# ASSESSMENT TASK: PORTFOLIO

|  |  |
| --- | --- |
| **Task:** | **2** |
| **Task Title:** | **Portfolio SQL Part 2** |
| **Task Code:** | **ICTPRG431 AT2 POR SQL Pt 1** |

|  |  |  |  |
| --- | --- | --- | --- |
| Assessment type (❌): | | | |
|  | Questioning (Oral/Written) |  | Portfolio |
|  | Practical Demonstration |  | Project |
|  | 3rd Party Report |  | Other – Please Specify in space below |
|  |  |  | … |

|  |
| --- |
| Requirements for Assessment The base requirements this assessment task include:   * Web server, database server, DBMS management application. (We recommend Laragon with phpMyAdmin, and MariaDB. Others are also valid) * Access to Office 365 & Microsoft Word * Access to a plain text editor. (We recommend VS Code or similar)   Use of some of these items may not occur in this part of the assessment task. |

|  |
| --- |
| Assessment Due This assessment is to be completed and submitted before:   * Session 9 23:59 (11:59PM) on the day of the scheduled lecture/collaborate session.   Refer to Blackboard for most accurate dates, which may alter due to unforeseen circumstances.  We will also endeavour to update these document(s) at the same time. |
| Table of contents for this assessment task is shown on the following page. |

|  |
| --- |
| Table of Contents  [ASSESSMENT TASK: PORTFOLIO 1](#_Toc112245088)  [Assessment type (❌): 1](#_Toc112245089)  [Requirements for Assessment 1](#_Toc112245090)  [Assessment Due 1](#_Toc112245091)  [Instructions 4](#_Toc112245092)  [Important 4](#_Toc112245093)  [Scenario 4](#_Toc112245094)  [General Instructions 4](#_Toc112245095)  [Assessment Task Procedure 11](#_Toc112245096)  [Getting Prepared 11](#_Toc112245097)  [Create Database and User 12](#_Toc112245098)  [“Employees” Table 14](#_Toc112245099)  [“Employees” Table Results 16](#_Toc112245100)  [“Branches” Table 17](#_Toc112245101)  [“Branches” Table Results 18](#_Toc112245102)  [Clients Table Design, Creation and Seeding 19](#_Toc112245103)  [Create & Run SQL to Create the “Clients” Table 19](#_Toc112245104)  [Create and Run SQL to Seed the Clients Table 19](#_Toc112245105)  [“Clients” Table Design 20](#_Toc112245106)  [Working With Table Design, Creation and Seeding 21](#_Toc112245107)  [Create & Run SQL to Create the “Working With” Table 21](#_Toc112245108)  [Create and Run SQL to Seed the “Working With” Table 21](#_Toc112245109)  [“Working With” Table Design 22](#_Toc112245110)  [Branch Supplier Table Design, Creation and Seeding 23](#_Toc112245111)  [Create & Run SQL to Create the “Branch Supplier” Table 23](#_Toc112245112)  [Create and Run SQL to Seed the “Branch Supplier” Table 23](#_Toc112245113)  [“Branch Supplier” Table Design 24](#_Toc112245114)  [Submission of Portfolio Work 25](#_Toc112245115)  [Appendix A: Scenario 28](#_Toc112245116)  [General Information 28](#_Toc112245117)  [Appendix B: Database Standards 29](#_Toc112245118)  [Database Naming 29](#_Toc112245119)  [Database User Naming 29](#_Toc112245120)  [Database Host 29](#_Toc112245121)  [Database Passwords 29](#_Toc112245122)  [Appendix C: Employees 30](#_Toc112245123)  [Sample Data 30](#_Toc112245124)  [Sample Table Design 30](#_Toc112245125)  [Sample SQL Create Command 31](#_Toc112245126)  [Sample SQL Seeding Commands 31](#_Toc112245127)  [Appendix D: Branches 32](#_Toc112245128)  [Sample Data 32](#_Toc112245129)  [Sample Table Design 32](#_Toc112245130)  [Sample SQL Create Command 33](#_Toc112245131)  [Sample SQL Insert Commands 33](#_Toc112245132)  [Appendix E: Clients Table 34](#_Toc112245133)  [Sample Data 34](#_Toc112245134)  [Base for Table Design 34](#_Toc112245135)  [Appendix F: Working With Table 35](#_Toc112245136)  [Sample Data 35](#_Toc112245137)  [Sample Table Design 35](#_Toc112245138)  [Sample SQL Create Command 36](#_Toc112245139)  [Sample SQL Insert Commands 36](#_Toc112245140)  [Appendix G: Branch Suppliers Table 37](#_Toc112245141)  [Sample Data 37](#_Toc112245142)  [Sample Table Design 37](#_Toc112245143)  [Appendix Z: Example SQL Commands 38](#_Toc112245144) |

