

Министерство науки и высшего образования Российской Федерации

---

**САНКТ-ПЕТЕРБУРГСКИЙ ГОСУДАРСТВЕННЫЙ  
ЭЛЕКТРОТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ «ЛЭТИ»  
ИМ. В.И. УЛЬЯНОВА (ЛЕНИНА)**

---

197376, Санкт-Петербург, ул. проф. Попова, 5.

Факультет компьютерных технологий и информатики

Кафедра вычислительной техники

**«З А Ч Т Е Н О»**

\_\_\_\_\_ О.А. Жирнова

“ ” \_\_\_\_\_ 2021 г.

**ОТЧЁТ  
по дисциплине «Базы данных»**

**Лабораторная работа № 7  
«Использование представлений»**

Студент группы 9308

\_\_\_\_\_ С. А.Дубенков

Санкт Петербург 2021

*Цель работы:* научиться писать и применять представления [лит 1].

*Используемая база данных (БД):* AdventureWorks.

### **Порядок выполнения**

#### **Упражнение 1 – создание представления**

Создано новое представление HumanResources.vEmployeeDetails, использующее логику команды SELECT

```
create view HumanResources.vEmployeeDetails
with schemabinding as
SELECT
e.[EmployeeID]
,c.[Title]
,c.[FirstName]
,c.[MiddleName]
,c.[LastName]
,c.[Suffix]
,e.[Title] AS [JobTitle]
,c.[Phone]
,c.[EmailAddress]
,c.[EmailPromotion]
,a.[AddressLine1]
,a.[AddressLine2]
,a.[City]
,sp.[Name] AS [StateProvinceName]
,a.[PostalCode]
,cr.[Name] AS [CountryRegionName]
,c.[AdditionalContactInfo]
FROM [HumanResources].[Employee] e
INNER JOIN [Person].[Contact] c
ON c.[ContactID] = e.[ContactID]
INNER JOIN [HumanResources].[EmployeeAddress] ea
ON e.[EmployeeID] = ea.[EmployeeID]
INNER JOIN [Person].[Address] a
ON ea.[AddressID] = a.[AddressID]
INNER JOIN [Person].[StateProvince] sp
ON sp.[StateProvinceID] = a.[StateProvinceID]
INNER JOIN [Person].[CountryRegion] cr
ON cr.[CountryRegionCode] = sp.[CountryRegionCode]
```

Результат выполнения запроса показан на рисунке 1

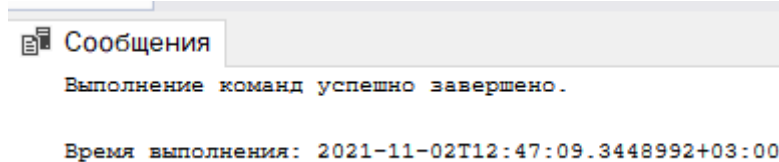


Рисунок 1

Проверка успешного создания представления была выполнена при помощи запроса

```
select * from HumanResources.vEmployeeDetails
```

