

A Users' Guide to USN, SIMS, and MIC LyX Template

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Preface

This guide is about using LyX for USN BSc. Thesis (English/Norsk), MSc. Project, MSc. Thesis, and PhD Thesis. Also contains information for using SIMS and MIC templates explained in Chapter 4. The .cls file containing is taken from <https://github.com/dietmarw/USN-LaTeX/tree/master/Theses> and modified/used under permission. The class file has been modified wherever necessary, for instance, in case using single LyX template for MSc. Project and Thesis, the USN-MSc.cls file has been modified for generating template for MSc. Project. This guide does not teach you LyX, however, following this guide those who are familiar with LyX can use this template for generating L^AT_EX report.

The motivation for creating these templates comes, from suggestions, from my supervisor *Bernt Lie* here at USN-Campus Porsgrunn during my Master Thesis from Jan to May, 2019. I was able to use USN Master Thesis template in LyX following *a great guide* created by *a great guy*, *Ole M. Brastein* (ole@bedko.com). This template would not have exist if the L^AT_EX classes and style files were not created by *Prof. Dietmar Winker*; his coding conventions are such an explicit that I was able to edit internal .cls, .sty, etc files to make the LyX templates works. If I were a reader following this guide I would have followed @dietmarw in GitHub.

Chapter 1

Introduction

Those who want to use **USN-Lyx-Template** directly should follow along and/or from Chapter 2. And those who want to use **SIMS conference and MIC journal templates** should follow from Chapter 4.

1.1 L^AT_EX to LyX

Once the L^AT_EX is mastered or at least with basics or sometimes it is too messy to manage a large project using L^AT_EX as a solution, many L^AT_EX users switch to LyX. However, all the templates for working on specific L^AT_EX templates are not available in LyX. In this case, people should either opt L^AT_EX templates as in retrospect or they should use .cls, .sty, .bst, etc files available from specific L^AT_EX templates to make their own templates for LyX. However, creating LyX template for a specific L^AT_EX project is often tedious or daunting for end-users. Apart from that, with still a few basic knowledge of placing L^AT_EX files like .cls, .sty, .bst, etc. to a specific structure and/or folders will make LyX able to generate desired L^AT_EX reports.

1.2 LyX Structure for L^AT_EX Template Files

A general L^AT_EX templates consists at least a L^AT_EX class denoted by .cls extension upon which a .tex file is developed as a L^AT_EX template used for generating L^AT_EX document. All other files under L^AT_EX template such as .sty, .bst, .cfg, etc. are required for generating specific L^AT_EX reports on purpose. The structure and/or folders for placing these files in L^AT_EX template is not rigorous or flexible-placing as long as path for files are correctly defined. However, this is not a case for LyX templates.

LyX templates, relying on TeX distributions (eg. MiKTeX), are based on (TeX Directory Structure) TDS for placing .cls files. The TDS structure contains folder structure like, ~TeXMF/latex/tex/... for holding .cls and/or .sty files. Furthermore, a .layout file is also used by LyX for describing a layout.

Before developing a template for LyX, the TeX distribution used by LyX (in our case MiKTeX), should be aware of TDS-complaint directory tree i.e TDS folder containing .cls and/or .sty files

which can be set up from MiKTeX console. In addition as a setting for LyX, LyX should know the layout information for the template and the .cls and/or .sty files has been added in MiKTeX.

1.3 Further Reading for More Informations

A guide named as *A Guide to Using LATEX Templates in LyX* for using L^AT_EX templates in LyX is created by Ole M. Brastein (ole@bedko.com). Readers are requested to follow this templates available as <http://www.bedko.com/download/LyxGuide.pdf> .

Chapter 2

How to use USN Lyx Templates?

Before following this Chapter users are requested to download LyX 2.3.3 and MiKTeX 2.9.

2.1 Using USN-Lyx-Template: *USNBSc.lyx*

Goto <https://github.com/pandeyusudan27/USN-Lyx-Template> and download or clone this repository to your local computer and place it to your local directory.

2.1.1 About the downloaded USN-Lyx-Template

The downloaded file consists of USN-Lyx-Template as a main folder. The inner folder includes templates for BSc Thesis, MSc Project and Thesis, and for PhD Thesis. Each templates consists folders and files.

For the USN-BSc-Lyx-Templates the files and folders are shown in Figure 2.1. It has two folders and four files. The *fig* folders contains figures used in the project. The *LocalTeXMF* contains the TDS-complaint directory structured as *LocalTeXMF/latex/tex/lyx/...* and contains file *USN-base.cls*, *USN-BSc.cls*, and *unscolours.sty*; the \LaTeX class and style file for the \LaTeX templates. The README.md is just a markdown file containing information about the templates and/or can be empty and unimportant. The thesis.bib is the bibliography file used by LyX to generate references and to edit this file JabRef¹ is recommended. *USN-BSc.layout* is the layout file used by LyX which should be selected in LyX to use. Finally, *USNBSc.lyx* is the core file where the document is written using functionality of LyX and proceeded further for generating documents.

