

Background about the Intercollegiate Athletic Database

You will use the Intercollegiate Athletic database in modules 3 to 5. This document describes business processes supported and associated details for tables and relationships.

Tables in the Intercollegiate Athletic Database

The Intercollegiate Athletic (ICA) Database contains tables to record event requests and event plans along with associated entities, customers, employees, resources, facilities, and locations. Table 1 briefly summarizes the meaning of each table.

Table 1: Tables in the Expense Reports Database

<i>Table Name</i>	<i>Description</i>
Employee	Details about employees who manage event plans
Customer	Details about customers who request facilities used in events
Facility	Details about facilities requested by customers for events
Location	Details about locations inside facilities used in event plans
ResourceTbl	Details about resources required at locations used in event plans
EventRequest	Details about event requests made by customers for facilities
EventPlan	Details about event plans for an event request. Event requests may require event plans for setup, operation, and cleanup of an event.
EventPlanLine	Details about resources and locations used in event plans

The *EventRequest* table is the hub of the database. An event request represents an event scheduled at a facility. For example, a basketball game may be scheduled at the gymnasium. Events are sometimes scheduled several months in advance. Holding an event requires resources including personnel and equipment. Resources are assigned to specific locations of a facility. For example, guards may be required at the gates of the football stadium. The *EventPlan* table defines plans for the setup, operation, and cleanup of an event. The *EventPlanLine* table contains the locations and resources required in an event plan.

Business Processes Supported

The Intercollegiate Athletic database supports the scheduling and operation of events as depicted in Figure 1. Customers initiate event requests with the Intercollegiate Athletic Department. The facility and date held are recorded on the event request. If an event request is denied, no additional action is taken. If an event request is approved, one or more event plans are made. Typically, event plans are made for the setup, operation, and cleanup of an event. An employee is assigned to manage an event plan before the plan is executed. Initially, there may not be an assigned employee. An event plan consists of one or more event plan lines. An event plan line contains the resource, location, time, and count of resources used (*EventPlanLine.ResourceCnt*) are recorded. The combination of plan number and line number identifies an event plan line.

