

LIBOCON19

How to debug the Online conveniently

By Szymon Kłos

**Consultant Associate Software Engineer
at Collabora Productivity**



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Agenda

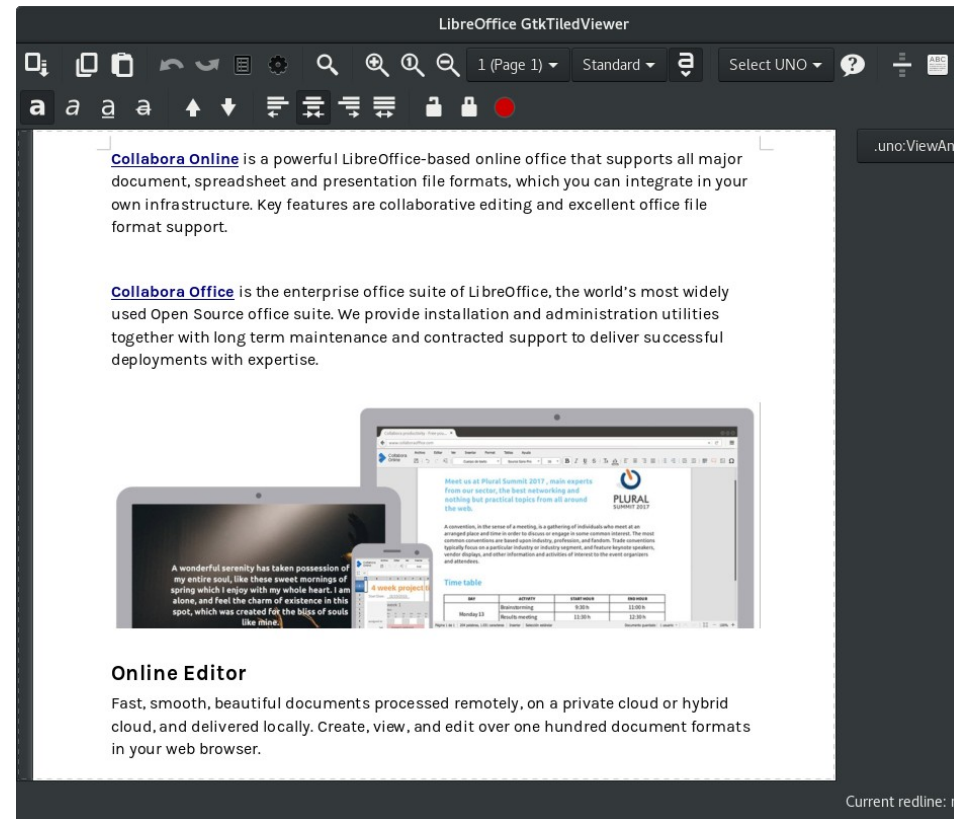
- **GtkTiledViewer**
- **Chrome inspector, remote mobile debugging**
- **Integrations - webview debugging**
- **Browser-sync**
- **Eslint - compatibility checking**

GtkTiledViewer

- Instead of JS client there is a Gtk application
- For debugging the core code in “Online mode”
- Using normal gdb like in desktop case

```
G_MESSAGES_DEBUG=all  
LO_TRACE='gdb --tui -args'
```

```
bin/run gtktilviewer -lo-path=/path/to/core/instdir/program /path/to/the/file.ods
```





Chrome inspector, remote mobile debugging

- For debugging JS code in the browser
- Works like a normal debugger
- Has the console for printing
- Network ta for watching the requests and responses
- To debug remotely the session on Android device - enable USB debugging



Console, requests...

Elements Console Sources Network Performance Memory >> 1 1

top Filter Default levels 5 hidden

- ✖ GET http://192.168.43.245:9980/loleaflet/d6c_loleaflet.html?file_.../hello-world.odt:49 14622c/branding.css net::ERR_ABORTED 404
- ⚠ [Deprecation] Synchronous XMLHttpRequest on the main thread is deprecated because of its detrimental effects to the end user's experience. For more help, check <https://xhr.spec.whatwg.org/>.
- Set old/lastContent to empty ClipboardContainer.js:526
- Set old/lastContent to empty ClipboardContainer.js:526
- 5 onMessage: window.fullyLoadedAndReady: true, bundlejs