|  |
| --- |
| Instructions Follow the steps listed in this assessment item.  Submission of the documentation, code, and associated items is at the end of each part of the portfolio.  It is advantageous to you to attempt to meet the deadline provided. |

|  |
| --- |
| Important If you are using a different configuration of tools and equipment for this assessment item, then assistance in this and subsequent parts of the portfolio to ensure the systems work correctly will be limited. |

|  |
| --- |
| Scenario You are currently an intern with a small company based in Perth, Western Australia, called **Incredibly Obvious Technology** (IOT).  Please go to Appendix XXX to Appendix YYY and read the full scenario and data that is provided. |

|  |
| --- |
| General Instructions You will be completing TWO documents for submission:   * This MS Word file where you will add copies of Screen Shots in the provided spaces * An SQL file containing just your SQL statements for each step (Template is provided)   We require TWO files so that the lecturers and assessors are able to verify your work more effectively. |

|  |
| --- |
| Word Answer Document You have downloaded this document, next rename this document to:  XXX-ICTPRG431-AT2-POR-Pt1.docx  Replacing the XXX with your initials.  For example, Adrian Gould would use AJG-ICTPRG431-AT2-POR-Pt1.docx for his copy of this document’s filename. |

|  |
| --- |
| SQL Answer File Download the template SQL file, XXX-ICTPRG431-AT2-POR-Pt1.sql.  Rename the XXX-ICTPRG431-AT2-POR-Pt1.sql file by replacing the XXX with your initials. Adrian Gould would name his: AG-ICTPRG431-AT2-POR-Pt1.txt.  To edit the file, use a text editor or IDE such as HeidiSQL, Notepad++, Sublime Text, VS Code or similar. You may also use PyCharm to edit this file. We recommend using HeidiSQL for this task.  Make sure you have the following at the top of the SQL file with the correct details (Names, ID, Initials) filled out.  -- --------------------------------------------------------------------  -- Filename: XXX-ICTPRG431-AT2-POR-PtN.sql  -- Author: GIVEN & FAMILY NAMES  -- Email: ID@tafe.wa.edu.au  -- --------------------------------------------------------------------  -- Purpose:  -- This file contains the SQL used to create and execute  -- the solutions for the assessment ICTPRG402 Portfolio  -- --------------------------------------------------------------------  -- Declaration:  -- By completing and submitting this assessment  -- via the Blackboard LMS or other methods, to my  -- lecturer, I am stating that:  -- \* The attached submission is completely own work  -- \* I have correctly indicated all sources of information  -- used in this work (if required)  -- \* I have kept a copy of this assessment (where practicable)  -- \* I understand a copy of my assessment will be kept by  -- NMTAFE for their records  -- \* I understand my assessment may be selected for use in  -- NMTAFE’s validation and audit process to ensure student  -- assessment is valid and meets requirements of the unit  -- of competency  -- -------------------------------------------------------------------- |

|  |
| --- |
| Answering Questions When a step includes a question, you must attempt to answer it.  All answers must be in complete sentences unless indicated.  The use of a sentence that leads into a list is appropriate if the question asks for a “list” or similar. |

|  |
| --- |
| Word Limits When a question gives a word range, this will be the minimum and maximum number of words to use to answer the question(s).  If a step has more than one question, these maxima and minima are a total for all the questions in that specific step. |

|  |
| --- |
| Writing SQL Code When writing SQL code, you should NOT use any built-in features of phpMyAdmin or a similar SQL IDE, that let you create the code using a Graphical interface other than an SQL editor ‘page’.  For example, do not use the phpMyAdmin, MySQL Workbench, HeidiSQL or similar’s “Users” tab to create the user and database (see the picture below):  Graphical user interface  Description automatically generated  Instead, use the SQL or Query tab and enter the SQL to perform the action(s).  Below we show an example of using a SELECT query:  Graphical user interface, text, application  Description automatically generated  This is “Writing Code by Hand”.  You should expect to be asked questions that will be used to verify your ability to write and execute SQL correctly. These may or may not be questions in this assessment task. |

|  |
| --- |
| Sources of Information In industry, it is good practice to keep track of where information was obtained. This is especially true if it is a written document, or even code.  If you answer any questions using information from web sites, please include the site name and URL (Web site address) after the answer.  Likewise, include the title and author for books and magazine articles. For example:   * RS Electronics Ltd: <https://au.rs-online.com/> * Slack API Documentation, Users List Method: <https://api.slack.com/methods/users.list> |

|  |
| --- |
| Code Storage You MUST back-up the answer documents to your OneDrive storage provided by your TAFE Office365 account, and it is advised to also back up to a Thumb drive, Flash drive, or External storage device. |

|  |
| --- |
| *This space left intentionally blank.* |

# Assessment Task Procedure

The following pages give you instructions and space to place answers, screen capture and other required responses.