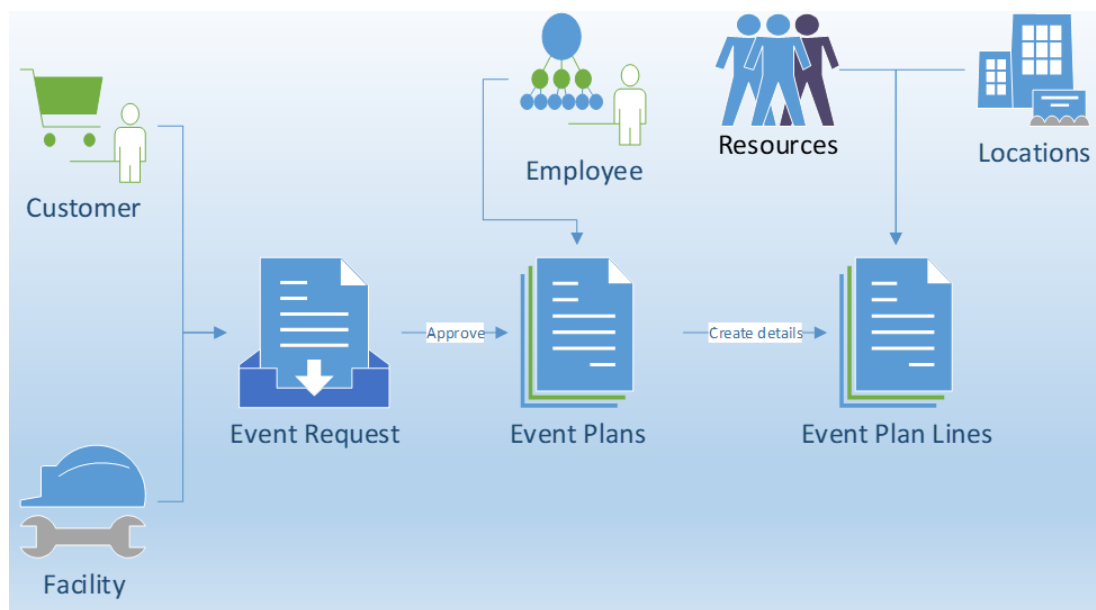


Figure 1: Workflow for the Intercollegiate Athletic Database

Database Diagram

Figure 2 shows an Oracle database diagram with notation indicating important parts of the database design. In Figure 2, P indicates a primary key, F indicates a foreign key, U/UF indicates unique columns not primary keys, and the red dot indicates a required column. In the *EventPlanLine* table, the combination of *PlanNo* and *LineNo* is the primary key. Solid lines indicate required relationships in which foreign keys do not accept null values with Figure 2 showing six required relationships. Dashed lines indicate optional relationships in which the associated foreign keys allow null values with Figure 2 showing two optional relationships. Figure 2 indicates the relationship from *Employee* to *EventPlan* is optional as an event plan may be created before a managing user is assigned. The *Employee* table contains an optional self-referencing relationship represented by *MgrNo* indicating the organization structure of employees. The X in 1-M relationships indicates CASCADE DELETE for action on referenced rows.

Figure 2 indicates that an event request is related to many (one or more) event plans but only one customer. An event plan contains many event plan lines but only one supervising employee. An event plan line references a resource and location. A facility has many locations, but a location is specific to a facility.

