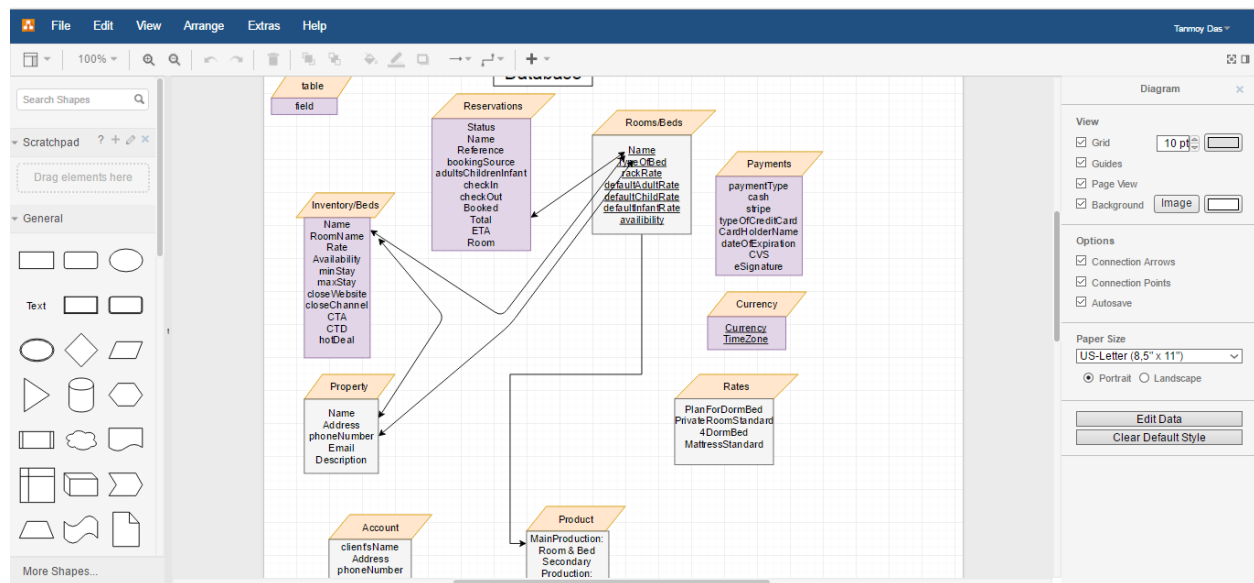
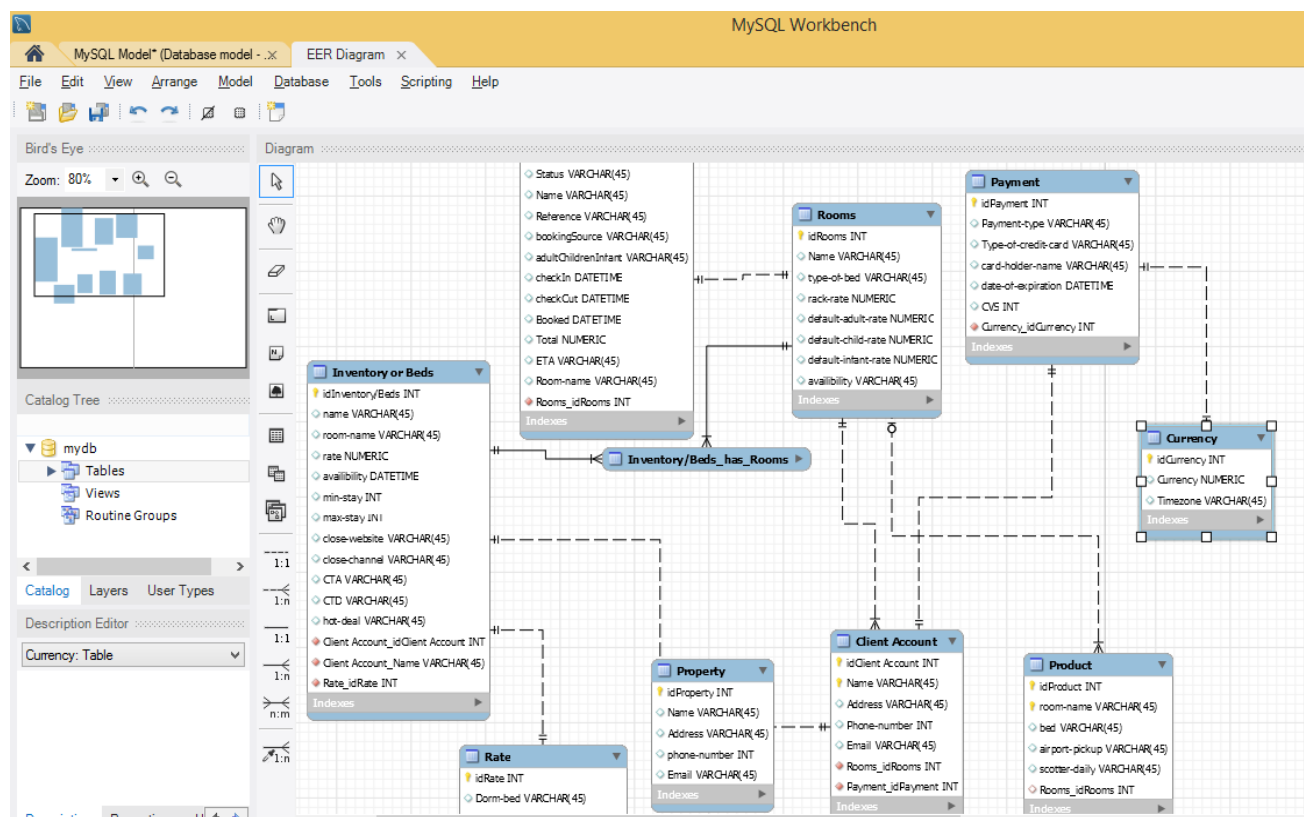


