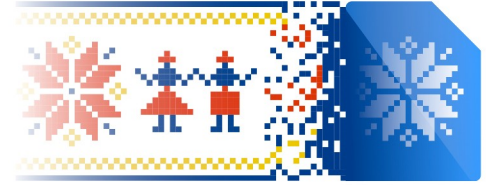


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**LibreOffice**  
The Document Foundation



# **Workshop: Introduction to LibreOffice Development**

*Building LibreOffice from source  
code*

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# Topics

- ▼ Building LibreOffice from source code
  - ▼ Prerequisites for Setting up development environment
    - ▼ Windows / Linux / macOS
  - ▼ Getting sources
  - ▼ Configuring
  - ▼ Compiling
  - ▼ Running LibreOffice
  - ▼ Running SDK examples
  - ▼ Generating documentation

# Setting up development environment

# Build instructions

- ▼ Build instructions
  - ▼ Follow the instructions on the Wiki
  - ▼ Platform specific build instructions
    - ▼ [https://wiki.documentfoundation.org/Development/How\\_to\\_build](https://wiki.documentfoundation.org/Development/How_to_build)
  - ▼ Make sure you use the correct build instructions
    - ▼ Installing prerequisites
    - ▼ Getting sources
    - ▼ Configuring
    - ▼ Compiling
  - ▼ Running LibreOffice

# Installing dependencies

## ▼ **Manual or using distro tools?**

- ▼ You have to install several libraries and tools
- ▼ Some of them are installed using make
- ▼ Others have to be installed manually or using distro tools
  - ▼ Cygwin on Windows
  - ▼ apt on Ubuntu
  - ▼ dnf or yum on RHEL / CentOS
  - ▼ pacman on Arch
  - ▼ zypper on openSUSE

# Linux prerequisites

- ▼ Building LibreOffice on Linux and \*BSD systems
  - ▼ Dependent on the distribution
    - ▼ DEB based: Debian, Ubuntu, mint, etc.
    - ▼ RPM based: Red Hat (RHEL), Fedora, openSUSE
    - ▼ Other distros: Arch Linux, Slackware, etc.
    - ▼ BSD
  - ▼ Distro specific instructions are in the Wiki
    - <https://wiki.documentfoundation.org/Development/BuildingOnLinux>

# Using LODE

- ▼ **LODE: LibreOffice Development Environment**

- ▼ Downloads, builds and installs the prerequisites

- ▼ **When it is needed?**

- ▼ Suggested for Windows and macOS
- ▼ Suggested for some older versions of Linux

- ▼ **Notes**

- ▼ You can use distro tools for newer versions of Ubuntu and RHEL
- ▼ You have to install MSVC, SDK and JDK yourself (Windows)
- ▼ You have to install compiler and JDK yourself (Older Linux distros)

# Windows Prerequisites

## ▼ **C++ Compiler**

- ▼ Visual Studio 2019 / 2022 with C++ and specific packages

## ▼ **Java**

- ▼ JDK  $\geq$  17 from Oracle / Microsoft / Red Hat / etc.

## ▼ **Cygwin**

- ▼ [cygwin.com](http://cygwin.com)

## ▼ **Several other dependencies, if building manually**



# Linux Prerequisites

- ▼ **g++**

- ▼ **Java development kit (JDK)**

- ▼ JDK  $\geq$  17

- ▼ **Dependencies**

- ▼ Ubuntu: `./install_deps.sh`

- ▼ `apt-get build-dep libreoffice` may not work with older versions

- ▼ RHEL/CentOS: `dnf builddep libreoffice`

- ▼ **Recommended way to install dependencies**

- ▼ Use distro tools for most of them

# MacOS Prerequisites

- ▼ **XCode** from App Store
- ▼ **Java development kit (JDK)**
  - ▼ JDK  $\geq$  17
- ▼ Recommended way to install dependencies
  - ▼ Use **LODE**
- ▼ **Use current XCode on the current macOS version**

# Building on Different Operating Systems

# General Compile Instructions

- ▼ **General instructions (please follow the Wiki for more details)**
  - ▼ Install the prerequisites
  - ▼ Get the source: `git clone https://git.libreoffice.org/core`
  - ▼ You need an `autogen.input` file for the configuration
    - ▼ Suggestion: `--enable-dbgutil --enable-odk --without-doxxygen --enable-python=fully-internal`
  - ▼ Configure with `./autogen.sh`
  - ▼ Build by invoking `make`
    - ▼ Then, wait for a few hours :-)
  - ▼ Run the program
    - ▼ `instdir/program/soffice` (Windows/Linux)
    - ▼ `open instdir/LibreOfficeDev.app` (macOS)

# Integrated Development Environment (IDE)

## ▼ Usable IDEs

▼ Visual Studio Code (VSCode)

▼ Microsoft Visual Studio:

▼ Microsoft Visual Studio Code:

▼ Qt Creator:

▼ KDevelop:

▼ Vim

▼ Xcode

make vs-ide-integration

make vscode-ide-integration

make qtcreator-ide-integration

make kdevelop-ide-integration

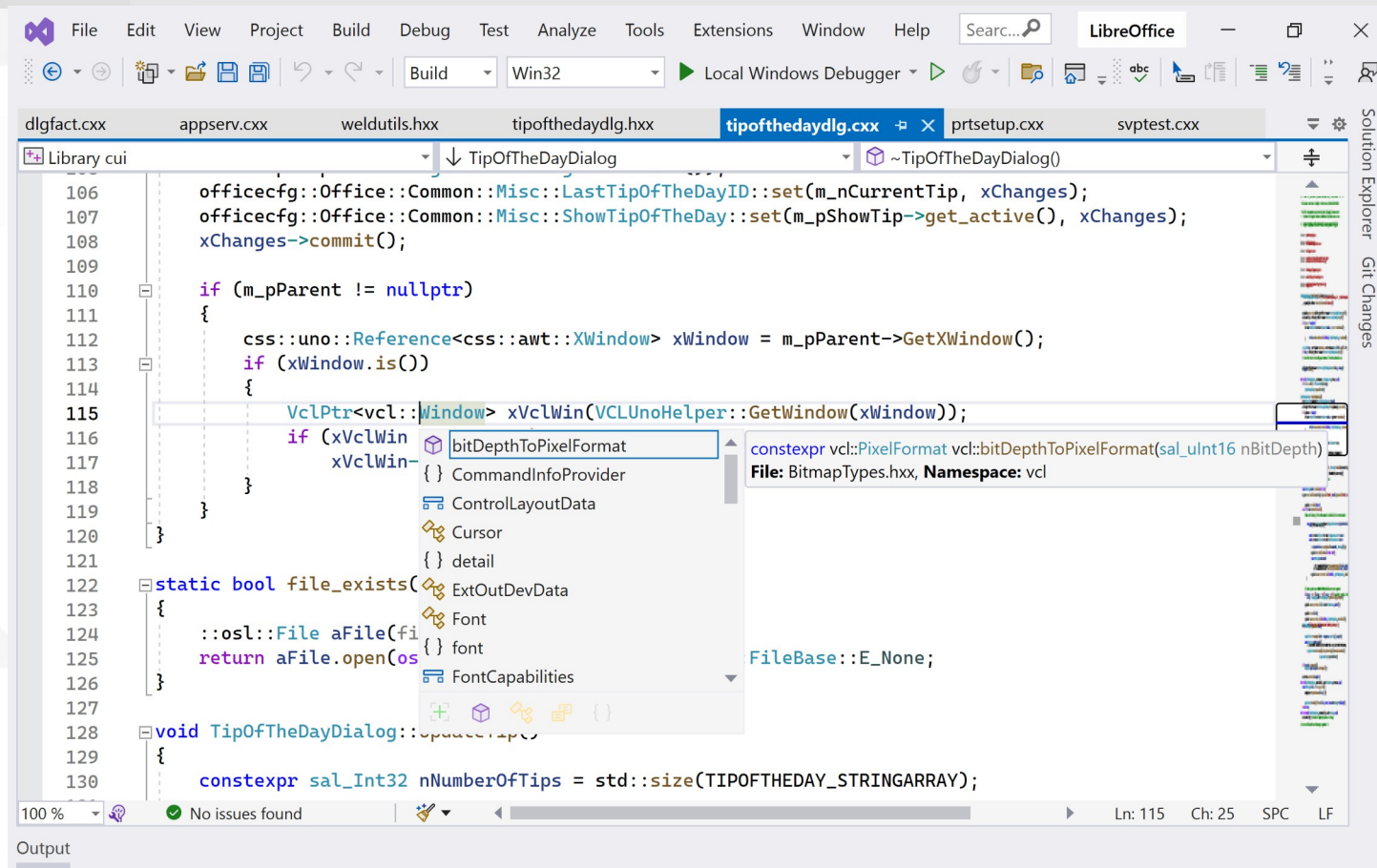
make vim-ide-integration

make xcode-ide-integration

## ▼ Open the project after it was created!

# You are good to go!

- ▶ Open your IDE
- ▶ Open the project
- ▶ Auto-complete should work and help the development
- ▶ Debug is another important useful feature needed for the real development
- ▶ Build from IDE works for some IDE/platforms



The screenshot shows the LibreOffice IDE interface. The main window displays C++ code for a class named `TipOfTheDayDialog`. The code includes several methods and a static function. An auto-completion popup is visible over the code, showing a list of suggestions for the variable `xVclWin`. The suggestions include `bitDepthToPixelFormat`, `CommandInfoProvider`, `ControlLayoutData`, `Cursor`, `detail`, `ExtOutDevData`, `Font`, `font`, and `FontCapabilities`. A tooltip for `bitDepthToPixelFormat` is also visible, showing its definition: `constexpr vcl::PixelFormat vcl::bitDepthToPixelFormat(sal_uInt16 nBitDepth)` from `File: BitmapTypes.hxx, Namespace: vcl`. The IDE's status bar at the bottom indicates "No issues found" and shows the current line and column as "Ln: 115 Ch: 25".

```
106 officecfg::Office::Common::Misc::LastTipOfTheDayID::set(m_nCurrentTip, xChanges);
107 officecfg::Office::Common::Misc::ShowTipOfTheDay::set(m_pShowTip->get_active(), xChanges);
108 xChanges->commit();
109
110 if (m_pParent != nullptr)
111 {
112     css::uno::Reference<css::awt::XWindow> xWindow = m_pParent->GetXWindow();
113     if (xWindow.is())
114     {
115         VclPtr<vcl::Window> xVclWin(VCLUnoHelper::GetWindow(xWindow));
116         if (xVclWin)
117             xVclWin->
118     }
119 }
120
121
122 static bool file_exists(
123 {
124     ::osl::File aFile(fi
125     return aFile.open(os
126 }
127
128 void TipOfTheDayDialog::updateTips()
129 {
130     constexpr sal_Int32 nNumberOfTips = std::size(TIPOFTHEDAY_STRINGARRAY);
```

# Thank you ...

▼ Thank you for your patience!



# LibreOffice

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