Результат выполнения запроса показан на рисунке 2

EmployeeID	Title	FirstName	MiddleName	LastName	Suffix	JobTitle	Phone	EmailAddress	EmailPromotion	AddressLine1	AddressLine2	City	StateProvinceName	PostalCode	CountryRegionName	AdditionalContactInfo
1	25	NULL	Zheng	W	Mu	Production Supervisor - WC10	113-555-0173	zheng0@adventure-works.com	0	6578 Woodthorn Ln.	NULL	Seattle	Washington	98104	United States	NULL
2	26	NULL	Ivo	William	Salme	Production Technician - WC20	115-555-0178	ivo0@adventure-works.com	0	3841 Silver Oaks Place	NULL	Monroe	Washington	98272	United States	NULL
3	27	NULL	Paul	B	Komosinski	Production Technician - WC40	147-555-0160	paul0@adventure-works.com	2	7270 Pepper Way	NULL	Bellevue	Washington	98004	United States	NULL
4	24	NULL	David	N	Johnson	Production Technician - WC30	166-555-0162	david1@adventure-works.com	0	6697 Ridge Park Drive	NULL	Kenmore	Washington	98028	United States	NULL
5	29	NULL	Kendall	C	Keil	Production Technician - WC50	138-555-0128	kendall0@adventure-works.com	2	7439 Laguna Niguel	NULL	Seattle	Washington	98104	United States	NULL
6	23	NULL	Greg	F	Alderson	Production Technician - WC45	332-555-0150	greg0@adventure-works.com	0	8684 Military East	NULL	Bellevue	Washington	98004	United States	NULL
7	31	NULL	Alejandro	E	McGuel	Production Technician - WC40	668-555-0130	alejandro0@adventure-works.com	0	7127 Los Gatos Court	NULL	Seattle	Washington	98104	United States	NULL
8	32	NULL	Garrett	R	Young	Production Technician - WC30	609-555-0179	garrett0@adventure-works.com	2	2115 Passing	NULL	Snohomish	Washington	98296	United States	NULL
9	33	NULL	Jan Shuo	NULL	Wang	Production Technician - WC30	952-555-0178	janshuo0@adventure-works.com	0	8310 Ridge Circle	NULL	Monroe	Washington	98272	United States	NULL
10	34	NULL	Susan	W	Eaton	Stocker	943-555-0196	susan0@adventure-works.com	2	2736 Scramble Rd	NULL	Renton	Washington	98055	United States	NULL
11	35	NULL	Vamsi	N	Kuppe	Shipping and Receiving Clerk	937-555-0137	vamsi0@adventure-works.com	0	9833 Mt. Dias Blv	NULL	Bothell	Washington	98011	United States	NULL
12	36	NULL	Alice	O	Ciccu	Production Technician - WC50	333-555-0173	alice0@adventure-works.com	1	3280 Pheasant Circle	NULL	Snohomish	Washington	98296	United States	NULL
13	37	NULL	Simon	D	Rapier	Production Technician - WC60	963-555-0134	simon0@adventure-works.com	0	3421 Bouncing Road	NULL	Duwall	Washington	98019	United States	NULL
14	38	NULL	Jinghao	K	Liu	Production Supervisor - WC50	794-555-0159	jinghao0@adventure-works.com	0	9666 Northridge Ct.	NULL	Carnation	Washington	98014	United States	NULL
15	39	NULL	Michael	T	Hines	Production Technician - WC20	218-555-0126	michael0@adventure-works.com	0	1792 Belmont Rd.	NULL	Monroe	Washington	98272	United States	NULL
16	40	NULL	Yvonne	S	McKay	Production Technician - WC45	286-555-0189	yvonne0@adventure-works.com	0	1962 Cotton Ct.	NULL	Everett	Washington	98201	United States	NULL
17	41	NULL	Peng	J	Wu	Quality Assurance Supervisor	164-555-0164	peng0@adventure-works.com	2	250 Race Court	NULL	Bothell	Washington	98011	United States	NULL
18	42	NULL	Jean	E	Trenary	Information Services Manager	685-555-0120	jean0@adventure-works.com	2	2383 Pepper Drive	NULL	Redmond	Washington	98052	United States	NULL