# Data Model 1: Hotel Management Software

Database Brainstorm with the help of Draw.io



Client's Database in MySQL:



## Data Modeling for Hotel Management System Module:

Table
Field

Reservation:

Reservation
Status
Name
Reference
Booking Source
Adults/Children/Infants
Check In
Check Out
Booked Date
Total
ETA
Number of Room
Room Name (lookup field)

The data related to a reservation will be stored in Reservation Data Table.

### Validation:

Check In Date must be earlier, equal to Check Out date

Booked Date must be earlier or equal to Check In date

### Field:

Status, Booking Source should be PickList data type

For now, we are considering Adult, Children, Infants as 3 different NUMBER data type.

Even though the business requirement is asking for Room detail in Related List, I believe that there should be Room as lookup field.

### Master-Detail Relationship:

Reservation – Account: Every Reservation is associated to Account/accounts. If no Reservation is made, there is no Account. If a Reservation is cancelled, the associated Account must be deleted for real sense. Therefore, a M-D relationship between Reservation & Account is appropriate.

Reservation – Payment: A Reservation is completed when the Payment is successful.

### Look-up relationship:

Room Name: The Room Name field of Reservation has lookup relationship with Room Name of table Room.

### Related List:

Room

Payment

Extra Item (Secondary Product)

## Note & Attachment

The data in Related List is replicated by going to the respective objects, e.g. The Room information in Reservation's Room Related list is given from Room Object (NOT from Reservation object).

NB: the New Reservation Page is asking for Account & Payment information which can be designed by writing VF page (not in standard page layout as we need 3 object's information).

The screenshot shows the 'New Reservation' form. A green box highlights the 'PRIMARY CONTACT' section, which includes fields for First name, Last name, Phone, Address (Organisation, City, Address line 1, 2, State, Post code, Country), and Payment (Card number, Card name). A yellow label 'Account Object' points to the First and Last name fields. A red box highlights the 'BOOKING SUMMARY' section, which includes a table of charges and a total outstanding amount. A red label 'Payment Object' points to this section.

Room type	Rate plan	Room #	Adults	Children	Infants	Room	Extra	Discount
Dorm Bed		01. Batu Bolong	0	0	0	Rp0	Rp0	0.00 Rp

PRIMARY CONTACT	
First name	Last name
First name	Last name
Address	Payment
Organisation	Card number
City	Card name
Address line 1	
State	
Post code	
Address line 2	
Country	

BOOKING SUMMARY	
Room Total	Rp0
Extra Person Total	Rp0
Extras Total	Rp0
Discount Total	Rp0
Credit Card Surcharges	Rp0
Total	Rp0
Total Received	Rp0
Total Outstanding	Rp0

## Room

Room
Room Type
Room Number
Rack Rate
Default Adult Rate
Child Rate
Infant Rate
Max guest

All data regarding Room e.g. Room type, room number, pricing, maximum guest allowed for a particular room will be stored in Room Data Table.