Ensure screenshots are cropped and resized once placed in the space provided to enable assessor to review your work. This includes, when possible, making the content legible in the screen capture.

| STEP | | Task to perform |
| --- | --- | --- |
| 00 | Getting Prepared Ensure you have completed these steps before attempting ***ANY*** questions in this document:   * Read the ***whole*** document from start to end at least ***ONCE*** without doing any work on the assessment. * Downloaded and renamed this document as required. * Downloaded and renamed the SQL template file as required. * Make sure you have followed the instructions on creating the answer document, as given in the General Instructions. * Make sure that you complete the title page of this document. | |
| 01 | Create Database and User Create a new database and database user in MariaDB or MySQL.  To do so, we allow you to use your selected DBMS management interface (such as MariaDB, Navicat, MySQL Workbench, or similar).  For the purposes of this assessment presume the company name will be “ictprg402”.  With this information and the details of the scenario, use the following details for the database:   * Database Username: xxx\_ictprg431\_user1 * Host: localhost * Database Name: xxx\_ictprg431 * Password: This is your choice of password   Replace the xxx with your initials.  Add the SQL used to create the user and database to the SQL file.  Note: We will also allow the following database and database user details:   * Database Username: xxx\_company * Host: localhost * Database Name: xxx\_company * Password: This is your choice of password   Place screenshots on following page | |
| A01 | Screenshot(s) of Database & User Creation Commands Make a screenshot of the commands and any output generated and paste below.  Make sure the content is readable, by cropping the image as needed. | |
| 02 | “Employees” Table The employee table design is shown below, and in Appendix C: Employees.   |  |  | | --- | --- | | Table: | Employees | | Table Name | employees |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Field | Name | Type | Size | Options | Notes | | Id | id | Big Integer |  | AI, PK | Primary key | | Given Name | given\_name | Var Char | 64 |  | May be empty for people with ONE name only | | Family Name | family\_name | Var Char | 64 | NN | Not null, Required | | Date of Birth | date\_of\_birth | Date |  | NN | Required in form YYYY-MM--DD | | Gender Identity | gender\_identity | Character | 1 |  | May be empty | | Gross Salary | gross\_salary | Big Integer |  | Default 0 | Default to 0 | | Supervisor ID | supervisor\_id | Big integer |  |  | Has a default of 0.00 | | Branch ID | branch\_id | Big Integer |  |  |  | | Created At | created\_at | Timestamp |  | Default 2022-07-01 | Default to 2022-07-01 | | Updated At | updated\_at | Timestamp |  |  | Nullable |  Copy & Run SQL to Create the “Employees” Table The SQL to create the table is shown in Appendix C: Employees.  Copy and execute the SQL, ensuring that the quotes, apostrophes and backticks are not the special smart character versions (that is the quotes “ ” should be " ", apostrophes ‘ ’ should be ' ', and backtick ` should be `.  Place screenshot of command results on following page Copy and Run SQL to Seed the Employees Table Inserting test or initial data into a database table is known as “seeding the table.”  The sample SQL seeding commands are also shown in Appendix C: Employees.  Copy and execute these seeder commands.  Remember to check for and update special characters.  Place screenshot of command results on following page | |
| A02 | “Employees” Table EvidenceEmployees: Screenshot(s) of SQL table creation command results Make a screenshot of the commands and any output generated and paste below.  Make sure the content is readable, by cropping the image as needed.     Employees: Screenshot(s) of SQL insert command results Make a screenshot of the commands and any output generated and paste below.  Make sure the content is readable, by cropping the image as needed. | |
| 03 | “Branches” Table You are provided with the design and SQL to create and seed the Branches table.  Study the table design and the SQL to create the table and note how they relate. Create & Run SQL to Create the Branches Table The SQL to create the table is shown in Appendix D: Branches.  Copy and execute the SQL, ensuring that the quotes, apostrophes and backticks are not the special smart character versions (that is the quotes “ and ” should be " and ", the apostrophes ‘ and ’ should be ' and ', and backtick ` should be `.  Place screenshot of command results on following page Create and Run SQL to Seed the Branches Table Inserting test or initial data into a database table is known as “seeding the table.”  The sample SQL seeding commands are also shown in Appendix D: Branches.  Copy and execute these seeder commands.  Remember to check for and update special characters.  Place screenshot of command results on following page | |