Elements Console Sources Network Performance Memory >> 1 1

View: [Icons] Group by frame Preserve log Disable cache Offline

Filter Hide data URLs

All XHR JS CSS Img Media Font Doc WS Manifest Other

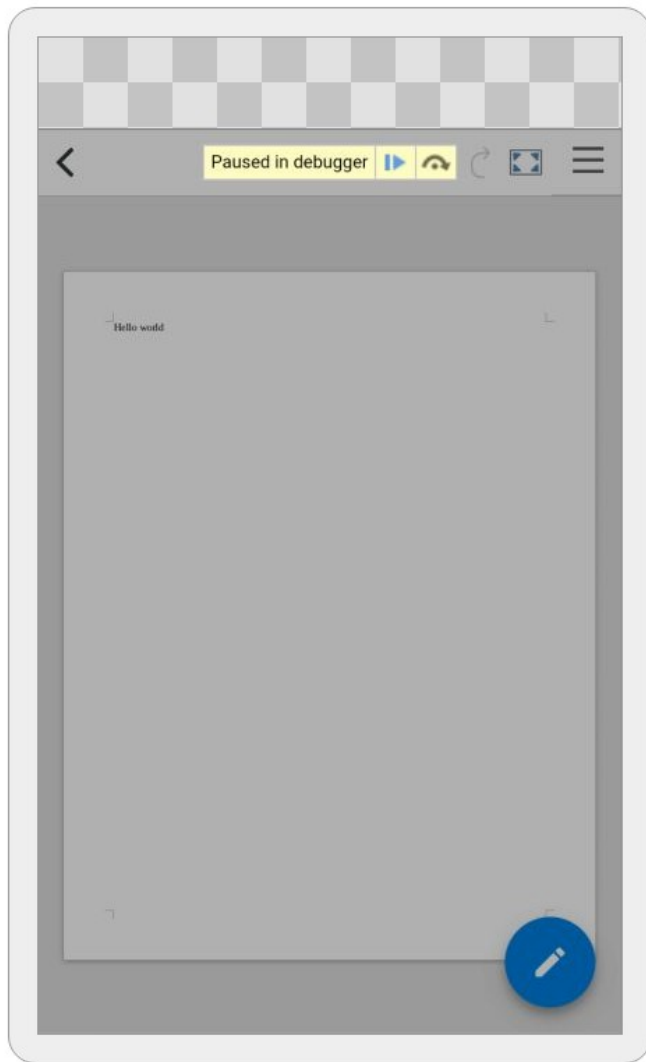
500 ms 1000 ms 1500 ms 2000 ms 2500 ms 3000 ms 3500 ms 4000 ms 4500 ms 5000 ms

Name	Status	Type	Initiator	Size	Time	Waterfall
help-localizations.js...	200	xhr	l10n.js:62	86 / B	35 ms	[Waterfall bar]
w2ui-1.5.rc1.js	200	script	loleaflet.html?file_pa...	155 KB	1.31 s	[Waterfall bar]
locale.js	200	script	loleaflet.html?file_pa...	819 B	28 ms	[Waterfall bar]
toolbar.js	200	script	loleaflet.html?file_pa...	20.6 KB	34 ms	[Waterfall bar]
main.js	200	script	loleaflet.html?file_pa...	1.4 KB	21 ms	[Waterfall bar]

222 requests | 946 KB transferred | Finish: 4.21 s | DOMContentLoaded: 4.03 s | Load: 4.09 s



Demo...



Page >> global.js main.js Map.js x

```

661  getZoom: function () {
662    return this._zoom;
663  },
664
665  getBounds: function () {
666    var bounds = this.getPixelBounds(),
667        sw = this.unproject(bounds.getBottomLeft()),
668        ne = this.unproject(bounds.getTopRight());
669
670    return new L.LatLngBounds(sw, ne);
671  },
672
673  getMinZoom: function () {
674    return this.options.minZoom === undefined ? this._lay
675  },
676
677  getMaxZoom: function () {
678    return this.options.maxZoom === undefined ?
679        (this._layersMaxZoom === undefined ? Infinity : t
680        this.options.maxZoom;
681  },
682
683

```

Line 662, Column 15

Paused on breakpoint

Call Stack

- getZoom Map.js:662
- _preFetchTiles GridLayer.js:1181
- setInterval (async)
- (anonymous) GridLayer.js:1294
- setTimeout (async)

Scope Watch

```

initComplete: true
initConditions: {doclayerinit: true,...
keyboard: NewClass {_map: NewClass, ...
lastActionByUser: false
lastActiveTime: 1568216720732
menubar: NewClass {options: {...}, _in...
options: {server: "ws://192.168.43.2...
printHandler: NewClass {_map: NewCla...
slideShow: NewClass {_map: NewClass,...
stateChangeHandler: NewClass {_map: ...

```

Console What's New Remote devices x

Redmi 4X #4502bc97ce40

Devices

Redmi 4X
● Connected

Chrome (71.0.3578.99)

New tab: Enter URL

Settings

http://192.168.43.245:3000/loleaflet/96c23f663/loleaflet.html?file_path=file:///home/eszka/lo/online/test/data/hello-world.odt



How to enable debugging in Android

For Android 4.2 or newer the Developer options are hidden by default

- Go to **Settings > About**
- Tap **the Build number seven times** to make Settings > Developer options available
- Then check the **USB Debugging**
- On linux adding udev rules is needed <https://github.com/M0Rf30/android-udev-rules>



Integrations

- In the browser - just an iframe → Chrome inspector
- In the Android application - needs the build with a webview debugging enabled:

```
if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.KITKAT) {  
    WebView.setWebContentsDebuggingEnabled(true);  
}
```



