VCE NETWORK HARDWARE BASE

DBMS ASSIGNMENT - 1



ROLL NO: 1602-18-737-065

ABSTRACT

VCE Network Hardware Base is a database that consists information about various Networking Hardware like Router, Switch, Hub, Bridge. The database contains both data (wired and wireless) in the College Campus. Network Hardware Base important both in ensuring the correct operation of network devices and in maintaining the services that run on them. This project has total of 15 tables .It describes how the network is being connected in our college across the various blocks. When you enter the data it is stored in the data base and is displayed as of when it is needed.

REQUIREMENT ANALYSIS

List of Tables:

- INTERNET
- MODEM
- ROUTERS
- SERVER
- SWITCH
- COMPUTERS
- LABS
- BLOCK
- Connected
- Connected to
- Rsconnection
- Attached_to
- ConnectedTO
- Consists
- HAS

List of Attributes with their Domain Types:

INTERNET:

ISP_name :- Varchar2(20)

website :- Varchar2(20)

MODEM:

Brand:-Varchar2(20)

Model:-Varchar2(20)

Speed :- Varchar2(10)

ROUTERS:

Router_id:-Number(10)

Brand:-Varchar2(20)

Model:-Varchar2(20)

IP Address :- Varchar2(20)

Speed :- Varchar2(10)

SWITCH:

Switch_id:- Number(10)

Switch_name:-Varchar2(20)

from_macAddress :- Varchar2(20)

to_macAddress :- Varchar2(20)

SERVER:

Server_id :- Number(10)

Storage :- Varchar2(10)

Processor :- Varchar2(20)

Ram :- Varchar2(10)

Model :- Varchar2(20)

COMPUTERS:

cid:-Number(10)

Manufacturer:-Varchar2(20)

MAC_ADDRESS :- Varchar2(20)

LABS:

Labname:-Varchar2(20)

Floor:-Number(10)

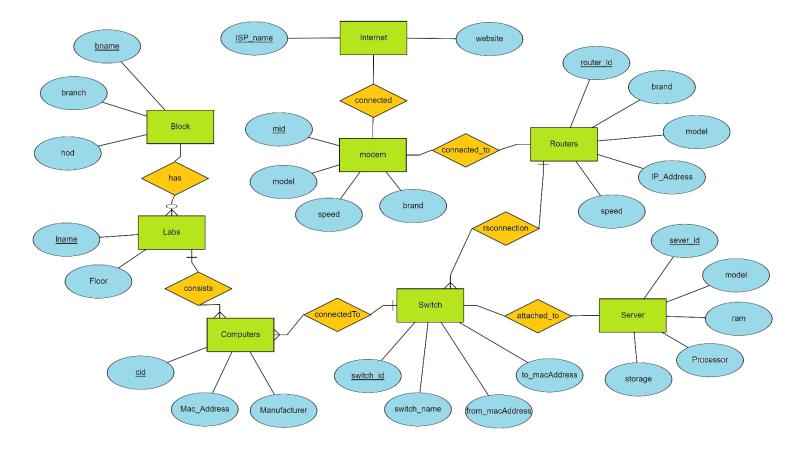
BLOCK:

Bname:-Varchar2(20)

Branch:-Varchar2(20)

Hod:-Varchar2(20)

ENTITY-RELATIONSHIP DIAGRAM:



Mapping Cardinalities and Participation Constraints:

A Router is connected to many switches therefore one to many mapping cardinalities between a Router and a Switch.

A switch can send and receive data from many computers therefore one to many mapping cardinalities between a Switch and a Computer.

Computers are mandatory in LAB therefore many to one mapping cardinalities between a Computer and LAB.

There is no rule that a Block should have Labs
Therfore one to many mapping cardinalities
between Block and Lab.

DDL COMMANDS(Screenshots):