2.1.2 Step by step procedure to use USN-BSc-Lyx-Template

Now I guess you have downloaded MiKTeX, LyX and JabRef application. Also, I hope you have clone or downloaded USN-LyX-Template from GitHub in your computer and placed it in your working directory somewhere in your computer.

- **Settings for MiKTeX**

1. Open the MiKTeX console (Just type MiKTeX in windows search and click on MiKTeX

¹It is a application for managing bibtex databases. <http://www.jabref.org/>.







 fig	9/4/2019 1:25 AM	File folder	
 LocalTeXMF	9/4/2019 1:25 AM	File folder	
 README.md	9/2/2019 9:17 PM	MD File	1 KB
 thesis.bib	9/2/2019 9:17 PM	BibTeX	7 KB
 USN-BSc.layout	9/4/2019 1:29 AM	LAYOUT File	1 KB
 USNBSc.lyx	9/4/2019 1:48 AM	LyX Document	31 KB

Figure 2.1: USN-BSc-Lyx-Template.

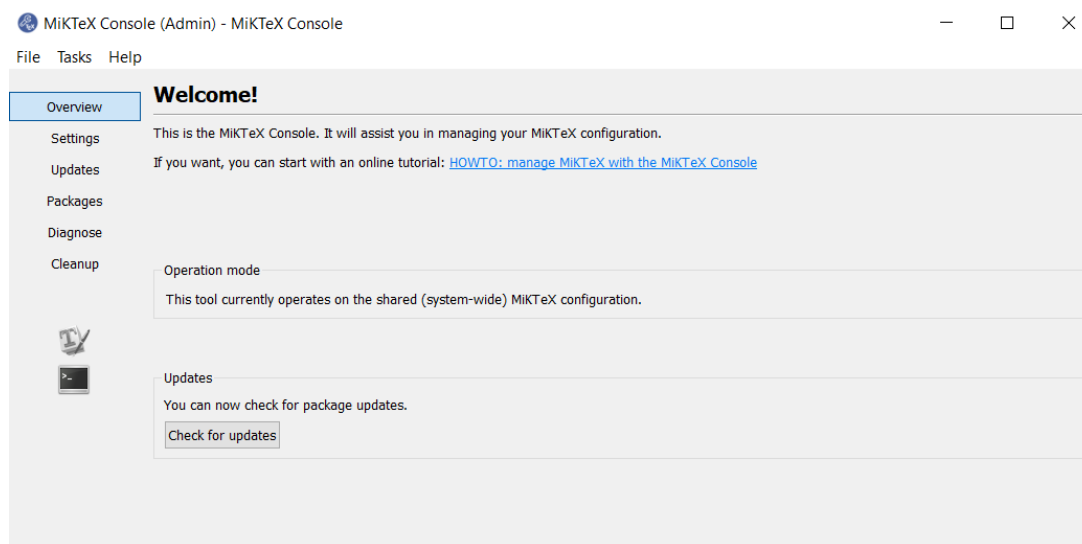


Figure 2.2: MiKTeX welcome screen

console app; and if asked for admin permission proceed on that). Now you should be able to see MiKTeX welcome screen like in Figure 2.2.

2. Now GoTo Settings and Click on +button like in Figure 2.3 and select LocalTeXMF directory under USN-BSc-Lyx-Template.
3. Now the LocalTeXMF directory should be listed in MiKTeX directory as in Figure 2.4.
4. Now GoTo Tasks and click on Refresh file name database like in Figure 2.5. This is all for MiKTeX settings.