EmployeeID	Title	FirstName	MiddleName	LastName	Suffix	JobTitle	Phone	EmailAddress	EmailPromotion	AddressLine1	AddressLine2	City	StateProvinceName	PostalCode	CountryRegionName	AdditionalContactInfo
274	274	NULL	Sheela	H	Word	Purchasing Manager	210-555-0193	sheela0@adventure-works.com	0	535 Greendell Pl	NULL	Sammamish	Washington	98074	United States	NULL
275	275	NULL	Michael	G	Blythe	Sales Representative	257-555-0154	michael0@adventure-works.com	1	8154 Via Mexico	NULL	Detroit	Michigan	48226	United States	NULL
276	276	NULL	Linda	C	Michell	Sales Representative	883-555-0116	linda3@adventure-works.com	0	2487 Riverside Drive	NULL	Nevada	Utah	84407	United States	NULL
277	277	NULL	Jillian	NULL	Carson	Sales Representative	517-555-0117	jillian0@adventure-works.com	1	80 Sunview Terrace	NULL	Duluth	Minnesota	55802	United States	NULL
278	278	NULL	Garrett	R	Vargas	Sales Representative	922-555-0168	garrett1@adventure-works.com	0	10203 Acorn Avenue	NULL	Calgary	Alberta	T2P 2G8	Canada	NULL
279	279	NULL	Teri	Michael	Rieler	Sales Representative	664-555-0112	teri0@adventure-works.com	1	8291 Crossbow Way	NULL	Memphis	Tennessee	38103	United States	NULL
280	280	NULL	Pamela	O	Annaman...	Sales Representative	340-555-0193	pamela0@adventure-works.com	1	636 Vine Hill Way	NULL	Portland	Oregon	97205	United States	NULL
281	281	NULL	Shu	K	Ito	Sales Representative	330-555-0120	shu0@adventure-works.com	2	5725 Glaze Drive	NULL	San Fran...	California	94109	United States	NULL
282	282	NULL	José	Edvaldo	Saraiva	Sales Representative	185-555-0169	josé1@adventure-works.com	0	9100 Sheppard Aven...	NULL	Ottawa	Ontario	K4B 1T7	Canada	NULL
283	283	NULL	David	R	Campbell	Sales Representative	740-555-0182	david0@adventure-works.com	0	2284 Azalea Avenue	NULL	Bellevue	Washington	98004	United States	NULL
284	284	NULL	Amy	E	Alberts	European Sales Manager	775-555-0164	amy0@adventure-works.com	1	5009 Orange Street	NULL	Renton	Washington	98055	United States	NULL
285	285	NULL	Jae	B	Pak	Sales Representative	1 (11) 500 5...	jae0@adventure-works.com	0	Downdshire Way	NULL	Cambridge	England	BA5 3HX	United Kingdom	NULL
286	286	NULL	Ranjit	R	Varkey Ch...	Sales Representative	1 (11) 500 5...	ranjit0@adventure-works.com	0	94, rue Descartes	NULL	Bordeaux	Gironde	33000	France	NULL
287	287	Mr.	Tete	A	Mendo-An...	Sales Representative	615-555-0153	tete0@adventure-works.com	1	3997 Via De Luna	NULL	Cambridge	Massachusetts	02139	United States	NULL
288	288	Mr.	Syed	E	Abbas	Pacific Sales Manager	926-555-0182	syed0@adventure-works.com	0	7484 Roundtree Drive	NULL	Bothell	Washington	98011	United States	NULL
289	289	NULL	Rachel	B	Valdez	Sales Representative	1 (11) 500 5...	rachel0@adventure-works.com	0	Pascalstr 951	NULL	Berlin	Hamburg	14111	Germany	NULL
290	290	NULL	Lynn	N	Tsofilas	Sales Representative	1 (11) 500 5...	lynn0@adventure-works.com	2	34 Waterloo Road	NULL	Melbourne	Victoria	3000	Australia	NULL

Рисунок 2

Упражнение 2 – создание индексированного представления

```
USE AdventureWorks
```

```
GO
```

```
CREATE UNIQUE CLUSTERED INDEX IX_vEmployeeDetails  
ON HumanResources.vEmployeeDetails (EmployeeID)
```

Результат выполнения запроса показан на рисунке 3

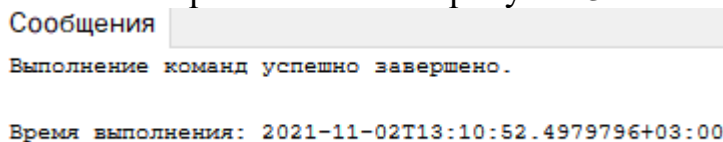


Рисунок 3

Упражнение 3 – просмотр системной информации о представлениях

Просмотрены зависимости представлений от других объектов базы данных AdventureWorks с помощью системной хранимой процедуры sp\_depends

sp\_depends 'HumanResources.vEmployeeDetails'

