

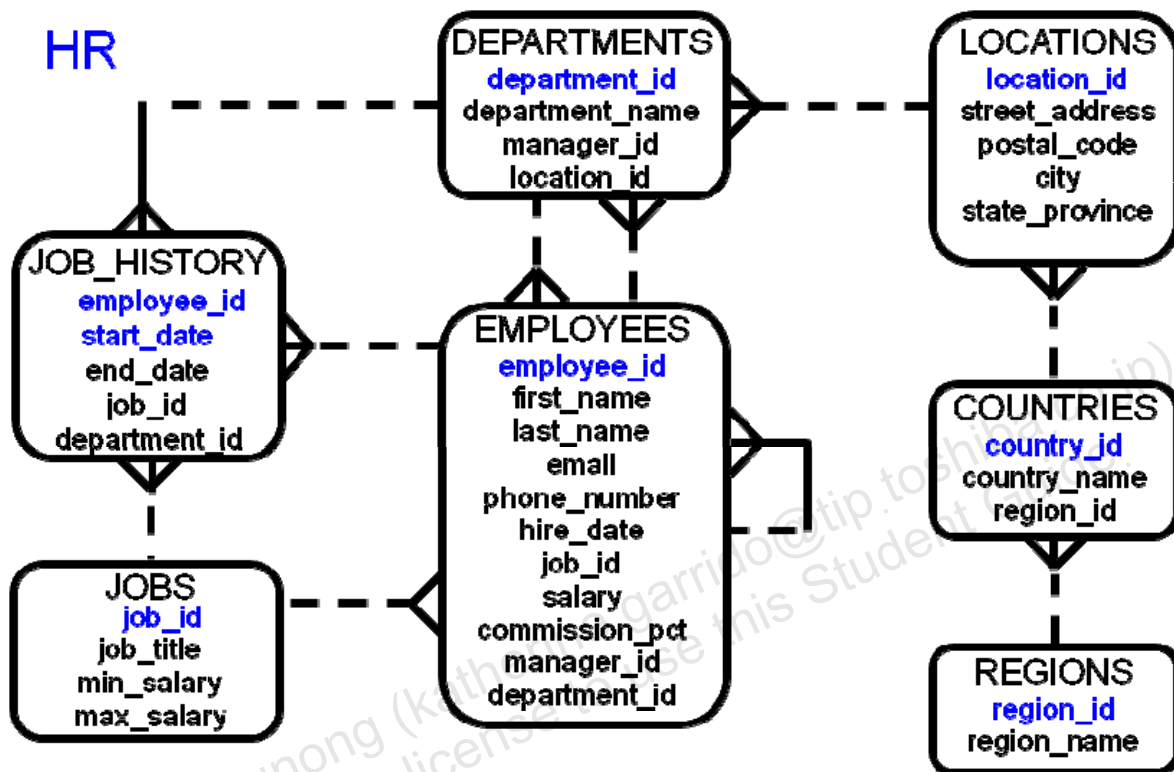
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## Appendix A: Table Descriptions and Data

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## ENTITY RELATIONSHIP DIAGRAM



## Tables in the Schema

```
SELECT * FROM tab;
```

TNAME	TABTYPE	CLUSTERID
COUNTRIES	TABLE	
DEPARTMENTS	TABLE	
EMPLOYEES	TABLE	
EMP_DETAILS_VIEW	VIEW	
JOBS	TABLE	
JOB_HISTORY	TABLE	
LOCATIONS	TABLE	
REGIONS	TABLE	

8 rows selected.

# regions Table

DESCRIBE regions

Name	Null?	Type
REGION_ID	NOT NULL	NUMBER
REGION_NAME		VARCHAR2(25)

SELECT \* FROM regions;

REGION_ID	REGION_NAME
1	Europe
2	Americas
3	Asia
4	Middle East and Africa

## countries Table

DESCRIBE countries

Name	Null?	Type
COUNTRY_ID	NOT NULL	CHAR(2)
COUNTRY_NAME		VARCHAR2(40)
REGION_ID		NUMBER

SELECT \* FROM countries;

CO	COUNTRY_NAME	REGION_ID
AR	Argentina	2
AU	Australia	3
BE	Belgium	1
BR	Brazil	2
CA	Canada	2
CH	Switzerland	1
CN	China	3
DE	Germany	1
DK	Denmark	1
EG	Egypt	4
FR	France	1
HK	HongKong	3
IL	Israel	4
IN	India	3
CO	COUNTRY_NAME	REGION_ID
IT	Italy	1
JP	Japan	3
KW	Kuwait	4
MX	Mexico	2
NG	Nigeria	4
NL	Netherlands	1
SG	Singapore	3
UK	United Kingdom	1
US	United States of America	2
ZM	Zambia	4
ZW	Zimbabwe	4

25 rows selected.

