

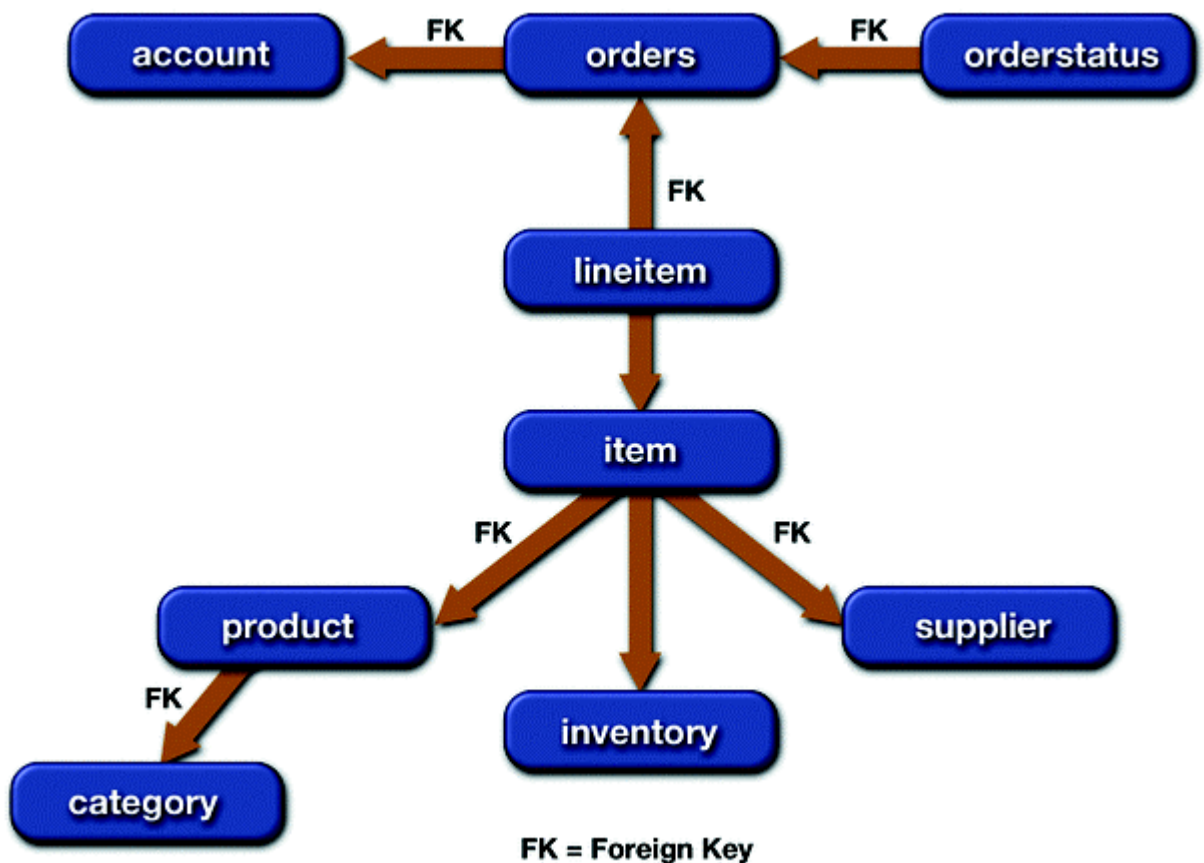
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PetStore 数据模型分析

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1 概述

我们要研究 petStore 的 Ejb 层，首先必须了解它的数据模型，它主要模式有产品 product，帐户 Account, 订单 Order。和产品相关的表有 category, product, item, inventory, supplier。用户相关表有的 account, signon, profile。和订单相关的表有 orders, orderstatus, lineitem，他们之间的整体关系如下。