| A03 | Branches Table EvidenceBranches: Screenshot of SQL table creation command results Make a screenshot of the commands and any output generated and paste below.  Make sure the content is readable, by cropping the image as needed.     Branches: Screenshot of SQL insert command results Make a screenshot of the commands and any output generated and paste below.  Make sure the content is readable, by cropping the image as needed. | |
| 04 | Clients TableClients Table Design, Creation and Seeding Given the sample data and details for the “Clients” table in Appendix E: Clients Table, document the design for the table in the table on the following page.  Use the sample data provided as your guide.  Some fields have been given, such as created at, and updated at. Create & Run SQL to Create the “Clients” Table Using your design for the “Clients” table from above, write the SQL to create the table.  Before executing the SQL, copy it to your answer document.  Execute the SQL, correcting any errors you find.  Take a screenshot of the results and add to the A04 answer are on the next page. Create and Run SQL to Seed the Clients Table Write the SQL to insert the sample data provided in …  Add the SQL to the SQL file  Execute the SQL to insert the data.  Take a screenshot of the results and add to the A04 answer area on the following page. | |
| A04 | Clients Table Evidence The evidence for Step 04 is to be entered into the next 3 sections that are on this and the following page(s). | |
| A04 | Table Design Complete the design details in the table below.   |  |  | | --- | --- | | Table: | Clients | | Table Name | clients |  |  |  |  |  |  | | --- | --- | --- | --- | --- | | Field | Name | Type | Size | Options | | Id | id |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | | Created At | created\_at | Timestamp |  | Not Null  Now | | Updated At | updated\_at | Timestamp |  | Nullable  On update current timestamp | | |
| A04 | Clients Table Creation SQL Add the SQL used to create the table to your SQL file. Clients Table Creation Results Screenshot Place a screenshot of the results of creating the table below | |
| A04 | Clients Table Seeder SQL Add the SQL used to seed the table to your SQL file. Clients Table Seeder Results Screenshot Place a screenshot of the results of seeding the table below. | |
| 05 | Working With TableTable Design, Creation and Seeding Given the sample data and details for the “Working With” table in Appendix F: Working With Table, document the design for the table in the table on the following page.  Use the sample data provided as your guide.  Some fields have been given, such as created at, and updated at. Create & Run SQL to Create the “Working With” Table Using your design for the “Working With” table from above, write the SQL to create the table.  Before executing the SQL, copy it to your answer document.  Execute the SQL, correcting any errors you find.  Take a screenshot of the results and add to the A05 answer are on the next page. Create and Run SQL to Seed the “Working With” Table Write the SQL to insert the sample data provided in …  Add the SQL to the SQL file  Execute the SQL to insert the data.  Take a screenshot of the results and add to the A05 answer area on the following page. | |
| A05 | Working With Table Evidence The evidence for Step 05 is to be entered into the next 3 sections that are on this and the following page(s). | |
| A05 | Table Design Complete the design details in the table below.   |  |  | | --- | --- | | Table: | Clients | | Table Name | clients |  |  |  |  |  |  | | --- | --- | --- | --- | --- | | Field | Name | Type | Size | Options | | Id | id |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | | Created At | created\_at | Timestamp |  | Not Null  Now | | Updated At | updated\_at | Timestamp |  | Nullable  On update current timestamp | | |
| A05 | Working With Table Creation SQL Add the SQL used to create the table to your SQL file. Working With Table Creation Results Screenshot Place a screenshot of the results of creating the table below | |
| A05 | Working With Table Seeder SQL Add the SQL used to seed the table to your SQL file. Working With Table Seeder Results Screenshot Place a screenshot of the results of seeding the table below. | |
| 06 | Branch Supplier Table Design, Creation and Seeding Given the sample data and details for the “Branch Supplier” table in Appendix G: Branch Suppliers Table, document the design for the table in the table on the following page.  Use the sample data provided as your guide.  Some fields have been given, such as created at, and updated at. Create & Run SQL to Create the “Branch Supplier” Table Using your design for the “Branch Supplier” table from above, write the SQL to create the table.  Before executing the SQL, copy it to your answer document.  Execute the SQL, correcting any errors you find.  Take a screenshot of the results and add to the A05 answer are on the next page. Create and Run SQL to Seed the “Branch Supplier” Table Write the SQL to insert the sample data provided in …  Add the SQL to the SQL file  Execute the SQL to insert the data.  Take a screenshot of the results and add to the A05 answer area on the following page. | |