## locations Table

DESCRIBE locations;

Name	Null?	Type
LOCATION_ID	NOT NULL	NUMBER(4)
STREET_ADDRESS		VARCHAR2(40)
POSTAL_CODE		VARCHAR2(12)
CITY	NOT NULL	VARCHAR2(30)
STATE_PROVINCE		VARCHAR2(25)
COUNTRY_ID		CHAR(2)

SELECT \* FROM locations;

LOCATION_ID	STREET_ADDRESS	POSTAL_CODE	CITY	STATE_PROVINCE	CO
1000	1297 Via Cola di Rie	00989	Roma		IT
1100	93091 Calle della Testa	10934	Venice		IT
1200	2017 Shinjuku-ku	1689	Tokyo	Tokyo Prefecture	JP
1300	9450 Kamiya-cho	6823	Hiroshima		JP
1400	2014 Jabberwocky Rd	26192	Southlake	Texas	US
1500	2011 Interiors Blvd	99236	South San Francisco	California	US
1600	2007 Zagora St	50090	South Brunswick	New Jersey	US
1700	2004 Charade Rd	98199	Seattle	Washington	US
1800	147 Spadina Ave	M5V 2L7	Toronto	Ontario	CA
1900	6092 Boxwood St	YSW 9T2	Whitehorse	Yukon	CA
2000	40-5-12 Laogianggen	190518	Beijing		CN
2100	1298 Vileparle (E)	490231	Bombay	Maharashtra	IN
LOCATION_ID	STREET_ADDRESS	POSTAL_CODE	CITY	STATE_PROVINCE	CO
2400	8204 Arthur St		London		UK
2500	Magdalen Centre, The Oxford Science Park	OX9 9ZB	Oxford	Oxford	UK
2600	9702 Chester Road	09629850293	Stretford	Manchester	UK
2700	Schwanthalerstr. 7031	80925	Munich	Bavaria	DE
2800	Rua Frei Caneca 1360	01307-002	Sao Paulo	Sao Paulo	BR
2900	20 Rue des Corps-Saints	1730	Geneva	Geneve	CH
3000	Murtenstrasse 921	3095	Bern	BE	CH
3100	Pieter Breughelstraat 837	3029SK	Utrecht	Utrecht	NL
3200	Mariano Escobedo 9991	11932	Mexico City	Distrito Federal,	MX

23 rows selected.

## departments Table

DESCRIBE departments

Name	Null?	Type
DEPARTMENT_ID	NOT NULL	NUMBER(4)
DEPARTMENT_NAME	NOT NULL	VARCHAR2(30)
MANAGER_ID		NUMBER(6)
LOCATION_ID		NUMBER(4)

SELECT \* FROM departments;

DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
10	Administration	200	1700
20	Marketing	201	1800
30	Purchasing	114	1700
40	Human Resources	203	2400
50	Shipping	121	1500
60	IT	103	1400
70	Public Relations	204	2700
80	Sales	145	2500
90	Executive	100	1700
100	Finance	108	1700
110	Accounting	205	1700
120	Treasury		1700
130	Corporate Tax		1700
140	Control And Credit		1700
DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
150	Shareholder Services		1700
160	Benefits		1700
170	Manufacturing		1700
180	Construction		1700
190	Contracting		1700
200	Operations		1700
210	IT Support		1700
220	NOC		1700
230	IT Helpdesk		1700
240	Government Sales		1700
250	Retail Sales		1700
260	Recruiting		1700
270	Payroll		1700

27 rows selected.