SQL Plus					□ ×
QL×Plus: Release 11.2.0.1.	0 Production on Thu Feb	13 01:56:47 2020			D ^
opyright (c) 1982, 2010, 0 nter user-name: it18737065	racle. All rights rese				
nter user-name: 1118/3/065 nter password: onnected to:					
racle Database 11g Enterpr	ise Edition Release 11. , Data Mining and Real	2.8.1.0 - 64bit Production Application Testing options			
QL> CREATE TABLE INTERNET(ISP_name UARCHAR2(20),w	ebsite UARCHAR2(20));			
able created. QL> desc INTERNET;					
Name ISP_NAME	Null?	Type UARCHAR2(20)			
WEBSITE QL> CREATE TABLE MODEM(brai	nd UARCHAR2(20),model U	UARCHAR2(20) ARCHAR2(20).speed UARCHAR2(10));			
able created.					
QL> desc MODEM; Name	Nu11?	Type			
BRAND MODEL SPEED		UARCHAR2(20) UARCHAR2(20) UARCHAR2(10)			
	outer_id NUMBER(10) PRI		UARCHAR2(20), IP_address UARCHAR2(20),	peed UARCHAR2(10));	
able created. QL> desc ROUTERS;					
Name ROUTER_ID	Null?	Type L NUMBER(10)			
BRAND MODEL	NOT NOL	UARCHAR2(20) UARCHAR2(20)			
IP_ADDRESS SPEED		UARCHAR2(20) UARCHAR2(10)			
DL> CREATE TABLE SWITCH(sw able created.	itch_id NUMBER(10) PRIM	ARY KEY,switch_name UARCHAR2(28)	from_mac_address UARCHAR2(20),to_mac_ad	dress UARCHAR2(20));	
DL> desc SWITCH; Name	Nu11?	Туре			
SWITCH_ID SWITCH_NAME		L NUMBER(10) UARCHAR2(20)			
FROM_MAC_ADDRESS TO_MAC_ADDRESS		UARCHAR2(20) UARCHAR2(20)			
	rver_id NUMBER(10) PRIM	ARY KEY,model UARCHAR2(20),ram U	RCHAR2(10),processor UARCHAR2(20),store	ge VARCHAR2(10));	
able created. QL> desc SERUER;					
Name SERUER_ID	Null? NOT NUL	Type L NUMBER(10)			
MODEL RAM Processor		UARCHAR2(20) UARCHAR2(10) UARCHAR2(20)			
STORAGE QL> CREATE TABLE COMPUTERS	(cid NUMBER(10) PRIMAR	UARCHAR2(10) Y KEY,mac_address UARCHAR2(20).m	nufacturer VARCHAR2(20));		
able created.					
QL> desc COMPUTERS;					
	Nu11?	Type			
CID MAC_ADDRESS		L NUMBER(18) UARCHAR2(20)			
CID MAC_ADDRESS MANUFACTURER OL> CREATE TABLE LABS(1nam	NOT NUL	L NUMBER(10) UARCHAR2(20) UARCHAR2(20)			
CID MAC_ADDRESS MANUFACTURER OL> CREATE TABLE LABS(1nam able created.	NOT NUL	L NUMBER(10) UARCHAR2(20) UARCHAR2(20)			
CID MAC_ADDRESS MANUFACTURER OL> CREATE TABLE LABS(lnam able created. OL> deac LABS;	NOT NUL • UARCHAR2(20) PRIMARY I Null?	L NUMBER(10) UARCHARZ(20) UARCHARZ(20) KEY, floor NUMBER(10));			
CID MAC_RODRESS MACC_ROTURER OL.> CREGITE TABLE LABS(lnam able created. OL.> desc LABS: Name LNAME	NOT NUL • UARCHAR2(20) PRIMARY I NUL NOT NUL	L NUMBER(10) UNRCHARZ(20) UNRCHARZ(20) KEY.floor NUMBER(10)); Type L UNRCHARZ(20) NUMBER(10)			
CID NAC_ADDRESS NAMUFACTURER OL> CREATE TABLE LABS(lnam able created. OL> desc LABS; NAME FLOOR OL> CREATE TABLE BLOCK(bna	NOT NUL • UARCHAR2(20) PRIMARY I NUL NOT NUL	L NUMBER(10) UARCHARZ(20) UARCHARZ(20) KEY, floor NUMBER(10)); Type L VARCHARZ(20)	HAR2(20)):		
CID HAC ADDRESS HACK ADDRESS HAUFACTURER OL> CREATE TABLE LABS(1nam able created. OL> deec LABS: HAME LOOR OL> CREATE TABLE BLOCK(bna able created. OL> CREATE TABLE BLOCK(bna able created. OL> deec BLOCK;	NOT NUL • UARCHAR2(20) PRIMARY I NUL NOT NUL	UNMEER(10) UARCHARZ(20) UARCHARZ(20) KEY,floor NUMBER(10)); Type UARCHARZ(20) NUMBER(10) KEY,branch UARCHARZ(20),hod UAF	HAR2(20)):		
CID MIG_RODRESS MADC_RODRESS MADC_ROTURER OL> CREATE TABLE LABS(lnam able created. OL> desc LABS; NAME LNAME LNAME LOCR LNAME LLOCR LLOCR	NOT NUL e UARCHAR2(20) PRIMARY Null? NOT NUL me UARCHAR2(20) PRIMARY	Type UARCHARZ(20) UARCHARZ(20) KEY, floor NUMBER(10)); Type UARCHARZ(20) KEY, branch UARCHARZ(20), hod VARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20)	HAR2(20)):		
CID HAC_RODRESS HAMUFACTURER OL> CREATE TABLE LABS(1nam sble created. OL> deac LABS; NAME FLOOR OL> CREATE TABLE BLOCK(bnam sble created. DL> CREATE TABLE BLOCK(bnam sble created. DL> deac BLOCK; NAME BLOC	NOT NUL e UARCHAR2(20) PRIMARY Null? NOT NUL me UARCHAR2(20) PRIMARY	L NUMBER(10) UARCHARZ(20) UARCHARZ(20) KEY.floor NUMBER(10)); Type L UARCHARZ(20) NUMBER(10) KEY.branch UARCHARZ(20).hod UAF	HBR2(20)):		
LNAME FLOOR OL > CREATE TABLE BLOCK(bna able created. OL > desc BLOCK; Name BRANCH HOD OL > select * from TAB:	NOT NUL OURCHAR2(20) PRIMARY NUL17 NOT NUL MOURCHAR2(20) PRIMARY NUL17 NOT NULI TABTYPE CLUSTERIO	Type UARCHARZ(20) UARCHARZ(20) KEY, floor NUMBER(10)); Type UARCHARZ(20) KEY, branch UARCHARZ(20), hod VARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20)	HAR2(20)):		
CID NAC, RODRESS NAMAUFACTURER QL> CREATE TABLE LABS(lnam able created. QL> desc LABS; Name AL> CREATE TABLE BLOCK(bnam able created. QL> desc BLOCK; Name BRANCH NOCO QL> celect × from TAB; NAME LOCK NAME LOCK NAME	NOT NUL OURCHAR2(20) PRIMARY NUL NOT NUL NUL TABTYPE CLUSTERID TABLE TABLE	Type UARCHARZ(20) UARCHARZ(20) KEY, floor NUMBER(10)); Type UARCHARZ(20) KEY, branch UARCHARZ(20), hod VARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20)	HAR2(20)):		
CID MIC_MODRESS MADE_MODRESS MADE_MODRESS ANALOWS AT THE THE LABS(lname) BDL CREATE TABLE LABS(lname) LABS:	NOT NULL NULL? NULL? NOT NULL NULL? NOT NULL NULL? NOT NULL TABITYPE CLUSTERID TOBLE TABLE TABLE TABLE TABLE TABLE TABLE	Type UARCHARZ(20) UARCHARZ(20) KEY, floor NUMBER(10)); Type UARCHARZ(20) KEY, branch UARCHARZ(20), hod VARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20)	HAR2(20)):		