| A06 | Branch Supplier Table Evidence The evidence for Step 06 is to be entered into the next 3 sections that are on this and the following page(s). | |
| A06 | Branch Supplier Table Design Complete the design details in the table below.   |  |  | | --- | --- | | Table: | Clients | | Table Name | clients |  |  |  |  |  |  | | --- | --- | --- | --- | --- | | Field | Name | Type | Size | Options | | Id | id |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | | Created At | created\_at | Timestamp |  | Not Null  Now | | Updated At | updated\_at | Timestamp |  | Nullable  On update current timestamp | | |
| A06 | Branch Supplier Table Creation SQL Add the SQL used to create the table to your SQL file. Branch Supplier Table Creation Results Screenshot Place a screenshot of the results of creating the table below | |
| A06 | Branch Supplier Table Seeder SQL Add the SQL used to seed the table to your SQL file. Branch Supplier Table Seeder Results Screenshot Place a screenshot of the results of seeding the table below. | |
| 07 | Dummy Table 1 Write the SQL to create a table named ‘dummy’ with the following filed information:  employee\_id int  employee\_name varchar(20)  Before executing the SQL, copy it to your SQL file.  Execute the SQL, correcting any errors you find.  Take a screenshot of the results and add to the A07 answer are on the next page. | |
| A07 | Create Dummy Table EvidenceDummy Table Creation SQL Add the SQL used to create the table to your SQL file. Dummy Table Creation Results Screenshot Place a screenshot of the results of creating the table below. | |
| 08 | Altering Works With Table Structure Alter the “Works With” Table by adding a field that is named profit with the data type integer  Write the SQL to Alter the table.  Execute the SQL, correcting any errors you find.  Take a screenshot of the results and add to the A08 area below or on the next page. | |
| A08 | Adding a Field EvidenceWorks With Table Alterations SQL Add the SQL used to alter the table to your SQL file. Works With Table Alterations Results Screenshot Place a screenshot of the results of altering the table below. | |
| 09 | Rename the Dummy Table Now write the SQL to rename the dummy table to be almost dummy, remembering that tables must not have any whitespace or characters other than lowercase letters (a-z), numbers (0-9) and underscores (\_).  Before executing the SQL, copy it to your answer document.  Execute the SQL, correcting any errors you find, and update your answer document as required. | |
| A09 | Renaming a Table EvidenceRenaming the Table SQL Add the SQL used to rename the table to your SQL file. Renaming the Table Screenshot Place a screenshot of the results of renaming the table below. | |
| 10 | Removing a Field from a Table Now write the SQL to modify the Works With table and remove the profit field.  Before executing the SQL, copy it to your answer document.  Execute the SQL, correcting any errors you find, and add a screenshot of your results to the space on this or the following page. | |
| A10 | Removing a Field EvidenceWorks With Table Alterations SQL Add the SQL used to alter the table to your SQL file. Works With Table Alterations Results Screenshot Place a screenshot of the results of altering the table below. | |
| 11 | Describing Table Structures Now write the SQL to describe the Branch Suppliers table and its data types.  Before executing the SQL, copy it to your answer document.  Execute the SQL, correcting any errors you find, and update your answer document as required. | |
|  | Describing a Table EvidenceDescribe the Table Structure SQL Add the SQL used to alter the table to your SQL file. Describe the Table Structure Screenshot Add the screenshot of the table details being described in the space below. | |
|  | Submission of Portfolio Work To submit the portfolio, do the following:   * Save the document with your answers as a MS Word file (.docx). * Open Blackboard, and locate the ICTPRG431 Portfolio Part 1 assessment * Open the assessment: * Upload:   + Your word-processed answer document,   + Your SQL as an SQL (.sql) file * Click submit.   Whilst there is no need to use any other word processing software as you have access to Office 365 for free as a student, in the event that you use Apple Pages, or Open Office, we will then require you to upload the original file **AND** a PDF version. | |
|  | | End of Assessment Task  **Following pages contain Appendices  with Scenario and Data for Portfolio** |