- Settings for LyX

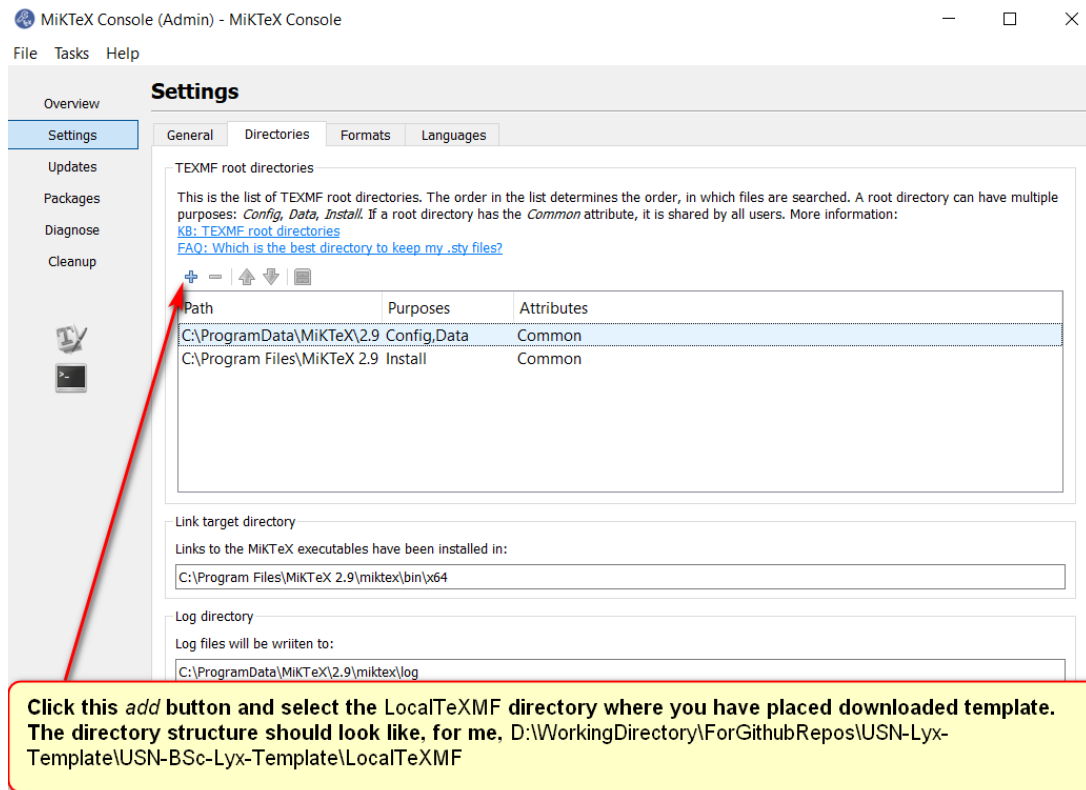


Figure 2.3: Click on Add button and select LocalTeXMF directory.

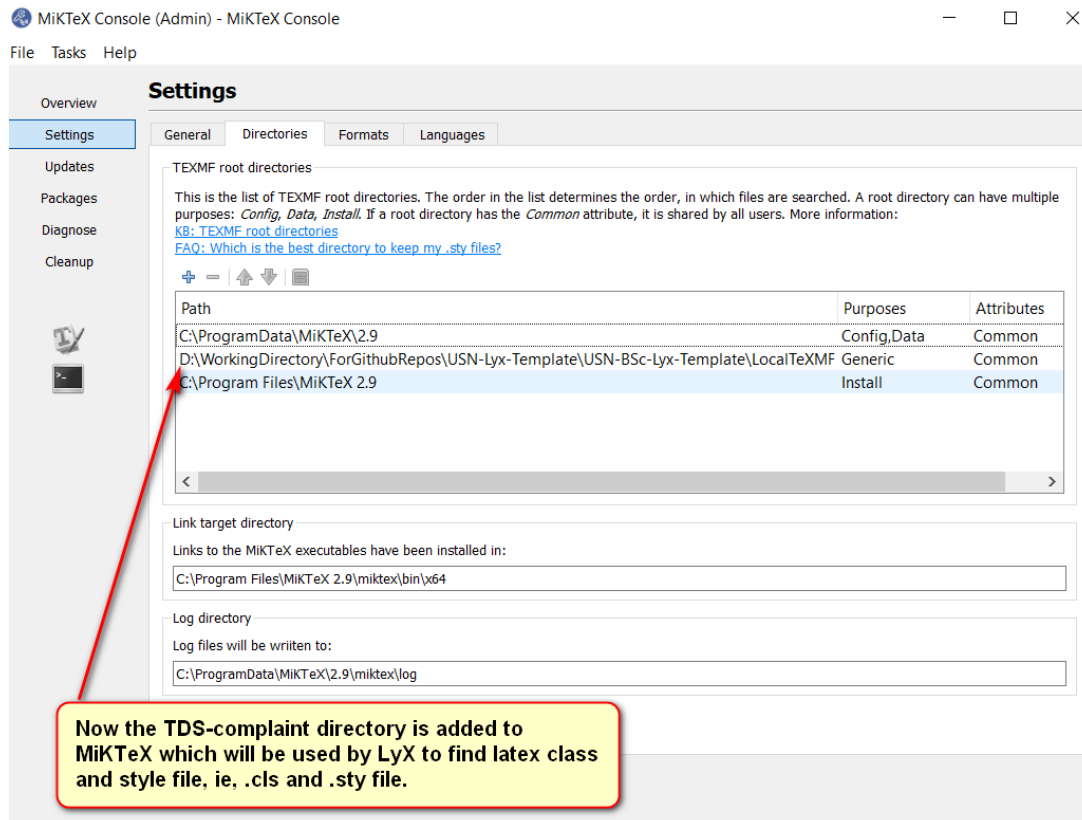


Figure 2.4: LocalTeXMF directory is now added to MiKTeX.