## jobs Table

DESCRIBE jobs

Name	Null?	Type
JOB_ID	NOT NULL	VARCHAR2(10)
JOB_TITLE	NOT NULL	VARCHAR2(35)
MIN_SALARY		NUMBER(6)
MAX_SALARY		NUMBER(6)

SELECT \* FROM jobs;

JOB_ID	JOB_TITLE	MIN_SALARY	MAX_SALARY
AD_PRES	President	20000	40000
AD_VP	Administration Vice President	15000	30000
AD_ASST	Administration Assistant	3000	6000
FI_MGR	Finance Manager	8200	16000
FI_ACCOUNT	Accountant	4200	9000
AC_MGR	Accounting Manager	8200	16000
AC_ACCOUNT	Public Accountant	4200	9000
SA_MAN	Sales Manager	10000	20000
SA_REP	Sales Representative	6000	12000
PU_MAN	Purchasing Manager	8000	15000
PU_CLERK	Purchasing Clerk	2500	5500
ST_MAN	Stock Manager	5500	8500
ST_CLERK	Stock Clerk	2000	5000
SH_CLERK	Shipping Clerk	2500	5500
JOB_ID	JOB_TITLE	MIN_SALARY	MAX_SALARY
IT_PROG	Programmer	4000	10000
MK_MAN	Marketing Manager	9000	15000
MK_REP	Marketing Representative	4000	9000
HR_REP	Human Resources Representative	4000	9000
PR_REP	Public Relations Representative	4500	10500

19 rows selected.



## employees Table

DESCRIBE employees

Name	Null?	Type
EMPLOYEE_ID	NOT NULL	NUMBER(6)
FIRST_NAME		VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(25)
EMAIL	NOT NULL	VARCHAR2(25)
PHONE_NUMBER		VARCHAR2(20)
HIRE_DATE	NOT NULL	DATE
JOB_ID	NOT NULL	VARCHAR2(10)
SALARY		NUMBER(8,2)
COMMISSION_PCT		NUMBER(2,2)
MANAGER_ID		NUMBER(6)
DEPARTMENT_ID		NUMBER(4)

The headings for the `commission_pct`, `manager_id`, and `department_id` columns are set to `comm`, `mgrid`, and `deptid`, respectively, in the following screenshot to fit the table values across the page.

```
SELECT * FROM employees;
```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	comm	mgrid	deptid
100	Steven	King	SKING	515.123.4567	17-JUN-87	AD_PRES	24000			90
101	Neena	Kochhar	NKOCHHAR	515.123.4568	21-SEP-89	AD_VP	17000		100	90
102	Lex	De Haan	LDEHAAN	515.123.4569	13-JAN-93	AD_VP	17000		100	90
103	Alexander	Hunold	AHUNOLD	590.423.4567	03-JAN-90	IT_PROG	9000		102	60
104	Bruce	Ernst	BERNST	590.423.4568	21-MAY-91	IT_PROG	6000		103	60
105	David	Austin	DAUSTIN	590.423.4569	25-JUN-97	IT_PROG	4800		103	60
106	Valli	Pataballa	VPATABAL	590.423.4560	05-FEB-98	IT_PROG	4800		103	60
107	Diana	Lorentz	DLORENTZ	590.423.5567	07-FEB-99	IT_PROG	4200		103	60
108	Nancy	Greenberg	NGREENBE	515.124.4569	17-AUG-94	FI_MGR	12000		101	100
109	Daniel	Faviet	DFAVET	515.124.4169	16-AUG-94	FI_ACCOUNT	9000		108	100
110	John	Chen	JCHEN	515.124.4269	28-SEP-97	FI_ACCOUNT	8200		108	100
111	Ismael	Sciarra	ISCIARRA	515.124.4369	30-SEP-97	FI_ACCOUNT	7700		108	100
112	Jose Manuel	Urman	JMURMAN	515.124.4469	07-MAR-98	FI_ACCOUNT	7800		108	100
113	Luis	Popp	LPOPP	515.124.4567	07-DEC-99	FI_ACCOUNT	6900		108	100
EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	comm	mgrid	deptid
114	Den	Raphaely	DRAPHEAL	515.127.4561	07-DEC-94	PU_MAN	11000		100	30
115	Alexander	Khoo	AKHOO	515.127.4562	18-MAY-95	PU_CLERK	3100		114	30
116	Shelli	Baida	SBAIDA	515.127.4563	24-DEC-97	PU_CLERK	2900		114	30
117	Sigal	Tobias	STOBIAS	515.127.4564	24-JUL-97	PU_CLERK	2800		114	30
118	Guy	Himuro	GHIMURO	515.127.4565	15-NOV-98	PU_CLERK	2600		114	30
119	Karen	Colmenares	KCOLMENA	515.127.4566	10-AUG-99	PU_CLERK	2500		114	30
120	Matthew	Weiss	MWEISS	650.123.1234	18-JUL-96	ST_MAN	8000		100	50
121	Adam	Fripp	AFRIPP	650.123.2234	10-APR-97	ST_MAN	8200		100	50
122	Payam	Kaufling	PKAUFLIN	650.123.3234	01-MAY-95	ST_MAN	7900		100	50
123	Shanta	Vollman	SVOLLMAN	650.123.4234	10-OCT-97	ST_MAN	6500		100	50
124	Kevin	Mourgos	KMOURGOS	650.123.5234	16-NOV-99	ST_MAN	5800		100	50
125	Julia	Nayer	JNAYER	650.124.1214	16-JUL-97	ST_CLERK	3200		120	50
126	Irene	Mikkilineni	IMIKKILI	650.124.1224	28-SEP-98	ST_CLERK	2700		120	50
127	James	Landry	JLANDRY	650.124.1334	14-JAN-99	ST_CLERK	2400		120	50