## Field:

Room Type: There are 4 type of Rooms in our business, e.g. Dorm Bed, Dorm Bed en suite, Mattress, Private Room.

Room Number: Example included Room number 01 - 23

**Field Dependency:** Room Number has Field Dependency over Room Type. Based on **Room Type** selected, the **Room Number** will be customized, e.g. Room Type of Dorm bed can have Room Number 07. Avocado, Room Type of Private can have Room Number 23. Private.

Room Edit  
New Room

Room Edit

Save

Save & New

Cancel

Information

Room Type

Dorm Bed no ensuite bathroom

Room Number

--None--

--None--

19. Whiskey

20. Arak

21. Tenquilla

22. Gin

Rack Rate

Property

Save

Save & New

Cancel

**Security:** Every record of Room will be created by business person from developing side (not by user). Therefore, necessary **field level security & record level security** must be enforced the all fields of Room.

### Master-Detail Relationship:

**Room – Inventory:** Every Room MUST have one or more inventories/beds. Beds are children of Room if we consider relationship.

**Property – Room:** In contrast, each & every Room belongs to a Property. Therefore, Property has Master-Detail relationship with Room

### Related List:

**Payment:** All the payment information regarding the particular room will be shown in Related List.

The Record List View page of Room Data table is given below:

RoomsReservationsInventoriesPropertiesCurrenciesRatesSecondary ProductsPaymentsExchange Rates

RoomsHome

View: AllGo!Edit | Create New View

Recent Rooms

New

Recently Viewed

Room Number	Rack Rate	Default Adult Rate	Default Child Rate	Default Infant Rate
001	\$230,000.00	\$0.00	\$0	\$0.00
004	\$150,000.00	\$0.00	\$0	\$0.00
003	\$130,000.00	\$0.00	\$0	\$0.00
002	\$50,000.00	\$0.00	\$0	\$0.00

Inventory

Inventory

**Available****Rate****Min Stay****Max Stay**

Close Website

Close Channel

CTA

CTD

Hot Deal

Bed is considered as Inventory in our business model. Data has to be shown in daily basis.

Available = Total – Already booked number for that day

Min Stay -> minimum one day

**Lookup Relationship:**

**Inventory – Property:** Inventory has lookup relationship with Property as every inventory belongs to some type of Property.

**List View**

Reservations

Inventories

Properties

Currencies

Rates

Secondary Products

Payments

Exchange Rates

+

Inventories

Home

Help for this Page

View:

All

Go!

Edit

Create New View

Recent Inventories

New

Recently Viewed

Inventory Name	Available	Hot Deal	Min Stay	Rate	Created By	Room	Close Channel	Close Website	CTD
<a href="#">Dorm Bed</a>		✓	1	\$150,000.00	<a href="#">Ali Tondkar</a> , 10/15/2016 2:59 AM	004	✓	✓	<input type="checkbox"/>
<a href="#">Mattress No bed</a>		<input type="checkbox"/>	1		<a href="#">Ali Tondkar</a> , 10/15/2016 2:56 AM	002	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<a href="#">Private Room Standard</a>	0	✓	1	\$200,000.00	<a href="#">Ali Tondkar</a> , 10/6/2016 11:23 AM	001	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<a href="#">Dorm bed - ensuite</a>	18	<input type="checkbox"/>	2	\$150,000.00	<a href="#">Ali Tondkar</a> , 10/4/2016 2:20 AM	003	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Secondary Product****Secondary Product****Product Name****Price**

Main product: Bed

Secondary Product: Airport Pick up, Day Trip,

**Account****Account****Name**

Phone

**Email**

Address

Comment

**Total Payment Received****Total Outstanding**

The Account Data Table contains the data about our clients/ customers.

**Field:** I have added **Email, Comment, Total Payment Received, Total Outstanding** fields in Account object. The Page Layout of Account Object is edited.