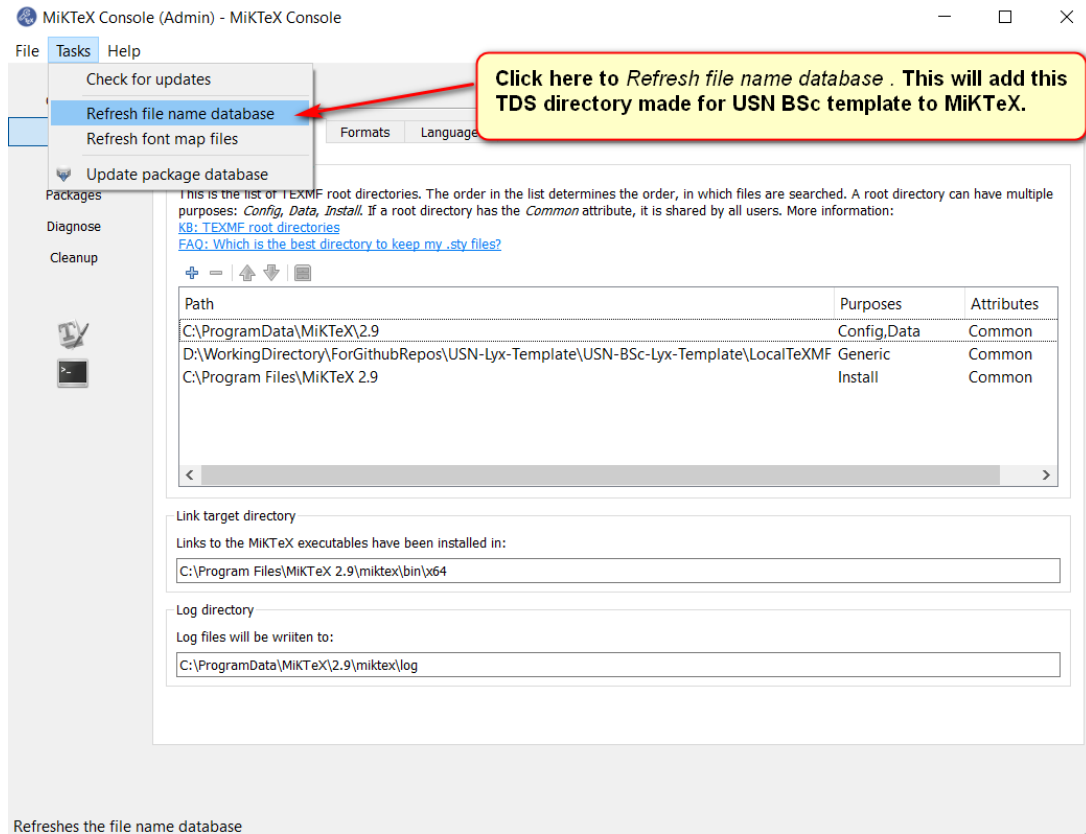


Figure 2.5: Refreshing MiKTeX database so that it contains \LaTeX .cls and .sty files for USN BSc thesis template.

1. Now in the downloaded directory under USN-BSc-Lyx-Template you should find *USNBSc.lyx* file. Open this file (It may warn you telling *Lyx: Document class not available* just click OK.) Now you should see screen as shown in Figure 2.6.
2. Click on *Tools* and then to *Tex Information* as in Figure 2.7.
3. Then, click on *Rescan* as in Figure 2.8. Now you should be able to see *USN-BSc.cls* and *USN-base.cls*. in the \LaTeX classes.
4. GoTo *Document* and then to Settings as in Figure 2.9.
5. Now select the Local Layout file and we are all go to go as in Figure 2.10.
6. To View the document generated by LyX compile the document as shown in Figure 2.11.

2.1.3 Inside *USNBSc.lyx*

Inside *USNBSc.lyx* you should see the template file containing combination of \LaTeX code box and ERT of LyX containing Chapters. The document used here is in Norwegian. To change it to English you need to GoTo *Document>Settings>Language* and then select the preferred language.