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	comm	mgrid	deptid
128	Steven	Markle	SMARKLE	650.124.1434	08-MAR-00	ST_CLERK	2200		120	50
129	Laura	Bissot	LBISSOT	650.124.5234	20-AUG-97	ST_CLERK	3300		121	50
130	Mozhe	Atkinson	MATKINSO	650.124.6234	30-OCT-97	ST_CLERK	2800		121	50
131	James	Marlow	JAMRLOW	650.124.7234	16-FEB-97	ST_CLERK	2500		121	50
132	TJ	Olson	TJOLSON	650.124.8234	10-APR-99	ST_CLERK	2100		121	50
133	Jason	Mallin	JMALLIN	650.127.1934	14-JUN-96	ST_CLERK	3300		122	50
134	Michael	Rogers	MROGERS	650.127.1834	26-AUG-98	ST_CLERK	2900		122	50
135	Ki	Gee	KGEE	650.127.1734	12-DEC-99	ST_CLERK	2400		122	50
136	Hazel	Philtanker	HPHILTAN	650.127.1634	06-FEB-00	ST_CLERK	2200		122	50
137	Renske	Ladwig	RLADWIG	650.121.1234	14-JUL-95	ST_CLERK	3600		123	50
138	Stephen	Stiles	SSTILES	650.121.2034	26-OCT-97	ST_CLERK	3200		123	50
139	John	Seo	JSEO	650.121.2019	12-FEB-98	ST_CLERK	2700		123	50
140	Joshua	Patel	JPATEL	650.121.1834	06-APR-98	ST_CLERK	2500		123	50
141	Trenna	Rajs	TRAJS	650.121.8009	17-OCT-95	ST_CLERK	3500		124	50
EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	comm	mgrid	deptid
142	Curtis	Davies	CDAMES	650.121.2994	29-JAN-97	ST_CLERK	3100		124	50
143	Randall	Matos	RMATOS	650.121.2874	15-MAR-98	ST_CLERK	2600		124	50
144	Peter	Vargas	PVARGAS	650.121.2004	09-JUL-98	ST_CLERK	2500		124	50
145	John	Russell	JRUSSEL	011.44.1344.429268	01-OCT-96	SA_MAN	14000	.4	100	80
146	Karen	Partners	KPARTNER	011.44.1344.467268	05-JAN-97	SA_MAN	13500	.3	100	80
147	Alberto	Erazuriz	AERRAZUR	011.44.1344.429278	10-MAR-97	SA_MAN	12000	.3	100	80
148	Gerald	Cambrault	GCAMBRAU	011.44.1344.619268	15-OCT-99	SA_MAN	11000	.3	100	80
149	Eleni	Zlotkey	EZLOTKEY	011.44.1344.429018	29-JAN-00	SA_MAN	10500	.2	100	80
150	Peter	Tucker	PTUCKER	011.44.1344.129268	30-JAN-97	SA_REP	10000	.3	145	80
151	David	Bernstein	DBERNSTE	011.44.1344.345268	24-MAR-97	SA_REP	9500	.25	145	80
152	Peter	Hall	PHALL	011.44.1344.478968	20-AUG-97	SA_REP	9000	.25	145	80
153	Christopher	Olsen	COLSEN	011.44.1344.498718	30-MAR-98	SA_REP	8000	.2	145	80
154	Nanette	Cambrault	NCAMBRAU	011.44.1344.987668	09-DEC-98	SA_REP	7500	.2	145	80
155	Oliver	Tuvault	OTUVAULT	011.44.1344.486508	23-NOV-99	SA_REP	7000	.15	145	80
EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	comm	mgrid	deptid
156	Janette	King	JKING	011.44.1345.429268	30-JAN-96	SA_REP	10000	.35	146	80
157	Patrick	Sully	PSULLY	011.44.1345.929268	04-MAR-96	SA_REP	9500	.35	146	80
158	Allan	McEwen	AMCEWEN	011.44.1345.829268	01-AUG-96	SA_REP	9000	.35	146	80
159	Lindsey	Smith	LSMITH	011.44.1345.729268	10-MAR-97	SA_REP	8000	.3	146	80
160	Louise	Doran	LDORAN	011.44.1345.629268	15-DEC-97	SA_REP	7500	.3	146	80
161	Sarath	Sewall	SSEWALL	011.44.1345.529268	03-NOV-98	SA_REP	7000	.25	146	80
162	Clara	Vishney	CVISHNEY	011.44.1346.129268	11-NOV-97	SA_REP	10500	.25	147	80
163	Danielle	Greene	DGREENE	011.44.1346.229268	19-MAR-99	SA_REP	9500	.15	147	80
164	Mattea	Marvins	MMARVINS	011.44.1346.329268	24-JAN-00	SA_REP	7200	.1	147	80
165	David	Lee	DLEE	011.44.1346.529268	23-FEB-00	SA_REP	6800	.1	147	80
166	Sundar	Ande	SANDE	011.44.1346.629268	24-MAR-00	SA_REP	6400	.1	147	80
167	Amit	Banda	ABANDA	011.44.1346.729268	21-APR-00	SA_REP	6200	.1	147	80
168	Lisa	Ozer	LOZER	011.44.1343.929268	11-MAR-97	SA_REP	11500	.25	148	80
169	Harrison	Bloom	HBLOOM	011.44.1343.829268	23-MAR-98	SA_REP	10000	.2	148	80

