database.
- Versi ini dirilis sebagai bagian dari strategi "cloud first" Oracle, yang berarti pertama kali tersedia di layanan cloud Oracle sebelum di platform lain.
- Oracle Database 21c menawarkan berbagai fitur baru dan peningkatan yang dirancang untuk meningkatkan produktivitas pengembang, analis, dan ilmuwan data, serta meningkatkan kinerja kueri.

Fitur Oracle Database 21c

- **Blockchain Tables**: Fitur ini memungkinkan penyimpanan data dalam bentuk tabel blockchain, yang membantu dalam verifikasi transaksi.
- Al Vector Search: Teknologi ini memanfaatkan algoritma machine learning untuk mengidentifikasi dan mencari data yang spesifik.
- Oracle Database In-Memory: Fitur ini memungkinkan penyimpanan data langsung di dalam memori, yang meningkatkan kinerja database secara signifikan.

1. Download Oracle 21c terlebih dahulu pada situs resmi Oracle.



2. Setelah download, Letakkan pada drive C : lalu ekstrak file .zip hasil download dan ubah folder root menjadi seperti "Oracle12c" (atau nama lain yang Anda inginkan. Harap hindari penggunaan spasi pada nama folder, contoh: "Oracle 21c")

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← → • ↑ 📥 ›	This PC \rightarrow Local Disk (C:)		
	Name	Date modified	Туре
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E Pictures	🖈 🔄 MSSQL	9/5/2021 1:31 PM	File folder
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	Oracle21c	10/24/2021 11:24 AM	File folder
- Main	orant	8/1/2021 3:03 PM	File folder
System32	Dorfloor	12/7/2010 12:14 DM	File folder

3. Setelah folder diganti nama sesuai pilihan Anda, buka folder tersebut dan jalankan "setup.exe" sebagai administrator.



4. Proses instalasi akan dimulai dan mungkin diperlukan waktu beberapa menit sebelum GUI instalasi muncul.



daya.

5. Pilih "Server class" terlepas apakah Anda menginstalnya di Server OS atau Client OS. Semuanya tentang pengelolaan sumber



6. Pilih Enterprise Edition



7. Pilih Use Virtual Account

Configuration Option System Class	For enhanced security, you may choose to run Windows Services from this Oracle home with a non-administrator account. Oracle recommends that you choose a Virtual Account or specify a standard Windows User Account for this purpose.
Database Edition	Use Virtual Account
Oracle Home User	
Installation Location	O use cxisting windows user
Configuration Type	User Name:
Database Identifiers	Password:
Configuration Options	Create New Windows Liser
Database Storage	
Management Options	Uger Name:
Recovery Options	Password:
Schema Passwords	Confirm Password:
Prerequisite Checks	The newly created user is denied Windows logon privileges.
Summary	
Install Product	Use Windows Buit-in Account
Finish	

8. Lalu pada Oracle base arahkan menuju ke folder driver installer di drive C: diawal install, lalu di dalam folder tersebut tambahkan folder db

L L	Configuration Option System Class	Specify a path to place all Oracle software and configuration-related files inst This location is the Oracle base directory for the installation owner.	talled by this installa	tion owner.
Ϋ́	Database Edition	Qracle base C:\Oracle21c\db	-	Browse
Ŭ,	Oracle Home User Installation Location	This software directory is the Oracle Database home directory.		
Ţ	Configuration Type	Software location: C:\Oracle21c		
ļ	Database Identifiers			
þ	Configuration Options			
5	Database Storage			
	Management Options			
R	Recovery Options			
2	Schema Passwords			
2	Prerequisite Checks			
	Summary			
	Install Product			

9. Pada Configuration type pilih General Purpose/Transaction Processing



10. Pada Database Identifiers, Global database name dan SID mengikuti default

🍰 Oracle Database 21c Installer - St	ep 7 of 16			-		\times
Specify Database Identifiers			21 ^c	OR Datab	ACL ase	.e
Configuration Option Svstem Class Database Edition Oracle Home User Installation Location Configuration Type Database Identifiers Configuration Options Database Storage Management Options Recovery Options Schema Passwords Prerequisite Checks Summary Install Product Finish	Provide the identifier information identified by a Global database i one Oracle instance which is un identifier (SID). Global database name: Q Oracle system identifier (SID): Pluggable database name:	n required to access the database unique name, typically of the form "name.domain" niquely identified from any other instance sct	y. An Oracle datab . A database is re on this computer b	erenced y an Orac	iquely by at leas le syster	it
Help		< <u>B</u> ack	<u>N</u> ext >	Install	Car	icel