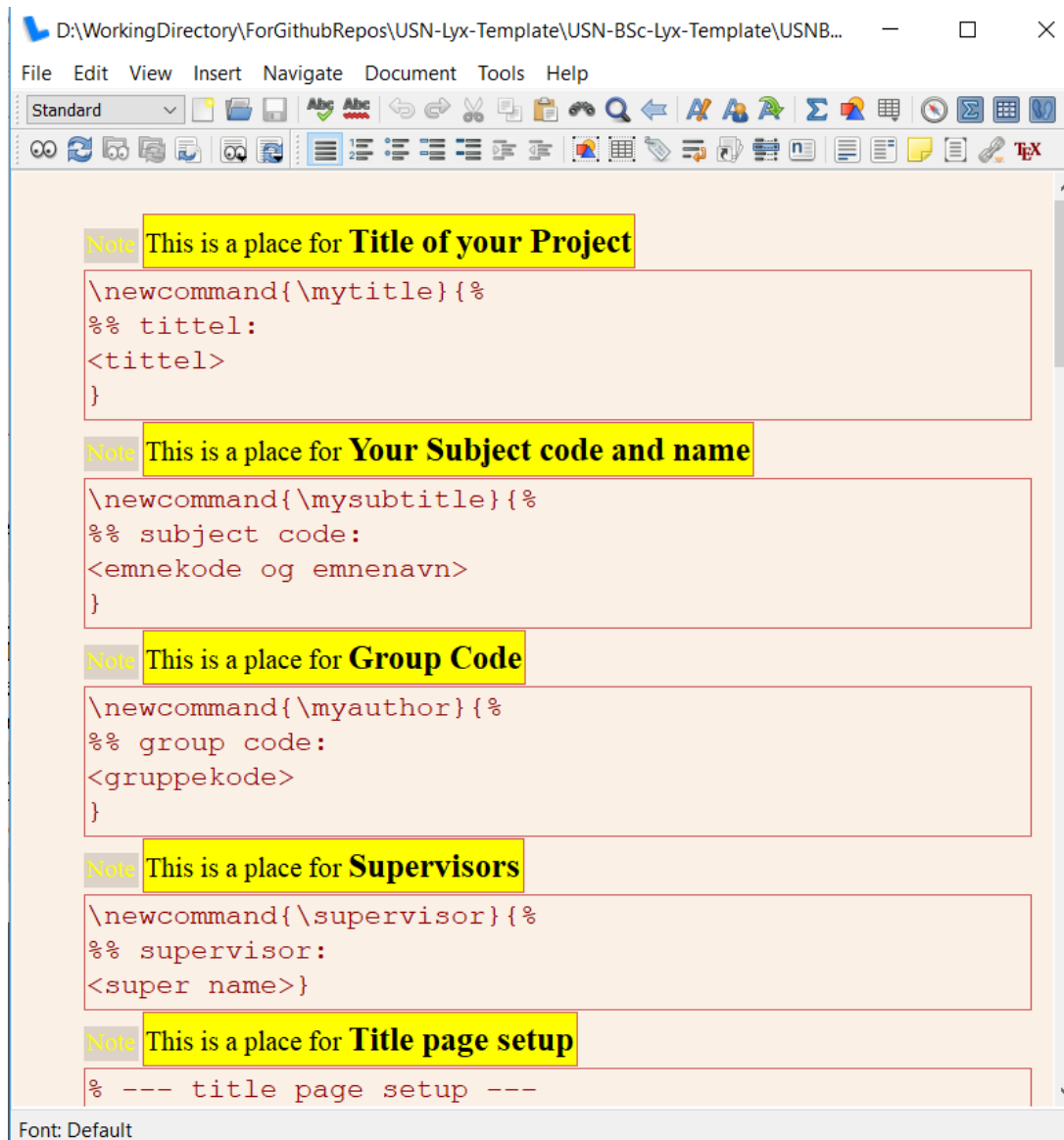


Figure 2.6: LyX welcome scree.

