**Case Study:**

**OSRM Project**

1. **Introduction:**

Open Source Routing Machine (OSRM) is high performance routing engine written in C++ designed to run on OpenStreetMap data.

It contains:

- OSRM backend writing in C++ for Routing Server

- OSRM frontend for User-facing frontend with map

You can read more at: https://github.com/Project-OSRM/osrm-backend/wiki

This document provides the guide (steps by steps) for building simple OSRM integration in local machine (Windows 10 64bit).

Some issues during installation are also recorded and solutions for fix. It also contains a simple demo run in local.

1. **Building OSMR from Source**

There are 2 ways to building OSRM: by Docker or build from source. In this case study, we choose build from source to .exe and .dll file – that can be run in windows.

* 1. **Device Requirements**

The device for building OSRM must install some apps & features before start:

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Version | Link Download | Description |
| Windows 10 64 bit (or newer) | 10 or newer |  | OS |
| Microsoft Visual Studio 2015 with Microsoft Visual C++ 2015 Redistributable(x64) | 2015 or latest (in demo using 2022 Preview) | https://visualstudio.microsoft.com/ | For compile and running C++ |
| CMake | Minimum required version is 3.7.0 with Boost 1.62 version supported in FindBoost.cmake | https://cmake.org/download/ | For building source |
| Vcpkg | Latest | https://github.com/microsoft/vcpkg | For install dependencies |
| NodeJs | 4.x LTS | https://nodejs.org/en | Running OSRM Frontend |
| Python | Latest |  | For install dependencies by Conan |

* 1. **Building OSRM Backend**

The OSRM Backend is written in C++ and building by CMake. For summary, the steps can break down to 3 steps:

* + - * Download and extract sources from Git
      * Install Dependencies by Vcpkg
      * Building project by Cmake in Visual Studio

Let’s start.

**2.1. Prepare source code:**

If you’ve installed Git, you can checkout by these commands in Git Bash:

git clone https://github.com/Project-OSRM/osrm-backend.git

cd osrm-backend

# optionally checkout a particular revision/tag

git checkout v5.27.1

If you would like to build a specific release (optional), you can list the release tags with git tag -l and then checkout a specific tag using git checkout tags/<tag\_name>.

By the way,if you don’t have Git in your device, you can simplely download sources from this link: <https://github.com/Project-OSRM/osrm-backend/archive/refs/tags/v5.27.1.zip>

Then extract zip files to destination folder.

1. **Running OSMR**
2. **Demo Server**