CID MAC_ADDRESS MANUFACTURER OL> CREATE TABLE LABS(lnam able created. OL) desc LABS: Name CL> desc LABS: Name CL> CREATE TABLE BLOCK(bna able created. OL) desc BLOCK; Name CL> CREATE TABLE BLOCK(bna able created. OL> CREATE TABLE BLOCK(bna ab	NOT NUL OURCHAR2(20) PRIMARY NUL NOT NUL MOURCHAR2(20) PRIMARY NUL TABTYPE CLUSTERID TABLE	Type UARCHARZ(20) UARCHARZ(20) KEY, floor NUMBER(10)); Type UARCHARZ(20) KEY, branch UARCHARZ(20), hod VARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20)	HAR2(20)):		
CID HAC ADDRESS HAC ADDRESS HAC ADDRESS HAC ADDRESS LABAL BALL LABS (lnam able created. OL) deac LABS; NAME FLOOR OL) CREATE TABLE BLOCK(bna able created. LABAL BALL BA	NOT NUL NOT NUL NUL1? NOT NUL NUL1? NOT NUL TABTYPE CLUSTERID TABLE	Type UARCHARZ(20) UARCHARZ(20) KEY, floor NUMBER(10)); Type UARCHARZ(20) KEY, branch UARCHARZ(20), hod VARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20)	HAR2(20)):		
CID HAC ADDRESS HAC ADDRESS HAC ADDRESS HAC ADDRESS LABAL BALL LABS (Inam able created. OL) desc LABS; NAME FLOOR OL) CREATE TABLE BLOCK(bna able created. OL) CREATE TABLE BLOCK(bna able created. OL) ADDRESS HACK BALL BALL BALL BALL BALL BALL BALL BAL	NOT NUL NOT NUL NUL1? NOT NUL NUL1? NOT NUL TABTYPE CLUSTERID TABLE	Type UARCHARZ(20) UARCHARZ(20) KEY, floor NUMBER(10)); Type UARCHARZ(20) KEY, branch UARCHARZ(20), hod VARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20)	HAR2(20)):		
CID NAC, ADDRESS NAMUFACTURER OL> CREATE TABLE LABS(lnam able created. OL> desc LABS; NAME FLOOR OL> CREATE TABLE BLOCK(bnam able created. DL> desc BLOCK; NAME SHAME SHAME OL> CREATE TABLE BLOCK(bnam able created. DL> desc BLOCK; NAME SHAME SHAME OL> CREATE TABLE BLOCK(bnam able created. DL> desc BLOCK; NAME SHAME OL> SELECT × from TAB; NAME OLC NAME	NOT NUL OURCHAR2(20) PRIMARY NUL NOT NUL TOBTYPE CLUSTERID TABLE	Type UARCHARZ(20) UARCHARZ(20) KEY, floor NUMBER(10)); Type L UARCHARZ(20) KEY, branch UARCHARZ(20), hod UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20)	HGR2(20)):		
CID NAC, ADDRESS NAC, ADDRESS NAMUFACTURER OL.> CREATE TABLE LABS(lnam able created. OL.> desc LABS; NAME FLOOR OL.> CREATE TABLE BLOCK(bnam able created. DL.> desc BLOCK; NAME SHAME SHAME SHAME OL.> CREATE TABLE BLOCK(bnam able created. DL.> desc BLOCK; NAME SHAME SHAME OL.> CREATE TABLE MODEM add(i able altered. DL.> desc MODEM; NAME OL.> CREATE TABLE MODEM add(i able altered. DL.> desc MODEM; NAME OL.> CREATE TABLE MODEM add(i able altered. DL.> desc MODEM; NAME	NOT NUL OURCHAR2(20) PRIMARY NUL NOT NUL TOBTYPE CLUSTERID TABLE	Type UARCHARZ(20) UARCHARZ(20) KEY, floor NUMBER(10)); Type L UARCHARZ(20) KEY, branch UARCHARZ(20), hod UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20)	HAR2(20)):		
CID NAC, ADDRESS NAMUFACTURER OL.> CREATE TABLE LABS(lnam able created. OL.> deec LABS; NAME FLOOR OL.> CREATE TABLE BLOCK(bnam able created. OL.> deec BLOCK; NAME SHAME SHAME OL.> CREATE TABLE BLOCK(bnam able created. OL.> deec BLOCK; NAME SHAME SHAME OL.> GEC SHAME SHA	NOT NUL OURCHAR2(20) PRIMARY NUL NOT NUL TOBTYPE CLUSTERID TABLE	Type L UARCHAR2(20) L UARCHAR2(20) KEY.floor NUMBER(10)); Type L UARCHAR2(20) KEY.branch UARCHAR2(20),hod UAF Type L UARCHAR2(20) UARCHAR2(20) UARCHAR2(20) UARCHAR2(20) UARCHAR2(20) UARCHAR2(20) UARCHAR2(20)	HBR2(20)):		
CID OF STATE TABLE LABS(lname able created. OL) CREATE TABLE LABS(lname able created. OL) CREATE TABLE BLOCK(bname able created. OL) CREATE TABLE BLOCK(bname able created. OL) CREATE TABLE BLOCK(bname able created. OL) Separate able able created. OL) Separate able able created. OL) Separate able able able able able able able abl	NOT NULL NULL? NULL? NOT NULL NULL? NOT NULL NULL? TOBTYPE CLUSTERID TABLE T	L UARCHARZ(20) UARCHARZ(20) KEY, floor NUMBER(10)); Tupe L UARCHARZ(20) KEY, branch UARCHARZ(20), hod UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20) UARCHARZ(20)	HAR2(20)):		
CID MAG. ADDRESS MANUFACTURER OL> CREATE TABLE LABS(lnam able created. OL> Gase LABS; Name Case LABS; Name Cas	NOT NUL NUL1? NUL1? NOT NUL NUL1? NOT NUL TABTYPE CLUSTERIO TABLE		HAR2(20)):		
CID MAC ADDRESS MANUFACTURER QL) CREGITE TABLE LABS(lnam able created. QL) desc LABS; NAME CL) CREGITE TABLE BLOCK(bna able created. QL) CREGITE TABLE BLOCK(bna able created. QL) desc BLOCK; NAME BROWNER HOD QL) desc BLOCK; NAME CL) CREGITE TABLE BLOCK(bna able created. QL) desc BLOCK; NAME CL) CREGITE TABLE BLOCK(bna able created. QL) GL) GENERAL GROWNER CONTROL CREATER TABLE BLOCK (bna able created. QL) desc MODEM; NAME CL) desc MODEM; NAME QL) ABLET TABLE MODEM ADD I desc MODEM; NAME QL) ABLET TABLE MODEM ADD I desc MODEM; NAME QL) ABLET TABLE MODEM ADD I desc MODEM; NAME QL) ABLET TABLE MODEM ADD I desc MODEM; NAME QL) ABLET TABLE MODEM ADD I desc MODEM; NAME	NOT NULL NULL? NULL? NOT NULL NULL? NOT NULL NULL? TOBTYPE CLUSTERID TABLE T		HGR2(20)):		8