Результат выполнения запроса показан на рисунке 4

Результаты					
Сообщения					
	name	type	updated	selected	column
1	Person.Address	user table	no	yes	NULL
2	Person.Address	user table	no	yes	AddressID
3	Person.Address	user table	no	yes	AddressLine1
4	Person.Address	user table	no	yes	AddressLine2
5	Person.Address	user table	no	yes	City
6	Person.Address	user table	no	yes	StateProvinceID
7	Person.StateProvince	user table	no	yes	CountryRegionCode
8	Person.StateProvince	user table	no	yes	Name
9	HumanResources.Employee	user table	no	yes	Title
10	HumanResources.EmployeeAddress	user table	no	yes	NULL
11	HumanResources.EmployeeAddress	user table	no	yes	EmployeeID
12	HumanResources.EmployeeAddress	user table	no	yes	AddressID
13	Person.StateProvince	user table	no	yes	NULL
14	Person.StateProvince	user table	no	yes	StateProvinceID
15	Person.CountryRegion	user table	no	yes	NULL
16	Person.CountryRegion	user table	no	yes	CountryRegionCode
17	Person.CountryRegion	user table	no	yes	Name
18	HumanResources.Employee	user table	no	yes	NULL
19	HumanResources.Employee	user table	no	yes	EmployeeID
20	HumanResources.Employee	user table	no	yes	ContactID
21	Person.Contact	user table	no	yes	LastName
22	Person.Contact	user table	no	yes	Suffix
23	Person.Contact	user table	no	yes	EmailAddress
24	Person.Contact	user table	no	yes	EmailPromotion
25	Person.Contact	user table	no	yes	Phone
26	Person.Contact	user table	no	yes	AdditionalContactl...
27	Person.Address	user table	no	yes	PostalCode
28	Person.Contact	user table	no	yes	NULL
29	Person.Contact	user table	no	yes	ContactID
30	Person.Contact	user table	no	yes	Title
31	Person.Contact	user table	no	yes	FirstName
32	Person.Contact	user table	no	yes	MiddleName

Рисунок 4

Просмотрен программный код созданного в предыдущем упражнении представления с помощью системной хранимой процедуры sp\_helptext

sp\_helptext 'HumanResources.vEmployeeDetails'

Результат выполнения запроса показан на рисунке 5

	Text
1	create view HumanResources.vEmployeeDetails with...
2	SELECT
3	e.[EmployeeID]
4	.c.[Title]
5	.c.[FirstName]
6	.c.[MiddleName]
7	.c.[LastName]
8	.c.[Suffix]
9	.e.[Title] AS [JobTitle]
10	.c.[Phone]
11	.c.[EmailAddress]
12	.c.[EmailPromotion]
13	.a.[AddressLine1]
14	.a.[AddressLine2]
15	.a.[City]
16	.sp.[Name] AS [StateProvinceName]
17	.a.[PostalCode]
18	.cr.[Name] AS [CountryRegionName]
19	.c.[AdditionalContactInfo]
20	FROM [HumanResources].[Employee] e
21	INNER JOIN [Person].[Contact] c
22	ON c.[ContactID] = e.[ContactID]
23	INNER JOIN [HumanResources].[EmployeeAddress] ...
24	ON e.[EmployeeID] = ea.[EmployeeID]
25	INNER JOIN [Person].[Address] a
26	ON ea.[AddressID] = a.[AddressID]
27	INNER JOIN [Person].[StateProvince] sp
28	ON sp.[StateProvinceID] = a.[StateProvinceID]
29	INNER JOIN [Person].[CountryRegion] cr
30	ON cr.[CountryRegionCode] = sp.[CountryRegionCode]

Рисунок 5

Выводы: в ходе выполнения данной лабораторной работы были получены навыки в написании и применении представления. Для создания нового представления используется конструкция CREATE VIEW ... AS SELECT... . Если надо создать индексированный запрос, необходимо использовать конструкцию USE ... GO CREATE UNIQUE CLUSTERED INDEX ... ON ... Кроме того, была просмотрена системная информация о представлениях с помощью системных хранимых процедур sp\_depends и sp\_helptext

## **Список использованных источников**

Методические указания к лабораторным работам / Сост.: А. В. Горячев, Н.Е. Новакова. СПб.: Изд-во СПбГЭТУ «ЛЭТИ», 2008. 32 с.