11. Pada Configuration Memory mengikuti pengaturan default

Oracle Database 21c Installer -	
ecify Configuration Opti	ions 21 Database
Configuration Option	Memory Character sets
System Class	Enabling Automatic Memory Management allows the database to distribute memory automatically between
Database Edition	the system global area (SGA) and the program global area (PGA), based on user-specified overall database memory target size. If automatic memory management is not enabled, then the SGA and PGA must
Oracle Home User	be sized manually.
Installation Location	Enable Automatic Memory Management
Configuration Type	
Database Identifiers	Allocate memory: 256 3277 8191 3,277 40 %
Configuration Options	
Database Storage	SGA target: 2457 MB
Management Options	PGA aggregate target: 820 MB
Recovery Options	Target database memory: 3277 MB
Schema Passwords	
Prerequisite Checks	
Summary	
Install Product	
Finish	
Help	< Back Next > Install Cance

12. Pada Database Storage atur Lokasi tempat databasenya

🕌 Oracle Database 21c Installe	- Step 9 of 16 -	$\Box \times$
pecify Database Storag	options 21° Datab	ACLE ase
Configuration Option System Class Database Edition Oracle Home User Installation Location Configuration Type Database Identifiers Configuration Options	File gystem Use a file system for database storage. For optimal database organization and performance, Oracle or that you install data files and the Oracle database software on different disks. Specify database file location: C:\Oracle21c\db\oradata Oracle Automatic Storage Management Oracle Automatic Storage Management (Oracle ASM) simplifies database storage administration, and database files for optimal I/O performance. Select this option if you intend to use Oracle ASM.	ecommends Browse places
Database Storage <u>Management Options</u> Recovery Options Schema Passwords		
Prerequisite Checks Summary Install Product		
 Finish 		
Help	< Back Next > Install	Cancel

13. Pilih next pada pengaturan management options dan recovery options

	Oracle Database 21c Installer - St	tep 10 of 16 - 🗆 🗙		\$ C)racle Database 21c Installer - S	itep 11 of 16 -		K
s	pecify Management Optior	ns 21 [°] DRACLE Database	s	pe	cify Recovery Options	21° 🕞	RACLE abase	Ξ
1	Configuration Option System Class	Oracle Database 21c is managed by Oracle Database Express by default. You can use Oracle Enterprise Manager 12c Cloud Control to manage each Oracle Database 21c centrally. Specify the details of the Cloud Control configuration to manage your database.		۳. ۲	Configuration Option System Class	Enable or disable recovery for your database. If you choose to enable recovery, then the location s used as recovery area storage.	pecified will be	,
	Database Edition	Register with Enterprise Manager (EM) Cloud Control		ψı	Database Edition	Enable Recovery		
	Oracle Home User	OMS Host		ų.	Oracle Home User			
	Installation Location			ų.	Installation Location	File system		
- 5	 Configuration Type 	OMS Port:		ų,	Configuration Type	Recovery area location: C:\Oracle21cldb\recovery_area	Browse.	
1	 Database Identifiers 	EM Agmin User Name:		ų i	Database Identifiers			
	Configuration Options	EM Admin Password:		ý !	Configuration Options	Oracle Automatic Storage Management		
	Database Storage			ψı	Database Storage			
6	Management Options			ψı	Management Options			
1	Recovery Options		9		Recovery Options			
	Schema Passwords			÷	Schema Passwords			
	Prerequisite Checks			ψ	Prerequisite Checks			
	Summary			¢ :	Summary			
1	Install Product			ψı	Install Product			
	O Finish			Ċ.	Finish			4
	Help	< <u>Back</u> <u>Next></u> install Cancel		H	elp	< Back Next > Insta	Cance	

14. Pada Schema Password silahkan pilih use the same password , dengan membuat password yang terdiri huruf dan angka. Hal ini untuk login sebagai SYS ataupun SYSTEM dengan password sama.

