# Proiect la Baze de Date in Economie

Jocurile olimpice

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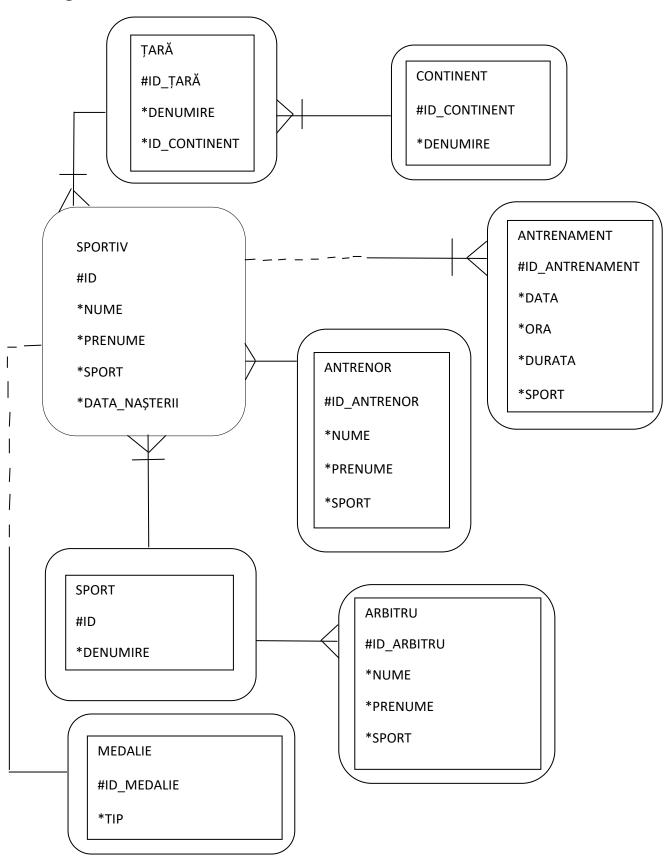
## Scenariu

Se realizeaza Diagrama Entitate-Relatie pentru a surprinde activitatea din cadrul jocurilor olimpice de vara desfasurate intr-un an. Participa sportivi din fiecare tara, la urmatoarea serie de competitii analizata: baschet, fotbal, handbal, tenis, volei.

Fiecare sportiv participa la o singura competitie, putand fi medaliat doar cu aur(locul I), argint(locul II) sau bronz(locul III). Fiecare sportiv participa la un singur sport, o singura data. Sportivii trebuie sa aiba o varsta minima de 16 ani impliniti. In cadrul evenimentului se realizeza antrenamente, programate in zile diferite, pe perioada desfasurarii jocurilor olimpice. Un antrenor poate sa aiba mai multi sportivi, dar nu si invers.

Se tine evidenta sportivilor, antrenorilor si a arbitrilor ce participa in cadrul jocurilor, a tarilor care participa si a antrenamentelor ce se desfasoara.

# Diagrama ERD



# Tabelele de mapare

	SPORTIN	1	
Tip cheie	Opţionalitate	Nume coloană	Observaţii
СР	*	Id	
	*	Nume	
	*	Prenume	
CS	*	Sport	
	*	Data_Nasterii	Trebuie sa fie pana in data de 23/07/2005

	ANTRENO	R	
Tip cheie	Opţionalitate	Nume coloană	Observaţii
СР	*	Id_Antrenor	
	*	Nume	
	*	Prenume	
CS	*	Sport	

	ŢARĂ		
Tip cheie	Opţionalitate	Nume coloană	Observaţii
СР	*	Id_Tara	
	*	Denumire	
CS	*	Id_Continent	

CONTINENT			
Tip cheie	Opţionalitate	Nume coloană	Observaţii
СР	*	Id_Continent	
	*	Denumire	

	MEDALIE		
Tip cheie	Opţionalitate	Nume coloană	Observaţii
СР	*	Id_Medalie	
	*	Tip	

	SPORT		
Tip cheie	Opţionalitate	Nume coloană	Observaţii
СР	*	Id	
	*	Denumire	

	ARBITRU	l	
Tip cheie	Opţionalitate	Nume coloană	Observaţii
СР	*	Id_Arbitru	
	*	Nume	

	*	Prenume	
CS	*	Sport	

	ANTRENAM	ENT	
Tip cheie	Opţionalitate	Nume coloană	Observaţii
СР	*	Id_Antrenament	
	*	Data	Trebuie sa fie in perioada 23/07/2021-08/08/2021
	*	Ora	
	*	Durata	
CS	*	Sport	

# Schema bazei de date normalizată

	SPORTIV					
ID	NUME	PRENUME	SPORT	DATA_NAST		
1	POP	MARIA	VOLEI	12/05/2002		
2	NISTOR	ALIN	FOTBAL	04/09/1999		
3	JONAS	JERRY	FOTBAL	19/02/2001		
4	ALBU	ELENA	BASCHET	17/08/2000		
5	JAMES	ANTHONY	TENIS	28/07/2000		
6	ROBU	ANDREEA	TENIS	03/02/1998		
7	NECULA	MATEI	HANDBAL	29/10/1996		
8	NORTH	ROB	BASCHET	29/05/2001		
9	MILES	ANNA	TENIS	09/11/1999		
10	ENOIU	ROBERT	HANDBAL	03/03/2000		