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	comm	mgrid	deptid
170	Taylor	Fox	TFOX	011.44.1343.729268	24-JAN-98	SA_REP	9600	.2	148	80
171	William	Smith	WSMITH	011.44.1343.629268	23-FEB-99	SA_REP	7400	.15	148	80
172	Elizabeth	Bates	EBATES	011.44.1343.529268	24-MAR-99	SA_REP	7300	.15	148	80
173	Sundita	Kumar	SKUMAR	011.44.1343.329268	21-APR-00	SA_REP	6100	.1	148	80
174	Elen	Abel	EABEL	011.44.1644.429267	11-MAY-96	SA_REP	11000	.3	149	80
175	Alyssa	Hutton	AHUTTON	011.44.1644.429266	19-MAR-97	SA_REP	8800	.25	149	80
176	Jonathon	Taylor	JTAYLOR	011.44.1644.429265	24-MAR-98	SA_REP	8600	.2	149	80
177	Jack	Livingston	JLIVNGS	011.44.1644.429264	23-APR-98	SA_REP	8400	.2	149	80
178	Kimberely	Grant	KGRANT	011.44.1644.429263	24-MAY-99	SA_REP	7000	.15	149	
179	Charles	Johnson	CJOHNSON	011.44.1644.429262	04-JAN-00	SA_REP	6200	.1	149	80
180	Winston	Taylor	WTAYLOR	650.507.9876	24-JAN-98	SH_CLERK	3200		120	50
181	Jean	Fleaur	JFLEAUR	650.507.9877	23-FEB-98	SH_CLERK	3100		120	50
182	Martha	Sullivan	MSULLIVA	650.507.9878	21-JUN-99	SH_CLERK	2500		120	50
183	Girard	Geoni	GGEONI	650.507.9879	03-FEB-00	SH_CLERK	2800		120	50
EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	comm	mgrid	deptid
184	Nandita	Sarchand	NSARCHAN	650.509.1876	27-JAN-96	SH_CLERK	4200		121	50
185	Alexis	Bull	ABULL	650.509.2876	20-FEB-97	SH_CLERK	4100		121	50
186	Julia	Dellinger	JDELLING	650.509.3876	24-JUN-98	SH_CLERK	3400		121	50
187	Anthony	Cabrio	ACABRIO	650.509.4876	07-FEB-99	SH_CLERK	3000		121	50
188	Kelly	Chung	KCHUNG	650.505.1876	14-JUN-97	SH_CLERK	3800		122	50
189	Jennifer	Dilly	JDILLY	650.505.2876	13-AUG-97	SH_CLERK	3600		122	50
190	Timothy	Gates	TGATES	650.505.3876	11-JUL-98	SH_CLERK	2900		122	50
191	Randall	Perkins	RPERKINS	650.505.4876	19-DEC-99	SH_CLERK	2500		122	50
192	Sarah	Bell	SBELL	650.501.1876	04-FEB-96	SH_CLERK	4000		123	50