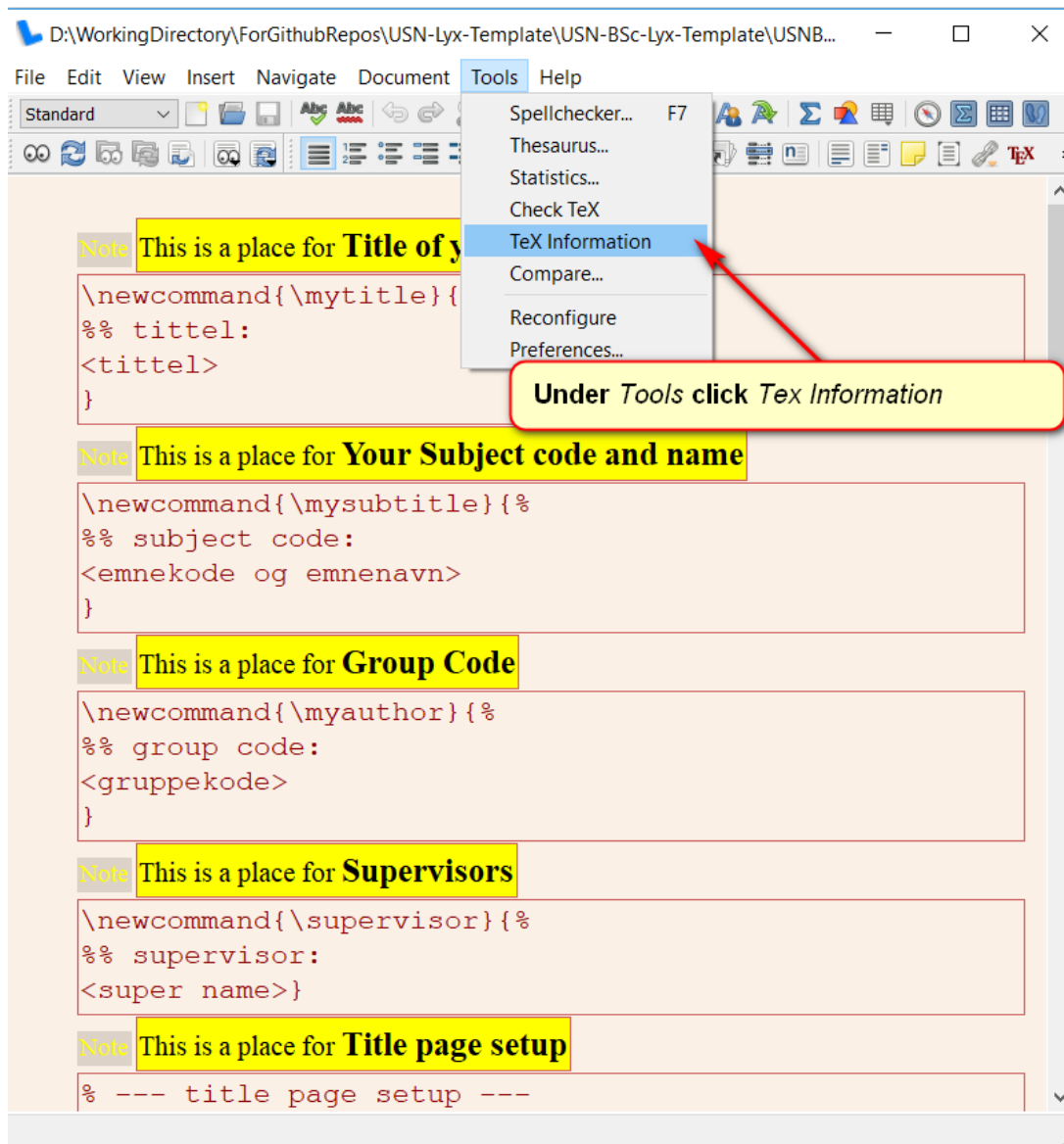
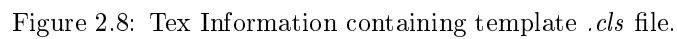


Figure 2.7: Click on Tools and then to TeX information.



