

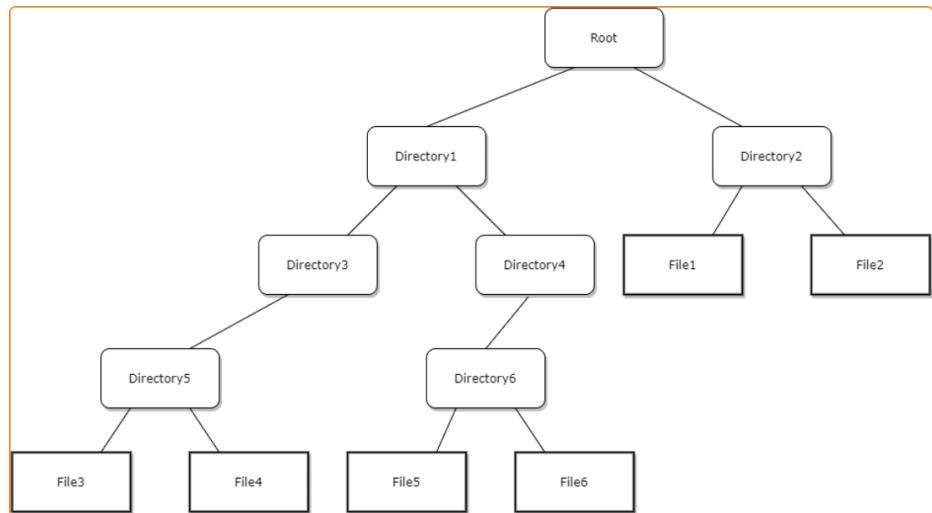
## java from scratch Knowledge Base

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- Conditional statements
- Loops

| java from scratch Knowledge Base

# The structure of files and directories

Data which is stored in operating systems has been organized into appropriate file and folder structures. Working with them is made faster and allows for the folders to be arranged according to their purpose. The setup of directories and files resembles a tree structure, it starts with the main directory i.e. the *root*:



Depending on the operating system, directory names will vary. The directory structure on different operating systems may depend on the name of the currently logged in user or the computer name.

A file is a collection of data that has a number of attributes ad a specific order. These files are used to store various types of content, e.g. text, image, video. They can take on a variety of attributes, such as:

- the ability to read/edit/run,
- become a hidden file which is invisible with standard file browsing methods,
- become system files that should not be deleted or modified without appropriate knowledge, as their removal or incorrect modification may cause a system failure.

Computer files often have an extension. It is an additional element in the file name that identifies the type of data that is being stored. Often the extension is associated with a specific computer program that can execute a given file

- Arrays
- Object-oriented programming
- Conclusion
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- HTTP basics – video training
- Design patterns and good practices video course
- Prework Primer: Essential Concepts in Programming
- Cybersecurity Essentials: Must-Watch Training Materials
- Java Developer – introduction
- Java Fundamentals – coursebook
- Java fundamentals slides
- Java fundamentals tasks
- Test 1st attempt | after the block: Java fundamentals
- Test 2nd attempt | after the block: Java fundamentals
- GIT version control system coursebook
- Java – Fundamentals: Coding slides
- Java fundamentals tasks
- Software Testing slides
- Software Testing Coursebook
- Software Testing tasks
- Test 1st attempt | after the block: Software testing
- Test 2nd attempt | after the block: Software testing
- Java – Advanced Features coursebook