### Many-to-many Relationship:

Account – Reservation: Account has many-to-many relationship with Reservation data table. The junction object is Reservation-Account.

### Related List:

Reservation

Payment

Property

Rate

Rate
Dorm Bed
Dorm Bed en suite
Private Room
Mattress no bed

The pricing/ rates of each Room Type are listed in Rate Data Table. In our business, we have four (4) Room Types, namely, Dorm Bed, Dorm Bed en suite, Private Room, Mattress no bed.


Payment

Payment
Payment Name
Type of Payment
Currency
Card Holder Name
Record Type

When the reservation is confirmed, there is an associated successful payment occurred. All the information related to payment will be stored in Payment Data Table.

**Record Types & Page Layout:** There are 3 *Record Types* in Payment object e.g. Setup Automatic Deposit, Setup Credit Cards, Setup Payment Gateways. Based on the Record Type chosen, different page layout will pop up.

Reservations Inventories Properties Currencies Rates Secondary Products **Payments** Exchange Rates

New Payment  

**Select Payment Record Type**

Select a record type for the new payment. To skip this page in the future, change your record type settings on your profile page.

**Select Payment Record Type**

Record Type of new record

Setup Payment Gateway
Setup Automatic Deposits
Setup credit cards
Setup Payment Gateway

Cancel

Available Payment Record Types

Record Type Name	Description
Setup Automatic Deposits	
Setup credit cards	
Setup Payment Gateway	

## Currency

Currency
Currency Name
Time Zone

There are different currencies involve in this business e.g. Euro, USD, etc. The base currency for the database model is EURO. Every other currency will be converted into EURO in real time.

## Property

Property
Name
Phone
Email
Address

Property is the Data Table that contains property related data including business owner name, address.

### Master-Detail Relationship:

Property – Room: Each & every room belongs to a property. If Property associated with a Room is revoked, the Room must be revoked automatically.

### Lookup relationship:

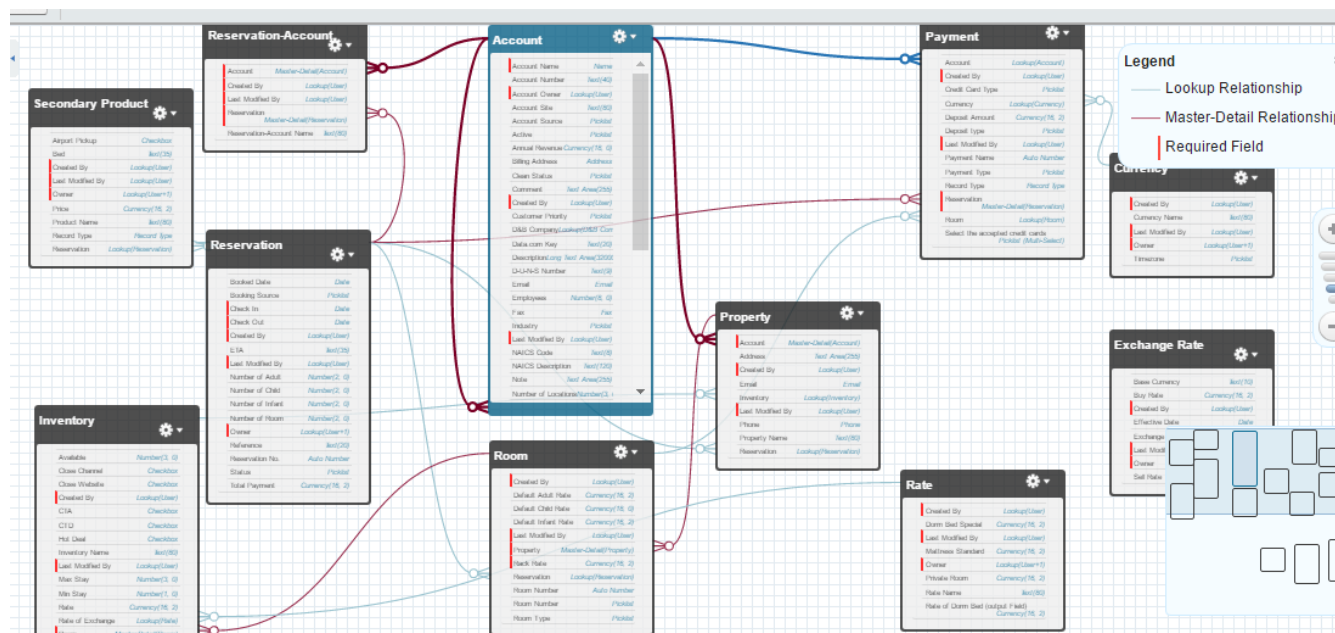
Property – Reservation: Every Reservation should be listed in Related List of Property.

