

**IPBrick Easy Linux – Base Certification**

Number	Hours *	Title	Context	Requirements		Overview	Objectives	
				Constant	Specific			
1	2	<b>IPBRICK Installation</b>	IPBRICK			<ul style="list-style-type: none"> <li>- Course presentation;</li> <li>- IPBrick presentation;</li> <li>- IPBrick Installation Process;</li> <li>- First interaction with IPBrick and Linux.</li> </ul>	<ol style="list-style-type: none"> <li>1. What is IPBrick;</li> <li>2. Minimum requirements for installation;</li> <li>3. Automatic installation process;</li> <li>4. Basic configuration and system interfaces;</li> <li>5. Presentation of the web interface and the server's technical data;</li> <li>6. Permanent license activation;</li> <li>7. IPBrick's Advanced Installation;</li> <li>8. Reinstalling the server;</li> <li>9. Settings in IPBrick.</li> </ol>	
2	2	<b>Intranet &amp; Groupware</b>	I			<ul style="list-style-type: none"> <li>- IPBrick System Information;</li> <li>- Basic network topologies and IP addressing;</li> <li>- The IPBrick Domain;</li> <li>- Operations and Intranet services.</li> <li>- Groupware</li> </ul>	<ol style="list-style-type: none"> <li>1. Information on the IPBrick System;</li> <li>2. Addressing and network interfaces;</li> <li>3. Basic network topologies;</li> <li>4. Creating users and groups;</li> <li>5. Registering machines;</li> <li>6. Placing the PC in the IPBrick's domain;</li> <li>7. Work areas;</li> <li>8. IPBrick groupware concept</li> </ol>	
3	1	<b>Basic communications server</b>	C			<ul style="list-style-type: none"> <li>- Communication Server;</li> <li>- Identification of services;</li> <li>- Initial setup.</li> </ul>	<ol style="list-style-type: none"> <li>1. What is a communications server;</li> <li>2. The position of the communications server on the network;</li> <li>3. What is a Proxy and modes of operation in IPBrick;</li> <li>4. What is a Firewall;</li> <li>5. What is a VPN;</li> <li>6. Working on a VPN.</li> </ol>	
4	2	<b>Complete Intranet</b>	I+C			<ul style="list-style-type: none"> <li>- Integration of servers.</li> <li>+ Intranet (IPBrick.I);</li> <li>+ Communications (IPBrick.C);</li> <li>- Intranet Services: Fax, Print, Backup.</li> </ul>	<ol style="list-style-type: none"> <li>1. The network scheme with I and C servers</li> <li>2. Distribution of services in the I and C servers</li> <li>3. Interconnection of servers and services – customization services</li> <li>4. Operation Fax server</li> <li>5. Print server operation</li> <li>6. What is Backup</li> <li>7. Backup services present in IPBrick</li> </ol>	
5	1	<b>Master/Slave/Client Authentication</b>	Advanced	<p>Trainer:</p> <ul style="list-style-type: none"> <li>- 1 board with writing material;</li> <li>- 1 projector;</li> <li>- 1 PC server**;</li> <li>- 1 IPBRICK CD;</li> <li>- 1 laptop**;</li> </ul>	<ul style="list-style-type: none"> <li>- Linking IPBRICK servers .</li> <li>- Authentication Modes;</li> <li>+ Master - Slave - Client;</li> <li>- Scenarios basic application.</li> </ul>	<ol style="list-style-type: none"> <li>1. Authentication Modes: What are they? Who are they?</li> <li>2. How to configure different authentication modes;</li> <li>3. LDAP - Authentication Server</li> <li>4. Automount - Distributed Filesystem</li> <li>5. What is IPBRICK Master;</li> <li>6. What is IPBRICK Slave: When to use; Advantages;</li> <li>7. What is IPBRICK Customer: When to use; Advantages.</li> </ol>		
6	3	<b>Support Services: DNS e DHCP</b>	Advanced	<ul style="list-style-type: none"> <li>- 1 crossover cable*** 1m;</li> <li>- 1 switch (N=2)x 10/100 (N=number of trainees);</li> <li>- 3 network cables 3-5m;</li> <li>- 1 internet access – ethernet.</li> </ul> <p>By trainee:</p> <ul style="list-style-type: none"> <li>- 1 PC server**;</li> <li>- 1 IPBRICK CD;</li> <li>- 1 laptop**;</li> </ul>	<ul style="list-style-type: none"> <li>- DHCP server, sub-network redundancy;</li> <li>- DNS server, private / public, master / slave;</li> <li>+ Name resolution, Forwarders, Domains.</li> </ul>	<ol style="list-style-type: none"> <li>1. What is DHCP;</li> <li>2. What is the DNS;</li> <li>3. DHCP Relay - DHCP server to different IP networks;</li> <li>4. Configure a DNS domain</li> <li>5. Set up a slave DNS server</li> <li>6. Difference between: Name Resolution, Forwarders, DNS Server</li> <li>7. Configure a DNS server for the Internet</li> <li>8. Set up an internal DNS domain with public records</li> </ol>		