ANTRENOR				
ID_ANTRENOR	NUME	PRENUME	SPORT	
20	ALEXA	LAURENTIU	BASCHET	
31	POP	ROBERT	VOLEI	
27	WEST	JAMES	TENIS	
42	JONES	ALEXANDER	FOTBAL	
37	IONESCU	MIHAI	HANDBAL	
41	MACMILLAN	ROBERT	FORBAL	

ŢARĂ					
ID_TARA	DENUMIRE	ID_CONTINENT			
RO	ROMANIA	EU			
DE	GERMANIA	EU			

ŢARĂ				
ID_TARA	DENUMIRE	ID_CONTINENT		
US	STATELE UNITE ALE AMERICII	AMN		
CN	CHINA	AS		
FR	FRANTA	EU		
EG	EGIPT	AF		
TR	TURCIA	AS		

CONTINENT			
ID_CONTINENT	DENUMIRE		
AF	AFRICA		
AMN	AMERICA DE NORD		
AMS	AMERICA DE SUD		
AS	ASIA		
AU	AUSTRALIA		
EU	EUROPA		

MEDALIE		
ID_MEDALIE	TIP	
AU	AUR	
AR	ARGINT	
BR	BRONZ	

SPORT				
ID	DENUMIRE			
10	BASCHET			
20	FOTBAL			
30	HANDBAL			
40	TENIS			
50	VOLEI			

ARBITRU								
ID_ARBITRU	NUME	PRENUME	SPORT					
101	JAMES	ROBERT	VOLEI					
102	JONES	EMMA	HANDBAL					
103	MARIN	ANDREI	TENIS					
104	GEORGE	BRIAN	BASCHET					
105	MASON	JACK	FOTBAL					
106	ALBU	CLAUDIU	VOLEI					

ANTRENAMENT					
ID_ANTRENAMENT	DATA	ORA	DURATA	SPORT	
1592	25/07/2021	09:00:00	1h	TENIS	
1783	01/08/2021	08:00:00	2h	VOLEI	
1466	28/07/2021	12:00:00	2h	BASCHET	
1604	02/08/2021	11:00:00	1h	HANDBAL	
1822	03/08/2021	09:00:00	2h	FOTBAL	
1657	29/07/2021	08:00:00	1h	TENIS	

Explicații legate de câmpuri, atribute

Nume, Prenume — reprezintă numele actual al sportivului/antrenorului/arbitrului Data\_nast - reprezinta data de nastere a sportivului

# Constrângeri legate de câmpuri

Data antrenamentelor > Data\_nast

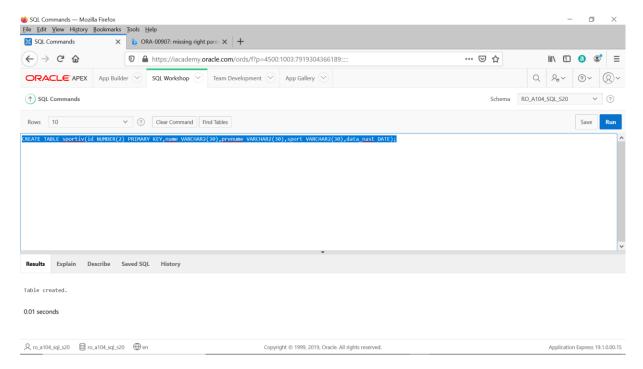
Data antrenamentelor trebuie sa fie cuprinsa in perioada desfasurarii competitiilor(23/07/2021-08/08/2021)

# Implementarea bazei de date în OAE

## Creare tabele

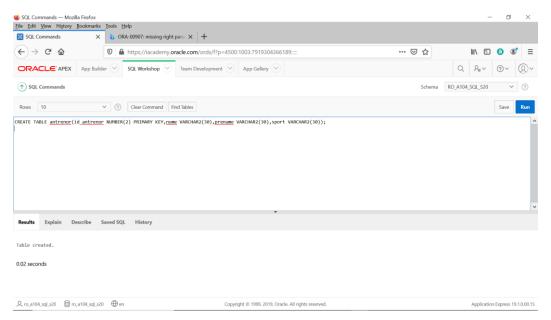
Creare tabel SPORTIV

CREATE TABLE sportiv(id NUMBER(2) PRIMARY KEY,nume VARCHAR2(30),prenume VARCHAR2(30),sport VARCHAR2(30),data\_nast DATE);



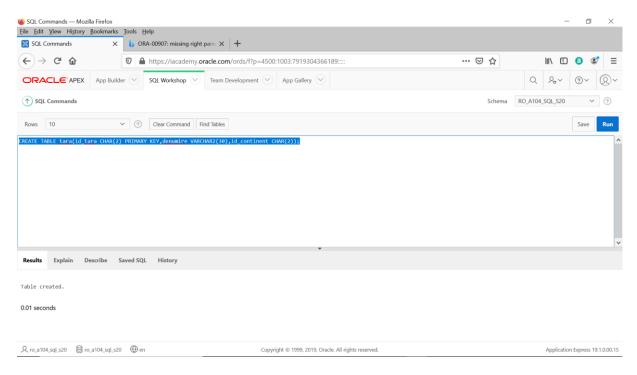
#### Creare tabel ANTRENOR

CREATE TABLE antrenor (id\_antrenor NUMBER(2) PRIMARY KEY,nume VARCHAR2(30),prenume VARCHAR2(30),sport VARCHAR2(30));