193	Britney	Everett	BEVERETT	650.501.2876	03-MAR-97	SH_CLERK	3900		123	50
194	Samuel	McCain	SMCCAIN	650.501.3876	01-JUL-98	SH_CLERK	3200		123	50
195	Vance	Jones	VJONES	650.501.4876	17-MAR-99	SH_CLERK	2800		123	50
196	Alana	Walsh	AWALSH	650.507.9811	24-APR-98	SH_CLERK	3100		124	50
197	Kevin	Feeney	KFEENEY	650.507.9822	23-MAY-98	SH_CLERK	3000		124	50
EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	comm	mgrid	deptid
198	Donald	OConnell	DOCONNEL	650.507.9833	21-JUN-99	SH_CLERK	2600		124	50
199	Douglas	Grant	DGRANT	650.507.9844	13-JAN-00	SH_CLERK	2600		124	50
200	Jennifer	Whalen	JWHALEN	515.123.4444	17-SEP-87	AD_ASST	4400		101	10
201	Michael	Hartstein	MHARTSTE	515.123.5555	17-FEB-96	MK_MAN	13000		100	20
202	Pat	Fay	PFAY	603.123.6666	17-AUG-97	MK_REP	6000		201	20
203	Susan	Mavris	SMAVRIS	515.123.7777	07-JUN-94	HR_REP	6500		101	40
204	Hermann	Baer	HBAER	515.123.8888	07-JUN-94	PR_REP	10000		101	70
205	Shelley	Higgins	SHIGGINS	515.123.8080	07-JUN-94	AC_MGR	12000		101	110
206	William	Gietz	WGIETZ	515.123.8181	07-JUN-94	AC_ACCOUNT	8300		205	110

107 rows selected.

## job\_history Table

DESCRIBE job\_history

Name	Null?	Type
EMPLOYEE_ID	NOT NULL	NUMBER(6)
START_DATE	NOT NULL	DATE
END_DATE	NOT NULL	DATE
JOB_ID	NOT NULL	VARCHAR2(10)
DEPARTMENT_ID		NUMBER(4)

SELECT \* FROM job\_history;

EMPLOYEE_ID	START_DAT	END_DATE	JOB_ID	deptid
102	13-JAN-93	24-JUL-98	IT_PROG	60
101	21-SEP-89	27-OCT-93	AC_ACCOUNT	110
101	28-OCT-93	15-MAR-97	AC_MGR	110
201	17-FEB-96	19-DEC-99	MK_REP	20
114	24-MAR-98	31-DEC-99	ST_CLERK	50
122	01-JAN-99	31-DEC-99	ST_CLERK	50
200	17-SEP-87	17-JUN-93	AD_ASST	90
176	24-MAR-98	31-DEC-98	SA_REP	80
176	01-JAN-99	31-DEC-99	SA_MAN	80
200	01-JUL-94	31-DEC-98	AC_ACCOUNT	90

10 rows selected.

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