Browser-sync

- **Before restart was required to refresh JS or HTML and CSS → long time to see even a small change**
- **Partial solution: when edited in real time in Chrome**
 - developer needs to manually copy all changes to the original files
 - easy to forget something
- **Browser-sync allows to automatically reload the view if served file was changed**
- **Integrated on Hackweek sponsored by Collabora Productivity**

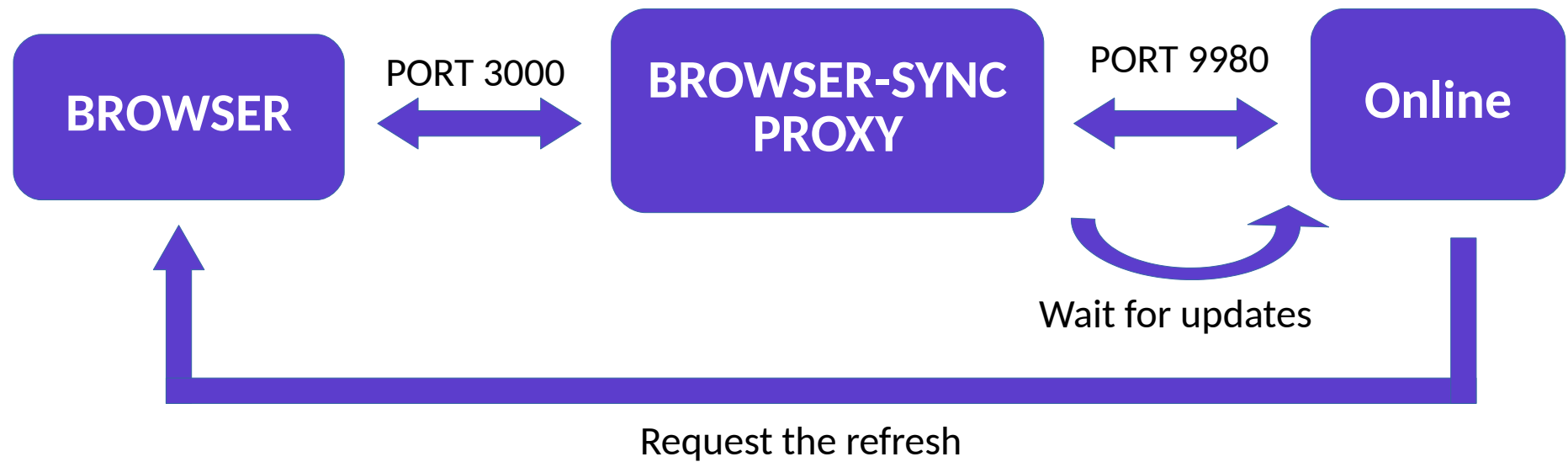


Video...



Browser-sync: how it works

- Setup a proxy for application





Browser-sync: File change indication

- Needed change in makefile to add symbolic links in the destination directory instead of copy for source files





Browser-sync: how to enable

- Use `--enable-browsersync` switch to configure the project (and do `make clean`)
- You should see the confirmation in the summary:

```
see capabilities -> setup enabled
Browsersync          enabled: create symlinks in the target directory

$ make # to compile
$ make run # to start lolwsd
$ make sync-writer|calc|impress # to start browsersync with specified app
```

- Then run server in one console: `make run -jN`
- And run browser-sync in another: `make sync-writer`



Eslint – compatibility checking (upcoming)

- JS code doesn't run on all the browsers in the same way
- There are functions that doesn't work on some browsers (eg. Internet Explorer, include)
- I extended eslint to check compatibilities and warn about not supported syntax

```
eszka@linux-uyyx:~/lo/online
/home/eszka/lo/online/loleaflet/src/control/Signing.js
121:5 warning Promise.all() is not supported in IE 11 compat/compat
/home/eszka/lo/online/loleaflet/src/core/Browser.js
34:68 warning navigator.maxTouchPoints() is not supported in Safari 11, Fire
fox 56 compat/compat
/home/eszka/lo/online/loleaflet/src/layer/tile/TileLayer.js
2813:34 warning Number.MAX_SAFE_INTEGER() is not supported in IE 11 compat/
compat
/home/eszka/lo/online/loleaflet/src/map/Clipboard.js
54:4 warning document.oncut() is not supported in Edge 16 compat/compat
55:4 warning document.oncopy() is not supported in Edge 16 compat/compat
56:4 warning document.onpaste() is not supported in Edge 16 compat/compat
* 6 problems (0 errors, 6 warnings)
Generating loleaflet.html...
build loleaflet completed
```



ESLint – compatibility checking

Configuration:

.eslintrc – used in warn mode to not be annoying

"compat/compat": "warn"

.browserslistrc – list of browsers to check, fluent syntax:

"> 0.5%, last 2 versions, Firefox ESR, not dead"

"not ie <= 8"



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Thank you!

By Szymon Kłos

szymon.klos@collabora.com

eszka