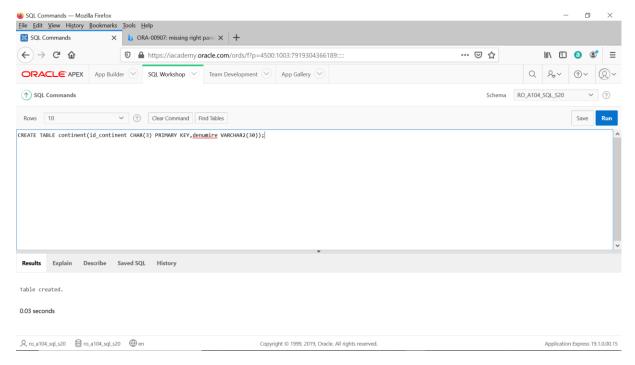
### Creare tabel ȚARĂ

CREATE TABLE tara(id\_tara CHAR(2) PRIMARY KEY, denumire VARCHAR2(30), id\_continent CHAR(3));



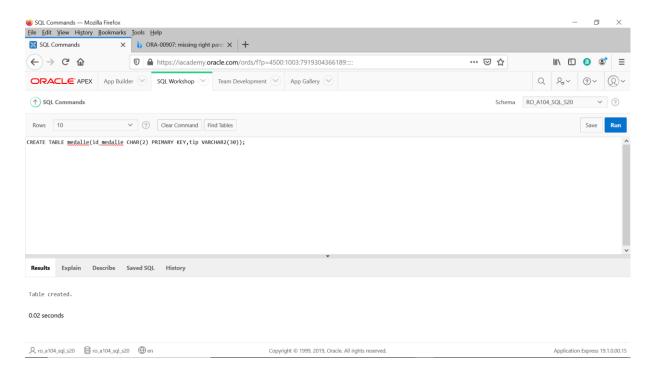
#### Creare tabel CONTINENT

CREATE TABLE continent(id\_continent CHAR(3) PRIMARY KEY, denumire VARCHAR2(30));



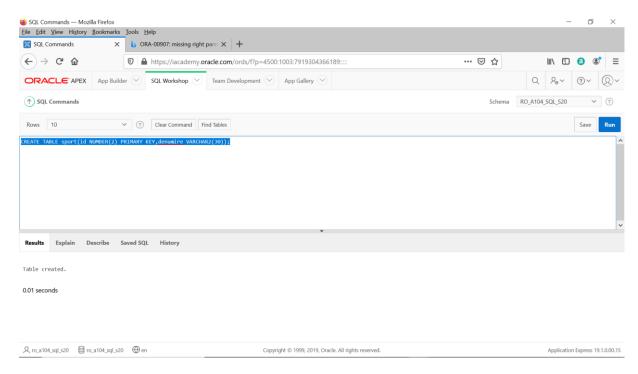
#### Creare tabel MEDALIE

CREATE TABLE medalie(id\_medalie CHAR(2) PRIMARY KEY,tip VARCHAR2(30));



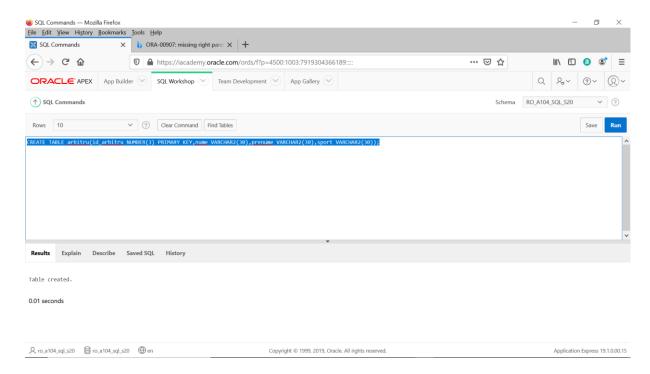
#### Creare tabel SPORT

#### CREATE TABLE sport(id NUMBER(2), denumire VARCHAR2(30) PRIMARY KEY);



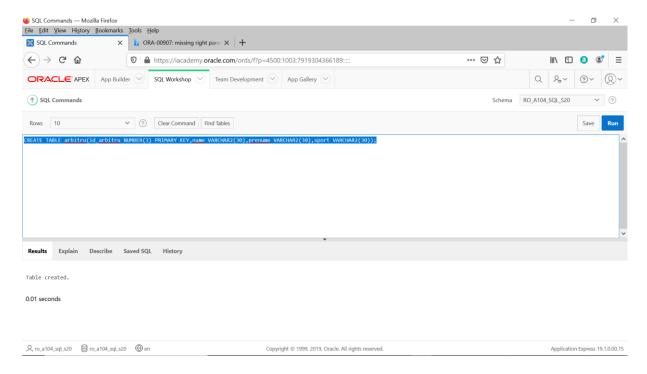
## Creare tabel ARBITRU

CREATE TABLE arbitru(id\_arbitru NUMBER(3) PRIMARY KEY,nume VARCHAR2(30),prenume VARCHAR2(30),sport\_arbitru VARCHAR2(30));



#### Creare tabel ANTRENAMENT

CREATE TABLE antrenament(id\_antrenament NUMBER(4) PRIMARY KEY,data DATE, ora VARCHAR2(20), durata CHAR(2), sport\_antrenament VARCHAR2(20));

