

Report.11.DB.Design.NGO

Linh Duong

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1 Database design

1.1 Determine concepts

- Head office
- Project
- Action
- City

1.2 Determine attributes

- Head office
 - office_id
 - address
 - phone_number
 - director
- Project
 - code
 - title
 - date of beginning
 - date of ending
 - budget
 - person_in_charge

- Action
 - investment
 - description
- City
 - city_id
 - name
 - country
 - inhabitant

1.3 Determine links

- City and Head office (locates)
- Project and Head office (manages)
- Action and Project (has)
- City and Action (realized)

1.4 Determine types

- Head office
 - office_id INT
 - address VARCHAR(50)
 - phone_number VARCHAR(20)
 - director VARCHAR(50)
- Project
 - code INT
 - title VARCHAR(200)
 - date of beginning (DATE)
 - date of ending (DATE)
 - budget (INT)
 - person_in_charge VARCHAR(50)

- Action
 - investment INT
 - description VARCHAR(200)
- City
 - city_id INT
 - name VARCHAR(20)
 - country VARCHAR(20)
 - inhabitant INT

1.5 Solve foreign key links

- Head office
 - office_id INT
 - city_id INT
 - address VARCHAR(50)
 - phone_number VARCHAR(20)
 - director VARCHAR(50)
- Project
 - code INT
 - office_id INT
 - title VARCHAR(200)
 - date of beginning (DATE)
 - date of ending (DATE)
 - budget (INT)
 - person_in_charge VARCHAR(50)
- Action
 - act_id INT
 - code INT
 - description VARCHAR(200)
- City
 - city_id INT

```
name VARCHAR(20)
country VARCHAR(20)
inhabitant INT
```

- ActionCity

```
act_id
city_id
investment INT
```

2 Implementation

```
create database if not exists NGO;
```

```
use NGO;
```

```
create table city (  
  city_id int not null auto_increment,  
  name varchar(20),  
  country varchar(20),  
  inhabitant int ,  
  primary key (city_id)  
);
```

```
create table office (  
  office_id int not null auto_increment,  
  city_id int not null ,  
  address varchar(50),  
  phong_number varchar(20),  
  director varchar(50),  
  primary key (office_id),  
  foreign key (city_id) references city(city_id)  
);
```

```
create table project (  
  code int not null auto_increment,  
  office_id int,  
  title varchar(200),  
  begin_date date ,  
  end_date date,  
  budget int,  
  person_in_charge varchar(50),  
  primary key (code),
```

```
foreign key (office_id) references office(office_id)
);
```

```
create table action (
  act_id int not null auto_increment,
  code int ,
  description varchar(200),
primary key (act_id),
foreign key (code) references project(code)
);
```

```
create table action_city (
  act_id int ,
  city_id int ,
  investment int ,
foreign key (act_id) references action(act_id),
foreign key (city_id) references city(city_id)
);
```

3 Describe tables

```
mysql> describe city;
```

Field	Type	Null	Key	Default	Extra
city_id	int(11)	NO	PRI	NULL	auto_increment
name	varchar(20)	YES		NULL	
country	varchar(20)	YES		NULL	
inhabitant	int(11)	YES		NULL	

```
4 rows in set (0.01 sec)
```

```
mysql> describe office;
```

Field	Type	Null	Key	Default	Extra
office_id	int(11)	NO	PRI	NULL	auto_increment
city_id	int(11)	NO	MUL	NULL	
address	varchar(50)	YES		NULL	
phone_number	varchar(20)	YES		NULL	
director	varchar(50)	YES		NULL	

```
5 rows in set (0.01 sec)
```

```
mysql> describe project;
```

Field	Type	Null	Key	Default	Extra
code	int(11)	NO	PRI	NULL	auto_increment
office_id	int(11)	YES	MUL	NULL	
title	varchar(200)	YES		NULL	
begin_date	date	YES		NULL	
end_date	date	YES		NULL	
budget	int(11)	YES		NULL	
person_in_charge	varchar(50)	YES		NULL	

```
7 rows in set (0.00 sec)
```

```
mysql> describe action;
```

Field	Type	Null	Key	Default	Extra
act_id	int(11)	NO	PRI	NULL	auto_increment
code	int(11)	YES	MUL	NULL	
description	varchar(200)	YES		NULL	

```
3 rows in set (0.00 sec)
```

```
mysql> describe action_city ;
```

Field	Type	Null	Key	Default	Extra
act_id	int(11)	YES	MUL	NULL	
city_id	int(11)	YES	MUL	NULL	
investment	int(11)	YES		NULL	

```
3 rows in set (0.00 sec)
```