**Assessment Marking Guide & Feedback**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| I testify that:   1. The attached submission is my own work 2. All sources of information used within that attached work have been cited 3. I have kept a copy of this assignment 4. I understand that my assessment may be selected for use in the College's moderation and audit processes, to ensure validity, reliability, flexibility and fairness in student assessment. | | | | | |
| **Criteria –**  ICTPRG431 E2, E4, KE, PE  ICTPRG431 E1-4, KE, PE | | **Comments** | | | |
| **Assessment: Portfolio Tasks 1** |  |  | | | |
| * Has included a validated, semantically correct Data Types |  |  | | | |
| * Has included Creating a Database and Data tables |  |  | | | |
| * Has included populated Data tables |  |  | | | |
| **Comments:** | | | | | |
| **Unit/Module Result:**  Not Yet Demonstrated  Demonstrated | | | |  | |
| Assessor’s Signature: Namrata Aneja | | | Date: | |

# Appendix A: Scenario

You are currently an intern with a small company based in Perth, Western Australia, called **Incredibly Obvious Technologies** (IOT).

As part of your internship with the company, they have set a task to help them ascertain your skills and capabilities.

They have a scenario that requires database and querying skills, and this is outlined in the remainder of this document.

## General Information

Incredibly Obvious Technologies are a multifaceted company who provide software development, 3D design, and printing, and other skills to a wide variety of customers.

The scenario you are to work upon is a corporate database with details of employees, clients, branches, suppliers and which clients work with which employees.

# Appendix B: Database Standards

IoT have strict naming conventions for their databases and tables.

These conventions MUST be adhered to.

## Database Naming

All databases are named in the form of database\_name.

For this scenario, the database will be named xxx\_company, or xxx\_ICTPRG431, where xxx are the intern’s initials.

## Database User Naming

All database users are named in the form of database\_name.

For this scenario, the database management system’s database specific user name will be named xxx\_company, or xxx\_ICTPRG431, where xxx are the intern’s initials.

## Database Host

The database’s host computer will be the PC the intern is using and thus will be accessed via the “localhost” server name during the period of development.

## Database Passwords

All database passwords are documented so that supervisors and the full-time developers may verify work and collaborate when appropriate.

The use of passwords is also to protect against other interns from plagiarising your work if they are completing the same task, now or during future internships.

During development all database user passwords must conform with the following criteria:

|  |  |
| --- | --- |
| Minimum Length | 6 Characters |
| Maximum Length | 16 Characters |
| Characters must be from the following | ABCDEFGHIZJKLMNOPQRSTUVWXYZ abcdefghizjklmnopqrstuvwxyz 0123456789 !@#$%^&()\_+-={}[]<>,. |

# Appendix C: Employees

Sample data, table design and SQL to create the table and insert the data.

## Sample Data

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table** | Employee | | | | | | |
|  |  |  |  |  |  |  |  |
| **Employee ID** | **Given Name** | **Family Name** | **Date of Birth** | **Gender Identity** | **Gross Salary** | **Supervisor ID** | **Branch ID** |
| 100 | David | Wallace | 17/11/1967 | M | 25000 | Null | 1 |
| 101 | Jan | Levinson | 11/05/1967 | F | 110000 | 100 | 1 |
| 102 | Michael | Scott | 15/03/1964 | M | 75000 | 100 | 2 |
| 103 | Angela | Martin | 25/06/1971 | F | 63000 | 102 | 2 |
| 104 | Kelly | Kapoor | 05/02/1980 | F | 55000 | 102 | 2 |
| 105 | Stanley | Hudson | 19/02/1958 | M | 69000 | 102 | 2 |
| 106 | Josh | Porter | 05/09/1969 | M | 78000 | 100 | 3 |
| 107 | Andy | Bernard | 22/07/1973 | M | 65000 | 106 | 3 |
| 108 | Jen | Halpert | 01/10/1978 | F | 71000 | 106 | 3 |

## Sample Table Design

|  |  |
| --- | --- |
| Table: | Employees |
| Table Name | employees |

| Field | Type | Size | Options | Notes |
| --- | --- | --- | --- | --- |
| Id | Big Integer |  | Auto Increment  Unsigned  Primary Key |  |
| Given Name | Var Char | 64 | Nullable | May be empty for people with ONE name only |
| Family Name | Var Char | 64 | Not Null | Required |
| Date of Birth | Date |  | Not Null | Date format: YYYY-MM—DD  Default 1900-01-01 |
| Gender Identity | Character | 1 | Nullable |  |
| Gross Salary | Big Integer |  | Default 0 | Default to 0 |
| Supervisor ID | Big integer |  | Nullable | Has a default of 0 |
| Branch ID | Big Integer |  | Nullable | Default 0 |
| Created At | Timestamp |  | Not Null | Default 2022-07-01 |
| Updated At | Timestamp |  |  | Nullable  On update current timestamp |

## Sample SQL Create Command

CREATE TABLE `employees` (

**`id`**  bigint UNSIGNED NOT NULL AUTO\_INCREMENT,

**`given\_name`**  varchar(64),

**`family\_name`**  varchar(64) NOT NULL,

**`date\_of\_birth`**  date DEFAULT '1970-01-01',

**`gender\_identity`** char(1),

**`gross\_salary`**  int DEFAULT '0',

**`supervisor\_id`**  bigint DEFAULT '0',

**`branch\_id`**  bigint DEFAULT '0',

**`created\_at`**  timestamp DEFAULT '2022-07-01',

**`updated\_at`**  timestamp ON UPDATE CURRENT\_TIMESTAMP,

PRIMARY KEY (id)