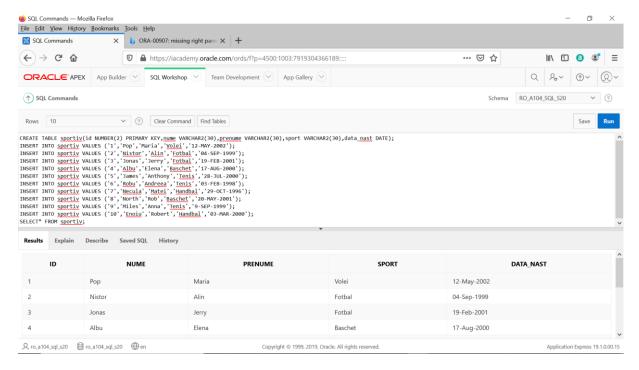


## Popularea tabelelor

Populare tabela SPORTIV

INSERT INTO sportiv VALUES ('1', 'Pop', 'Maria', 'Volei', '12-MAY-2002');

INSERT INTO sportiv VALUES ('2','Nistor','Alin','Fotbal','04-SEP-1999');
INSERT INTO sportiv VALUES ('3','Jonas','Jerry','Fotbal','19-FEB-2001');
INSERT INTO sportiv VALUES ('4','Albu','Elena','Baschet','17-AUG-2000');
INSERT INTO sportiv VALUES ('5','James','Anthony','Tenis','28-JUL-2000');
INSERT INTO sportiv VALUES ('6','Robu','Andreea','Tenis','03-FEB-1998');
INSERT INTO sportiv VALUES ('7','Necula','Matei','Handbal','29-OCT-1996');
INSERT INTO sportiv VALUES ('8','North','Rob','Baschet','20-MAY-2001');
INSERT INTO sportiv VALUES ('9','Miles','Anna','Tenis','9-SEP-1999');
INSERT INTO sportiv VALUES ('10','Enoiu','Robert','Handbal','03-MAR-2000');



#### Populare tabela ANTRENOR

INSERT INTO antrenor VALUES ('20', 'Alexa', 'Laurentiu', 'Baschet');

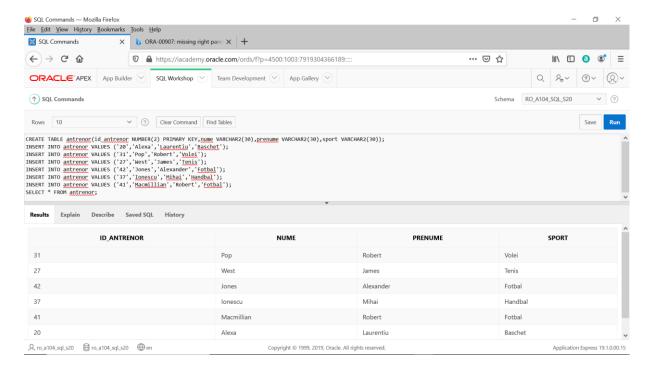
INSERT INTO antrenor VALUES ('31','Pop','Robert','Volei');

INSERT INTO antrenor VALUES ('27','West','James','Tenis');

INSERT INTO antrenor VALUES ('42','Jones','Alexander','Fotbal');

INSERT INTO antrenor VALUES ('37','Ionescu','Mihai','Handbal');

INSERT INTO antrenor VALUES ('41', 'Macmillian', 'Robert', 'Fotbal');



#### Populare tabela ȚARĂ

INSERT INTO tara VALUES ('RO', 'Romania', 'EU');

INSERT INTO tara VALUES ('DE','Germania','EU');

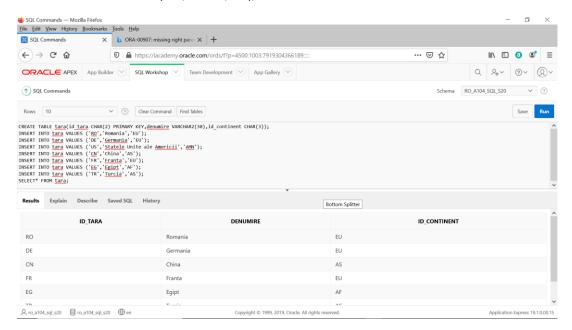
INSERT INTO tara VALUES ('US', 'Statele Unite ale Americii', 'AMN');

INSERT INTO tara VALUES ('CN','China','AS');

INSERT INTO tara VALUES ('FR','Franta','EU');

INSERT INTO tara VALUES ('EG', 'Egipt', 'AF');

INSERT INTO tara VALUES ('TR','Turcia','AS');



#### Populare tabela CONTINENT

INSERT INTO continent VALUES ('AF','Africa');

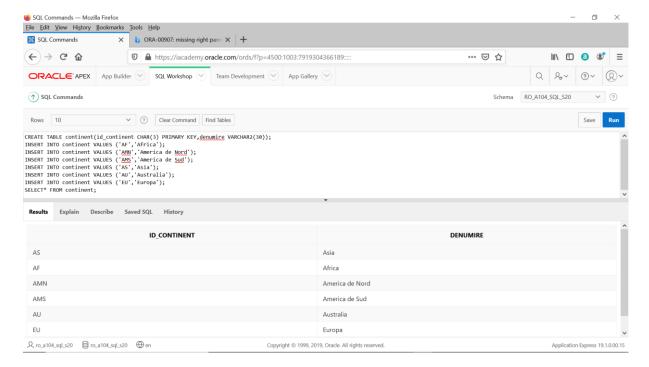
INSERT INTO continent VALUES ('AMN','America de Nord');

INSERT INTO continent VALUES ('AMS','America de Sud');

INSERT INTO continent VALUES ('AS','Asia');

INSERT INTO continent VALUES ('AU','Australia');

