

Developing SQL Databases

Lab 1 – Normalizing Data

Overview

In this lab, you will create schemas and tables in the **AdventureWorksLT** database.

Before starting this lab, you should view **Module 1 – Designing a Normalized Relational Database Schema** in the course *Developing SQL Databases*. Then, if you have not already done so, follow the instructions in the **Getting Started** document for this course to set up the lab environment.

If you find some of the challenges difficult, don't worry – you can find suggested solutions for all of the challenges in the **Lab Solution** folder for this module.

What You'll Need

To complete the labs, you will need the following:

- An Azure SQL Database instance with the AdventureWorksLT sample database. Review the Getting Started document for information about how to provision this.
- The lab files for this course

Challenge 1: Normalizing to First Normal Form

Having obtained the sample data set, you will analyze it and normalize it to first normal form.

Review the Data Set

Review the data on the Raw Data tab in **Normalize to 1NF.xlsx** in the **Setup** folder and note any aspects that cause it to violate first normal form.

Normalize the Data Set to First Normal Form

1. Decompose the table in the **Raw Data** worksheet to create a new version of the data that is in first normal form. Document your solution in the **Normalize to 1NF** worksheet.
2. On the **1NF Solution** worksheet, review the suggested solution.
3. Close **Normalize to 1NF.xlsx**, saving any changes if prompted.

Challenge 2: Normalizing to Second Normal Form

Review the Data Set

Review the data on the Raw Data tab in **Normalize to 2NF.xlsx** in the **Setup** folder and note any aspects that cause it to violate first normal form.

Normalize the Data Set to First Normal Form

1. Decompose the table in the **Normalize to 2NF** worksheet to create a new version of the data that is in first normal form. Document your solution in the **Normalize to 2NF** worksheet.
2. On the **2NF Solution** worksheet, review the suggested solution.
3. Close **Normalize to 2NF.xlsx**, saving any changes if prompted.

Challenge 1: Normalizing to Third Normal Form

Review the Data Set

Review the data on the Raw Data tab in **Normalize to 3NF.xlsx** in the **Setup** folder and note any aspects that cause it to violate first normal form.

Normalize the Data Set to First Normal Form

1. Decompose the table in the **Normalize to 3NF** worksheet to create a new version of the data that is in first normal form. Document your solution in the **Normalize to 3NF** worksheet.
2. On the **3NF Solution** worksheet, review the suggested solution.
3. Close **Normalize to 3NF.xlsx**, saving any changes if prompted.