SQL> ALTER TABLE INTERNET ADD F	PRIMARY KE	EY(ISP_name)		
Table altered.				
SQL> desc INTERNET; Name		Nu11?	Type	
ISP_NAME WEBSITE		NOT NULL	UARCHAR2(20) UARCHAR2(20)	
SQL> CREATE TABLE CONNECTED(mid	d NUMBER(1	(0), ISP_name	UARCHAR2(20),FOREIGN KEY(mid) REFERENCES HODEM, FOREIGN KEY(ISP_name) REFERENCES INTERNET);
Table created.				
SQL> desc CONNECTED;		1114.0	7	
Name 		Nu11?	Type 	
ISP_NAME			UARCHAR2(20)	
	(mid NUMBE	ER(10),route	r_id NUMBER(10),FOREIGN KEY(m	id) REFERENCES MODEM.FOREIGN KEY(router_id) REFERENCES ROUTERS);
Table created.				
SQL> desc CONNECTED_TO; Name		Nu11?	Туре	
MID ROUTER_ID			NUMBER(10) NUMBER(10)	
SQL> CREATE TABLE RSCONNECTION	(switch_id	NUMBER(10)	.router_id NUMBER(10).FOREIGN	KEY(switch_id) REFERENCES SWITCH.FOREIGN KEY(router_id) REFERENCES ROUTERS)
Table created.				
SQL> desc RSCONNECTION;		Null?	Tupe	
SWITCH_ID			NUMBER(10)	
ROUTER_ID			NUMBER(10)	
	switch_id	NUMBER(10),	server_id NUMBER(10),FOREIGN	KEY(switch_id) REFERENCES SWITCH,FOREIGN KEY(server_id) REFERENCES SERVER);
Table created.				
SQL> desc ATTACHED_TO; Name		Nu11?	Туре	
SWITCH_ID SERVER_ID			NUMBER(10) NUMBER(10)	
	switch_id			itch_id) REFERENCES SWITCH,FOREIGN KEY(cid) REFERENCES COMPUTERS);
Table created.				
SQL> desc connectedTO;				
Name 		Nu11?	Type 	
CID			NUMBER(10)	
	me UARCHAR	R2(20),cid N	UMBER(10),FOREIGN KEY(lname)	REFERENCES LABS,FOREIGN KEY(eid) REFERENCES COMPUTERS);
Table created.				
SQL> desc consists; Name		Nu11?	Туре	
LNAME			UARCHAR2(20)	
CID	DCHODO(20)		NUMBER(10)	EFERENCES LABS,FOREIGN KEY(bname) REFERENCES BLOCK);
SUL> CREHIE THBLE HHS(IName OH) Table created.	кспик2(20)	, uname OHRU	HHRZ(ZO), FUREIGN KEY(INAME) R	EFERENCES LHBS, FOREIGN REY (SHAMO) REFERENCES BLUCK):
SQL> desc HAS:				
Name		Nu11?	Туре	
LNAME BNAME			UARCHAR2(20) UARCHAR2(20)	
SQL> select × from TAB;				
TNAME	TABTYPE	CLUSTERID		
ATTACHED_TO Block	TABLE TABLE			
COMPUTERS CONNECTED	TABLE TABLE			
CONNECTED TO CONNECTED_TO	TABLE TABLE			
CONSISTS	TABLE			
HAS INTERNET	TABLE TABLE			
LABS MODEM	TABLE TABLE			
TNAME	TABTYPE	CLUSTERID		
ROUTERS	TABLE			
RSCONNECTION SERUER	TABLE TABLE			
SWITCH	TABLE			
15 rows selected.				