备注：在研究数据模式是我使用了 powerDesign 中的逆向工程，产生图，更方便处理。

2 帐户模型

帐户模型，记录者用户的登录名称，密码。以及个人信息如地址，姓名，电话等，还有它在系统中的 profile 信息。表有 Account 主键是 userID, 它记录用户的基本信息，如 email, name 等。Signon 表记录者 userID 和 password。(但是为什么主键不叫 userID, 而是 username?). Profile 表记录者用户的登录系统的系统设置。可以根据用户的类型，显示不同的登录信息。

signon		
username	varchar(25)	<pk>
password	varchar(25)	

bannerdata		
favcategory	varchar(80)	<pk>
bannername	varchar(255)	

account		
userid	varchar(80)	<pk>
email	varchar(80)	
firstname	varchar(80)	
lastname	varchar(80)	
status	char(2)	
addr1	varchar(80)	
addr2	varchar(40)	
city	varchar(80)	
state	varchar(80)	
zip	varchar(20)	
country	varchar(20)	
phone	varchar(80)	

profile		
userid	varchar(80)	<pk>
langpref	varchar(80)	
favcategory	varchar(30)	
mylistopt	int	
banneropt	int	

3.1 account 表

■ SQL 语句

```
create table account (
    userid varchar(80) not null,
    email varchar(80) not null,
    firstname varchar(80) not null,
    lastname varchar(80) not null,
    status char(2) null,
    addr1 varchar(80) not null,
    addr2 varchar(40) null,
    city varchar(80) not null,
    state varchar(80) not null,
    zip varchar(20) not null,
    country varchar(20) not null,
    phone varchar(80) not null,
    constraint pk_account primary key (userid)
)
```

primary 是 userID,它记录帐户的基本信息。

3.2 Signon 表

```
create table signon (  
    username varchar(25) not null,  
    password varchar(25) not null,  
    constraint pk_signon primary key (username)  
)
```

实际就记录登录名和密码。

3.3 Profile 表

```
create table profile (  
    userid varchar(80) not null,  
    langpref varchar(80) not null,  
    favcategory varchar(30),  
    mylistopt int,  
    banneropt int,  
    constraint pk_profile primary key (userid)  
)
```

用户的登录信息，方便个性化定制。

3.4 Bannerdata 表

```
create table bannerdata (  
    favcategory varchar(80) not null,  
    bannername varchar(255) null,  
    constraint pk_bannerdata primary key (favcategory)  
)
```

记录不同的登录信息。

3.5 数据

```
INSERT INTO signon VALUES('j2ee','j2ee')  
;  
INSERT INTO account VALUES('j2ee','yourname@yourdomain.com','ABC', 'XYX', 'OK', '901  
San Antonio Road', 'MS UCUP02-206', 'Palo Alto', 'CA', '94303', 'USA', '555-555-5555')  
;  
INSERT INTO profile VALUES('j2ee','english','dogs','1','1')  
;  
INSERT INTO bannerdata VALUES ('fish','<image src="../images/banner_fish.gif">')  
;  
INSERT INTO bannerdata VALUES ('cats','<image src="../images/banner_cats.gif">')
```

```
;  
INSERT INTO bannerdata VALUES ('dogs','<image src="../images/banner_dogs.gif">')
```

3.6 Web 的数据模型的显示

Account Information:

User ID:
Password:
E-Mail Address:

Address:

First Name:
Last Name:
Street Address:

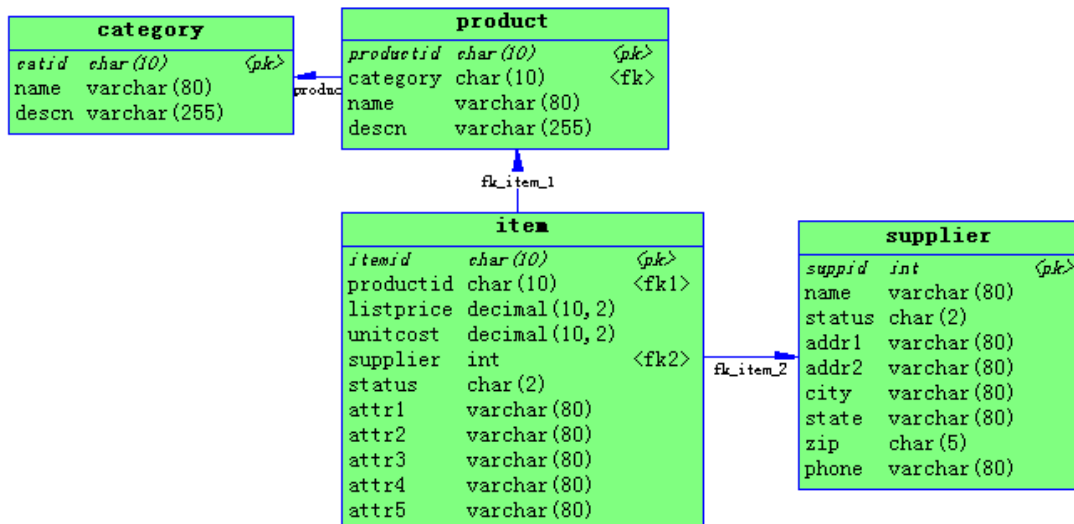
City:
State/Province: Postal Code:
Country:
Telephone Number:

