

## What is a Spoken Tutorial?

A Spoken Tutorial refers to explaining any computer-based activity with a screencast and a narration. The screencasting software captures all the activities on the screen along with the narration and plays it back as a movie. This movie is called a Spoken Tutorial.

The Spoken Tutorial can be used to explain the steps involved in carrying out any screen-based activity, such as using the features of some software.

### List of Scilab Spoken Tutorials

- Installation
- Getting Started
- Vector Operations
- Matrix Operations
- Scripts and Functions
- Conditional Branching
- Iteration
- Plotting 2-D graphs
- Polynomials
- Ordinary Differential Equations
- Single Board Heater System-Overview
- Single Board Heater System-Demo
- Xcos

These tutorials are also available in many Indian languages such as English, Hindi, Bengali, Telugu, Kannada, Marathi, Malayalam, Oriya.

For more information, please visit  
[http://spoken-tutorial.org/Study\\_Plans\\_for\\_Scilab](http://spoken-tutorial.org/Study_Plans_for_Scilab)

If you want to contribute to the Spoken Tutorial effort, please visit  
<http://spoken-tutorial.org/wiki/index.php/Scilab>  
or contact us at  
[contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)  
[sptutemail@gmail.com](mailto:sptutemail@gmail.com)

Spoken Tutorials is a major component of the "Talk To A Teacher" Project.

## We have two Scilab Mailing Lists:

For Announcements:  
<http://scilab.in/cgi-bin/mailman/listinfo/announce>

For Discussions:  
<http://scilab.in/cgi-bin/mailman/listinfo/discuss>

For more information contact us at:  
[contact@scilab.in](mailto:contact@scilab.in)

**Scilab is a major component of the FOSSEE (Free and Open source Software for Science and Engineering Education) project, funded by the National Mission on Education through Information and Communication Technology, launched by the Ministry of Human Resource Development, Government of India**

## Developed at IIT Bombay



Scilab is a cross-platform, free (free of cost and free to distribute and modify) and open source numerical computational package.

<http://scilab.in>  
<http://scilab.org>  
<http://fossee.in>

## National Mission on Education through ICT

An MHRD initiative



Talk to a teacher

<http://spoken-tutorial.org/NMEICT-Intro>

**Scilab** is a cross-platform, free and open source numerical computational package and an easy-to-use interpreted, high-level matrix based programming language with a versatile inbuilt mathematical library.

*It can be used for*

- Graphing and data visualization
- Control
- Signal and Image processing
- Statistical analysis
- Fluid dynamics
- Linear algebra
- Numerical optimization
- Modeling and simulation of dynamical systems

Its capabilities can be extended through the use of readily available or custom made toolboxes where the extensions can be written in ubiquitous lower level languages like Fortran and C.

### **Xcos**

Xcos is a graphical dynamical system modeler and simulator. With this, the user can create block diagrams to model and simulate the dynamics of sophisticated dynamical systems and compile such models into executable code.

Xcos is used for signal processing, systems control, queuing systems, and to study physical and biological systems. It can be used to model and simulate mechanical systems, hydraulic systems, electrical systems, chemical systems, biological systems and many more.

### **Labs Migration Project**

Is your lab still paying hefty amounts for mathematical tools which can be replaced by a nifty, free-of-cost software called Scilab?

Then we suggest its the time to switch to the world of free knowledge and also to grace your annual balance-sheets significantly.

Please get in touch with us at [contact@scilab.in](mailto:contact@scilab.in) and we will help you.

Please allow us to assist your lab in shifting to Scilab.  
[http://scilab.in/lab\\_migration/proposal](http://scilab.in/lab_migration/proposal)

For more information please visit  
[http://scilab.in/Lab\\_Migration\\_Project](http://scilab.in/Lab_Migration_Project)

### **The Textbook Companion Project**

The Textbook Project aims to port worked out examples (and optionally, select exercise problems) from standard textbooks using an open source software system, such as Scilab. In the following writeup, the word Scilab can be replaced by any other open source software as well. Any "standard" textbook can be used for this purpose. It will be referred to simply as textbook.

What is the objective of this exercise?

- \* To make it easy for the users of the textbook to start using Scilab
- \* To improve the documentation available for Scilab

For more details please visit  
[http://scilab.in/Textbook\\_Companion\\_Project](http://scilab.in/Textbook_Companion_Project)

### **Hardware Project**

**SBHS:** Single Board Heater System (SBHS) is a lab-in-a-box setup which is primarily used for teaching/studying the theory of control systems. The setup has been designed to cater the needs of undergraduate and postgraduate control courses. You can perform various control experiments on it - from tests as simple as Step Tests to complicated closed loop tests! This setup is also available for remote access under Virtual labs project  
<http://vlab.co.in/>  
<http://fossee.in/moodle/>

**Data Acquisition System:** Project aims to setup virtual labs based on standard DAQ cards available.(eg PCI 1711 Advantech DAQ card). Open source drivers ,tools and libraries are available from COMEDI (linux control and measurement device interface). HART toolbox provides interface between comedi and scilab to access ADC and DAC functionality of DAQ card.  
<http://comedi.org/>  
<http://hart.sourceforge.net/doc.html>

### **Workshops**

We propose to organise Level-0 Scilab workshops using spoken tutorials of ten minutes each. We believe that the extent of learning possible in the above mentioned scheme would be better than a usual workshop of much longer time duration. Possibly, the scheme proposed here could be considered as equivalent to a one week typical workshop. Hence it may be possible to give a certificate to this effect.

For more details please visit  
<http://scilab.in/wiki/index.php/Workshops>

### **GNU Radio**

GNURadio is an open source Software Defined Radio (SDR) that was designed to convert all hardware problems into software problems. GNURadio package is provided with a complete HDTV transmitter and receiver, a spectrum analyzer, an oscilloscope, a multichannel receiver and a wide collection of modulators and demodulators. Its applications are primarily written using the Python programming language, while the supplied, performance-critical signal processing path is implemented in C++ using processor floating point extensions where available.

For more details please visit  
<http://spoken-tutorial.org/wiki/index.php/GNURadio>

### **The Links Project**

Links Project provides a mechanism to list all the available scilab documents and to rank them.

This project allows community participation for both listing and ranking.

For more information, please visit  
<http://scilab.in/links>