

Java programming, big data and Hadoop

This lab is divided in two parts: the first part will include Java and object-oriented programming, the second part Big Data management using Hadoop. The two parts are scheduled in two different time slots as detailed below. At the end of the two parts there will be a multiple-choice exam to verify the competences acquired by the attendants.

PART I

TITLE: **JAVA programming and OOP**

DESCRIPTION

At age of technology, programming languages play the main role in technology advancement. Java is a language having sufficient advantages among all. While Java is easier to learn and use, Java is among the most in-demand programming languages on the job market, depending on whose numbers you look at. Students specifically with statistics background can get more advantage of the language since the language has in-built math library which helps in solving mathematical equations and develop related application.

This lab gives you a big picture on what the language look-like and how to start developing applications using Java; this provides a basics which you can use to create more challenging and complicated applications at your taste.

DURATION

10 hrs. (5 slots of 2 hours)

CALENDAR

h. 16:30 – 18:30 (fully online)

Friday, Feb. 25, 2022

Monday, Feb. 28, 2022

Wednesday, Mar. 2, 2022

Monday, Mar. 7, 2022

Wednesday, Mar. 9, 2022

MAIN CONTENTS

During the lab, students will learn

- Java basics and elements
- Flow control statements
- Java methods
- Java OOPs
 - o Objects and Classes
 - o Class attributes
 - o Methods
 - o Constructors
 - o Encapsulations
 - o Inheritance and Polymorphism

ELIGIBLE STUDENTS

Any number of students

Preferred skills

To learn Java, students do not need to know any other programming languages or tools. Students who willing to go advance are encouraged to learn C.

PART II

TITLE: Big data and Hadoop

DESCRIPTION

The world has changed. Businesses, administrations, crime investigations and almost every sector has upgraded from traditionalism to modernism. This change has happened since man started better using Big Data. When Big Data has widely used, things have started to happen easier. Studying Big Data – specifically for those who play with science and statistics – will broaden your horizon, it empowers you to get into industry and consequently give you the ability to help organizations to grow. Hadoop is a platform used for Big Data Analytics.

This lab gives you a big picture on what Big Data really is and how to start working with; this provides a basics which you can use to go inside and build a different future.

DURATION

12 hrs. (4 slots of 3 hours)

CALENDAR

h. 8:30 – 11:30 (on-site + online streaming)

Monday, Apr. 4, 2022

Wednesday, Apr. 6, 2022

Friday, Apr. 8, 2022

Monday, Apr. 11, 2022

MAIN CONTENTS

During the lab, students will learn

- A general talk on big data
- Sources of Big Data
- Why to process Big Data
- Limitation of Existing System
- Rack Awareness
- Metadata Information
- Architecture of Hadoop
- Back up in Hadoop Generation 1 & Hadoop Generation 2
- Zookeeper
- Federation
- Hadoop Installation
- Hadoop Commands
- Read & Write Anatomy

ELIGIBLE STUDENTS

Any number of students

Preferred Skills

To learn Hadoop, basic Unix command is sufficient. Understanding of SQL, programming language such as Java, R or Python help in advanced learning but not mandatory in basics.

Email for Submitting Application: dse@unimi.it.

APPLICATION DEADLINE: 10 February 2022.