DML COMMANDS(Screenshots):

```
ERT INTO INTERNET URLUES("AISP_Name", "AMEDSITE");
lue for iop_name: Haffilha?
lue for website: www.hathway.com
INSERT INTO INTERNET UALUES("ARTHWAY", "www_hathway.com")
INSERT INTO INTERNET UALUES("HATHWAY", "www_hathway.com")
  QL> INSERT INTO INTERNET UNLUES('dISP_Name','&website'):
nter value for isp_name: GTPL
nter value for uebsite: www.gtpl.net
ld 1: INSERT INTO INTERNET UNLUES('dISP_Name','&website')
w 1: INSERT INTO INTERNET UNLUES('GTPL','www.gtpl.net')
     LL INSERT INTO INTERNET URLUES('SISP_Name', '&website');

ter value for isp_name: TATA

ter value for website: www.tatatelebroadband.com

d :: INSERT INTO INTERNET URLUES('SISP_Name', '&website')

m :: INSERT INTO INTERNET URLUES('TATA', 'www.tatatelebroadband.com')

SERT INTO INTERNET URLUES('TATA', 'www.tatatelebroadband.com')
  x
RROR at line 1:
RA-12899: value too large for column "IT18737065"."INTERNET"."MEBSITE"
actual: 25, maximum: 20)
  OL> INSERT INTO INTERNET URLUES("SISP_Name", 'Swebsite');
nter value for isp_name; MTNL
nter value for uebsite: uww.stnl.net.in
id 1: INSERT INTO INTERNET URLUES("SISP_Name", 'Swebsite')
w 1: INSERT INTO INTERNET URLUES("MTNL", 'www.stnl.net.in')
SOL> INSERT INTO INTERNET UALUES('dISP_Name', '&website');
Enter value for isp_name: VOU
Inter value for website: www.youbroadband.in
old 1: INSERT INTO INTERNET UALUES('dISP_Name', '&website')
new 1: INSERT INTO INTERNET UALUES('OU', 'www.youbroadband.in')
  OL> INSERT INTO COMPUTERS WALUES(&cid, '&mac_address', '&manufacturer');

ther value for mac_address: 00-14-22-01-23-45

ther value for mac_address: 00-14-22-01-23-45

ther value for manufacturer: DELL
1 INSERT INTO COMPUTERS WALUES(&cid, '&mac_address', '&manufacturer')

1: INSERT INTO COMPUTERS WALUES(1, '00-14-22-01-23-45', 'DELL')
  OL. INSERT INTO COMPUTERS UNLUES(&cid. '&mac_address'.'&manufacturer');
nter value for cid: 2.

Inter value for mac_address: 14-CC-20-12-08-E1

nter value for mac_address: 14-CC-20-12-08-E1

total value for manufacturer: DELL

d 1 : NSERT INTO COMPUTERS UNLUES(&cid.'&mac_addreso'.'&manufacturer')

ew 1: INSERT INTO COMPUTERS UNLUES(2.'14-CC-20-12-08-E1'.'DELL')
SQL> INSERT INTO COMPUTERS VALUES(&cid. '&mac_address', '&manufacturer');
inter ualue for cid: 3
inter value for mac_address; 21-09-H1-25-01-E2
inter value for macufacturer: DELL
old 1: INSERT INTO COMPUTERS VALUES(&cid. '&mac_address', '&manufacturer')
how 1: INSERT INTO COMPUTERS VALUES(3, '21-09-H1-25-01-E2', 'DELL')
SQL> INSERT INTO COMPUTERS WALUES(&cid, '&mac_address', '&manufacturer');
Enter value for cid. #
Enter value for mac_address: 3#-15-22-13-25-V2
Enter value for manufacturer: HP
eld ! INSERT INTO COMPUTERS WALUES(&cid, '&mac_address', '&manufacturer')
HP ! INSERT INTO COMPUTERS WALUES(H, '3#-15-22-13-25-V2', 'HP')
 ONLY DISTRIBUTION COMPUTERS VALUES(&cid, '&mac_address', '&manufacturer');
Inter value for cid. 5
Inter value for mac_address: 58-24-83-PR-01-24
Inter value for mac_address: 58-24-83-PR-01-24
Inter value for macufacturer: HP
1d 1: NNSET INTO COMPUTERS VALUES(6:d. &mac_address', '&manufacturer')
1: INSERT INTO COMPUTERS VALUES(5, '58-24-R3-PR-01-24', 'HP')
 GL.> INSERT INTO MODEM UALUES('Sbrand', 'Smodel', 'Sspeed', &mid);
inter value for model: (NS00
inter value for model: (NS00
inter value for model: (187Mbps
inter value for mid: 101
ld |: INSERT INTO MODEM VALUES('Bbrand', '&model', '&speed', &mid)
ev |: INSERT INTO MODEM VALUES('NETGERR', 'CHS00', '116TMbps', 101)
 GL.> INSERT INTO MODEM UALUES('abrend', 'émodel', 'éspeed', émid);
inter value for model: (NEGEAR
inter value for model: (NEGOB
inter value for model: (1808)
inter value for speed: 1193Mbps
inter value for mid: 102
1d 1: INSERT INTO MODEM VALUES('abrand', 'émodel', 'éspeed', émid)
eu 1: INSERT INTO MODEM VALUES('NETGEAR', 'CM600', '1193Mbps', 102)
 OLD INSERT INTO MODEM URLUES('&brand','&model','&speed',&mid);
inter value for brand: LINKSYS
inter value for model: L3088
inter value for speed: 9598bps
inter value for speed: 9598bps
inter value for mid: 183
id : INSERT INTO MODEM URLUES('&brand','&model','&speed',&mid)
iew 1: INSERT INTO MODEM URLUES('LINKSYS','L3008','$498bps',103)
```

```
COL) INSERT INTO MODEM VALUES('&brand','&model','&speed',&mid);
inter value for brand: RRRIS
inter value for model: S9899
inter value for speed: 664Hbps
inter value for speed: 664Hbps
inter value for mid: 104
11 : INSERT INTO MODEM VALUES('&brand','&model','&speed',&mid)
iow 1: INSERT INTO MODEM VALUES('ARRIS','S8690','664Hbps',194)
     row created.
   GL.> INSERT INTO MODEM UALUES('abrand','amodel','aspeed',amid);
