

C++ Programming with GNU/Linux

1. Why learn C++?
Beacuse it pays well.
2. Why it pays well?
Because it is hard.
3. What can you do with it?
Almost everything you can imagine.
4. How do you learn it?
Find a mentor, read 20 odd books, read-write a lot of code or just watch this series of videos.

Who am I?

- C/C++/Perl/Python programmer with more than 16 years of programming experience.
- I have trained many people on programming and few have founded their own companies.
- I am from IIT Kharagpur if that matters to you as Sundar Pichai is also from my college. Yes, yes I am riding on his name but this is a moot point. What matters is content present in videos. Judge me on content not on my college as my college did not teach me programming.

What will you learn?

- ISO C++ 2014(2017 is being implemented by compiler authors) - base language
- Data Structures and Algorithms Using C++(this will be entirely new series)
- Emacs – King of editors out there
- Data Structures and Algorithms
- Multithreaded programming – ISO C++ has it.
- System Programming using GNU/Linux – Very important
- Kdevelop – Underrated C++ development environment
- Network programming – TCP/IP, UDP
- Asynchronous programming – Much better than node.js or vert.x
- Several protocols – HTTP, SMTP(email), IMAP, DNS, DHCP and many more.
- Several Databases – MySQL, PostgreSQL, CockroachDB, ScyllaDB, MongoDB, CouchBase
- Web programming – Make sites or restful APIs(yes using C++)
- Artificial Intelligence and Data Science – TensorFlow, OpenCog, Shogun, Meta, CMUSphinx, Caffe etc
- Audio, Image and Video Processing – OpenCV, FLAC, H.264, Audacity, Kdeemlive, POV-RAY, Blender formats etc.
- GPU Programming – CUDA Programming using NVIDIA Titan and Quadra
- Game Programming – Make your own games using Cafu game engine
- Cryptography – Create your bitcoin and ethereums. Make your own certificates and become a provider.
- File Systems – Ext4, XFS, Btrfs, NilFS, QFS, GlusterFS, ZFS and many more.
- DPDK and SPDK – User mode network and disk IO on latest 40Gbps ethernet cards and NVMe SSD hard drives.
- And a lot more. [TRUST ME and you will be fine.](#)

What do you need?

- A computer with GNU/Linux installation. You can start with a virtualbox installation on Windows but very soon you will need a bare-metal installation
- GCC, GDB, Valgrind, Gprof, Gcov etc installed. You must know how to install these as I will not teach these.
- A burning, untiring passion for learning. You need to be a stubborn mule who never tires. And patience.
- Class 12 Maths. No prior programming experience is assumed and everything will start from scratch