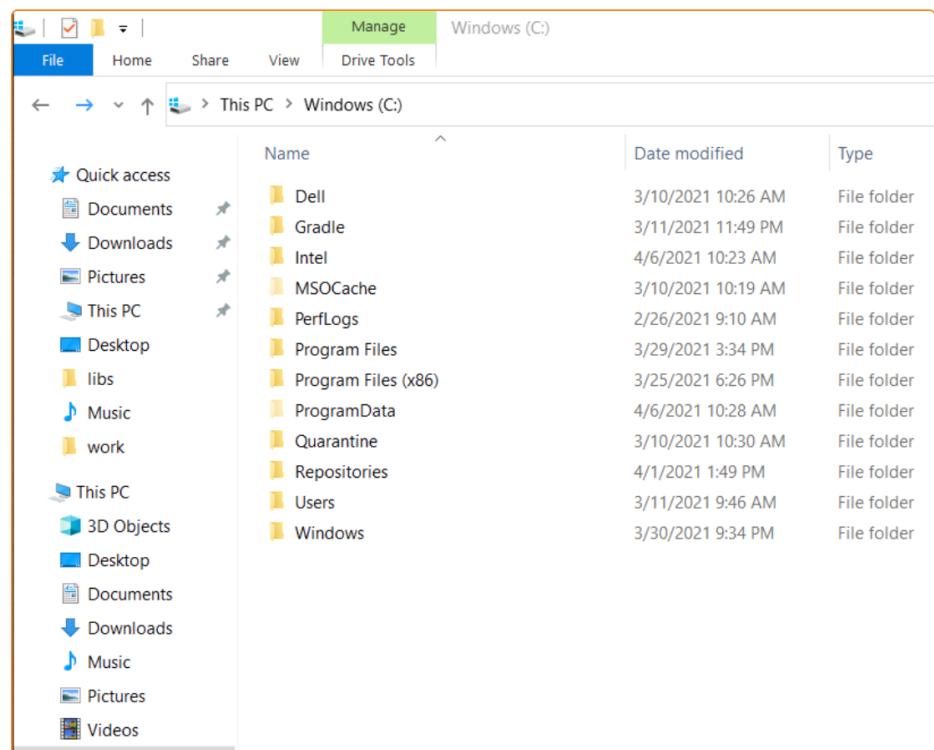
format, e.g.:

- **file.txt** – text format
- **file.docx, file.xlsx, file.pptx** – files created in Microsoft Office
- **file.pdf** – Portable Document Format – a special format for storing text/graphics data
- **file.exe** – an executable file – the file for a program (saved in the file) that will be executed
- **file.zip, file.rar, file.tar.gz, file.tar, file.7z** – archives, i.e. files that are packaged in the form of an archive. They contain a set of folders and other files and allow for the reduction of the amount of physical memory used by the data. Special software is needed to open these files. It is often built into the operating system.
- **file.png, file.jpg, file.bmp** – graphic files
- **file.mov, file.avi, file.mp4** – files that store video
- **file.java, file.py, file.sh, file.bat** – special type of files that take their extension name from the programming language in which they were prepared

## Windows

In the Windows family, file systems are organized on disks marked with letters. The first drive letter is "C". The disks can be divided into physical (real devices) or logical disks (division of one physical disk into virtual partitions). The "disks" division is used to allocate one disk for the operating system and the required software, the next disks are used for data storage and organization.

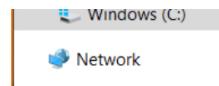
Directory structure on Windows 10 (systems prior to Windows 10 may have minimal differences, but the most important folders are the same on any Microsoft system).



The screenshot shows the Windows File Explorer interface with the title bar "Windows (C:)". The ribbon tabs are "File", "Home", "Share", "View", "Manage", and "Drive Tools". The left sidebar shows icons for Quick access, This PC, and various folders like Documents, Downloads, Pictures, Desktop, and Music. The main pane displays a list of files and folders in the root directory of drive C. The columns are "Name", "Date modified", and "Type". The contents of the list are as follows:

Name	Date modified	Type
Dell	3/10/2021 10:26 AM	File folder
Gradle	3/11/2021 11:49 PM	File folder
Intel	4/6/2021 10:23 AM	File folder
MSOCache	3/10/2021 10:19 AM	File folder
PerfLogs	2/26/2021 9:10 AM	File folder
Program Files	3/29/2021 3:34 PM	File folder
Program Files (x86)	3/25/2021 6:26 PM	File folder
ProgramData	4/6/2021 10:28 AM	File folder
Quarantine	3/10/2021 10:30 AM	File folder
Repositories	4/1/2021 1:49 PM	File folder
Users	3/11/2021 9:46 AM	File folder
Windows	3/30/2021 9:34 PM	File folder

- Java – Advanced Features slides
- Java – Advanced Features tasks
- Test 1st attempt | after the block: Java Advanced Features
- Test 2nd attempt | after the block: Java Advanced Features
- Java – Advanced Features: Coding slides
- Java – Advanced Features: Coding tasks
- Test 1st attempt | after the block: Java Advanced Features coding
- Test 2nd attempt | after the block: Java Advanced Features coding
- Data bases SQL coursebook
- Databases SQL slides
- Databases – SQL tasks
- Coursebook: JDBC i Hiberate
- Excercises: JDBC & Hibernate
- Test 1st attempt | after the block: JDBC
- Test 2nd attempt | after the block: JDBC
- Design patterns and good practices
- Design patterns and good practices slides
- Design Patterns & Good Practices tasks
- Practical project coursebook
- Practical project slides
- HTML, CSS, JAVASCIRPT Coursebook
- HTML, CSS, JAVASCRIPT slides
- HTML, CSS, JavaScript tasks



The following directories are distinguished:

- PerfLogs – Windows event logs (related to Windows performance) are stored in this directory.
- Program Files, Program Files (x86) – depending on the architecture of the central unit of our computer, they could use software prepared in the 32-bit (x86) version or in the 64-bit (x64) version. The user will not notice the difference in the appearance or behavior of the 32/64 bit software. It is a way for the processor to calculate the information. The application software is installed in the Program Files and Program Files (x86) directories. Each program is installed in its own “working” directory, where source and configuration files are stored. Without extensive knowledge, you should not modify the contents of the Program Files directories by yourself – it may cause problems with the system functions.