inter value for model: TC7610
inter value for model: TC7610
inter value for model: TC7610
inter value for mid: 108
intervalue for mid: 108
interva
     row created.
     QL> commit:
 COMBITE CONSISTED.

SIGN. INSERT INTO ROUTERS URLUES(&router_id, '&brand', '&model', '&ip_address', '&speed');
inter value for router_id: 201
inter value for brandi. 83US
inter value for brandi. 83US
inter value for ip_address. 192.158.1.0
inter value for ip_address. 192.158.1.0
inter value for speed: 2000Hbps

11 INSERT INTO ROUTERS URLUES(&router_id, '&brand', '&model', '&ip_address', '&speed')

12 INSERT INTO ROUTERS URLUES(201, 'ASUS', 'RT-8C5300', '192.168.1.8', '2000Mbps')
 SOL) INSERT INTO ROUTERS UBLUES(&router_id, '&brand', '&model', '&ip_address', '&speed');
inter value for router_id: 203
inter value for brand: NEGEGER
inter value for brand: NEGETHANK
inter value for ip_address: 192,168.2.1
inter value for ip_address: 192,168.2.1
inter value for speed: 1625Mbps
11 INSERT INTO ROUTERS UBLUES(&router_id, '&brand', '&model', '&ip_address', '&speed')
12 INSERT INTO ROUTERS UBLUES(203, 'NETGERR', 'NIGHTHANK', '192,168.2.1', '1625Mbps')
   SOL) INSERT INTO ROUTERS URLUES(&router_id,'@brand','@model','@ip_address','@speed');
inter value for router_id: 205
inter value for brand: TENDA
inter value for brand: TENDA
inter value for ip_address: 192 168.1.5
inter value for ip_address: 192 168.1.5
inter value for speed: 1420Mbps
1d : NNSERT INTO ROUTERS UNALUES(&router_id,'@brand','@model','@ip_address','@speed')
1: INSERT INTO ROUTERS UNALUES(205, 'TENDA', 'FR303','192.168.1.5','1420Mbps')
     ommit complete.
 SOL> INSERT INTO SWITCH UALUES(&switch_id,'&switch_neme','&from_mac_address','&to_mac_address'):
Enter value for switch_id: 301
Enter value for switch_neme: SWITCH1
Enter value for rors_mac_address: 00-14-22-01-23-45
Enter value for from_mac_address: 04-0C-20-20-12-08-E1
Enter value for to_mac_address: 05-01-12-08-E1
Enter value for t
     QL> SELECT × FROM COMPUTERS:
                                  CID MAC_ADDRESS MANUFACTURER
   row created.
     OL. INSERT INTO SUITCH URLUES(&cwitch_id. '&cwitch_name', '&from_mac_addreso','&to_mac_addreso');

nter value for switch_name. SUITCH3

nter value for switch_name. SUITCH3

nter value for from_mac_addreso: 21-09-H1-25-01-E2

nter value for t_omac_addreso: 34-15-22-13-25-V2

ld 1: INSERT INTO SUITCH URLUES(&switch_id. '&switch_name', '&from_mac_addreso', '&to_mac_addreso')

ew 1: INSERT INTO SUITCH URLUES(&switch_id. '&switch_name', '&from_mac_addreso', '&to_mac_addreso')
 OL) INSERT INTO SWITCH UNLUES(Sawitch_id, 'Sawitch_name', 'Sfrom_mac_address', 'Sto_mac_address');
inter value for switch_ids: 304
inter value for switch_name: SWITCH4
inter value for rora_mac_address: 3H-15-22-13-25-V2
inter value for from_mac_address: 3H-15-22-13-25-V2
inter value for to_mac_address: 3H-2H-R3-PR-01-24
ld 1: INSERT INTO SWITCH UNLUES(Sawitch_id, 'Sawitch_name', 'Sfrom_mac_address', 'Sto_mac_address')
lew 1: INSERT INTO SWITCH UNLUES(Sawitch_id, 'Sawitch_name', 'SF-22-13-25-V2', 'SB-24-R3-PR-01-24')
SQL.> INSERT INTO SWITCH URLUES(&switch_id.'&switch_name','&from_mac_address','&to_mac_address');
Enter value for switch_ids:
Enter value for switch_name: SWITCHS
Enter value for from_mac_address: 58-24-R3-PR-01-24
Enter value for from_mac_address: 58-24-R3-PR-01-24
Enter value for to_mac_address: 60-14-22-01-22-45
old :: INSERT INTO SWITCH URLUES(&switch_id.'&switch_name','&from_mac_address','&to_mac_address')
new 1: INSERT INTO SWITCH URLUES(&05.'SWITCHS','58-24-R3-PR-01-24','00-14-22-01-23-45')
     ommit complete
```

```
OL > INSERT INTO SERUER UMLUES(äseruer_id.'ämodel','äram'.'äprocessor'.'ästorage');
nter value for saruer_id. 481
nter value for model; XEON
nter value for rana 1268
nter value for processor INTEL
nter value for processor i STB
1d | 1. HSERT INTO SERUER UMLUES(äseruer_id.'ämodel','äram','äprocessor'.'ästorage')
ew | 1. HSERT INTO SERUER UMLUES(48),'XEON', 1268','INTEL', 1.5TB')
 OUL> INSERT INTO SERUER UMLUES(öserver_id.'&model','&ram','&processor','&storage');
inter value for server_id: 482
inter value for model: PHENDH
inter value for ram: 868
inter value for processor: AND
inter value for processor: AND
inter value for storage: 2TB
inter value for storage: 2TB
id : INSERT INTO SERVER UMLUES(&server_id.'&model','&ram','&processor','&storage')
iew 1: INSERT INTO SERVER UMLUES(482, 'PHENDM', '868', 'AMD','2TB')
 OL> INSERT INTO SERUER URLUES(&server_id, '&model', '&ram', '&processor', '&storage');
inter value for server_id: 403