Preferences:

I want MyPetStore to be in
My favorite category is
☒ Yes, I want to enable the MyList feature. *MyList makes your favorite items and categories more prominent as you browse.*
☒ Yes, I want to **enable** advertisement banners. *Java Pet Store will display advertisements for sites or products you are interested in.*

3 产品模型

产品的模型主要有分类,它是产品的大类。表 **category** 就是记录分类名称,描述信息。**Product** 记录每个产品的基本信息,包括产品名称,和产品的描述。它是一对多的关系。**Supplier** 表记录产品的提供者信息,包括提供者的名称,地址,状态等。**Item** 记录产品的提供者,产品 ID,价格,状态。**Inventory** 表记录产品的数量。关系如下:



3.1 category 表

```

create table category (
    catid char(10) not null,
    name varchar(80) null,
    descn varchar(255) null,
    constraint pk_category primary key (catid)
)
  
```

3.2 product 表

```

create table product (
    productid char(10) not null,
    category char(10) not null,
    name varchar(80) null,
    descn varchar(255) null,
    constraint pk_product primary key (productid),
    constraint fk_product_1 foreign key (category)
    references category (catid)
)
  
```

3.3 item 表

```

create table item (
    itemid char(10) not null,
    productid char(10) not null,
    listprice decimal(10,2) null,
  
```

```

        unitcost decimal(10,2) null,
        supplier int null,
        status char(2) null,
        attr1 varchar(80) null,
        attr2 varchar(80) null,
        attr3 varchar(80) null,
        attr4 varchar(80) null,
        attr5 varchar(80) null,
        constraint pk_item primary key (itemid),
        constraint fk_item_1 foreign key (productid)
        references product (productid),
        constraint fk_item_2 foreign key (supplier)
        references supplier (suppid)
    )

```

3.4 inventory 表

```

create table inventory (
    itemid char(10) not null,
    qty int not null
)

```

3.5 数据

```

INSERT INTO category VALUES ('FISH','Fish','<image src="../images/fish_icon.gif"><font
size="5" color="blue"> Fish</font>')
;
INSERT INTO category VALUES ('DOGS','Dogs','<image src="../images/dogs_icon.gif"><font
size="5" color="blue"> Dogs</font>')
;
INSERT INTO category VALUES ('REPTILES','Reptiles','<image
src="../images/reptiles_icon.gif"><font size="5" color="blue"> Reptiles</font>')
;
INSERT INTO category VALUES ('CATS','Cats','<image src="../images/cats_icon.gif"><font
size="5" color="blue"> Cats</font>')
;
INSERT INTO category VALUES ('BIRDS','Birds','<image src="../images/birds_icon.gif"><font
size="5" color="blue"> Birds</font>')
;

INSERT INTO product VALUES ('K9-BD-01','DOGS','Bulldog','<image
src="../images/dog2.gif">Friendly dog from England')
;

