LONDON CAPITAL COMPUTER COLLEGE

Advanced Diploma in Web Development (902) – Web Server Configuration

Prerequisites: Familiarity with the Web and its terminology.	**Corequisites:** A pass or higher in Diploma in e-Commerce & Web Design or equivalence.
Aim: A web server is the key to dynamic and responsive applications, so it's essential to monitor its performance and tune its configuration. Server configuration is also critical to application security through the use of access controls and security protocols. This course explores the role of server administration and its contribution to planning, deployment, and management of a web application. It introduces tools and techniques to assist with capacity planning, monitoring of workloads, identification of performance bottlenecks, and security failures. Candidates will also learn about the role of routers, firewalls, and proxy servers in building network architectures. Web administration is the back end of Web development. Administrators keep the Web servers up and running, make sure the hosting continues to work, the servers are secure and keeps track of the logs. Web administration is a vital part of any Web operation and understanding the back end will help a Web designer understand how it all works together. The program that handles Web pages on the back end is called a Web server. The web server can impact and affect Web pages. Security, speed and scalability are all impacted by the Web server. Web servers often play a critical role in the workflow of building a website. While most small and medium sized websites have only one web server (the production server), larger companies may have many more than that for building and maintaining their website. This course enable candidates learn the different types of servers might appear in a web design workflow. Web cache is a very advanced topic, for server developers who want to speed up their Web servers. Caching will help speed up frequently accessed pages. Web caching is a tool to improve the performance of Web servers. Caches store the Web pages in a central place and only update them every once in a while. They make the pages appear to load faster, while sacrificing timeliness.	
Required Materials: Recommended Learning Resources.	**Supplementary Materials:** Recommended textbooks and lecture notes.
Special Requirements: This is a hands-on course, hence practical use of computers is essential. Requires intensive lab work outside of class time.	

Intended Learning Outcomes:	**Assessment Criteria:**
1. Describe how to install and configure a HTTP Server and also demonstrate some special Web server configurations.	1.1 Describe web server process 1.2 Describe URL ports 1.3 Describe how computers are linked to the internet 1.4 Define client and server 1.5 Describe IP address components 1.6 Describe well known ports
2. Describe what Internet servers do and how they work with Internet clients to bring the Web to clients.	2.1 Describe the underlying structure of the internet 2.2 Outline functions of the router
3. Explain of the process through which DNS works and how DNS is used to map a domain name to an IP address.	3.1 Define domain names 3.2 Describe the process of creating a domain name 3.3 Describe how DNS servers work like translators by translating a network address 3.4 Describe the tools used in configuring DNS

4. Describe the term Application Service Provider (ASP) and demonstrate how an (ASP) offers individuals or enterprises access over the Internet to applications and related services.	4.1 4.2 4.3	Define an ASP Outline features of an ASP Demonstrate how enterprises seek to maximize efficiency by outsourcing some parts of business operations to application service providers
5. Demonstrate how e-mail works and how e-mail servers deliver messages.	5.1 5.2 5.3 5.4 5.5	Describe email server Define SMTP server Compare and contrast POP3 vs IMAP servers Discuss email etiquette What is a POP3 server and how does it hold mail?
6. Explain how different file sharing methods work including Peer to Peer File Sharing Work.	6.1 6.2 6.3 6.4	Describe Napster's architecture Describe Gnutella's architecture Explore file sharing legal issues How Peer-to-Peer File Sharing works, and how the law barely allows it.
7. Explain how Internet cookies raise privacy concerns and they can also make the Web easier to navigate.	7.1 7.2 7.3 7.4	Describe cookies Outline how cookies move data Explore how websites use cookies Describe advantages and disadvantages of cookies
8. Demonstrate how general purpose Internet sharing Network Address Translation (NAT) works.	8.1 8.2 8.3 8.4 8.5 8.6	Describe what NAT does Describe NAT configuration Define dynamic NAT Define NAT overloading Describe firewall operations Define multi-homing
9. Demonstrate how a web server supports CGI and can be configured to interpret a URL.	9.1 9.2 9.3 9.4	Describe CGI mechanism Be able to create simple CGI scripts Describe HTML forms Be able to create form input controls
10. Demonstrate the search engine strategy, tips and techniques used to narrow connecting search terms.	10.1 10.2 10.3 10.4	Define web crawling Define meta tags Describe data index Describe Boolean operators
11. Demonstrate how VPN (Virtual Private Network) connection allow users to connect to corporate services behind a network firewall from a remote location	11.1 11.2 11.3 11.4	Describe VPN technology Describe VPN benefits Describe VPN security protocols Describe how VPN software provides a secure connection between user computer and the corporate network
12. Explain how affiliate programs work and demonstrate how to set up and run a successful Affiliate Program.	12.1 12.2 12.3 12.4	Define an affiliate program Discuss affiliate program payment arrangements Analyse affiliate program administration Discuss how to became an affiliate
13. Demonstrate how to build effective, affordable website design solutions for an online business.	13.1 13.2	Discuss elements of an ecommerce site Describe organisations that succeeded in ecommerce

	13.3	Describe advantages and disadvantages of ecommerce
	13.4	Be able to build an ecommerce site
14. Describe Web Hosting and demonstrate the way web hosting works.	14.1	Describe how web servers work
	14.2	Be able to configure a console
	14.3	Describe server management tasks
	14.4	Be able to manage hosts
	14.5	Describe Internet Server Application Programming Interface (ISAPI) components

Recommended Learning Resources:
Web Server Configuration

Text Books	• Web Server Configuration for an Academic Intranet by Stamatios Baltzis ISBN-10: 1423533399 • Administering Web Servers, Security and Maintenance by Eric Larson and Brian Stephens ISBN-10: 0130225347 • Web Server Management Software by Hephaestus Books ISBN-10: 1242540105 • Administering Web Servers, Security and Maintenance by Eric Larson and Brian Stephens ISBN-10: 0130225347
Study Manuals	BCE produced study packs
CD ROM	Power-point slides
Software	Web Server software