inter value for model: ITRNIUM
inter value for made: ITRNIUM
inter value for processor: INTEL
inter value for processor: INTEL
inter value for storage: 218
id: INSERT INTO SERUER URLUES(&server_id.'&model', '&ram', '&processor', '&storage')
ew 1: INSERT INTO SERUER URLUES(&server_id.'&model', 'NTEL', '27B')
    w 1: INSERT INTO SERVER VALUES(404, 'OPTERON', '8GB', 'AMD', '2TB')
SOL> INSERT INTO SERUER UALUES(ågerver_id, 'åmodel', 'åram', 'åprocessor', 'åstorage');
inter value for server_id. 405
inter value for model: COREZQUAD
inter value for ram: 1608
inter value for ram: 1608
inter value for processor: INTEL
inter value for processor: INTEL
inter value for storage: 50008
10 1: INSERT INTO SERVER UALUES(åserver_id, 'ämodel', 'åram', 'åprocessor', 'åstorage')
ew 1: INSERT INTO SERVER VALUES(405, 'COREZQUAD', '1608', 'INTEL', '5000B')
  row created.
  QL> COMMIT;
  ommit complete
              DESC LABS

Null? Type

NOT NULL UARCHAR2(28)

NUMBER(10)
  QL> DESC LABS
Name
 QL> INSERT INTO LABS UALUES('&Iname',&floor);
nter value for lname: IT-LAB-1
nter value for floor: 0
1d 1: INSERT INTO LABS UALUES('&Iname',&floor)
ew 1: INSERT INTO LABS UALUES('IT-LAB-1',0)
 OL> INSERT INTO LABS UALUES('ālname',āfloor);
nter value for lname: IT-LAB-2
nter value for floor; 0
Id 1: INSERT INTO LABS UALUES('ālname',āfloor)
ew 1: INSERT INTO LABS UALUES('IT-LAB-2',0)
 OL> INSERT INTO LABS VALUES('&lname',&floor);
nter value for lname: PROJECT-LAB
nter value for floor: 1
ld 1: INSERT INTO LABS VALUES('&lname',&floor)
ew 1: INSERT INTO LABS VALUES('PROJECT-LAB',1)
SOL> INSERT INTO CONNECTED VALUES(&HID, '&ISP_NAME');
inter value for mid: 181
inter value for iap_name: ACT
old 1: INSERT INTO COMMECTED VALUES(&HID, '&ISP_NAME')
new 1: INSERT INTO COMMECTED VALUES(I01, 'ACT')
               / value for mid: 102
value for iop_name: HATHWAY
1: INSERT INTO CONNECTED UALUES(&MID,'&ISP_NAME')
1: INSERT INTO CONNECTED UALUES(102,'HATHWAY')
               /
value for mid: 103
value for isp_name: TATA
value for isp_name: TATA
1: INSERT INTO CONNECTED URLUES(GMID, 'SISP_NAME')
1: INSERT INTO CONNECTED UBLUES(103. 'TATA')
T INTO CONNECTED UBLUES(103. 'TATA')
   RROR at line 1:
RR-02231: integrity constraint (IT18737065.SVS_C0011238) violated - parent key
 OL> /
nter value for mid: 184
nter value for isp_name: HTNL
ld 1: INSERT INTO CONNECTED USLUES(8MID, '&ISP_NAME')
ew 1: INSERT INTO CONNECTED USLUES(184, 'HTNL')
                 ualue for mid: 105
value for iop_name: YOU
1: INSERT INTO CONNECTED UALUES(&MID, "&ISP_NAME")
1: INSERT INTO CONNECTED UALUES(105, 'YOU')
```

```
aL> COMMIT
 SOL> INSERT INTO CONNECTED_TO VALUES(âmid_8ROUTER_ID);
Enter value for mid: 181
Enter value for router_id: 201
Iold 1: INSERT INTO CONNECTED_TO VALUES(âmid_8ROUTER_ID)
new 1: INSERT INTO CONNECTED_TO VALUES(101,201)
                    / value for mid: 192
value for router_id: 202
1: INSERT INTO CONNECTED_TO VALUES(&mid.&ROUTER_ID)
1: INSERT INTO CONNECTED_TO VALUES(102,202)
OL> /
Enter value for mid: 103
Enter value for mid: 103
Enter value for router_id: 203
Enter value for router_id: 203
Enter value for router_id: 203
Enter into CONNECTED_TO UNLUES(201,203)
Enter into CONNECTED_TO UNLUES(103,203)
 OL> /
Inter value for mid: 184
Inter value for router_id: 284
Id 1: INSERT INTO COMMECTED_TO VALUES(&mid.&ROUTER_ID)
Hew 1: INSERT INTO COMMECTED_TO VALUES(104,284)
 COL> /
Enter value for mid: 105
Enter value for router_id: 205
 SQL> COMMIT:
  OL> DESC RSCONNECTION
                       Null? Type
  OL> INSERT INTO RSCONNECTION VALUES(SSWITCH_ID.8ROUTER_ID):
nter value for switch_id: 301
nter value for router_id: 201
ld 1: INSERT INTO RSCONNECTION VALUES(SSWITCH_ID.8ROUTER_ID)
ew 1: INSERT INTO RSCONNECTION VALUES(301.201)
    OL> /
nter value for switch_id: 302
nter value for router_id: 202
id= 1: INSERT INTO SECONMECTION VALUES(35XITCH_ID.8ROUTER_ID)
ew= 1: INSERT INTO SECONMECTION VALUES(302,202)
  QL > /
nter value for switch_id; 303
nter value for router_id; 203
ld 1: INSERT INTO RECONNECTION UNLUES(&SMITCH_ID, &ROUTER_ID)
ew 1: INSERT INTO RECONNECTION UNLUES(303,203)
    OL> /
nter value for switch_id: 394
nter value for router_id: 294
ld 1: INSERT INTO RECOMMECTION VALUES(&SWITCH_ID.&ROUTER_ID)
ew 1: INSERT INTO RECOMMECTION VALUES(304.204)
OL> /
Inter value for switch_id: 305
Inter value for router_id: 205
Inter value for router_id: 205
Id: INSERT INTO RSCONNECTION URLUES(8SWITCH_ID,8ROUTER_ID)
Hew 1: INSERT INTO RSCONNECTION URLUES(305,205)
    ommit complete.
  OL> INSERT INTO ATTACHED_TO UALUES(&SWITCH_ID, &SERUER_ID):