```

```
INSERT INTO product VALUES ('K9-CW-01','DOGS', 'Chihuahua','<image
src=../images/dog4.gif">Great companion dog')
;
```

```
INSERT INTO product VALUES ('RP-SN-01','REPTILES','Rattlesnake','<image
src=../images/lizard3.gif">Doubles as a watch dog')
;
```

```
INSERT INTO product VALUES ('RP-LI-02','REPTILES','Iguana','<image
src=../images/lizard2.gif">Friendly green friend')
;
```

```
INSERT INTO supplier VALUES (1,'XYZ Pets','AC','600 Avon Way','','Los
Angeles','CA','94024','212-947-0797')
;
```

```
INSERT INTO supplier VALUES (2,'ABC Pets','AC','700 Abalone Way','','San Francisco
','CA','94024','415-947-0797')
;
```

```
INSERT INTO item (itemid, productid, listprice, unitcost, supplier,
status, attr1) VALUES
('EST-1','FI-SW-01',16.50,10.00,1,'P','Large')
;
```

```
INSERT INTO item (itemid, productid, listprice, unitcost, supplier,
status, attr1) VALUES
('EST-2','FI-SW-01',16.50,10.00,1,'P','Small')
;
```

```
INSERT INTO inventory (itemid, qty ) VALUES ('EST-1',10000);
INSERT INTO inventory (itemid, qty ) VALUES ('EST-2',10000);
INSERT INTO inventory (itemid, qty ) VALUES ('EST-3',10000);
INSERT INTO inventory (itemid, qty ) VALUES ('EST-4',10000);
INSERT INTO inventory (itemid, qty ) VALUES ('EST-5',10000);
INSERT INTO inventory (itemid, qty ) VALUES ('EST-6',10000);
INSERT INTO inventory (itemid, qty ) VALUES ('EST-7',10000);
```

3.6 产品模型的 web 层显示

产品和分类

FISH

Product ID	Product Name
FI-SW-01	Angelfish
FI-FW-02	Goldfish
FI-FW-01	Koi
FI-SW-02	Tiger Shark

