

# Lab 0 – Introduksjon til OpenCV

# Lab

- Oppgaver og små prosjekter hver uke
- Grupper på ~2 studenter
- Status
  - Ubuntu?
  - C++?
  - Egne maskiner?
    - Operativsystem?

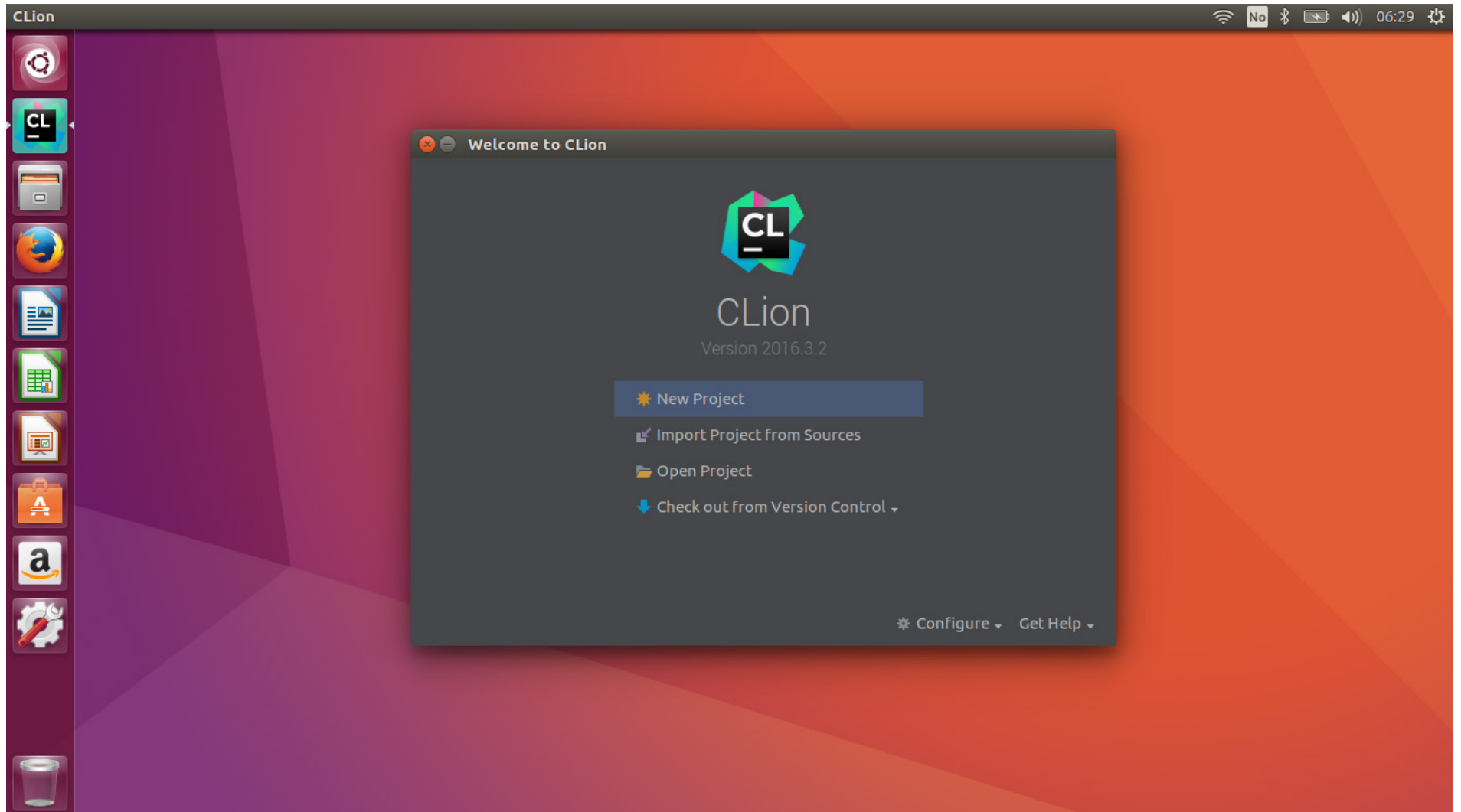
# Del 1: Åpne prosjekt i Clion



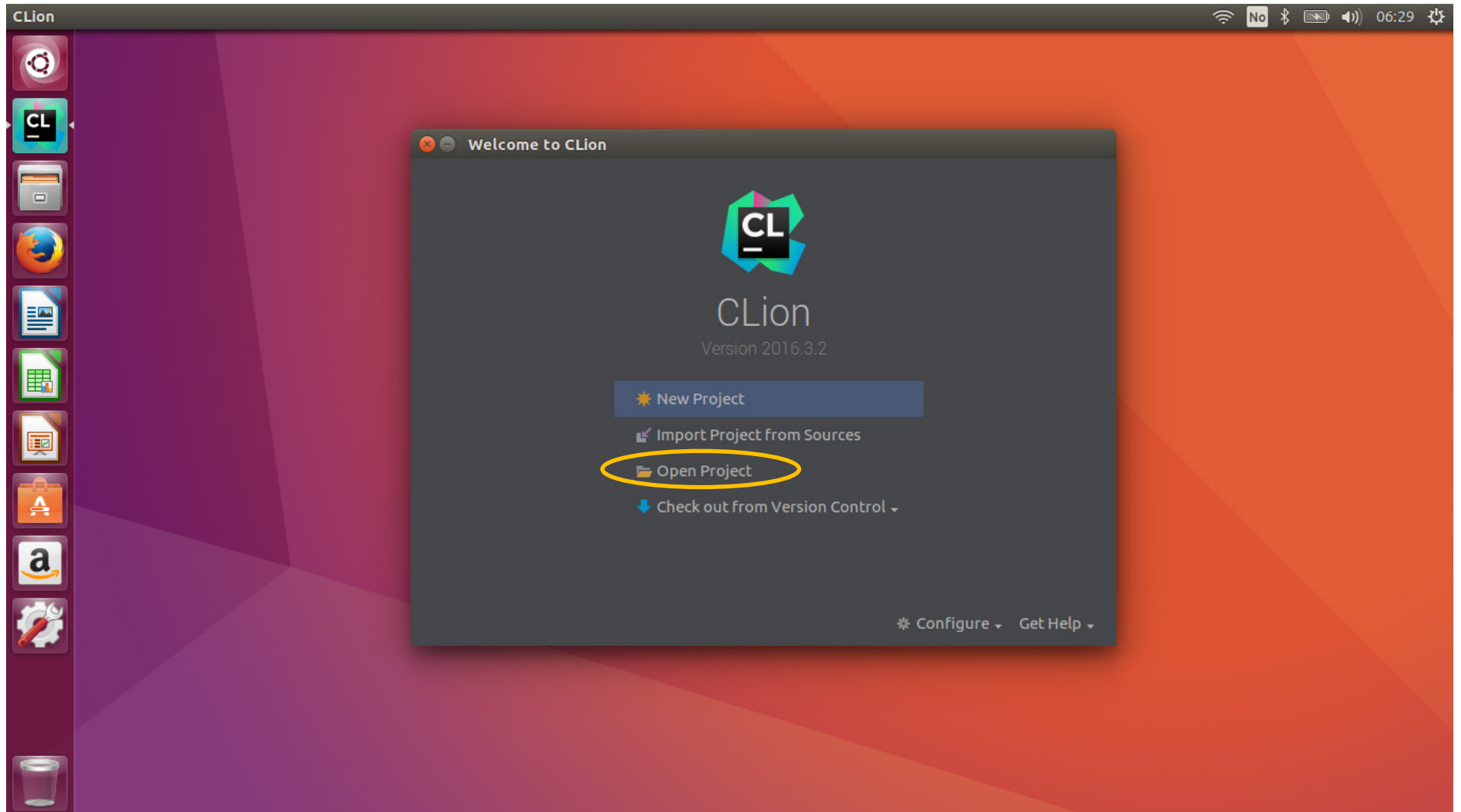
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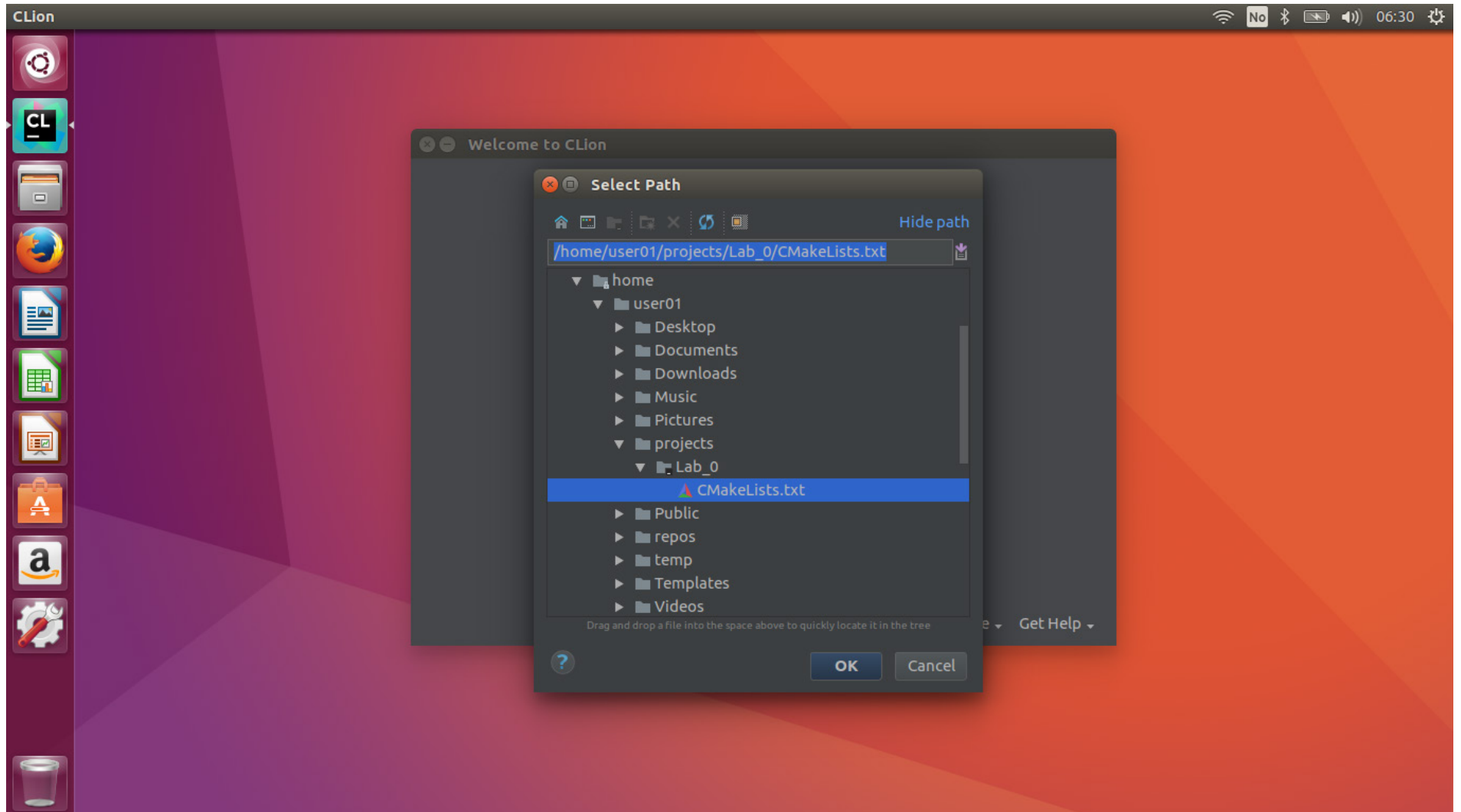
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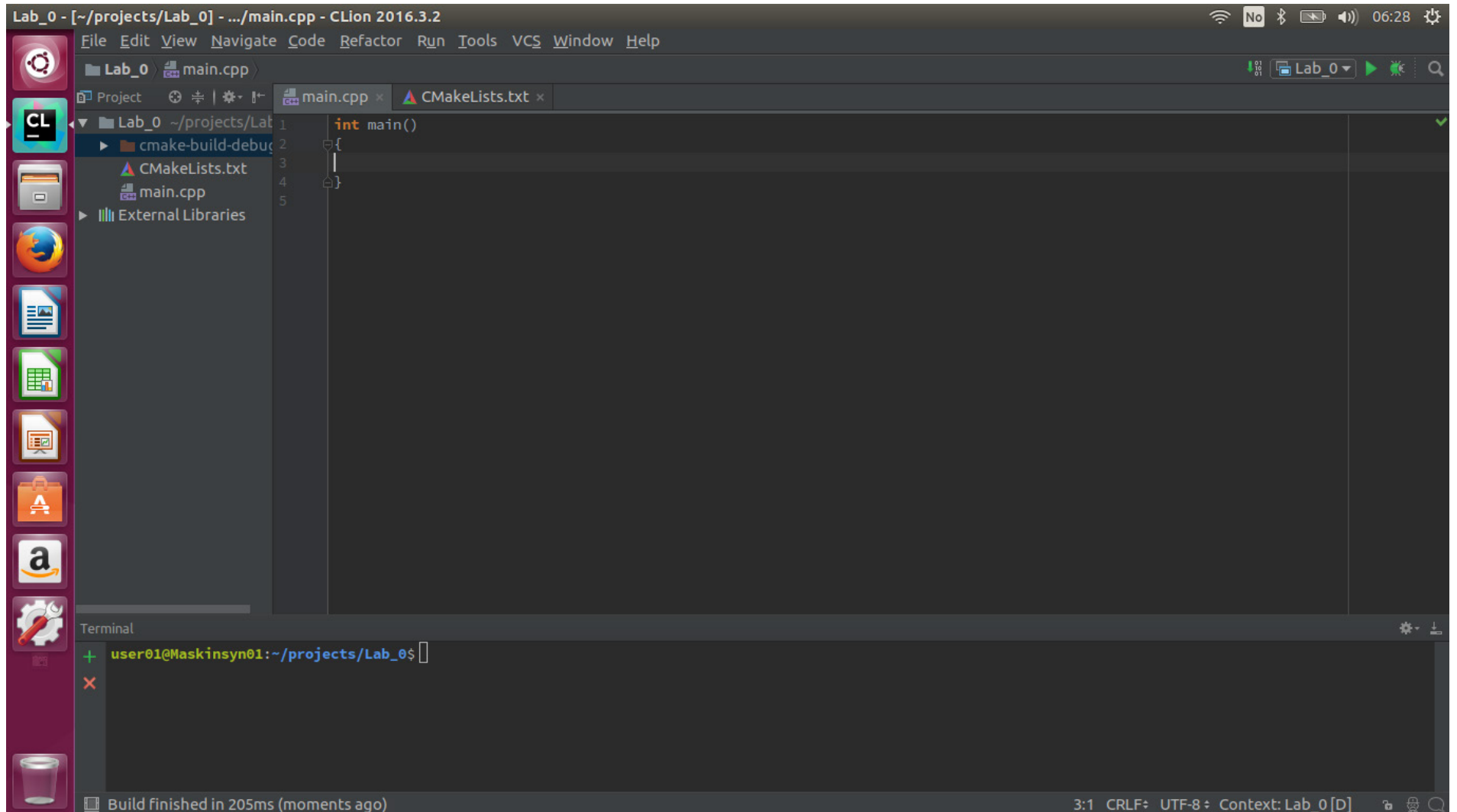