Oracle Database 21c Installer -	Step 12 of 16					-		×
becify Schema Password	Is				21	C Or Data	PACL base	_€
Configuration Option System Class Database Edition Oracle Home User	The starter da at the end of ir accounts you unlocked, and	tabase contains pre-load stallation. After installatio want to use. Schemas us passwords for these action int passwords for these i	ed schemas, n on is complete, sed for databa counts will not accounts	nost of which have pas you must unlock and s se management and po expire. Specify the pa	swords that et new pass stinstallation sswords for	t are expire swords for functions these acc	ed and lock r those are left counts.	ked
Installation Location Configuration Type Database Identifiers Configuration Options Database Storage Management Options Recovery Options	SYS SYSTEM POBADMIN	Password	Cor	nfirm password				
Schema Passwords Prerequisite Checks Summary	Password	5:		Confirm password:	•••••	••		
Install Product								
Help				< Back	Next >	Instal	Ca	ncel

15. Pada Summary tampilannya sebagai berikut, lalu pilih install

🖆 Oracle Database 21c Installer - Ste	ep 14 of 16 − □ ×
Summary	21 Database
Configuration Option System Class Database Edition Oracle Home User Installation Location Configuration Type	Oracle Database 21c Installer Global settings Oracle Home User: Virtual Account [Edit] Install method: Advanced installation Database edition: Enterprise Edition (Create and configure a database) [Edit] Oracle base: C:\Oracle21c\db [Edit] Software location: C:\Oracle21c OracleTS Bort Number: 49152
Database Identifiers Configuration Options Database Storage Management Options Recovery Options Schema Passwords Prerequisite Checks	OraMTS Port Number: 49152 OraMTS Port Number: 49152 Oratabase information Configuration: General Purpose / Transaction Processing [Edit] Oracle system identifier (SID): sct [Edit] Oracle system identifier (SID): sct [Edit] Oracle database name: orclpdb [Edit] Oracle database name: orclpdb [Edit] Oracle database name: option: FALSE [Edit] Oracle system identifier set; AL32UTF8 (Unicode UTF-8 Universal character set) [Edit]
Summary Install Product Finish	 Management method: Database express [Edit] Database storage mechanism: File system [Edit] Database file location: C:\Oracle21c\db\oradata [Edit] Recovery: Disabled [Edit]
Нер	Save Response File

menit

16. Proses instalasi berlangsung dan memerlukan waktu beberapa



17. Jika muncul tampilan berikut silahkan pilih Allow access



18. Jika instalasi sudah berhasil maka akan muncul URL Oracle Enterprise Manager Database Expressnya, bisa ditampilkan di browser.

 Configuration Option System Class Database Edition Oracle Home User Installation Location Configuration Options Database Identifiers Configuration Options Database Storage Management Options Schema Passwords Prerequiste Checks Summary Install Product Finish)
System Class Note: Database Edition Oracle Enterprise Manager Database Express URL: https://rt02 \$5500/em Oracle Home User Installation Location Installation Location \$500/em Configuration Type Database Identifiers Installation Options \$500/em Database Storage Management Options Installer Checks \$500/em Schema Passwords Prerequisite Checks Install Product Install Product Finish Install Product Install Product Install Product	
Database Edition Oracle Enterprise Manager Database Express URL: https://rt02 5500/em Oracle Home User Installation Location Installation Location Configuration Type Database Identifiers Installation Options Database Storage Management Options Installer Preequisite Checks Schema Passwords Prerequisite Checks Install Product Finish Install Product Install Product	
Oracle Home User Installation Location Configuration Type Database Identifiers Configuration Options Database Storage Management Options Recovery Options Schema Passwords Prerequisite Checks Summary Install Product	
Installation Location Configuration Type Database Identifiers Configuration Options Database Storage Management Options Recovery Options Schema Passwords Prerequisite Checks Summary Install Product	
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 Database Identifiers Configuration Options Database Storage Management Options Recovery Options Schema Passwords Prerequisite Checks Summary Install Product Finish 	
 Configuration Options Database Storage Management Options Recovery Options Schema Passwords Schema Passwords Schema Passwords Summary Install Product Finish 	
Image:	
Management Options Recovery Options Schema Passwords Prerequisite Checks Summary Install Product	
k Recovery Options Schema Passwords Prerequisite Checks Summary Install Product	
Schema Passwords Prerequisite Checks Summary Install Product Finish	
 Prerequisite Checks Summary Install Product Finish 	
Summary Install Product Finish	
Install Product Finish	
) Finish	