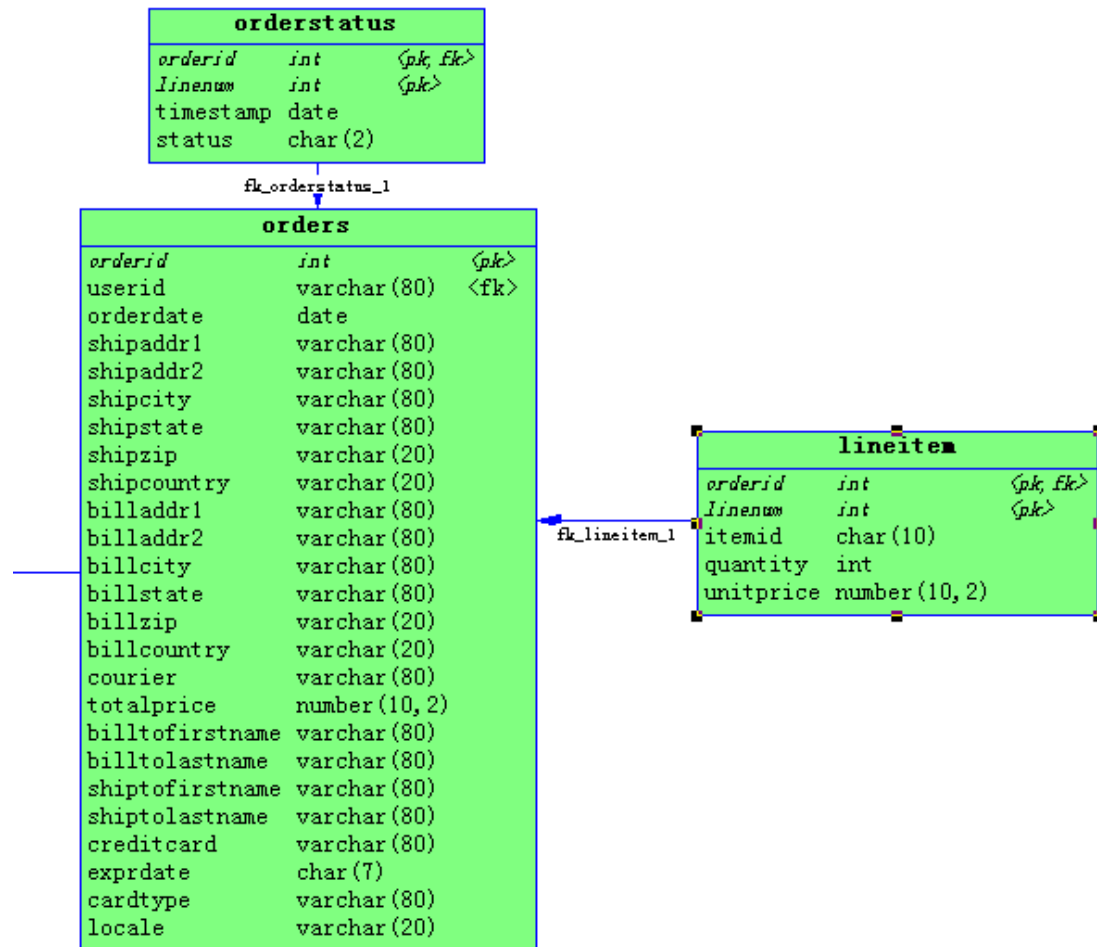
产品和 Item

Angelfish

Item ID	Item Name	Item Price	
EST-1	Large, Cuddly Angelfish	\$16.50	Add to Cart
EST-2	Small Angelfish	\$16.50	Add to Cart

4 定单模式

定单记录用户的选择产品信息，数量，表主要有 Orders,记录用户的地址，帐户信息，总金额。Orderstatus 记录定单状态。Lineitem 记录定单中的产品数量，单位价格，产品 ID.



3.1 orders 表

```

create table orders (
    orderid int not null,
    userid varchar(80) not null,
    orderdate date not null,
    shipaddr1 varchar(80) not null,
    shipaddr2 varchar(80) null,
    shipcity varchar(80) not null,
    shipstate varchar(80) not null,
    shipzip varchar(20) not null,
    shipcountry varchar(20) not null,
    billaddr1 varchar(80) not null,
    billaddr2 varchar(80) null,
    billcity varchar(80) not null,
    billstate varchar(80) not null,
    billzip varchar(20) not null,
    billcountry varchar(20) not null,
    courier varchar(80) not null,

```

```

totalprice number(10,2) not null,
billtofirstname varchar(80) not null,
billtolastname varchar(80) not null,
shiptofirstname varchar(80) not null,
shiptolastname varchar(80) not null,
creditcard varchar(80) not null,
exprdate char(7) not null,
cardtype varchar(80) not null,
locale varchar(20) not null,
constraint pk_orders primary key (orderid),
        constraint fk_orders_1 foreign key (userid)
        references account (userid)
)

```

定单的信息。

3.2 Orderstatus 表

```

create table orderstatus (
    orderid int not null,
    linenum int not null,
    timestamp date not null,
    status char(2) not null,
    constraint pk_orderstatus primary key (orderid, linenum),
        constraint fk_orderstatus_1 foreign key (orderid)
        references orders (orderid)
)

```

定单中的产品状态

3.3 lineitem 表

```

create table lineitem (
    orderid int not null,
    linenum int not null,
    itemid char(10) not null,
    quantity int not null,
    unitprice number(10,2) not null,
    constraint pk_lineitem primary key (orderid, linenum),
        constraint fk_lineitem_1 foreign key (orderid)
        references orders (orderid)
)

```

3.4 数据

由用户登录，选择产品后产生。

3.5 定单数据在 Web 层的显示

Account:j2ee

Order Information:

Order ID :6

Item ID	Product Name	Unit Price	Quantity	Total Cost
EST-1	Large, Cuddly Angelfish	\$16.50	6	\$99.00
EST-19	Adult Male Finch	\$15.50	15	\$232.50
EST-13	Green Adult Iguana	\$18.50	3	\$55.50
Total:				\$387.00

Shipping Information:

Shipping Address:

901 San Antonio Road

MS UCUP02-206

Palo Alto , California 94303

Carrier: UPS

Billing Information:

Bill To Address:

ABC XYZ