

Getting Ready for Arduino FLOSS

Spoken Tutorial Project

<https://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

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Learning Objectives



Learning Objectives

- **How to download the e-book and code files from the FLOSS-Arduino website**



Learning Objectives

- **How to download the e-book and code files from the FLOSS-Arduino website**
- `Arduino Shield`



Learning Objectives

- **How to download the e-book and code files from the FLOSS-Arduino website**
- Arduino Shield
- **Microcontroller Programming with Arduino IDE**



Learning Objectives

- **How to download the e-book and code files from the FLOSS-Arduino website**
- Arduino Shield
- **Microcontroller Programming with Arduino IDE**
- FLOSS firmware



System Requirements

To record this tutorial, I am using



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- **Ubuntu Linux OS version 18.04**



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- **Arduino Uno Board**



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- **Ubuntu Linux OS version 18.04**
- **Arduino Shield**
- **Arduino Uno Board**
- **Arduino IDE**



Pre-requisites

To follow this tutorial, you should be familiar with :



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To follow this tutorial, you should be familiar with :

- **Arduino Uno Board**



Pre-requisites

To follow this tutorial, you should be familiar with :

- **Arduino Uno Board**
- **Any programming language**



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If not, then go through the relevant spoken tutorials on

<https://spoken-tutorial.org>



About Arduino



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Go through the [Arduino Spoken Tutorials](#) to know about:



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- **Hardware components**



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- **Installation of Arduino IDE**



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- Hardware components
- Installation of Arduino IDE
- Selecting the port in Arduino IDE
- **Compiling and uploading a program**



Arduino IDE Installation



Arduino IDE Installation

- **You have to install** Arduino IDE 1.8.13 **either in** Linux **or** Windows OS



Arduino IDE Installation

- **You have to install** Arduino IDE 1.8.13 **either in** Linux **or** Windows OS
- **Note that an internet connection is required to do the installation**



About FLOSS Firmware



About FLOSS Firmware

- **We have to upload the FLOSS firmware on the Arduino Uno board using Arduino IDE**



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- **We have to upload the FLOSS firmware on the Arduino Uno board using Arduino IDE**
- **This firmware is an Arduino file with `.ino` extension**



Why do we need FLOSS Firmware?



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- **This enables the communication between FLOSS and Serial port**



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- **It will decode and execute the commands sent by other FLOSS**



Why do we need FLOSS Firmware?

- This enables the communication between FLOSS and Serial port
- It will decode and execute the commands sent by other FLOSS
- For example FLOSS such as Python, Scilab, Julia, OpenModelica etc.



Points to remember:



Points to remember:

- **Whenever you plug the Arduino Uno board into the computer, check for the port**



Points to remember:

- Whenever you plug the Arduino Uno board into the computer, check for the port
- Then execute the command required for read-write permission



Points to remember:

- Don't upload any Arduino program after uploading the FLOSS firmware to Arduino Uno board



Points to remember:

- **Don't upload any Arduino program after uploading the FLOSS firmware to Arduino Uno board**
- **This would overwrite the FLOSS firmware**



Summary

- **How to download the e-book and code files from the FLOSS-Arduino website**
- **Arduino Shield**
- **Microcontroller Programming with Arduino IDE**
- **FLOSS firmware**



About the Spoken Tutorial Project

- Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- It summarises the Spoken Tutorial project
- If you do not have good bandwidth, you can download and watch it



Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- Conducts workshops using spoken tutorials
- Gives certificates to those who pass an online test
- For more details, please write to contact@spoken-tutorial.org



Forum for specific questions

- Do you have questions in **THIS Spoken Tutorial?**
- Please visit <http://forums.spoken-tutorial.org>
- Choose the minute and second where you have the question
- Explain your question briefly
- Someone from our team will answer them



Acknowledgements

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Thank You

Thanks for joining
<https://spoken-tutorial.org>