18. Kita juga bisa mengecek apakah memang instalasinya sudah berhasil melalui cmd



Oracle Enterprise Manager Database Express

Resources

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Oracle Enterprise Manager Database Express

 Oracle Enterprise Manager Database Express (EM Express) adalah antarmuka berbasis web yang dirancang untuk memudahkan manajemen database Oracle. Berguna untuk DBA dalam mengelola dan memantau database Oracle dengan efisien.

Fungsi Oracle Enterprise Manager Database Express

1. Manajemen Pengguna dan Keamanan:

- Mengelola hak akses pengguna dan peran.
- Melakukan audit dan pemantauan aktivitas pengguna untuk memastikan keamanan data.

2. Pemantauan Kinerja:

- Memantau kinerja database secara real-time.
- Menyediakan alat untuk analisis kinerja dan tuning SQL.

3. Manajemen Memori dan Penyimpanan:

- Mengelola alokasi memori dan penyimpanan database.
- Memantau penggunaan sumber daya dan mengoptimalkan konfigurasi.

4. Administrasi Database:

- Melakukan tugas-tugas administratif seperti backup dan recovery.
- Mengelola objek-objek database seperti tabel, indeks, dan view.

5. Visualisasi Data:

Menyediakan tampilan grafis untuk memudahkan interpretasi data dan kinerja database.

Oracle SQL Developer

 Oracle SQL Developer adalah alat yang sangat berguna untuk meningkatkan produktivitas pengembang dan administrator database, serta memastikan efisiensi dan kinerja optimal dari Oracle Database.



Manfaat SQL Developer

- Pengembangan SQL dan PL/SQL
- Manajemen Database
- Migrasi Database
- Laporan dan Visualisasi Data
- Pemantauan Kinerja

- 1. Download Installer Oracle SQL Developer di <u>SQL Developer</u>
- 2. Buka Folder hasil download SQL Developer, jalankan aplikasi sql

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3. Tunggu prosesnya



4. Setelah berhasil maka akan muncul tampilan berikut



5. Untuk menjalankan Oracle SQL Developer maka harus mengatur koneksinya di bagian Oracle Connection, klik kanan pada Oracle Connection lalu pilih new connection

🔂 Oracle SQL Developer : Welcome Page							
<u>F</u> ile <u>E</u> o	dit <u>V</u> iew	<u>N</u> avigate	<u>R</u> un	Tea <u>m</u>			
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Oracle Connections Database Schema Service Connections							



6. Isikan koneksinya, isi nama koneksinya sebagai system, lalu masukkan username system dan password (sesuai password saat install oracle 21c), lalu pilih test jika sukses maka save dan lanjut pilih connect

🐻 New / Select 🛛	Database Connection						×
Connection Name testing	Connection Details system@//localh	Name system	as admin				Color
		User Info	Proxy User				
		Authenticatio	n Type Def	ault 🔻		Role	default 💌
		Password •	•••••				a <u>v</u> e Password
		Connection Type	e Basic	•			
		Hostn <u>a</u> me	localhos	t			
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		⊖ S <u>I</u> D	xe				
		Service n	ame ord				
Status :							
Help		-	Save	Clear	<u>T</u> est	Connect	Cancel

• 7. Jika berhasil maka muncul tampilan seperti berikut



8. Kita bisa melakukan query untuk menampilkan data table pada user system, setelah di run maka akan muncul data berikut



Ringkasan

Pada bab ini, telah mempelajari bagaimana cara untuk:

- Menginstall software Oracle 21c dan SQL Developer
- Mengetahui tugas administrator database

LATIHAN

Install software oracle dan SQL Developer

Jelaskan Langkah-langkahnya dan buat laporannya

Login sebagai system di cmd, lalu tampilkan daftar user apa saja di dalamnya

Membuat user baru dari nama masing-masing

Berikan hak akses pada user tersebut

Cobalah login dengan user database yang baru saja Anda buat