INSERT INTO continent VALUES ('EU', 'Europa');

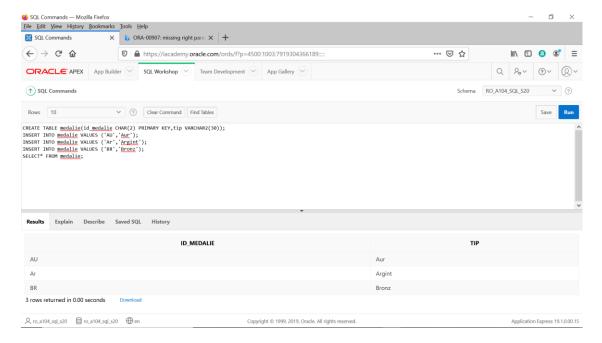


## Populare tabela MEDALIE

INSERT INTO medalie VALUES ('AU','Aur');

INSERT INTO medalie VALUES ('Ar','Argint');

INSERT INTO medalie VALUES ('BR', 'Bronz');



#### Populare tabela SPORT

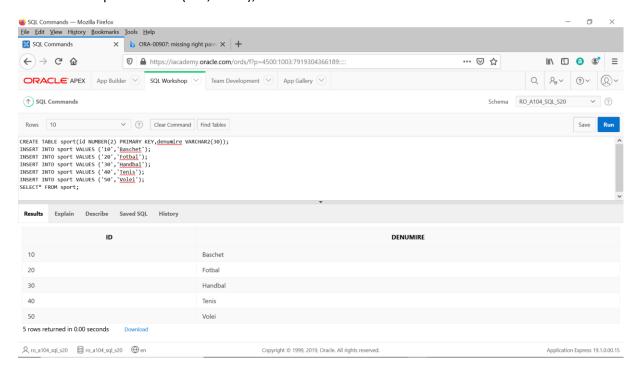
INSERT INTO sport VALUES ('10', 'Baschet');

INSERT INTO sport VALUES ('20', 'Fotbal');

INSERT INTO sport VALUES ('30', 'Handbal');

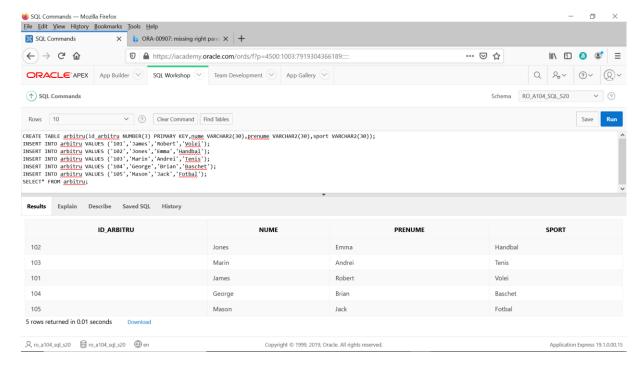
INSERT INTO sport VALUES ('40','Tenis');

INSERT INTO sport VALUES ('50','Volei');



Populare tabela ARBITRU

INSERT INTO arbitru VALUES ('101','James','Robert','Volei');
INSERT INTO arbitru VALUES ('102','Jones','Emma','Handbal');
INSERT INTO arbitru VALUES ('103','Marin','Andrei','Tenis');
INSERT INTO arbitru VALUES ('104','George','Brian','Baschet');
INSERT INTO arbitru VALUES ('105','Mason','Jack','Fotbal');
INSERT INTO arbitru VALUES ('106','Albu','Claidiu','Volei');



#### Populare tabela ANTRENAMENT

INSERT INTO antrenament VALUES ('1592','25-JUL-2021','09:00','1h','Tenis');

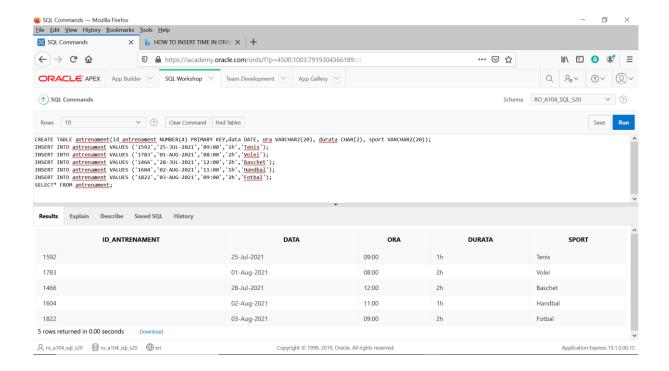
INSERT INTO antrenament VALUES ('1783','01-AUG-2021','08:00','2h','Volei');

INSERT INTO antrenament VALUES ('1466','28-JUL-2021','12:00','2h','Baschet');

 $INSERT\ INTO\ antrenament\ VALUES\ ('1604','02-AUG-2021','11:00','1h','Handbal');$ 

INSERT INTO antrenament VALUES ('1822','03-AUG-2021','09:00','2h','Fotbal');

INSERT INTO antrenament VALUES ('1657','29-JUL-2021','08:00','1h','Tenis');