);

## Sample SQL Seeding Commands

INSERT INTO `employees`

( `date\_of\_birth`, `id`, `family\_name`, `branch\_id`, `supervisor\_id`, `given\_name`, `gross\_salary`, `gender\_identity` )

VALUES

( '1967-05-11', 101, 'Levinson', 1, 100, 'Jan', 110000, 'F' );

INSERT INTO `employees`

(`date\_of\_birth`, `id`, `family\_name`, `branch\_id`, `supervisor\_id`, `given\_name`, `gross\_salary`, `gender\_identity`)

VALUES

('1964-03-15', 102, 'Scott', 2, 100, 'Michael', 75000, 'O'),

('1971-06-25', 103, 'Martin', 2, 102, 'Angela', 63000, 'F'),

('1980-02-05', 104, 'Kapoor', 2, 102, 'Kelly', 55000, 'O'),

('1958-02-19', 105, 'Hudson', 2, 102, 'Stanley', 69000, 'M'),

('1969-09-05', 106, 'Porter', 3, 100, 'Josh', 78000, 'M'),

('1973-07-22', 107, 'Bernard', 3, 106, 'Andy', 65000, 'M'),

('1978-10-01', 108, 'Halpert', 3, 106, 'Jen', 71000, 'F');

# Appendix D: Branches

Sample data, table design and SQL to create the table and insert the data.

## Sample Data

|  |  |  |  |
| --- | --- | --- | --- |
| **Table** | Branches | | |
|  |  |  |  |
| **Branch ID** | **Branch Name** | **Manager ID** | **Manager Start Date** |
| 1 | Corporate | 100 | 09/02/2006 |
| 2 | Scranton | 102 | 06/04/1992 |
| 3 | Stamford | 106 | 13/02/1998 |

## Sample Table Design

|  |  |
| --- | --- |
| Table: | Branches |
| Table Name | branches |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Type | Size | Options | Notes |
| Id | Big Integer |  | Auto Increment  Unsigned  Primary Key |  |
| Branch Name | Var Char | 64 | Not Null  Default ‘ERROR’ | Unique |
| Manager ID | Big integer |  | Default 0  Unsigned |  |
| Manager Start At | Date |  | Not Null  Default 1970-01-01 | Date format: YYYY-MM-DD |
| Created At | Timestamp |  | Not Null  Now |  |
| Updated At | Timestamp |  | Nullable  On update current timestamp |  |

## Sample SQL Create Command

**CREATE** **TABLE** **`branches`** (

**`id`** **BIGINT** **UNSIGNED** **NOT** **NULL** **AUTO\_INCREMENT**,

**`branch\_name`** **VARCHAR**(64),

**`manager\_id`** **BIGINT** **DEFAULT** '0',

**`manager\_started\_at`** **DATE** **DEFAULT** '2022-07-01',

**`created\_at`** **TIMESTAMP** **DEFAULT** '1970-01-01',

**`updated\_at`** **TIMESTAMP** **ON** **UPDATE** **CURRENT\_TIMESTAMP**,

**PRIMARY** **KEY** (**id**)

);

## Sample SQL Insert Commands

**INSERT** **INTO** **branches**(id,branch\_name,manager\_id,manager\_started\_at)

**VALUES**

(1, 'Corporate', 100, "2006-02-09"),

(2, 'Scranton', 102, "1992-04-06"),

(3, 'Stamford', 106, "1998=02-13");

# Appendix E: Clients Table

Sample data, table design and SQL to create the table and insert the data.

## Sample Data

|  |  |  |
| --- | --- | --- |
| Table | Clients | |
|  |  |  |
| **Client ID** | **Client Name** | **Branch ID** |
| 400 | Dunmore Hoghschool | 2 |
| 401 | Lackawana Country | 2 |
| 402 | FedEx | 3 |
| 403 | John Daly Law, LLC | 3 |
| 404 | Scranton Whitepages | 2 |
| 405 | Times Newspaper | 3 |
| 406 | FedEx | 2 |

## Base for Table Design

The following is a start to define the clients table.

|  |  |
| --- | --- |
| Table: | Clients |
| Table Name | clients |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Type | Size | Options | Notes |
| Client\_Id | Unsigned Big Integer |  | Auto Increment  Unsigned  Primary Key | Primary key |
| Client\_Name | Varchar(64) |  |  |  |
|  |  |  |  |  |
| Branch\_id | Int |  |  |  |
| Created At | Timestamp |  | Not Null  Now |  |
| Updated At | Timestamp |  | Nullable  On update current timestamp |  |

# Appendix F: Working With Table

Sample data, table design and SQL to create the table and insert the data.