Application				
	Name	Date modified	Type	Size
Quick access	89.0.4389.114	4/2/2021 7:05 AM	File folder	
Documents	SetupMetrics	4/2/2021 7:05 AM	File folder	
Downloads	chrome	3/29/2021 8:25 PM	Application	2,270 KB
Pictures	chrome.VisualElementsManifest	4/2/2021 7:05 AM	XML Document	1 KB
This PC	chrome_proxy	3/29/2021 8:26 PM	Application	879 KB
Desktop	master_preferences	3/10/2021 10:18 AM	File	1 KB
libs				

- ProgramData (hidden directory) – directories hidden in Windows are displayed in a specific way and are invisible to the user until he/she allows them to be displayed.

PerfLogs	2/26/2021 9:10 AM	File folder
Program Files	3/29/2021 3:34 PM	File folder
Program Files (x86)	3/25/2021 6:26 PM	File folder
ProgramData	4/6/2021 10:28 AM	File folder
Quarantine	3/10/2021 10:30 AM	File folder
Repositories	4/1/2021 1:49 PM	File folder
Users	3/11/2021 9:46 AM	File folder
Windows	3/30/2021 9:34 PM	File folder

The Program Data directory stores software data used by all system users. For example it can be the system Administrator or a user called John Doe. An example of such software is an antivirus program that must protect the entire system, regardless of the currently logged in user.

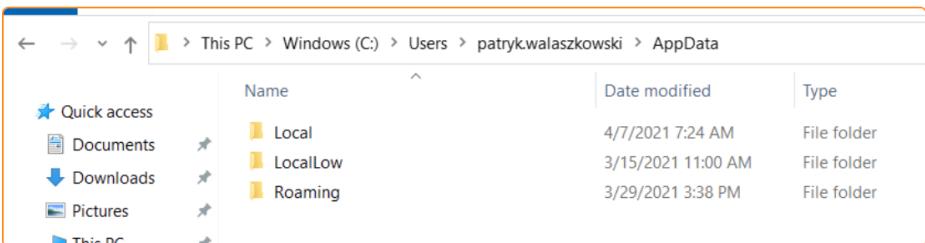
- UsersusernameAppData – the path to the AppData folder will vary depending on the username



- Test 1st attempt | after the block: HTML,CSS,JS
- Test 2nd attempt | after the block: HTML,CSS,JS
- Frontend Technologies coursebook
- Frontend technologies slides
- Frontend Technologies tasks
- Test 1st attempt | after the block: FRONTEND TECHNOLOGIES (ANGULAR)
- Test 2nd attempt | after Frontend technologies
- Spring coursebook
- Spring slides
- Spring tasks
- Test 1st attempt | after the block: spring
- Test 2nd attempt | after the block: spring
- Mockito
- PowerMock
- Testing exceptions
- Parametrized tests
- Final project coursebook
- Final project slides
- Class assignments

	Name	Date modified	Type	Size
Quick access				
Documents	Local	4/6/2021 4:54 PM	File folder	
Downloads	LocalLow	3/15/2021 11:00 AM	File folder	
Pictures	Roaming	3/29/2021 3:38 PM	File folder	
This PC				

The AppData folder stores the settings and applications installed for a specific user. There are subdirectories like Roaming, Local and LocalLow. Roaming is a directory intended for "network" users, Local and LocalLow directories are intended for users who are working "locally".