## Modificări de structură

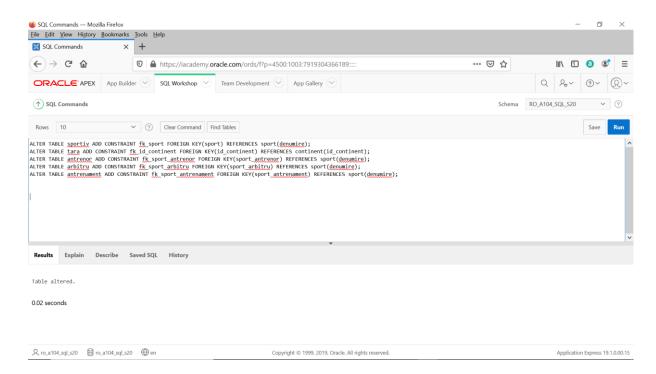
ALTER TABLE sportiv ADD CONSTRAINT fk\_sport FOREIGN KEY(sport) REFERENCES sport(denumire);

ALTER TABLE tara ADD CONSTRAINT fk\_id\_continent FOREIGN KEY(id\_continent) REFERENCES continent(id\_continent);

ALTER TABLE antrenor ADD CONSTRAINT fk\_sport\_antrenor FOREIGN KEY(sport\_antrenor) REFERENCES sport(denumire);

ALTER TABLE arbitru ADD CONSTRAINT fk\_sport\_arbitru FOREIGN KEY(sport\_arbitru) REFERENCES sport(denumire);

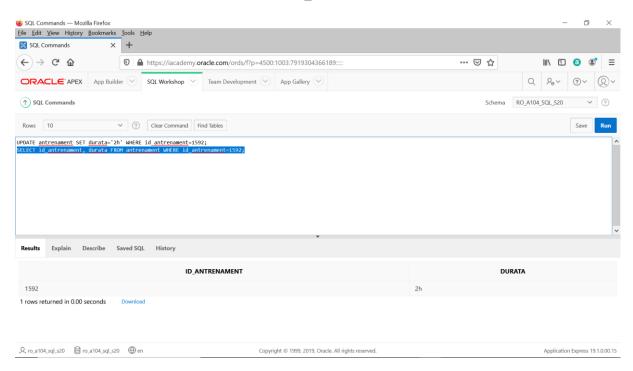
ALTER TABLE antrenament ADD CONSTRAINT fk\_sport\_antrenament FOREIGN KEY(sport\_antrenament) REFERENCES sport(denumire);



# Modificări de conținut

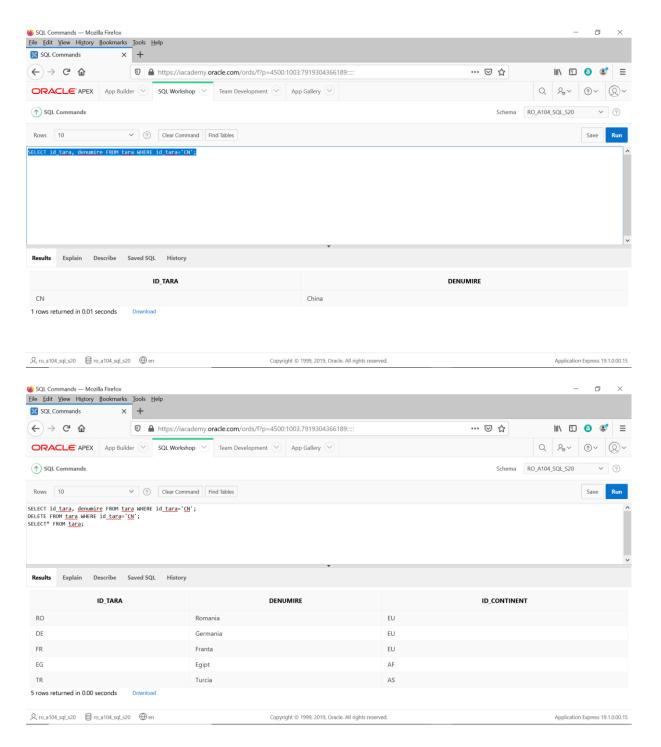
1. Durata primului antrenament se modifica

UPDATE antrenament SET durata='2h' WHERE id\_antrenament=1592;



#### 2. Se sterge o tara

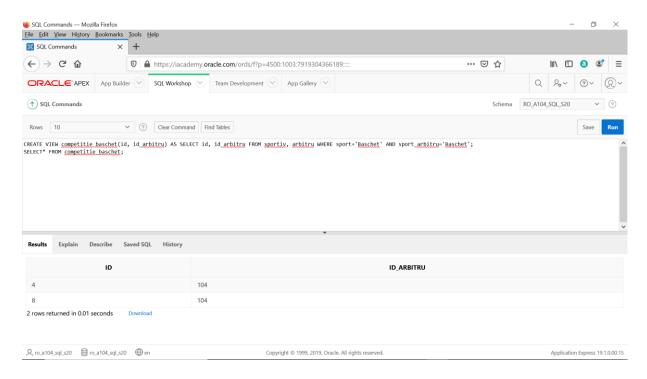
DELETE FROM tara WHERE id\_tara='CN';



### Creare vederi

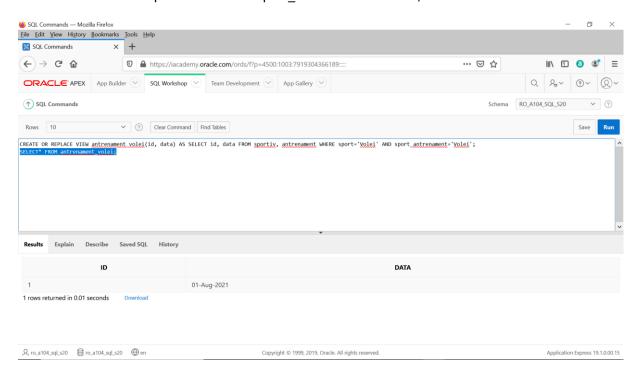
1. Se realizeaza o vedere a arbitrilor si sportivilor pentru competitia de baschet