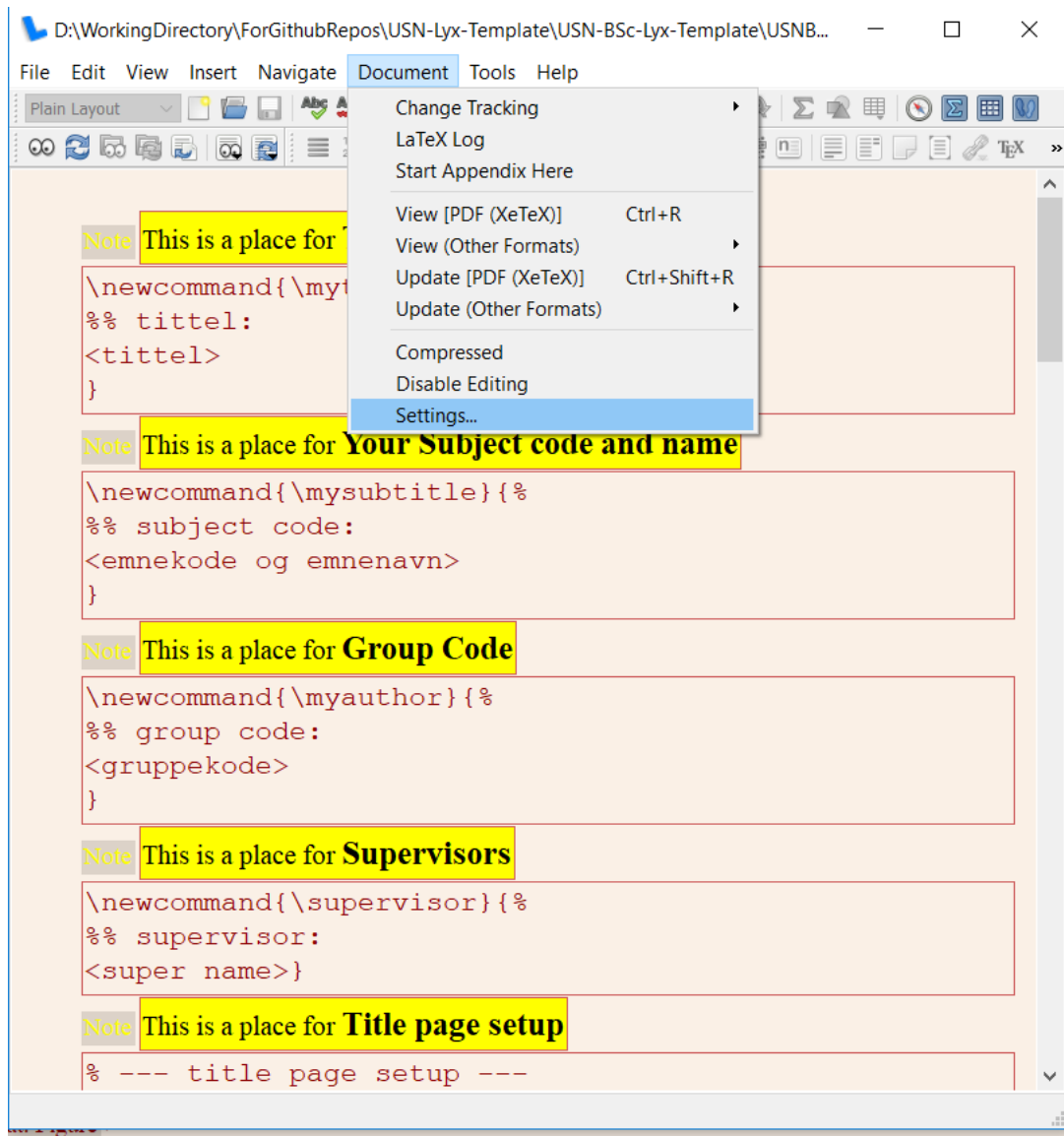


Figure 2.9: Settings for LyX documents.

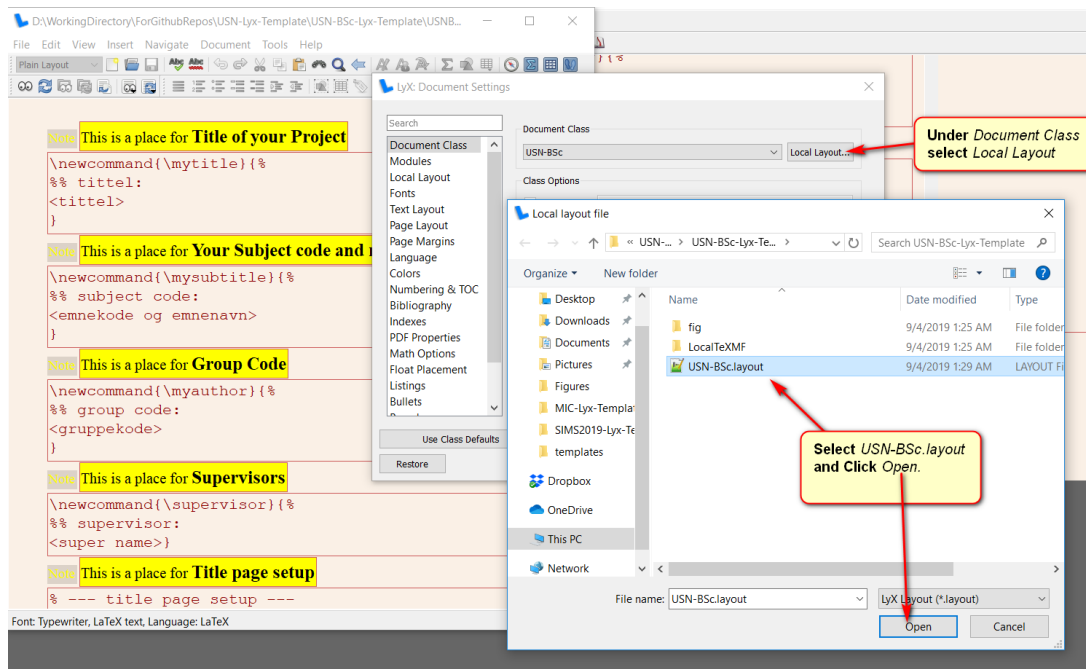


Figure 2.10: Selecting Local Layout for USN-BSc Thesis Template.