Property – Inventory: Every Inventory should be listed in Related List of Property.

## Exchange Rate

Exchange Rate
Name
Base Currency
Sell Rate
Buy Rate
Effective Date

A schematic diagram of all Data Table of HMS module in Salesforce Schema builder is given below:



### Master-Detail Relationships:

1. Reservation – Account: Every Reservation is associated to Account/accounts. If no Reservation is made, there is no Account. If a Reservation is cancelled, the associated Account must be deleted for real sense. Therefore, a M-D relationship between Reservation & Account is appropriate.
2. Reservation – Payment: A Reservation is completed when the Payment is successful.
3. Room – Inventory: Every Room MUST have one or more inventories/beds. Beds are children of Room if we consider relationship.
4. Property – Room: In contrast, each & every Room belongs to a Property. Therefore, Property has Master-Detail relationship with Room
5. Property – Account:



## Data Model 2: Human Resource Management

### Data Modeling for HR:

Employee

Employee
Employee Name
Active
Address
Company
Country
Email
Employee ID
Start Date
End Date
Job ID
Phone
Position
Position Type
Salary Method

#### Field:

Active: The current employees will be considered as Active, & former employees as Inactive. Checkbox Data Type

Job ID: The Job ID against which the employee is recruited/

Payment Type: Full time, Part time, Contract

Salary Method: Fixed, Percentage/Contract, Mixed

#### Validation:

Start Date must be earlier than End Date.

Job ID is REQUIRED

Depending on Position Type, payroll will be different.

Payroll

Payroll
Payroll Name
Employee
Payroll Date
Basic Salary
Allowance
Tax Deduction
Total Pay
Wages per hour
Number of Hours worked

Total Pay on Percentage Basis  
Tax Deduction on Percentage  
Basis  
Net Pay

#### Page Layout:

The payroll structure can be different based on fixed, percentage basis, or mixed type of salary. So, 3 Record Types based on salary methods are being developed.

#### 1. Fixed Salary Type:

The Basic Salary will be fixed in this case.

The screenshot shows the 'New Payroll' interface. At the top, there are tabs for 'Payrolls', 'Dimensions', and 'Companies'. Below the tabs, there is a 'New Payroll' button and a title 'Select Payroll Record Type'. A message states: 'Select a record type for the new payroll. To skip this page in the future, change your record type'. Below this, there is a 'Select Payroll Record Type' section with a dropdown menu for 'Record Type of new record'. The dropdown menu is open, showing three options: 'Fixed Salary', 'Mixed', and 'Percentage basis salary'. To the right of the dropdown are 'Continue' and 'Cancel' buttons. Below the dropdown, there is a table titled 'Available Payroll Record Types'.

Record Type Name	Description
Fixed Salary	Employees get fixed salary
Mixed	Mixed salary of fixed & percentage basis
Percentage basis salary	Employees get salary based on performance and company profit


#### 2. For percentage/contract basis payroll, the total Payment is equal to number of hours worked multiplied by wages per hour.

Total Payment = Number of hours worked \* Wages per hour

Net Payment = Total Payment – Tax Deduction (Assuming 20% tax)

A payroll example is given below:

s Payrolls Dimensions Companies +

Payroll  
 **Percentage**  
[« Back to List: Custom Object Definitions](#)

**Payroll Detail**

Payroll Name	Percentage
Employee	<u>Rohan</u>
Payroll Date	10/16/2016
Wages per hour	\$20.00
Number of hours worked	30
Total Pay on Percentage Basis	\$600.00
Tax Deduction on Percentage basis paymen	\$120.00
Net Payment on Percentage basis	\$480.00

### Company

Company
Name
Address
City
Country

### Master- Detail Relationship:

1. Employee – Payroll
2. Company – Employee