

# Passos para instalação da CGAL no Linux (Ubuntu 16.04)

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## Atualizar o apt-get

- 1) `sudo apt-get update`
- 2) `sudo apt-get upgrade`

## Instalar as bibliotecas necessárias no sistema

### Instalar os pacotes CGAL

- 3) `sudo apt-get install libcgal-dev`
- 4) `sudo apt-get install libcgal-demo`

### Instalar os pacotes da biblioteca Qt5 (para exemplos com interface gráfica)

Qt module	devpackage	libpackage
bluetooth	qtconnectivity5-dev	libqt5bluetooth5
concurrent	qtbase5-dev	libqt5concurrent5
connectivity	qtmobility-dev	libqtconnectivity1
contacts	qtmobility-dev	libqt5contacts5
core	qtbase5-dev	libqt5core5a
dbus	qtbase5-dev	libqt5dbus5
designer	qtools5-dev	libqt5designer5
designercomponents	qtools5-dev	libqt5designercomponents5
feedback	qtmobility-dev	libqt5feedback5
gallery	qtmobility-dev	libqtgallery1
gui	qtbase5-dev	libqt5gui5

help	qttools5-dev	libqt5help5
location	qtmobility-dev	libqt5location5
multimedia	qtmultimedia5-dev	libqt5multimedia5
multimediakit	qtmobility-dev	libqtmultimediakit1
network	qtbase5-dev	libqt5network5
nfc	qtconnectivity5-dev	libqt5nfc5
opengl	libqt5opengl5-dev	libqt5opengl5
organizer	qtmobility-dev	libqt5organizer5
positioning	qtpositioning5-dev	libqt5positioning5
printsupport	qtbase5-dev	libqt5printsupport5
publishsubscribe	qtmobility-dev	libqt5publishsubscribe5
qml	qtdeclarative5-dev	libqt5qml5
quick	qtdeclarative5-dev	libqt5quick5
quickparticles	qtdeclarative5-dev	libqt5quickparticles5
quicktest	qtdeclarative5-dev	libqt5quicktest5
quickwidgets	qtdeclarative5-dev	libqt5quickwidgets5
script	qtscript5-dev	libqt5script5
scripttools	qtscript5-dev	libqt5scripttools5
sensors	qtmobility-dev, libqt5sensors5-dev	libqt5sensors5
serialport	libqt5serialport5-dev	libqt5serialport5
serviceframework	qtmobility-dev	libqt5serviceframework5
sql	qtbase5-dev	libqt5sql5
svg	libqt5svg5-dev	libqt5svg5
systeminfo	qtmobility-dev	libqt5systeminfo5
test	qtbase5-dev	libqt5test5
uitools	qttools5-dev	?
versit	qtmobility-dev	libqtversit1
webchannel	?	?
webkit	libqt5webkit5-dev	libqt5webkit5
websockets	libqt5websockets5-dev	libqt5websockets5
widgets	qtbase5-dev	libqt5widgets5
x11extras	libqt5x11extras5-dev	libqt5x11extras5
xml	qtbase5-dev	libqt5xml5
xmlpatterns	libqt5xmlpatterns5-dev	libqt5xmlpatterns5

5) `sudo apt-get install qtbase5-dev qttools5-dev qtdeclarative5-dev qtscript5-dev qtmobility-dev qtconnectivity5-dev qtmultimedia5-dev qtpositioning5-dev libqt5opengl5-dev libqt5svg5-dev`

## Instalar a biblioteca libqglviewer para os demos 3D (opcional)

6) `sudo apt-get install libqglviewer-dev`

## Instalar o Cmake

7) Baixar o Cmake [https://cmake.org/files/v3.8/cmake-3.8.0-rc4-Linux-x86\\_64.sh](https://cmake.org/files/v3.8/cmake-3.8.0-rc4-Linux-x86_64.sh)

8) Executar `cmake-3.8.0-rc4-Linux-x86_64.sh` mudando as permissões para execução

9) Adicionar no PATH o caminho para o diretório que contém o binário do cmake.

## Aplicar Patch a boost

### Details

Description:

The up to date CGAL 4.7-3 package relies on a struct that has been deprecated in Boost 1.60 -- `type_traits::ice_and`.

Attempting to compile the CGAL triangulated surface mesh segmentation examples (e.g., listed in the documentation [http://doc.cgal.org/latest/Surface\\_mesh\\_segmentation/index.html](http://doc.cgal.org/latest/Surface_mesh_segmentation/index.html)) results in compilation errors:

```
...
/usr/include/CGAL/internal/Surface_mesh_segmentation/AABB_traits.h:49:5: error: 'ice_and'
is not a member of 'boost::type_traits'
boost::type_traits::ice_and<
^
/usr/include/CGAL/internal/Surface_mesh_segmentation/AABB_traits.h:49:5: error: 'ice_and'
is not a member of 'boost::type_traits'
...
```

Possible fixes:

\* (Ideal fix:) Apply the small upstream patch from

<https://github.com/CGAL/cgal/commit/5614ed7500f6f0359643de890f412a3d382e56e8> and re-package.

\* Impose a version lock<Boost 1.60 for CGAL until 4.8. (I do not know the release timeline for 4.8.)

No arquivo AABB\_traits.h substituir as linhas em vermelho pelas linhas em verde.

**replace ice\_and by &&**  
ice\_and was deprecated in boost 1.60

🔗 master (#680) 🔗 releases/CGAL-4.9 ... releases/CGAL-4.8-beta1

👤 sloriot committed on 26 Jan 2016 1 parent [cb0ea96](#) commit [5614ed7500f6f0](#)

📄 Showing 1 changed file with 4 additions and 8 deletions.

```
12 Surface_mesh_segmentation/include/CGAL/internal/Surface_mesh_segmentation/AABB_traits.h
@@ -45,10 +45,8 @@ class AABB_traits_SDF :
45 45
46 46 // activate functions below if K::FT is floating point and fast_bbox_intersection = true
47 47 template <class K>
48 - typename boost::enable_if<
49 - boost::type_traits::ice_and<
50 - boost::is_floating_point<typename K::FT>::value,
51 - fast_bbox_intersection>,
48 + typename boost::enable_if_c<
49 + boost::is_floating_point<typename K::FT>::value && fast_bbox_intersection,
52 50 bool >::type
53 51 operator()(const CGAL::Segment_3<K>& segment, const Bounding_box& bbox) const {
54 52 const Point_3& p = segment.source();
@@ -65,10 +63,8 @@ class AABB_traits_SDF :
65 63 }
66 64
67 65 template <class K>
68 - typename boost::enable_if<
69 - boost::type_traits::ice_and<
70 - boost::is_floating_point<typename K::FT>::value,
71 - fast_bbox_intersection>,
66 + typename boost::enable_if_c<
67 + boost::is_floating_point<typename K::FT>::value && fast_bbox_intersection,
72 68 bool >::type
73 69 operator()(const CGAL::Ray_3<K>& ray, const Bounding_box& bbox) const {
74 70 const Point_3& p = ray.source();
@@
```

0 comments on commit [5614ed7](#)

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## Compilar exemplos e demos

- Ir para o diretório `/usr/share/doc/libcgal-demo`
- Entra na pasta `demo` ou `exemples`
- Escolher um diretório e invocar `cmake` .
- Executar `make`