CREATE VIEW competitie\_baschet(id, id\_arbitru) AS SELECT id, id\_arbitru FROM sportiv, arbitru WHERE sport='Baschet' AND sport\_arbitru='Baschet';



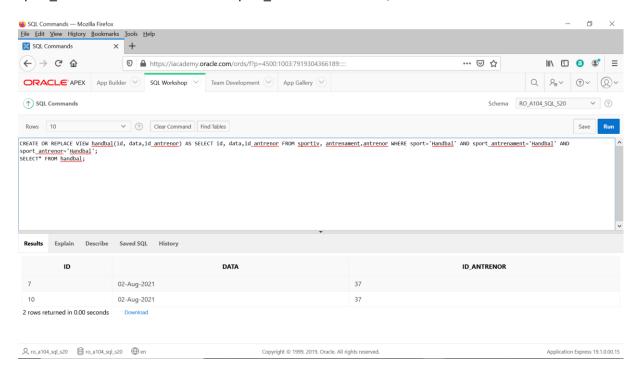
2. Se realizeaza o vedere ce afiseza data in care are loc antrenamentul la volei

CREATE OR REPLACE VIEW antrenament\_volei(id, data) AS SELECT id, data FROM sportiv, antrenament WHERE sport='Volei' AND sport\_antrenament='Volei';



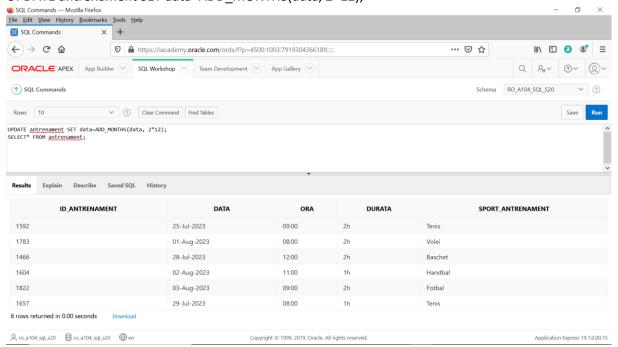
3. Se realizeaza o vedere ce afiseaza sportivii si antrenorii de handbal si in ce data au antrenamentul

CREATE OR REPLACE VIEW handbal(id, data,id\_antrenor) AS SELECT id, data,id\_antrenor FROM sportiv, antrenament,antrenor WHERE sport='Handbal' AND sport antrenament='Handbal' AND sport antrenor='Handbal';

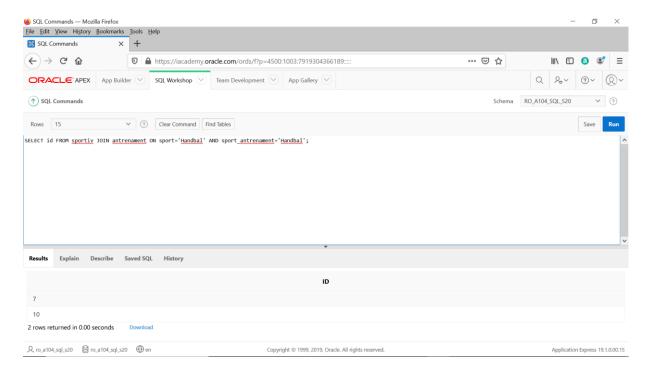


# Interogări

1.Se actualizeza cu 2 ani in plus datele din tabela antrenament UPDATE antrenament SET data=ADD\_MONTHS(data, 2\*12);

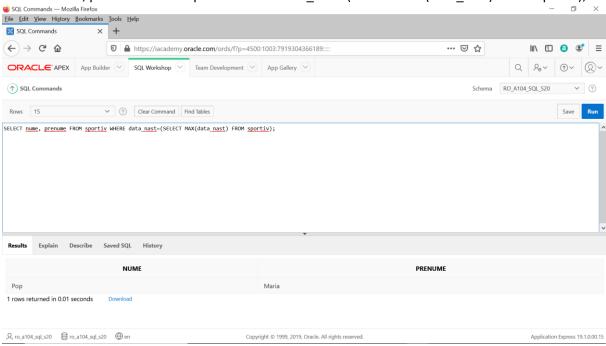


2.Se afiseza sportivii ce au antrenament la handbal SELECT id FROM sportivi JOIN antrenament ON sport='Handbal' AND sport\_antrenament='Handbal';



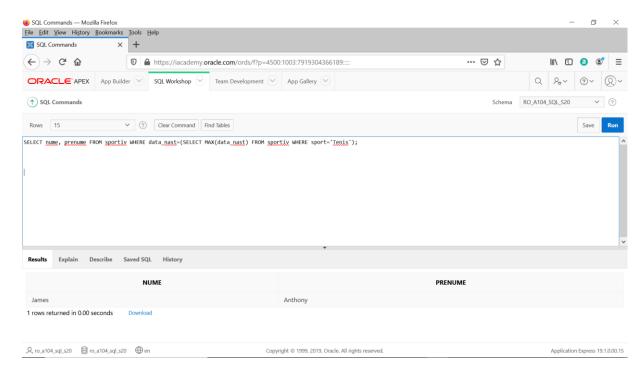
## 3.Se afiseaza sportivul cel mai tanar

