# Databases Table Specification Template and Good Practice

## TABLE PREPARATION

> **Check ERD**

− Number of entities = number of tables = number of primary keys

− Number of feet = Number of foreign keys

− Number of solid feet = number of mandatory foreign keys = additional NN constraints

> **Plan Table Specification**

− Include table names (plural) attributes, datatypes, constraints with good practice names

− Consider integrity Order

  − PK must be defined before FK can exist

  − Start with parent entities (without feet)

  − Write out order of entities eg, tutor, module, module_tutor

> **Choosing Primary Keys**

− Consider, uniqueness, persistence, stability and good practice eg small numbers

  − Ideally short numbers as more efficient and easier to query

− Consider compound or composite keys

> **Posting Foreign Keys**

− Must match ERD, foreign keys only exist where there is a foot!

− ERD is our map

## TABLE SPECIFICATION EXAMPLE

| tablename | attribute | datatype | constraints | defaults |
|---|---|---|---|---|
| *lowercase, plural* | *lowercase* | *uppercase* | *types upper, names lower* | |
| **tablename** | attributename | datatype with size | constraint  name | defaults value |
| **tutors** | firstname | VARCHAR(15) | | |
| | surname | VARCHAR(20) | | |

| | tutor_number | NUMBER(5) | pk_tutors | |
| --- | --- | --- | --- | --- |
| | date_joined | DATE | | |
| | fulltime | CHAR(2) | | DEFAULT 'FT' |
| | mobile_number | VARCHAR(11) | | |
| | | | | |
| **modules** | module_code | CHAR(7) | pk_modules | |
| | module_name | VARCHAR(35) | | |
| | | | | |
| **module_tutors** | tutor_number | NUMBER(5) | pk_module_tutor pk_mt_tutors | |
| | module_code | VARCHAR(35) | pk_module_tutor fk_mt_modules | |
| | start_date | DATE | pk_module_tutor | |
| | | | | |

\* This is not based on your ERD, this is an example.

## TABLE SPECIFICATION TEMPLATE

| tablename | attribute | datatype | constraints |
| --- | --- | --- | --- |
| **branches** | branch_id | NUMBER(3) | pk_branches |
| | branch_name | VARCHAR(25) | |
| | house | VARCHAR(25) | |
| | street | VARCHAR(20) | |
| | postcode | VARCHAR(8) | CHECK UPPER |
| | rating | CHAR(1) | DEFAULT 'D' |
| | | | |
| **surgeries** | surgery_id | NUMBER(5) | pk_surgeries |
| | surgery_date | DATE | NOT NULL |
| | surgery_type | VARCHAR(14) | |
| | branch_id | NUMBER(3) | fk_s_branches, NOT NULL |
| | | | |
| **vets** | vet_id | NUMBER(3) | pk_vets |
| | job_role | VARCHAR(12) | |
| | title | VARCHAR(15) | |
| | first_name | VARCHAR(16) | |
| | last_name | VARCHAR(20) | |
| | phone_number | VARCHAR(13) | |
| | surgery_id | NUMBER(5) | fk_v_surgeries, NOT NULL |
| | | | |
| **animals** | pet_number | NUMBER(5) | pk_animals |
| | breed | VARCHAR(20) | |
| | species | VARCHAR(20) | |
| | date_of_birth | DATE | |
| | gender | CHAR(1) | |
| | animal_weight | NUMBER(5, 2) | |
| | animal_name | VARCHAR(15) | |
| **appointments** | | | |
| | vet_id | NUMBER(3) | pk_appointments, fk_a_vets |

| | pet_number | NUMBER(5) | pk_appointments, fk_a_animals |
|---|---|---|---|
| | appointment_date | DATE | pk_appointments |
| | fee | NUMBER(6,2) | |
| | | | |
| **treatments** | treatment_id | NUMBER(5) | pk_treatments |
| | treatment_name | VARCHAR(20) | |
| | treatment_description | VARCHAR(40) | |
| | duration | NUMBER(4) | |
| | appointment_date | DATE | fk_t_appointments |
| | vet_id | NUMBER(3) | fk_t_appointments |
| | pet_number | NUMBER(5) | fk_t_appointments |
| | | | |
| **tests** | test_id | NUMBER(5) | pk_tests |
| | test_name | VARCHAR(20) | |
| | category | VARCHAR(20) | |
| | test_type | VARCHAR(10) | |
| | | | |
| **results** | test_id | NUMBER(5) | pk_results, fk_r_tests |
| | vet_id | NUMBER(3) | pk_results, fk_r_vets |
| | pet_number | NUMBER(5) | pk_results, fk_r_animals |
| | result_date | DATE | |
| | outcome | VARCHAR(20) | DEFAULT 'NO ACTION' |
| | | | |
| **medications** | medication_id | NUMBER(5) | pk_medications |
| | medication_name | VARCHAR(20) | |
| | medication_description | VARCHAR(40) | |
| | | | |
| **prescriptions** | medication_id | NUMBER(5) | pk_prescriptions, fk_p_medications |
| | pet_number | NUMBER(5) | pk_prescriptions, fk_p_animals |
| | quantity | NUMBER(3) | |
| | dosage | VARCHAR(20) | |
| | | | |

Current Table
Highlights:
- Red = Not Done
- Yellow = Incomplete
- Green = Complete

| Entity | Description |
|---|---|
| branch | A practice branch with a name, address and rating eg A, B, C, D |
| vet | A professional, with a title, personal details and job role eg junior, consultant |
| surgery | A surgery offered in the branch such as checkup, or vaccines |
| prescription | An animal's medication, including quantity and dosage |
| medication | Drug details |

| appointment | A visit to the vet, on a set date and time and fee |
|---|---|
| treatment | A treatment, with a name, description and duration |
| animal | A pet with an pet number and relevant details |
| results | An individual's test dated results with an outcome default 'no action' |
| test | General test details including a name and category, and type eg blood, scan |