

SpaceX Database Management System

Requirement Analysis

23, Nov 2020

Batch No - 09

Database Composition

Entities

1. Rocket
2. Payloads
3. Missions
4. Launch Pad
5. Drone Ships
6. Administrators

Relations

1. Launches (**Launch Pad** - **Launches** - **Rocket**)
2. Assigned (**Mission** - **Assigned to** - **Rocket**)
3. Delivers (**Payload** - **Delivered by** - **Rocket**)
4. First stage Recovery (**Rocket** - **First Stage Recovered by** - **Drone Ship**)

Attribute List

1. Rocket's Attributes

- **Name** (varchar(10))
- **Type** (varchar(10))
- **Stages** (integer)
- **Rocket_id** (varchar(25), primary key)
- **Active** (Bool)
- **Country** (varchar (20))
- **Company** (varchar (20))

- **cost_per_launch** (integer)

2. Payloads

- **payload_id** (varchar(25), primary key)
- **Name** (varchar(20))
- **Type** (varchar(20))
- **Reuse** (bool)
- **Manufacturer** (varchar(20))
- **Mass** (**mass_kg**, **mass_lb**) (float)
- **Orbital status** (**reference System**, **orbit**, **regime**) (varchar(20))

3. Missions

- **launch_status** (bool)
- **launch_id** (varchar(25), primary key)
- **Name** (varchar(20))
- **Date** (datetime)
- **rocket_id** (varchar(25), foreign key)
- **Launchpad_id** (varchar(25), foreign key)
- **Payload_id** (varchar(25), foreign key)

4. Launch Pad

- **full_name** (varchar(40))
- **Status** (varchar (20))
- **launchpad_id** (varchar(24), primary key)
- **Coordinates** (**longitude**, **latitude**) (Float)
- **Location** (**region**, **TimeZone**, **locality**) (varchar(20))

5. Drone Ship

- **Home port** (varchar(30))
- **Activity** (bool)

- **Mass** (mass_kg, mass_lb) (Float)
- **Roles** (Varchar(20))
- **ship_id** (varchar(25), primary key)
- **Name** (varchar(30))
- **Type** (varchar(20))

6. Administrators

- **Name** (varchar(20))
- **User_id** (varchar(12), primary key)
- **Password** (varchar(20), Not Null)