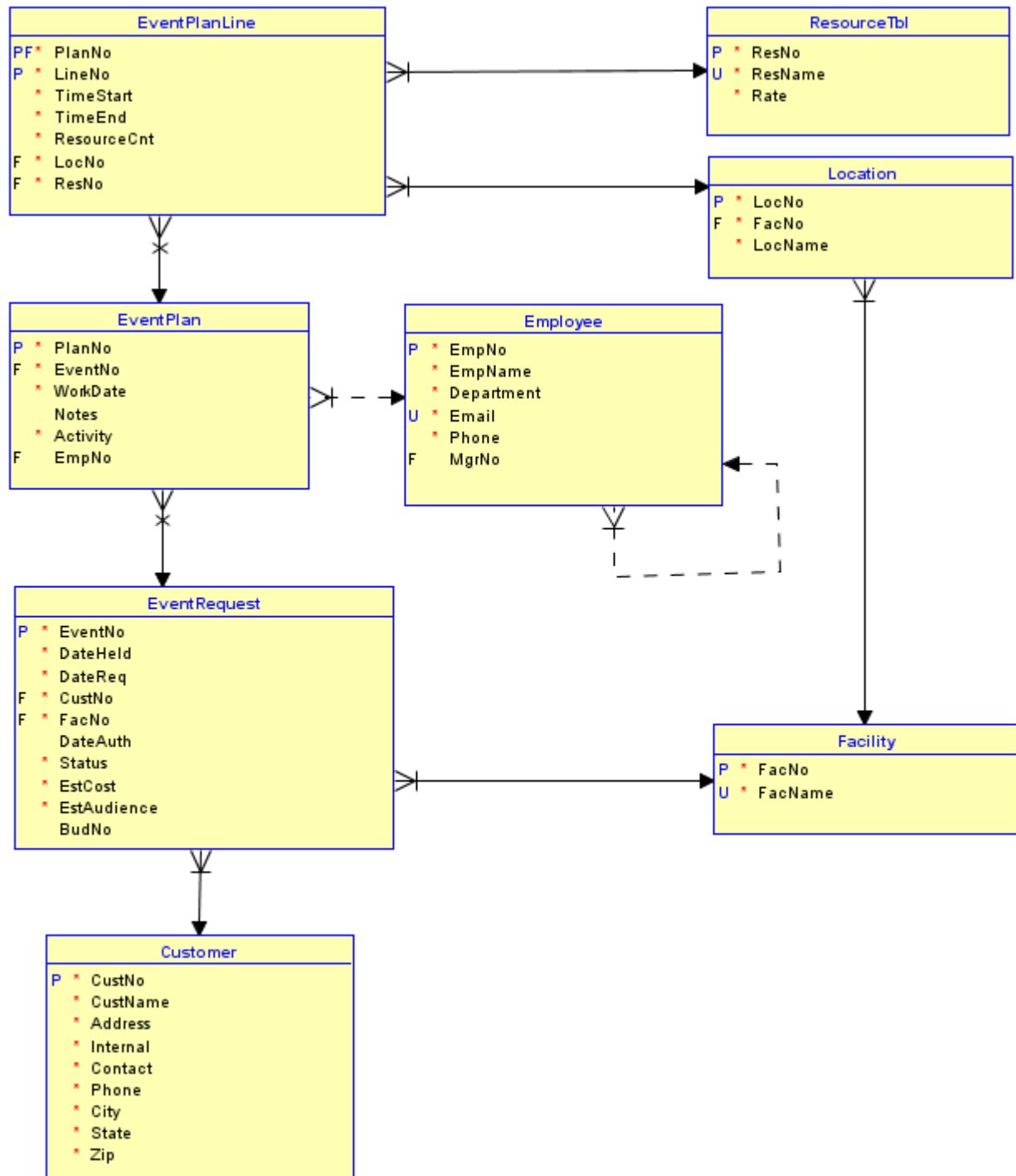


Figure 2: Oracle Access Database Diagram for the Intercollegiate Athletic Database

Columns

Tables 2 to 8 describe the columns in each table. The data characteristics column indicates the types of values in each column. The Comments column indicates restrictions on columns such as the maximum characters, nulls allowed, and foreign keys. Note that the actions on referenced rows are the default RESTRICT except for CASCADE DELETE for *EventPlan.EventNo* and *EventPlanLine.PlanNo*.

Table 2: Columns in the Facility Table

<i>Column</i>	<i>Data Characteristics</i>	<i>Comments</i>
FacNo	Variable length text	Primary key with maximum of 8 characters
FacName	Variable length text	Max of 30 characters; nulls not allowed; unique values

Table 3: Columns in the Customer Table

<i>Column Name</i>	<i>Data Characteristics</i>	<i>Comments</i>
CustNo	Variable length text	Primary key with maximum of 8 characters
CustName	Variable length text	Max of 50 characters; nulls not allowed
Address	Variable length text	Max of 50 characters; nulls not allowed
City	Variable length text	Max of 30 characters; nulls not allowed
State	Fixed length text	2 characters; nulls not allowed
Zip	Variable length text	Max of 10 characters; nulls not allowed; Default '80202'
Phone	Variable length text	Max of 11 characters; nulls not allowed
Contact	Variable length text	Max of 35 characters; nulls not allowed
Internal	Fixed length text	1 character; nulls not allowed; Default 'Y'

Table 4: Columns in the ResourceTbl Table

<i>Column</i>	<i>Data Characteristics</i>	<i>Comments</i>
ResNo	Variable length text	Primary key with maximum of 8 characters
ResName	Variable length text	Max of 30 characters; nulls not allowed; unique values
Rate	Fixed decimal	Fixed decimal amount resource cost; two digits precision to the right of the decimal point, default 1; nulls not allowed

Table 5: Columns in the Location Table

<i>Column</i>	<i>Data Characteristics</i>	<i>Comments</i>
LocNo	Variable length text	Primary key with maximum of 8 characters
LocName	Variable length text	Maximum length of 30 characters; nulls not allowed
FacNo	Variable length text	Foreign key to the Facility.FacNo; nulls not allowed; maximum of 8 characters

Table 6: Columns in the Employee Table

<i>Column</i>	<i>Data Characteristics</i>	<i>Comments</i>
EmpNo	Variable length text	Primary key with maximum of 8 characters
EmpName	Variable length text	Maximum length of 50 characters; nulls not allowed
Department	Variable length text	Maximum length of 25 characters; nulls not allowed
Email	Variable length text	Maximum length of 30 characters; nulls not allowed; Unique values
Phone	Variable length text	Maximum length of 11 characters; nulls not allowed
MgrNo	Variable length text	Foreign Key to the Employee table; nulls allowed