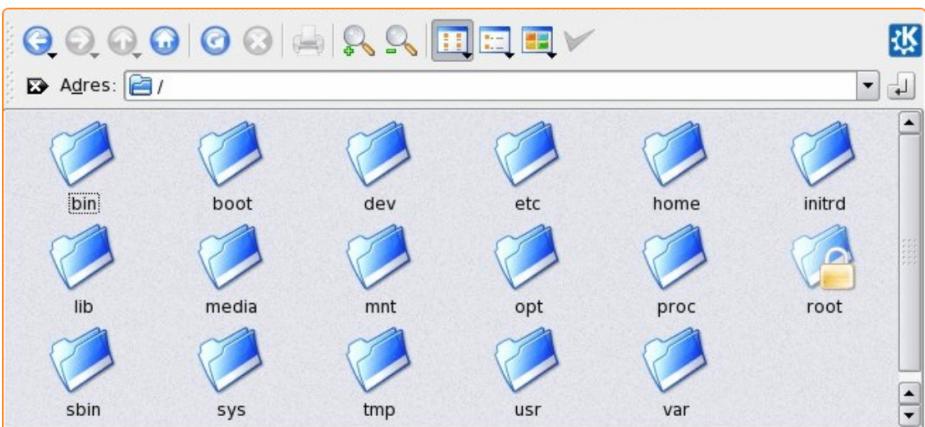
A screenshot of a Windows File Explorer window. The path is displayed as: This PC > Windows (C:) > Users > patrykwalaszkowski > AppData. The window shows a list of three subfolders: Local, LocalLow, and Roaming. Each folder has its name, date modified (4/7/2021 7:24 AM, 3/15/2021 11:00 AM, and 3/29/2021 3:38 PM respectively), type (File folder), and size (not explicitly shown). The 'This PC' icon is also visible in the navigation pane.

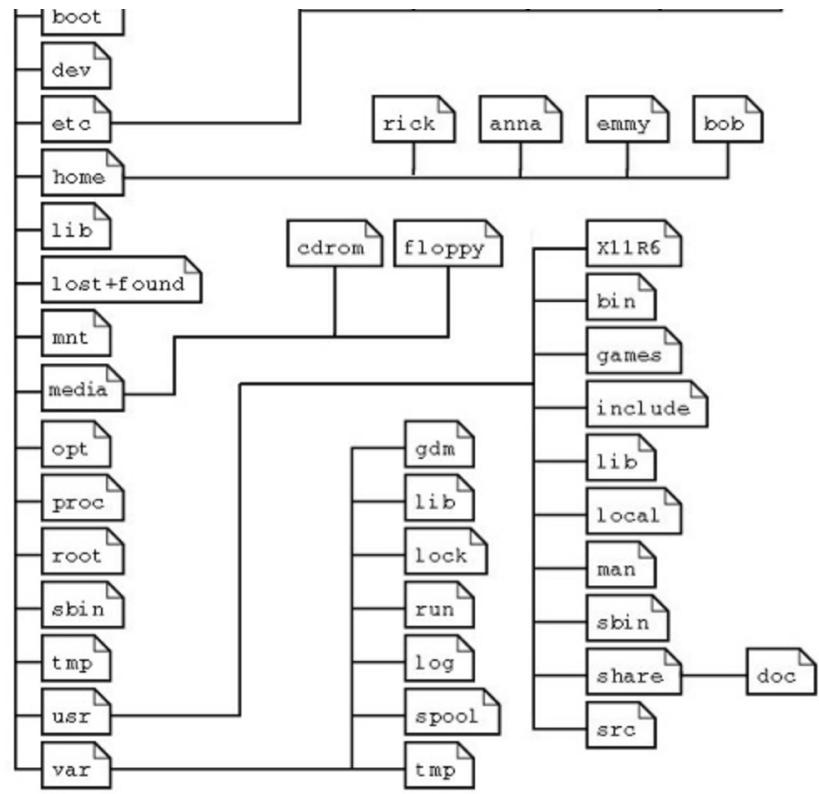
	Name	Date modified	Type
Quick access			
Documents	Local	4/7/2021 7:24 AM	File folder
Downloads	LocalLow	3/15/2021 11:00 AM	File folder
Pictures	Roaming	3/29/2021 3:38 PM	File folder
This PC			

- Windows – directory containing files related to the operating system, you should not modify the contents of this directory without prior knowledge.
- WindowsSystem, WindowsSystem32, WindowsSysWOW64 – system directories that store system files, dll files (files that implement key Windows functionalities). Different folder names exist depending on the operating system. The 'System' directory only exists if there are files that are written in 16-bit technology. System32 stores files prepared to support 32 or 64-bit technology. SysWOW64 directory only comes with 64-bit versions of Windows. As with other system directories, it is not recommended to modify the system directories by yourself.

## LINUX

In the Linux family, the folder structure looks very different than in the Windows family. It was based on the FHS (Filesystem Hierarchy Standard) standard – more information can be found [here](#). It all starts with the root directory marked with "/":





In the Linux systems there is the concept of "everything is a file", i.e. every element of the system, e.g. a device, the running application, process, or driver is saved as a file.