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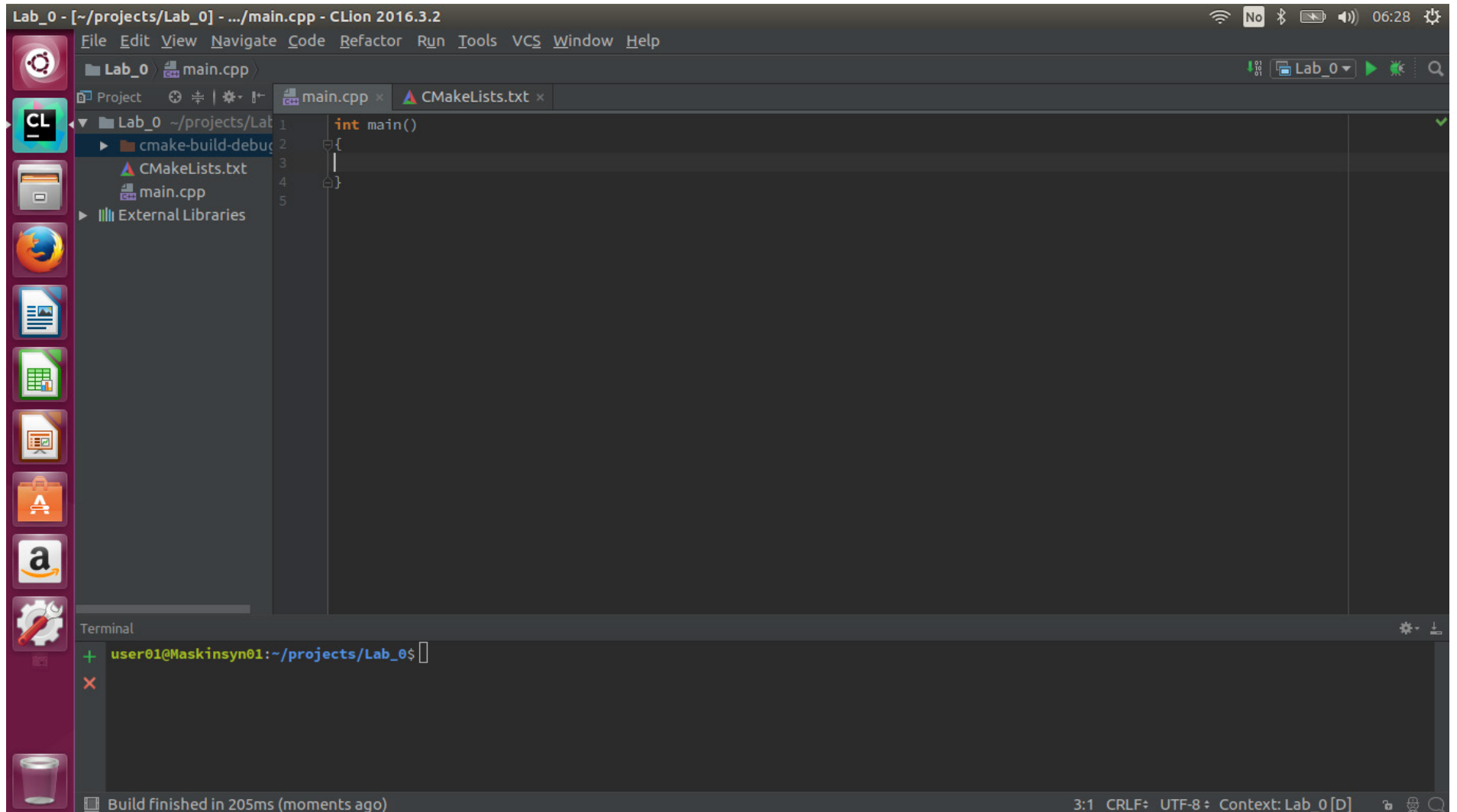


# Del 1: Åpne prosjekt i Clion





## Del 2: Lese og vise frem live video



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```
1  #include "opencv2/opencv.hpp"
2
3  int main()
4  {
5      cv::VideoCapture cap{1};
6      if (!cap.isOpened()) return -1;
7
8      std::string win_name = "Lab 0: Introduction to OpenCV";