## Sample Data

|  |  |  |
| --- | --- | --- |
| Table | Working With | |
|  |  |  |
| **Employee ID** | **Client ID** | **Total Sales** |
| 105 | 400 | 55000 |
| 102 | 401 | 267000 |
| 108 | 402 | 22500 |
| 107 | 403 | 5000 |
| 108 | 403 | 12000 |
| 105 | 404 | 33000 |
| 107 | 405 | 26000 |
| 102 | 406 | 15000 |
| 105 | 406 | 130000 |

## Sample Table Design

The following is a start to define the working with table.

|  |  |
| --- | --- |
| Table: | Working With |
| Table Name | working\_with |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Type | Size | Options | Notes |
| Employee ID | Unsigned Big Integer |  | Primary Key  Foreign Key  Not Null |  |
| Client ID | Unsigned Big Integer |  | Primary Key  Foreign Key  Not Null |  |
| Total Sales | Unsigned Big Integer |  | 0 |  |
| Created At | Timestamp |  | Not Null  Now |  |
| Updated At | Timestamp |  | Nullable  On update current timestamp |  |

## Sample SQL Create Command

**CREATE** **TABLE** **`working\_with`** (

**`employee\_id`** **BIGINT** **UNSIGNED** **NOT** **NULL** **DEFAULT** 0,

**`client\_id`** **BIGINT** **UNSIGNED** **NOT** **NULL** **DEFAULT** 0,

**`total\_sales`** **BIGINT** **DEFAULT** '0',

**`created\_at`** **TIMESTAMP** **DEFAULT** **NOW**(),

**`updated\_at`** **TIMESTAMP** **ON** **UPDATE** **CURRENT\_TIMESTAMP**,

**PRIMARY** **KEY** (**employee\_id**,**client\_id**)

);

## Sample SQL Insert Commands

INSERT INTO working\_with(employee\_id,client\_id,total\_sales)

VALUES

(105, 400, 55000),

(102, 401, 267000),

(108, 402, 22500),

(107, 403, 5000),

(108, 403, 12000),

(105, 404, 33000),

(107, 405, 26000),

(102, 406, 15000),

(105, 406, 130000);

# Appendix G: Branch Suppliers Table

Sample data only.

## Sample Data

|  |  |  |
| --- | --- | --- |
| **Table** | Branch Supplier | |
|  |  |  |
| **Branch ID** | **Supplier Name** | **Product Supplied** |
| 2 | Hammer Mill | Paper |
| 2 | Uni-Ball | Writing Instruments |
| 3 | Patriot Paper | Paper |
| 2 | J. T. Forms & Labels | Custom Forms |
| 3 | Uni-Ball | Writing Instruments |
| 3 | Hammer Mill | Paper |
| 3 | Stamford Labels | Custom Forms |

## Sample Table Design

The following is a start to define the branch suppliers table.

|  |  |
| --- | --- |
| Table: | Branch Supplier |
| Table Name | Branch\_Supplier |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Type | Size | Options | Notes |
| ID | Unsigned Big Integer |  | Primary Key  Auto Increment |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Created At | Timestamp |  | Not Null  Now |  |
| Updated At | Timestamp |  | Nullable  On update current timestamp |  |

# Appendix Z: Example SQL Commands

The following are some sample SQL commands that may or may not be of use in your assessment task.

These commands are not guaranteed to provide any solutions, but they may provide hints to assist you.

CREATE DATABASE test\_dummy;

USE test\_dummy;

SHOW DATABASES;

CREATE USER 'test\_dummy\_user'@'localhost' IDENTIFIED BY 'Password1';

GRANT USAGE ON \*.\* TO 'test\_dummy\_user'@'localhost';

GRANT EXECUTE, SELECT, SHOW VIEW, ALTER, ALTER ROUTINE, CREATE, CREATE ROUTINE, CREATE TEMPORARY TABLES, CREATE VIEW, DELETE, DROP, EVENT, INDEX, INSERT, REFERENCES, TRIGGER, UPDATE, LOCK TABLES ON `test\\_dummy`.\* TO 'test\_dummy\_user'@'localhost' WITH GRANT OPTION;

GRANT ALL ON `test\\_dummy`.\* TO 'test\_dummy\_user'@'localhost' WITH GRANT OPTION;

FLUSH PRIVILEGES;

DROP DATABASE test\_dummy;

SELECT \* FROM products WHERE product\_name like “%paper%”;

CREATE TABLE dummy\_products(id BIGINT UNSIGNED AUTO\_INCREMENT, name STRING(192) NOT NULL DEFAULT “ERROR”, PRIMARY KEY(id));