

Overview of Python for Automation

Spoken Tutorial Project
<https://spoken-tutorial.org>

National Mission on Education through ICT

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Learning Objectives

In this tutorial we will learn about



Learning Objectives

In this tutorial we will learn about

- **Python for Automation**



Learning Objectives

In this tutorial we will learn about

- Python for Automation
- Libraries required for Automation



Learning Objectives

In this tutorial we will learn about

- Python for Automation
- Libraries required for Automation
- The content available in various tutorials in this series



System Requirements

To record this tutorial, I am using



System Requirements

To record this tutorial, I am using

- **Ubuntu Linux OS version 22.04**



Pre-requisites

To follow this series, you must have basic knowledge of using

- **Linux Terminal**



Pre-requisites

To follow this series, you must have basic knowledge of using

- Linux Terminal
- Python



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Pre-requisites

To follow this series, you must have basic knowledge of using

- Linux Terminal
- Python

If not, please go through the relevant spoken tutorials on this

<https://spoken-tutorial.org>



Python for Automation

- **Python's simple syntax enhances productivity**



Python for Automation

- Python's simple syntax enhances productivity
- Works seamlessly across different operating systems



Python for Automation

- Python's simple syntax enhances productivity
- Works seamlessly across different operating systems
- Python's extensive libraries can create automation solutions to fit specific needs



Libraries - Automation

- **Pytttsx3: It is a text-to-speech conversion library for Python**



Libraries - Automation

- **Pytttsx3: It is a text-to-speech conversion library for Python**
- **Language_tool_python: A Python wrapper for LanguageTool grammar and style check**



Libraries - Automation

- Selenium: **A tool for automating web browsers for testing and scraping**



Libraries - Automation

- Selenium: **A tool for automating web browsers for testing and scraping**
- Requests: **A simple HTTP library for making requests in Python**



Libraries - Automation

- **PyPDF2: Library for reading and manipulating PDF files in Python**



Libraries - Automation

- **PyPDF2: Library for reading and manipulating PDF files in Python**
- **beautifulsoup4: Library for parsing HTML and XML documents for web scraping**



Setup Python environment for Automation

In this tutorial, we will learn to

- **Install Python 3.12.3 in Ubuntu and Windows OS**



Setup Python environment for Automation

In this tutorial, we will learn to

- Install Python 3.12.3 in Ubuntu and Windows OS
- Create a Virtual environment



Setup Python environment for Automation

In this tutorial, we will learn to

- Install Python 3.12.3 in Ubuntu and Windows OS
- Create a Virtual environment
- Install necessary libraries required for automation



File Management

It explains

- **How to manage and organize files using Python**



File Management

It explains

- How to manage and organize files using Python
- List the type of files in a directory



File Management

It explains

- How to manage and organize files using Python
- List the type of files in a directory
- Error and exception handling



File Backup and Compression

Here, we will learn about

- Automate file backup using Python



File Backup and Compression

Here, we will learn about

- Automate file backup using Python
- Compress backups in various formats such as zip, tar.gz, tar.bz2



File Backup and Compression

Here, we will learn about

- Automate file backup using Python
- Compress backups in various formats such as zip, tar.gz, tar.bz2
- Schedule the backup process to run at a fixed time every day



File Encryption and Decryption

In this tutorial, we will learn to

- **Encrypt a folder using Symmetric Encryption**



File Encryption and Decryption

In this tutorial, we will learn to

- Encrypt a folder using Symmetric Encryption
- Generate a key



File Encryption and Decryption

In this tutorial, we will learn to

- Encrypt a folder using Symmetric Encryption
- Generate a key
- Decrypt the folder using the key



File Conversion

In this tutorial, we will learn to

- **Convert JPG images to PNG format**



File Conversion

In this tutorial, we will learn to

- Convert JPG images to PNG format
- Extract text from PDF file and convert to audio



File Conversion

In this tutorial, we will learn to

- Convert JPG images to PNG format
- Extract text from PDF file and convert to audio
- Convert a PDF file to DOCX format



Web Scrapping

In this tutorial, we will learn to

- Scrape data from any website



Web Scrapping

In this tutorial, we will learn to

- Scrape data from any website
- Extract it to a CSV file



Web Scrapping

In this tutorial, we will learn to

- Scrape data from any website
- Extract it to a CSV file
- **Perform basic data analysis**



Web Scrapping

In this tutorial, we will learn to

- Scrape data from any website
- Extract it to a CSV file
- Perform basic data analysis
- **Generate visualizations**



Spelling and Grammar Checker

In this tutorial, we will learn to

- **Create functions to identify spelling and grammar errors**



Spelling and Grammar Checker

In this tutorial, we will learn to

- Create functions to identify spelling and grammar errors
- Implement text processing techniques in Python



Spelling and Grammar Checker

In this tutorial, we will learn to

- Create functions to identify spelling and grammar errors
- Implement text processing techniques in Python
- Create a GUI application with a text area and buttons



Building and Training a ChatBot

In this tutorial, we will learn to

- **Create an auto-updatable Q n A database for a chatbot**



Building and Training a ChatBot

In this tutorial, we will learn to

- Create an auto-updatable Q n A database for a chatbot
- Compare input questions to database and find similarities



Building and Training a ChatBot

In this tutorial, we will learn to

- Create an auto-updatable Q n A database for a chatbot
- Compare input questions to database and find similarities
- Teach the chatbot to learn an answer that it does not know



Log monitor

In this tutorial, we will learn to

- **System logs**



Log monitor

In this tutorial, we will learn to

- System logs
- How to monitor logs



Summary

In this tutorial, we have learnt about

- Python for Automation
- Libraries required for Automation
- The content available in various tutorials in this series



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



Answers for THIS spoken tutorial

- Questions in THIS Spoken Tutorial
- Visit <https://forums.spoken-tutorial.org>
- Choose the minute and second where you have the question
- Explain your question briefly
- The Spoken Tutorial project will ensure an answer
- You will have to register to ask questions



Forum for specific questions

- The Spoken Tutorial forum is for specific questions on this tutorial
- Please do not post unrelated and general questions on them
- This will help reduce the clutter
- With less clutter, we can use these discussions as instructional material



FOSSEE Forum

- For any general or technical questions on Python for Automation, visit the FOSSEE forum and post your question <https://forums.fossee.in/>



Acknowledgement

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Thank you

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

