

# Table of Contents

<b>LCG Applications Area Workbook.....</b>	<b>1</b>
Getting Started.....	1
Logging In and Connecting to the CERN Main Services.....	1
Developing Software.....	1
Edit, Compile, Link and Run.....	1
Debugging Applications.....	1
Setting up your software project.....	1
Ideas for further sections.....	1
Programming languages and common packages.....	2
Developing C++ Applications (TO BE DONE).....	2
Testing Software Applications.....	2
Testing Frameworks.....	2
Procedures for Testing (ON THE WAY).....	2
Documentation.....	2
Documentation Templates (ON THE WAY).....	2
Documentation Tools (TO BE DONE).....	2
Configuring your hardware.....	3
Configuring your computer.....	3
Useful Links.....	3

# LCG Applications Area Workbook

## Getting Started

Takes the user through getting an account, desktop setup and account setup.

- Getting started at CERN

## Logging In and Connecting to the CERN Main Services

- Getting an Account
- Linux Central Services
- Windows Central Services
- Mail Services
- CERN COmputing Rules

## Developing Software

This section covers the basic tasks without going into design issues.

### Edit, Compile, Link and Run

- Connecting to the Linux central service
- Editing, compiling and running code on Unix
- Using the Windows central service
- Editing, compiling and running code on Windows

### Debugging Applications

Watching the code execute, and basic problem solving.

- Introduction
- Compile options for Debugging
- Command Line debugger: gdb
- GUI debugger: ddd

### Setting up your software project

- Software Tools and Packages available
- A bug tracker for your application
- How to get a CVS repository: the CERN CVS Central Service
- AFS central files system?
- Setting up XWindows?

---

## Ideas for further sections

- Getting started with the LCG environment

## Programming languages and common packages

- C++
- Python
- XML
  
- Boost, Root, Clhep,...

## Developing C++ Applications (TO BE DONE)

Using an OO design approach to make proper use of C++.

- OO Courses and References [↗](#)
- LCG C++ Coding Conventions [↗](#)
- External Class Libraries [↗](#)
- Warning and Error Messages [↗](#)
- Code Wizard: a Tool for Checking Coding Style [↗](#)
- Valgrind: a Tool for Finding Memory Leaks [↗](#)
- Insure++: a Tool for Checking for Memory Misuse [↗](#)

## Testing Software Applications

### Testing Frameworks

- CppUnit, PyUnit, Oval, QMtest
- Valgring, callgrind, kchachegrind

### Procedures for Testing (ON THE WAY)

- Introduction
- Types of Testing
- Test Cases

## Documentation

### Documentation Templates (ON THE WAY)

Templates for the documents needed in software development

- Task lists, project documents
- Use cases, user requirements
- Work plans and reports

### Documentation Tools (TO BE DONE)

Procedures and tools for creating documentation

- Introduction
- Use of Doxygen - simple example
- External Class Libraries

## Configuring your hardware

### Configuring your computer

- Security Recommendations
- Registering your portable computer
- Installing a computer at CERN

### Useful Links

- PH-SFT group Web Site [↗](#)
- LCH Applications Area Web Site [↗](#)
- SPI Workbook [↗](#)

-- AlbertoAimar - 21 Jul 2005

---

This topic: SPI > LCGAAWorkbook

Topic revision: r17 - 2005-07-27 - AlbertoAimar



Copyright &© 2008-2020 by the contributing authors. All material on this collaboration platform is the property of the contributing authors. Ideas, requests, problems regarding TWiki? Send feedback