# PostgreSQL 15
# Two-days introductory course

## Student's guide

## About this document

This is the Student's guide for the PostgreSQL 15 introductory course by Postgres Professional. It is intended for students completing the course with or without an instructor.

The guide includes three main sections.

The first section, Setting up the environment, explains how to get the student's workplace up and running, lists the technical requirements for the virtual machines, and gives important information on how to use the virtual environments.

The second section, Self-study, gives a few helpful tips and directions for those studying at home or needing a refresher.

The last section, Course outline, provides a breakdown of the course into modules and lessons, with a brief overview given for each lesson.

Good luck, and enjoy your learning journey!

We'll be happy to get your feedback at edu@postgrespro.ru.

## Setting up the environment

If you take the course at a training center, your workspace will be prepared for you.

In the case of self-study, you have to install a virtualization platform (choose VirtualBox 6.1 or higher) and then download and import a virtual machine: https://edu.postgrespro.com/INTRO-15-en.ova. The virtual machine at this location is kept up-to-date with any changes in the training course.

If you use an ARM64 computer (MacBook M1 or M2), install UTM virtualization system first, then open this link in the browser. The virtual machine will be downloaded and installed automatically. This solution is still in beta stage.

Note that you can only install the VM on a computer with a 64-bit operating system.

The VM runs 64-bit Xubuntu 22.04 as its guest OS, which is already configured for taking the course. You will need at least 1 GB of RAM.

Use the username *student* to log in. (For all users, passwords are the same as their usernames).

The Firefox browser in the VM environment is set up to display PostgreSQL documentation, which is stored locally. You do not have to be online to complete the course.

To manage files, you can use both the command line (`ls`, `pwd`, `cd`, ...) and GUI tools (mc, Thunar file manager). To edit files, you can choose from several pre-installed editors: vim, nano, gedit, mousepad.

## Course handouts

The latest version of course handouts is available at: [https://edu.postgrespro.com/INTRO-handouts-15-en.zip](https://edu.postgrespro.com/INTRO-handouts-15-en.zip)

You can download these materials onto the VM by clicking the "Get INTRO handouts" icon on the Desktop or running the get_handouts.sh script in the *student* user's home directory. The files will be downloaded into the dba1 directory.

The main course handouts are available in two formats (only the layout is different, the content is absolutely the same):

- html is good for browsing and copying code snippets.

- pdf is more convenient for printing.

These handouts include lecture slides, demos, and keys to practical assignments.

Apart from the main handouts, the course also includes some reference materials:

- A chart of the main tables of the system catalog, with corresponding psql commands (catalogs.pdf)

- A list of basic Unix commands (unix_commands.pdf)

All commands in demonstrations and answer keys start with a prompt. We use the following conventions:

- `user$`
  A prompt that ends with a dollar sign denotes a Unix command; it contains the name of the OS user that will run this command. For example, `student$` means that the command has to be executed by the *student* user. To run a command on behalf of a different user (such as *postgres*), enter:
  `sudo -u postgres command`

  However, it is usually more convenient to open another terminal, run
  `sudo su postgres`
  once, and then run all commands on behalf of the *postgres* user in this terminal.

- `=>`
  An arrow prompt denotes a command entered in psql. If psql is not open yet, first run the
  `psql`
  command on behalf of the *student* OS user.

## Self-study

If you are taking the course on your own, you should study the topics as they follow, lecture by lecture.

Course videos will be available at https://postgrespro.com/community/courses/2dINTRO.

Course materials can be used both in addition to the videos and independently. Apart from the slides, presentations also contain slide notes; they provide enough information to understand the topic. Besides, there are demonstrations for almost each lecture. Always try out the commands provided in these demos.

Doing practical assignments is an important part of the course. It's advisable to always look through the provided solutions: they can contain some additional information, which is not covered in presentations and demos. But do it only after you have completed the task on your own.

While taking the course, use the provided reference materials. If you are not familiar with the Unix OS, take a look at its basic commands. The system catalog chart can help you understand the database structure and use psql to get the descriptions of tables, views, and other objects.