nter value for ositch_id: 301
nter value for server_id:
1 nter value for server_id:
1 ntsERT INTO ATTACHED_TO UALUES(&SWITCH_ID, &SERUER_ID)

ew : INSERT INTO ATTACHED_TO UALUES($01,401)
 / value for switch_id: 303

· value for server_id: 403

1: INSET INTO ATTACHED_TO VALUES(@SMITCH_ID,@SERVER_ID)

1: INSET INTO ATTACHED_TO VALUES(303.403)
                    / value for switch_id: 394
value for server_id: 404
1: INSERT INTO ATTACHED_TO VALUES(&SWITCH_ID,&SERVER_ID)
1: INSERT INTO ATTACHED_TO VALUES(304,404)
    row created.
  OL> /

nter value for switch_id: 305

nter value for server_id: 405

ld 1: INSER INTO ATTACHED_TO VALUES(&SWITCH_ID,&SERVER_ID)

ew 1: INSER INTO ATTACHED_TO VALUES(&SE,405)
  QL> COMMIT;
      mmit complete
```

```
INSERT INTO CONNECTEDTO UNLUES(@SWITCH_ID.@CID):
realum for switch_id: 381
realum for cid: 1
I. INSERT INTO CONNECTEDTO UNLUES(@SWITCH_ID.@CID)
1: INSERT INTO CONNECTEDTO UNLUES(@SWITCH_ID.@CID)
               row created.
                                        / value for switch_id: 302

value for cid: 2

1: INSET INTO CONNECTEDTO VALUES(&SWITCH_ID.&CID)

1: INSETI INTO CONNECTEDTO VALUES(302,2)
  SOL) / Defense of the second o
     SOL) /
Enter value for switch_id: 304
Enter value for cid: 4
old 1: INSERT INTO CONNECTEDTO UNLUES(&SWITCH_ID.&CID)
now 1: INSERT INTO CONNECTEDTO UNLUES(&SWITCH_ID.&CID)
          SOL> /
Inter value for switch_id: 305
Inter value for cid: 5
Id 1: INSERT INTO CONNECTEDTO VALUES(&SWITCH_ID.&CID)
NEW 1: INSERT INTO CONNECTEDTO VALUES(305,5)
  SQL> COMMIT:
SQL) INSERT INTO CONSISTS UALUES('&LNAME',&CID);
Enter value for lname: IT-LB8-1
Enter value for cid: 1
old 1: INSERT INTO CONSISTS UALUES('&LNAME',&CID)
new 1: INSERT INTO CONSISTS UALUES('IT-LB8-1',1)
            OL > /
nter value for lname: IT-LAB-1
nter value for cid: 2
to 3: NSERT INTO CONSISTS VALUES('&LNAME',&CID)
ew 1: INSERT INTO CONSISTS VALUES('IT-LAB-1',2)
          COL) /
Inter value for lname: IT-LAB-2
Inter value for cid: 3
Id 1: INSERT INTO CONSISTS VALUES('&LNAME',&CID)
Id 1: INSERT INTO CONSISTS VALUES('IT-LAB-2',3)
               row created.
          OL> /
Inter value for Iname: PROJECT-LAB
Inter value for cid: 4
Inter value for cid: 4
Id 1: INSERT INTO CONSISTS VALUES('SLNAME', &CID)
NOW 1: INSERT INTO CONSISTS VALUES('PROJECT-LAB', 4)
       OL> /
Inter value for Iname: PROJECT-LAB
Inter value for cid: 5
Inter value for project called ()
Inter value for cid: 5
Inter value for ci
     SQL> COMMIT:
               OL> INSERT INTO HAS UALUES("SLNAME", "SBNAME");
nter value for lname: PROJECT-LAB
nter value for bname: RAHRHUJAN
1d 1: INSERT INTO HAS UALUES("SALMAME", "SBNAME")
u 1: INSERT INTO HAS UALUES("PROJECT-LAB", "RAMANUJAN")
          SOL> INSERT INTO HAS UGLUES("&LNAME", "&BNAME");
inter value for lname: IT-LAB-1
inter value for bname: RAMENHUJAN
bld !: INSERT INTO HAS UGLUES("IT-LAB-1", "&BNAME")
we !: INSERT INTO HAS UGLUES("IT-LAB-1", "RAMANUJAN")
               row created.
               OL) /
ntervalue for Iname: IT-LAB-2
ntervalue for bname: RAMANUJAN
ld 1: INSERT INTO HAS VALUES('IT-LAB-2', 'RAMANUJAN')
e 1: INSERT INTO HAS VALUES('IT-LAB-2', 'RAMANUJAN')
               QL> COMMIT;
```

```
QL> select × from MODEM;
                                                  1167Mbps
1193Mbps
545Mbps
664Mbps
700Mbps
 QL> select × from routers;
ROUTER_ID BRAND HODEL IP_ADDRESS
SPEED
201 ASUS
2000Mbps
202 TP-LINK
1800Mbps
                                    RT-AC5300
                                 ARCHER-AC5400 192.168.1.1
 203 NETGEAR
625Mbps
                                     NIGHTHAWK
                                                              192.168.2.1
 ROUTER_ID BRAND HODEL IP_ADDRESS
PEED
204 D-LINK
500Mbps
SQL> select × from switch:
 SWITCH_ID SWITCH_NAME
                                      FROM_MAC_ADDRESS TO_MAC_ADDRESS
                                      00-14-22-01-23-45 14-CC-20-20-12-08-E1
14-CC-20-20-12-08-E1 21-09-H1-25-01-E2
21-09-H1-25-01-E2 34-15-22-13-25-V2
34-15-22-13-25-V2 58-24-83-P8-01-24
58-24-R3-PR-01-24 00-14-22-01-23-45
                                                   PROCESSOR
SERUER_ID MODEL
                                                   INTEL
AMD
INTEL
AMD
INTEL
                                      MANUFACTURER
 QL> select × from block;
 QL> select × from connected:
       101 ACT
102 HATHWAY
103 GTPL
104 HTNL
105 YOU
       MID ROUTER_ID
 SWITCH_ID ROUTER_ID
 QL> select × from connectedto:
   L> select * from consists;
 T-LAB-1
T-LAB-1
T-LAB-2
ROJECT-LAB
ROJECT-LAB
                   BNAME
```