Table 7: Columns in the EventRequest Table

<i>Column</i>	<i>Data Characteristics</i>	<i>Comments</i>
EventNo	Variable length text	Primary key with maximum of 8 characters
DateHeld	Date	Date held of event; nulls not allowed
DateReq	Date	Date when event request made; defaults to the current current date; use a function to generate the default value; nulls not allowed
DateAuth	Date	Date when event request was authorized; nulls allowed; value entered after evaluation of event request
Status	Variable length text	Default value is "PENDING" meaning that the expense report is waiting for approval; this field should be limited to one of the following values "PENDING", "APPROVED", or "DENIED"; nulls not allowed
EstCost	Fixed decimal	Estimated cost of the event; 2 digits of precision to the right of the decimal point; nulls not allowed
EstAudience	Whole number	Estimated audience of the event; value should be greater than 0; nulls not allowed
BudNo	Variable length text	Budget number; Maximum of 8 characters
CustNo	Variable length text	Foreign key to the Customer table; identifies the customer who submitted the event request; nulls not allowed
FacNo	Variable length text	Foreign key to the Facility table; identifies the facility used in the event; nulls not allowed

Table 8: Columns in the EventPlan Table

<i>Column</i>	<i>Data Characteristics</i>	<i>Comments</i>
PlanNo	Variable length text	Primary key with maximum of 8 characters
Notes	Variable length text	Max of 50 characters; nulls allowed
WorkDate	Date	Date of the plan execution; nulls not allowed
Activity	Variable length text	Max of 50 characters; nulls not allowed
EventNo	Variable length text	Foreign key to the EventRequest table; Cascade deletes; nulls not allowed
EmpNo	Variable length text	Foreign key to the Employee table; Nulls allowed

Table 9: Columns in the EventPlanLine Table

<i>Column</i>	<i>Data Characteristics</i>	<i>Comments</i>
PlanNo	Variable length text	Part of the primary key with maximum of 8 characters; Foreign key to the EventPlan table; Cascade deletes
LineNo	Whole number	Part of the primary key; Step or line number in the event plan
TimeStart	Timestamp	Timestamp when the event plan line begins; Nulls not allowed
TimeEnd	Timestamp	Timestamp when the step ends; Nulls not allowed
ResourceCnt	Whole number	Count of resources required for the event plan line; nulls not allowed
LocNo	Variable length text	Foreign key to the Location table; Nulls not allowed
ResNo	Variable length text	Foreign key to the Resource table; Nulls not allowed

Populated Tables with Rows

Customer

custno	custname	address	Internal	contact	phone	city	state	zip
C100	Football	Box 352200	Yes	Mary Manager	6857100	Boulder	CO	80309
C101	Men's Basketball	Box 352400	Yes	Sally Supervisor	5431700	Boulder	CO	80309
C103	Baseball	Box 352020	Yes	Bill Baseball	5431234	Boulder	CO	80309
C104	Women's Softball	Box 351200	Yes	Sue Softball	5434321	Boulder	CO	80309
C105	High School Football	123 AnyStreet	No	Coach Bob	4441234	Louisville	CO	80027

Employee

empno	empname	department	email	phone	MrgNo
E100	Chuck Couch	Administration	chuck@colorado.edu	3-1111	E104
E101	Marv Martell	Football	marv@colorado.edu	5-1111	E104
E102	Sally Jones	Planning	sally@colorado.edu	3-2222	E104
E103	Sue Wong	Basketball	sue@colorado.edu	3-3333	E104
E104	Alan Smity	Administration	alan@colorado.edu	3-4433	E105
E105	Jose Cuevas	Administration	jose@colorado.edu	3-3344	[null]

Facility

facno	facname
F100	Football stadium
F101	Basketball arena
F102	Baseball field
F103	Recreation room

Location

locno	facno	locname
L100	F100	Locker room
L101	F100	Plaza
L102	F100	Vehicle gate
L103	F101	Locker room
L104	F100	Ticket Booth
L105	F101	Gate
L106	F100	Pedestrian gate

ResourceTbl

resno	resname	rate
R100	attendant	10.00
R101	police	15.00
R102	usher	10.00
R103	nurse	20.00
R104	janitor	15.00
R105	food service	10.00

