

Workshop on Internet of Things (IoT) using

Raspberry Pi virtual machines (VMs)

For Blockchains

Welcome!

Welcome to the IoT Blockchain Workshop

This workshop gives concepts about how to compute blockchains using virtual Raspberry Pis.

These are not true blockchains but they're related structures.

Furthemore, I highlight that we will be working with **virtual** Raspberry Pis.

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Objectives

The objectives of this workshop is to give you many of the concepts for computing blockchains on IoT devices.

METHODS

The methods and tools were use include qemu virtualized machines supporting ARM Raspberry Pi images.

Basic blockchain technology.

Elementary networking and Python programming

In more detail

We will launch these virtual machines on MacOS as well as Windows 10 machines.

We also use Python 3 and several python libraries illustrate these concepts and techniques.

Outline

This Workshop is broken into three parts.

In all parts we show the differences between Windows and MacOS.

The first two parts should be done well in advance of Part 3.

In Part 1 we're going to install and test the qemu virtual machines on your laptop or desktop

In Part 2 we're going to install and test the Raspberry Pi virtual images on the QEMU virtual machines

The heart of the workshop is in part 3. Here we show the basic concepts of blockchains on IoT devices.

Part 3 requires Parts 1 and 2.

It is important to do parts 1 and 2 a day or so in advance of the workshop.

Parts 1 and 2 may take several hours because download speeds and installation times

Let's jump right in and get started!