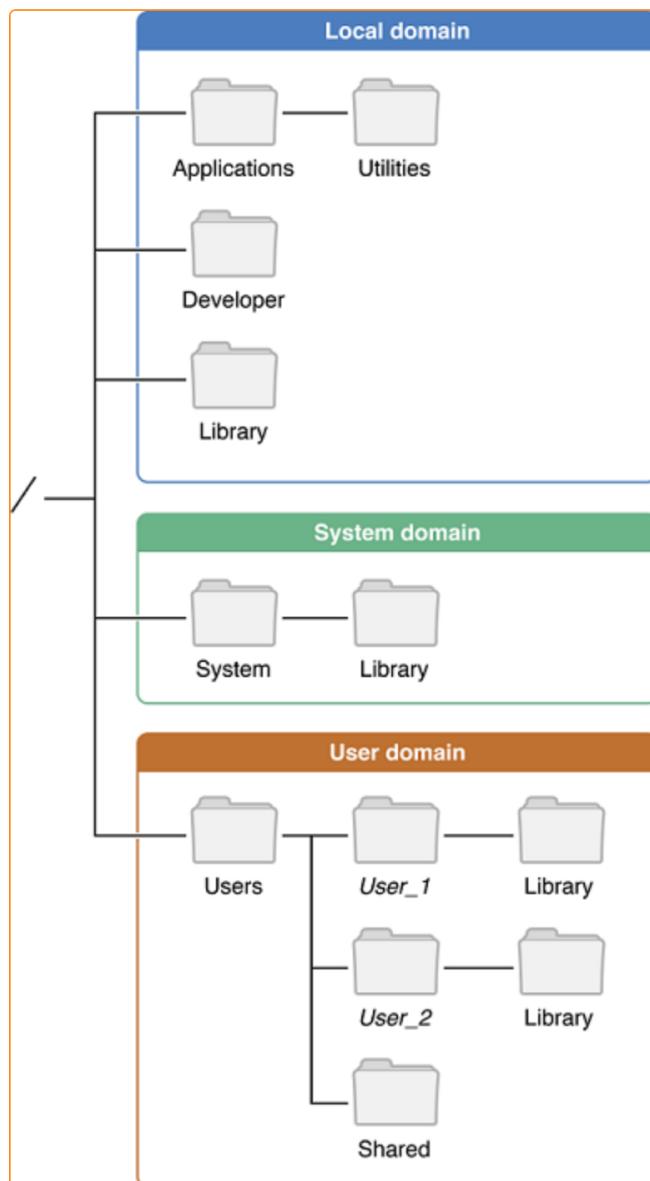
- /bin – binary (executable) files of the most basic system utilities
- /boot – files necessary to boot the system (kernel, initrd)
- /dev – the files here are not actually files on the disk. They refer to devices – through them the system communicates with devices (low-level communication)
- /etc – configuration files, system settings
- /home – files specifying the settings of each user. In addition the directory is intended for saving data such as documents, pictures, music and any files we use every day programs
- /lib – shared system libraries containing functions that are performed by others
- /media – here we have access to removable media (it's a place for mounting removable media – e.g. a flash drive or a CD-ROM)
- /mnt – the disks are "mounted" here (in distributions such as Ubuntu, the disks are mounted in /media)
- /proc – virtual directory containing data about currently running processes
- /root – root user settings – the root administrator of each Linux system with maximum permissions
- /sbin – command executables that can only be run by the administrator
- /tmp – temporary files
- /usr – additional programs that allow a normal system user to

work

- /var – system files, whose contents change frequently, such as program /system event logs

## MacOS

The directory structure on macOS is very similar to the directory structure on Linux. This is due to the fact that both operating systems are historically derived from Unix systems. In detail, the directory structure in macOS is as follows:



The most commonly used directories on macOS are:

- /Applications – this is the directory where the applications required by all system users are installed. When installing software purchased in the AppStore, the software is automatically installed in this directory. The additional subdirectory /Utilities is responsible for the applications that are used to manage the system.
- /Library – This is the directory where all additional libraries (programs) required by others are stored for the software or the system

systems....

- /Network – directory that contains the list of computers visible in the local network. The directory may be empty.
- /System – operating system files, do not modify the contents of this directory yourself.
- /Users – the user's home directory where all user files are stored.

## What common element in file systems symbolizes the primary or main directory from which all other directories and sub-directories stem?

- Root Directory
- Main Folder
- Base File
- Primary Node

✓ Correct

Reset

Completed

Next Lesson