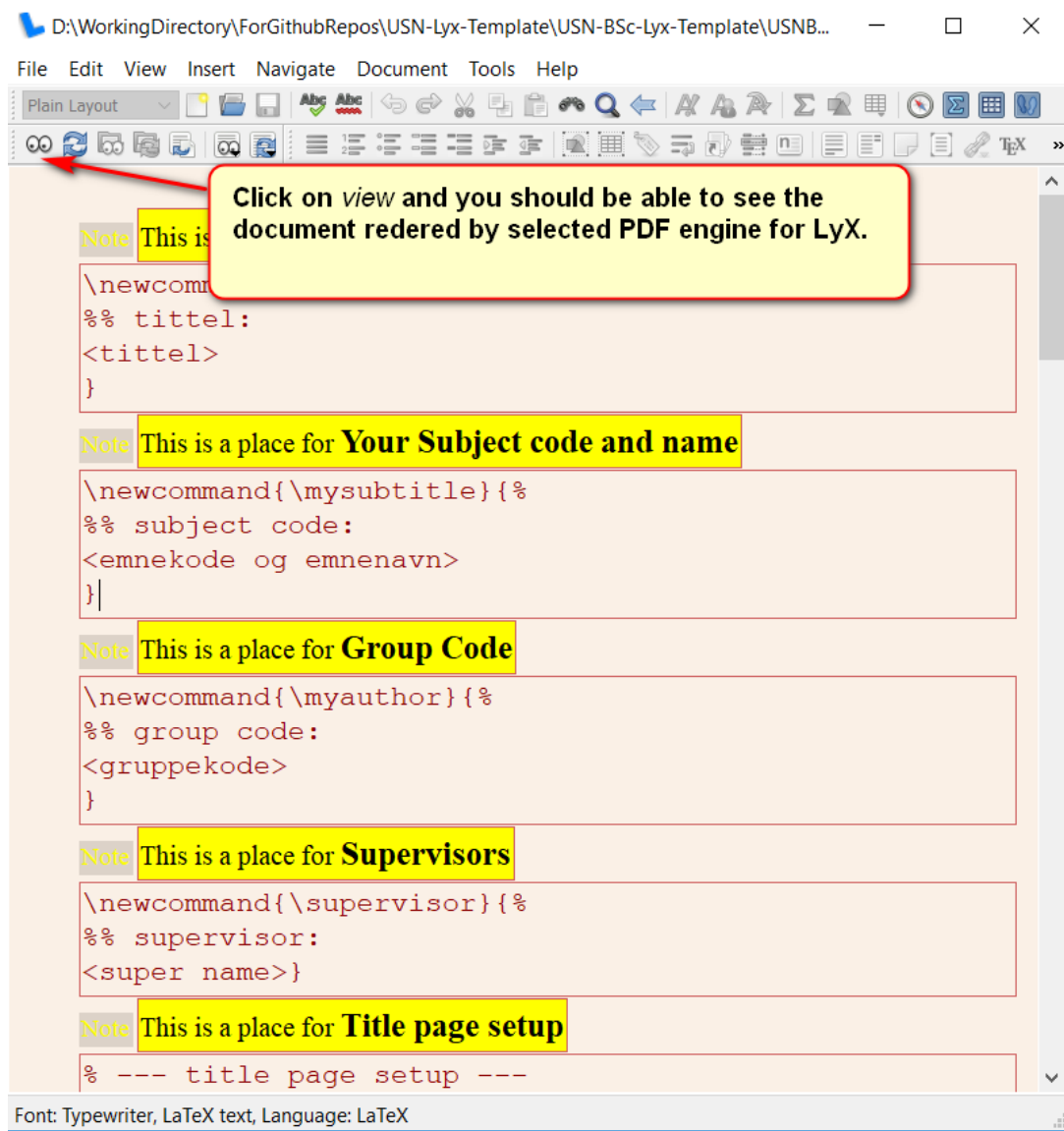


Figure 2.11: Compile LyX clicking on *View*. You should be now able to see the document rendered by PDF engine selected for LyX.

Chapter 3

Using Templates for USN MSc Project, Thesis and PhD Thesis

Same as that explained in Chapter 2 you should repeat the process to use LyX templates for MSc and PhD.

Chapter 4

Using SIMS conference and MIC Journal Templates

You can find the SIMS conference and MIC journal templates at <https://github.com/pandeysudan27/Journal-Conference-Lyx-Templates>. Download or clone to your working directory and follow steps as in Chapter 2.

A short **Caution: The Latex errors occurs in SIMS and MIC templates while compiling, however, you should be able to generate the PDF report by clicking on *Show Output Anyway*.**

The MIC template is edited in such a way that it generates an extra page, *page 0* to mock the correct output. The real report is the pages after this page.

Chapter 5

Conclusion

The errors while compiling LyX template for SIMS and MIC creates the errors. Advance users are requested to create a pull request in GitHub at <https://github.com/pandey Sudan27/Journal-Conference-Lyx-Templates> and can contribute to make the templates errors free.

In case of any questions or suggestion readers can email me at pandey Sudan1@gmail.com.