

The objective of this document is to specify the materials required to give a training course of Deliberant. The material considered in this document is for a single team, which is composed of a maximum of 2 participants.

Deliberant equipment.

<i>Item</i>	Equipment	Quantity	Description
1	APC 5M	2	Radio in 5 GHz with N Connectors
2	PoE (18 Volts)	2	Power supply (PoE) for the APC 5M radios.

Example for 1 radio:



APC 5M



18V PoE

Important Note: Is recommended that the Deliberant radios are already upgraded to the last SW version available on the Deliberant website.

RF equipment

<i>Item</i>	Equipment	Quantity	Description
1	80 dB of attenuation	2	The commercial values of attenuators are 10 dB, 20 dB or 30 dB. A mixture of attenuators is required to achieve the 80 dB of attenuation. The attenuator requires N connectors.
2	Coaxial cable	2	The recommended length of the cable is 0.6 meters (2 ft.). The required connector is N Male on both ends.

Example:



Attenuator



Coaxial cable

Network equipment

Item	Equipment	Quantity	Description
1	UTP cable (1.2 meters)	2	Straight UTP cable (TIA/EIA-568-B) of 1.2 meters (4 ft.).
2	UTP cable (6 meters)	2	Straight UTP cable (TIA/EIA-568-B) of 6 meters (20 ft.).
3	VLAN Switch	1	<p>The students require 4 ports in the VLAN Switch:</p> <ul style="list-style-type: none"> *1 trunk port (1, 2, 10, 20) *1 port as an access with VLAN 2 *1 port as an access with VLAN 10 *1 port as an access with VLAN 20 <p>The switch can be shared with more than 1 team, the UTP cables of 6 meters can be used to share the same switch. The students do not have to worry about the switch configuration, the ports should be already configured.</p>
4	Laptop with Ethernet port	2	Each student should have a personal Laptop with administrator rights, Ethernet port, Wi-Fi interface, Java and Flash installed.



UTP Cable



Switch



Laptop

Important Note: The minimum requirement that the Switch has to comply is the 802.1q standard for VLANs. Another option is to provide Ethernet Adaptor (USB) that support the 802.1q standard, for example: StarTech.com USB 3.0 to Gigabit Ethernet NIC Network Adapter - 10/100/1000 Network Adapter.

Classroom facilities

<i>Item</i>	Equipment	Quantity	Description
1	Projector	1	Used by the instructor to teach the class.
2	Whiteboard and markers	1	Used by the instructor to make annotations during the class.
3	Table	1	Used by the students to attend the class.
4	Chair	2	Used by the students to attend the class.
5	Power outlet	6	A power strip could be used to provide the required contacts: *2 for the laptops *3 for the radios *1 for the switch
6	Wireless internet access with a 2.4 GHz AP. The APC 2Mi is recommended.	250 kbps	Is recommended to have a minimum of 250 kbps per team. A backup scenario with 4G Router has to be considered in case of a failure.
7	APC 5Mi	1	This equipment will be used as a backup to provide internet access to the radios.