SELECT nume, prenume FROM sportiv WHERE data\_nast=(SELECT MAX(data\_nast) FROM sportiv);

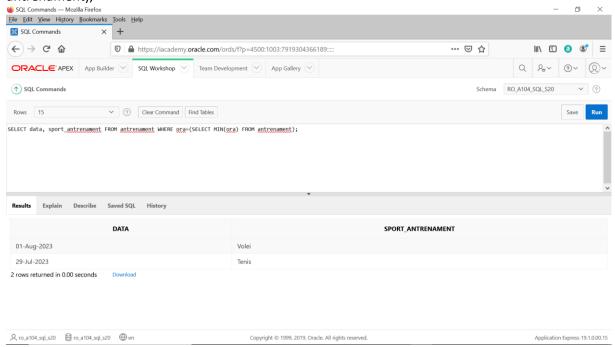


4.Se afiseza cel mai tanar sportiv care joaca tenis

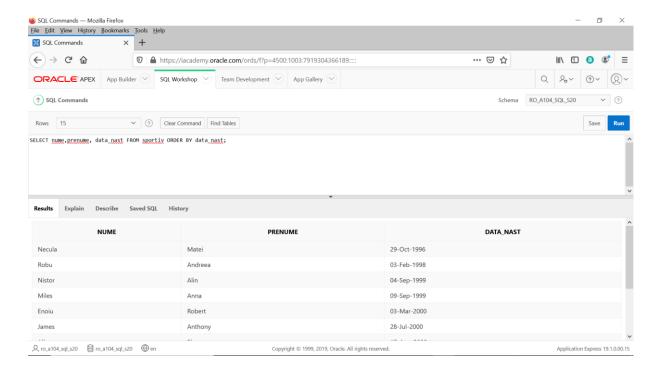
SELECT nume, prenume FROM sportiv WHERE data\_nast=(SELECT MAX(data\_nast) FROM sportiv WHERE sport='Tenis');



5.Se afiseaza cea mai devreme ora la care incepe un antrenament si pentru ce sport SELECT data, sport\_antrenament FROM antrenament WHERE ora=(SELECT MIN(ora) FROM antrenament);

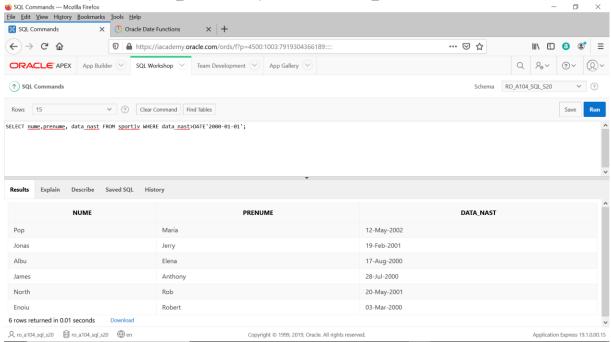


6.Se afiseza sportivii de la cel mai batran pana la cel mai tanar SELECT nume,prenume, data\_nast FROM sportiv ORDER BY data\_nast;



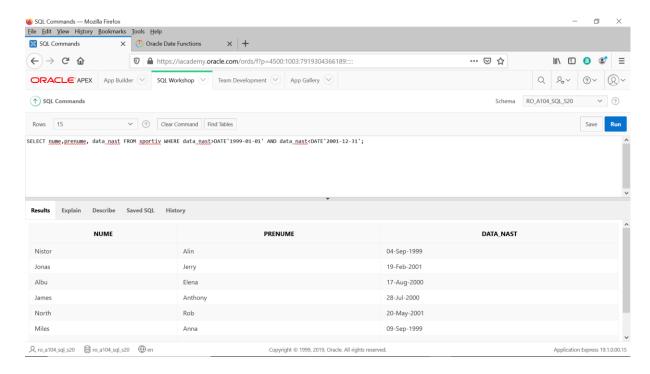
## 7.Se afiseaza sportivii nascuti dupa anul 1999

SELECT nume, prenume, data\_nast FROM sportiv WHERE data\_nast>DATE'2000-01-01';



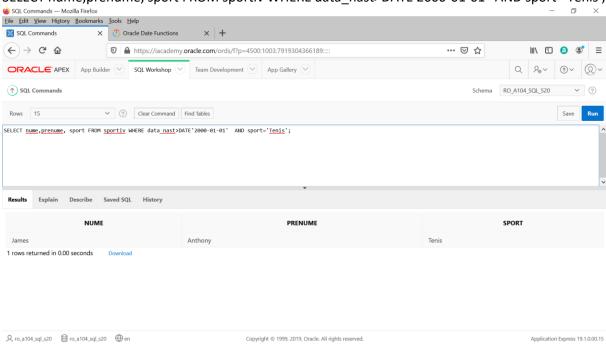
#### 8.Se afiseza sportivii nascuri intre 1999 si 2001

SELECT nume, prenume, data\_nast FROM sportiv WHERE data\_nast>DATE'1999-01-01' AND data\_nast<DATE'2001-12-31';



9.Se afiseza sportivii ce joaca tenis, nascuti dupa 1999

SELECT nume, prenume, sport FROM sportiv WHERE data\_nast>DATE'2000-01-01' AND sport='Tenis';



10.Se afiseza data in care are loc antrenamentul de tenis de 2 ore SELECT data FROM antrenament WHERE durata='2h' AND sport\_antrenament='Tenis';

