

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.