LECTURE 1 - INTRODUCTION

Open Data Management & Cloud

(DSSC– DMG)

WHO WE ARE…

LECTURER

Sara Bertocco

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Istituto Nazionale di AstroFisica (INAF)

HOWTO CONTACT US

Mailing list

DSSC Google group

whatsapp/telegram group

LECTURE "BLOCKS"

Introduction

Data and Metadata Models and Structures

Data Cloud and Cloud Computing

Data Resource Interoperability and Access

COURSE & LESSONS: INTRODUCTION

○ Big Data

○ Open Data

○ FAIR principles

COURSE & LESSONS:
DATA AND METADATA MODELS AND STRUCTURES

○ Data models: definitions and design;

○ Data structures and metadata;

○ UML, ORM, XSD, JSON, data structure formats, tabular formats, images, hierarchical structures, including metadata query-ability.

COURSE & LESSONS: CLOUD

- Introduction on computing and cloud computing
- Cloud computing main concepts and architecture
- Virtualization
- Containers and orchestration
- Infrastructure as a Service: theory and examples
- Platform as a Service: theory and examples
- Service orchestration and cloudnomics
- Cloud storage and data cloud

COURSE & LESSONS: INTEROPERABILITY

- (Persistent) Identifiers

- (Resource) Catalogues

- Data models for Discovery

- Data Curation & Preservation

- Interfaces & Dataset Access

COURSE CALENDAR

Ottobre																										Novembre																							Dicembre																		Gennaio		
1	2		3	4		5	6		7	8	9		10		11	12		13	14		15	16		17		18		19	20		22	22		23	24			
M	G	V	M	G	V	M	G	V	M	G	V	M	G	V	M	G	V	M	G	V	M	G	V	M		G	V	M	G	V	M	G	V	M	G		M	G	V
5	7	8	12	14	15	19	21	22	26	28	29	2	4	5	9	11	12	16	18	19	23	25	26	30		2	3	7	9	10	14	16	17	21	23		11	13	14

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LECTURE FORMAT

The course will be on a mixed form: in presence & on-line

We will use MS Teams and 45' (2x) including questions.

Recorded Lectures will be available on-line in Moodle (before/after)

Cloud part will be "flipped": recorded lectures and in presence questions and hands-on

Moodle page: https://moodle2.units.it/course/view.php?id=8415

KNOWLEDGE VERIFICATION

Preparation of a small "project" on data management and interoperability

- Using what's been learned during the course
- Including cloud solution identification
- Possibly showing some real snippets or ideas of implementation

Presentation of the project to the class & lecturers

- With dedicated Q&A time

SURVEY & DISCUSSION

{fill in the survey form} Discuss it

Open discussion on the expectations

(and/or) insights on the course content

AND REMEMBER....

Always contact us in case of questions, problems or curiosity

Andrea Bignamini

Sara Bertocco

Marco Frailis

Giuliano Taffoni

Special guest:

Stefano Russo

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