7	4	<b>AD Authentication</b>	Advanced	<p>For each 2 trainees:</p> <ul style="list-style-type: none"> <li>- 1 switch 8x 10/100;</li> <li>- 1 network cable 3-5m;</li> </ul>	<p>Trainer: - 1 MS Windows server 2003 R2 (domain controller)</p> <ul style="list-style-type: none"> <li>- Integrating IPBRICK servers in MS Windows networks;</li> <li>+ NetBIOS (pre Windows 200x)</li> <li>+ Active Directory (IPBRICK Master / Slave)</li> </ul>	<ol style="list-style-type: none"> <li>1. Authentication Mode: NetBIOS;</li> <li>2. LDAP - Active Directory</li> <li>3. LDAP - AD - MS Services for Unix 3.5</li> <li>4. LDAP - The Central Information System - Automount - Distributed FileSystem</li> <li>5. Authentication Mode: AD Domain Member (IPBRICK Master)</li> <li>6. Authentication Mode: AD Domain Member (IPBRICK Slave)</li> </ol>		
8	2	<b>Email Server</b>	I+C+Advanced	<ul style="list-style-type: none"> <li>* RAM: 256MB; CPU x86; HDD: 10GB; LAN: 2x 10/100; CDROM; keyboard; monitor.</li> <li>** w/ OS, web browser, LAN 10/100; sound-board.</li> <li>*** crossover.</li> </ul>	<p>For each trainee:</p> <ul style="list-style-type: none"> <li>- 1 Linux MailServer;</li> <li>- 1 Linux MailServer</li> </ul>	<ul style="list-style-type: none"> <li>- SMTP server.</li> <li>+ IPBRICK features;</li> <li>+ Operation of the SMTP server;</li> <li>+ Relay server - DNS and static routes;</li> <li>+ Anti-virus and anti-spam.</li> </ul>	<ol style="list-style-type: none"> <li>1. What is an e-mail;</li> <li>2. IPBRICK features (aliases, mailing lists, auto-forwarding, auto reply, copy of email);</li> <li>3. Valid internal recipients, invalid senders;</li> <li>4. How does the SMTP service works;</li> <li>5. The relay mail server;</li> <li>6. Anti-Virus Operation;</li> <li>7. Anti-SPAM Operation;</li> <li>8. Diagnosis of the mail server on LINUX.</li> </ol>	
9	2	<b>Network: Firewall, Routes Management, QoS</b>	Advanced			<ul style="list-style-type: none"> <li>- Communications Server - IP networks;</li> <li>+ Routing, Firewall, QoS;</li> <li>- Referral services.</li> </ul>	<ol style="list-style-type: none"> <li>1. IP networks, inserting routes in IPBRICK;</li> <li>2. Quality of Service - prioritization;</li> <li>3. Firewall's operating principles - Layout;</li> <li>4. Insert the firewall rules;</li> <li>5. Identify and traffic rules in the firewall;</li> <li>6. Referral services - multiple routers internet access.</li> </ol>	
10	1	<b>Part 1 Proxy Part 2 Web Server</b>	C+Advanced			<p>For each trainee:</p> <ul style="list-style-type: none"> <li>- 1 Proxy Server</li> </ul>	<ul style="list-style-type: none"> <li>- Proxy, Web Cache, ACLs</li> <li>+ Content filtering, blacklists – squidguard</li> <li>+ Anti-Virus</li> <li>- Servidor Web</li> </ul>	<ol style="list-style-type: none"> <li>1. Creating the Proxy Access Control Lists;</li> <li>2. Content filter</li> <li>3. Anti-Virus</li> <li>4. User Statistics</li> <li>5. What is the Web Server</li> <li>6. IPBRICK applications (Calendar, Contacts, Webmail, MyIpBrick, webphone, UCoIP, jwchat, PHPMyAdmin, PHPPgAdmin, CallManager)</li> <li>7. Website creation</li> <li>8. FTP Access</li> </ol>
11	2	<b>VPN Server: PPTP, IPSec, SSL</b>	C+Advanced			<ul style="list-style-type: none"> <li>- VPN, comparative PPTP, IPSec, SSL</li> <li>- The problem of addressing of IP networks</li> </ul>	<ol style="list-style-type: none"> <li>1. Concept of VPNs;</li> <li>2. Road Warrior type of VPN's and LAN to LAN;</li> <li>3. Comparison between different VPN's;</li> <li>4. Configuration of the various types of VPN's;</li> <li>5. IP addressing in VPN networks.</li> </ol>	
12	2	<b>UcoIP</b>	GT			<p>Trainer and for each trainee:</p> <ul style="list-style-type: none"> <li>- 1 Headset Mic;</li> <li>- A SIP phone.</li> </ul>	<ul style="list-style-type: none"> <li>- IPBrick.G - Voice over IP - principles:</li> <li>SIP Server + suppliers</li> <li>+ Network Service: DNS and Firewall</li> <li>+ IP PBX - principles of operation</li> <li>- UCoIP</li> <li>- IPBrick.GT - VoIP and telephony;</li> <li>+ Hardware: analog line, ISDN (BRI and PRI);</li> <li>+ Integration with a non-IP PBX;</li> </ul>	<ol style="list-style-type: none"> <li>1. Concept of VoIP and telephony;</li> <li>2. Signaling protocols and SIP servers;</li> <li>3. Proper configuration of DNS and firewall for VoIP;</li> <li>4. IPBrick.GT: VoIP and integration with conventional telephony;</li> <li>5. UCoIP concept and configuration</li> <li>6. Access types: analog line, ISDN BRI and ISDN PRI;</li> <li>7. Telephony cards for PSTN and PBX integration;</li> <li>8. IPBrick configuration: telephony cards, interfaces, IP phones and alternative addresses; url SIP registration, configuration internal and external routes to operators SI / IAX, PBX IP features.</li> </ol>