EventRequest

eventno	dateheld	datereq	facno	custno	dateauth	status	estcost	estaudience	budno
E100	2022-10-25	2022-06-06	F100	C100	2022-06-08	Approved	5000.00	80000	B1000
E101	2022-10-26	2022-07-28	F100	C100	[null]	Pending	5000.00	80000	B1000
E102	2022-09-14	2022-07-28	F100	C100	2022-07-31	Approved	5000.00	80000	B1000
E103	2022-09-21	2022-07-28	F100	C100	2022-08-01	Approved	5000.00	80000	B1000
E104	2022-12-03	2022-07-28	F101	C101	2022-07-31	Approved	2000.00	12000	B1000
E105	2022-12-05	2022-07-28	F101	C101	2022-08-01	Approved	2000.00	10000	B1000
E106	2022-12-12	2022-07-28	F101	C101	2022-07-31	Approved	2000.00	10000	B1000
E107	2022-11-23	2022-07-28	F100	C105	2022-07-31	Denied	10000.00	5000	[null]

EventPlan

planno	eventno	workdate	notes	activity	empno
P100	E100	2022-10-25	Standard operation	Operation	E102
P101	E104	2022-12-03	Watch for gate crashers	Operation	E100
P102	E105	2022-12-05	Standard operation	Operation	E102
P103	E106	2022-12-12	Watch for seat switching	Operation	[null]
P104	E101	2022-10-26	Standard cleanup	Cleanup	E101
P105	E100	2022-10-25	Light cleanup	Cleanup	E101
P199	E102	2022-12-10	Standard operation	Operation	E101
P299	E101	2022-10-26	[null]	Operation	E101
P349	E106	2022-12-12	[null]	Cleanup	E101
P85	E100	2022-10-25	Standard operation	Setup	E102
P95	E101	2022-10-26	Extra security	Setup	E102

EventPlanLine

PlanNo	LineNo	TimeStart	TimeEnd	ResourceCnt	LocNo	ResNo
P100	1	2022-10-25 08:00	2022-10-25 17:00	2	L100	R100
P100	2	2022-10-25 12:00	2022-10-25 17:00	2	L101	R101
P100	3	2022-10-25 07:00	2022-10-25 16:30	1	L102	R102
P100	4	2022-10-25 18:00	2022-10-25 22:00	2	L100	R102
P101	1	2022-12-03 18:00	2022-12-03 20:00	2	L103	R100
P101	2	2022-12-03 18:30	2022-12-03 19:00	4	L105	R100
P101	3	2022-12-03 19:00	2022-12-03 20:00	2	L103	R103
P102	1	2022-12-05 18:00	2022-12-05 19:00	2	L103	R100
P102	2	2022-12-05 18:00	2022-12-05 21:00	4	L105	R100
P102	3	2022-12-05 19:00	2022-12-05 22:00	2	L103	R103
P103	1	2022-12-12 18:00	2022-12-12 21:00	2	L103	R100
P103	2	2022-12-12 18:00	2022-12-12 21:00	4	L105	R100
P103	3	2022-12-12 19:00	2022-12-12 22:00	2	L103	R103
P104	1	2022-10-26 18:00	2022-10-26 22:00	4	L101	R104
P104	2	2022-10-26 18:00	2022-10-26 22:00	4	L100	R104
P105	1	2022-10-25 18:00	2022-10-25 22:00	4	L101	R104
P105	2	2022-10-25 18:00	2022-10-25 22:00	4	L100	R104
P199	1	2022-12-10 08:00	2022-12-10 12:00	1	L100	R100
P349	1	2022-12-12 12:00	2022-12-12 15:30	1	L103	R100
P85	1	2022-10-25 09:00	2022-10-25 17:00	5	L100	R100
P85	2	2022-10-25 08:00	2022-10-25 17:00	2	L102	R101
P85	3	2022-10-25 10:00	2022-10-25 15:00	3	L104	R100
P95	1	2022-10-26 08:00	2022-10-26 17:00	4	L100	R100
P95	2	2022-10-26 09:00	2022-10-26 17:00	4	L102	R101
P95	3	2022-10-26 10:00	2022-10-26 15:00	4	L106	R100
P95	4	2022-10-26 13:00	2022-10-26 17:00	2	L100	R103
P95	5	2022-10-26 13:00	2022-10-26 17:00	2	L101	R104