9      cv::namedWindow(win_name);
10
11     for (;;)
12     {
13         cv::Mat frame;
14         cap >> frame;
15
16         cv::imshow(win_name, frame);
17         if (cv::waitKey(30) >= 0) break;
18     }
19 }
20
```

## Del 3: Videoprosessering!

- Prosesser hver frame og vis frem resultatet!
- Noen forslag:
  - `cv::blur` ([http://docs.opencv.org/3.2.0/d4/d86/group\\_imgproc\\_filter.html](http://docs.opencv.org/3.2.0/d4/d86/group_imgproc_filter.html))
  - `cv::Canny` ([http://docs.opencv.org/3.2.0/dd/d1a/group\\_imgproc\\_feature.html](http://docs.opencv.org/3.2.0/dd/d1a/group_imgproc_feature.html))
  - Ta differansen mellom to etterfølgende bilder  
([http://docs.opencv.org/3.2.0/d2/de8/group\\_core\\_array.html](http://docs.opencv.org/3.2.0/d2/de8/group_core_array.html))
- Lek! Ta en titt på OpenCV-dokumentasjonen
  - <http://docs.opencv.org/3.2.0/>

# Nyttige ressurser

- C++
  - <http://en.cppreference.com/w/>
- OpenCV
  - <http://docs.opencv.org/3.2.0/>
  - [http://docs.opencv.org/3.2.0/d9/df8/tutorial\\_root.html](http://docs.opencv.org/3.2.0/d9/df8/tutorial_root.html)
- Clion
  - <https://www.jetbrains.com/clion/documentation/>
  - [https://resources.jetbrains.com/assets/products/clion/CLion\\_ReferenceCard.pdf](https://resources.jetbrains.com/assets/products/clion/CLion_ReferenceCard.pdf)