



ASSESSMENT COVER SHEET

Unit Number and Title	Unit 36 - Internet Server Management		
Assessment Title	Global Technology Solutions (GTS) Web Server		
Course Title	HND Computing & System Development		
Assessment Code	HNDCSD-Unit36/Feb13		
Hand Out Date	01/03/2013	Hand In Date	11/05/2013
Lecturer(s)	Ioannis Doumanis, Mr. Syed Rizvi, Mr Markos Mentzelopoulos, Mr Robet Dude, Mr Asim Satti	Internal Verifier	Jonathan Cartmell
Sources of information	1. Course notes 2. Recommended learning textbooks: a) Bennett M et al – <i>Professional Microsoft FAST Search</i> (Wiley, 2010) ISBN-10: 0470584661 b) Comer D – <i>Hands-on Networking with Internet Technologies</i> (Addison Wesley, 2004) ISBN-10: 0131486969 c) Donahue G – <i>Network Warrior</i> (O'Reilly Media, 2007) ISBN-10: 0596101511		

To be filled by the student

Student Name		Lecturer	
Student ID		Group(e.g. BDM019)	



Assessment Requirements

- An electronic copy of your assessment must be fully uploaded by the **deadline date and time**.
- You must submit **one** single PDF or MS Office Word document. Any relevant images or screenshots must be included within the same MS Office Word or PDF document.
- The last version you upload will be the one that is marked.
- The file size must not exceed 20MB.
- Answer the criteria in order, clearly indicating the CRITERIA number.
- Ensure that all work has been proof-read and checked prior to submission.
- Ensure that the layout of your documents are in a professional format with font style Arial, font size 12 for the text, font 14 for sub heading and font 16 for main heading, line spacing 1.5 and justified.
- Use the Harvard referencing system and provide references [e.g. (Smith, 2011)] within the text and an entry in a references list. Otherwise it will be considered as plagiarised work.
- Ensure that you back-up your work regularly and apply version control to your documents.
- Ensure that any file you upload is virus-free, not corrupted and not protected by a password otherwise they will be treated as a non-submission.
- You must **NOT** submit a paper copy or email of this assessment to any member of staff at LSST.
- Your work must be original with the appropriate referencing

What is Plagiarism:

Plagiarism is presenting somebody else's work as your own. It includes: copying information directly from the Web or books without referencing the material; submitting joint coursework as an individual effort; copying another student's coursework; stealing or buying coursework from someone else and submitting it as your own work. Suspected plagiarism will be investigated and if found to have occurred will be dealt with according to the procedures set down by the School.

Any student for whom it has been proved that they have plagiarised the work of others will be subject to the School's disciplinary procedures which could result in them being dismissed from their course of study

Your work will be submitted for electronic plagiarism checking. Any attempt to bypass our plagiarism detection systems will be treated as a severe Assessment Offence.



Assessment scenario:

GTS (Global Technologies Solutions, PLC) (www.gtsolutions.com) is an international information technology services company with annual pro forma revenue of EUR 6.3 billion and over 50, 000 employees worldwide in 25 countries. GTS provides information technology, telecom services, and business solutions to a broad range of Fortune 100 and Fortune 500 companies worldwide including.

The GTS client list is comprised of top companies in the telecommunications, financial services, technology, insurance, health care, pharmaceutical, and logistics industries, as well as state and city government. GTS expertise lies in developing and integrating information systems, operating and improving technology and business processes, and helping clients evolve to the next generation of technologies.

As one of the largest privately held technology and telecom solutions providers, GTS delivers innovative, cost-effective, results-driven solutions to help clients excel in their market place.

Due to the company's continuous expansion, the company has decided to hire a new Web server administrator in the head office branch. This position is responsible for leading and performing Microsoft Internet Information Services (IIS) Web server planning, installation, configuration and administration, as well as to provide operational support. You will also be expected to engage in day to day technical support and administration of the technology infrastructure.

Upon the successful completion of the selection process, you've just been hired by GTS as their Web server administrator for their Microsoft Internet Information Services (IIS) Web server. You are asked to plan, install, configure and manage a Web server. Before you begin, you have been advised by your senior web manager to study the substitute Internet technologies and understand related Web server technologies available. The idea is to get you to know the best fit technology suited for this project.



PART A – PASS CRITERIA ONLY

Pass

In order to achieve a Pass, students must achieve all the Pass Criteria

TASK 1 PASS CRITERIA (approx. 400 words) Interim deadline 8th of March

Evaluate different Internet technologies and related communication protocols. Also, compare different Internet services and internetworking servers.

Guidelines:

Some common communication protocols to consider are:

Common Internet protocols include TCP/IP (Transmission Control Protocol/Internet Protocol), SNMP (Simple Network Management), DHCP (Dynamic Host Configuration Protocol), HTTP (HyperText Transfer Protocol), FTP (File Transfer Protocol) and DNS (Domain Name System). Likewise, the different internetworking servers are ISP (Internet Service Provider), WWW (World Wide Web), database servers, e-Commerce servers, news servers, email servers, proxy servers, media servers and directory servers

In answering this question, you will have covered the following assessment criteria:

- 1.1: Critically evaluate different internet technologies and communication protocols
- 1.2: Critically compare different internet services and internetworking servers

TASK 2 PASS CRITERIA (approx. 400 words) Interim deadline 11th of March

Discuss what a network management system should accomplish and the guidelines that can be used to evaluate its effectiveness. Your discussion should also include the Simple Network Management Protocol (SNMP) which is the de facto standard for managing Internet networks.

Guidelines:

In order to complete this task your answer should:

The objective of network management is to ensure that the network functions smoothly and efficiently, and consists of the following: accounting, security, performance monitoring, fault isolation and configuration control of a network and its resources.

In answering this question, you will have covered the following assessment criterion:

- 1.3: Discuss network management concerns and make recommendations to sustain network security, reliability and performance

TASK 3 PASS CRITERIA (400 words approx.) Interim deadline 14th of March

Present an analysis of two different Web server architectures and critically compare the key elements in their performance.

**Guidelines:****In order to complete this task your answer should:**

Examine Internet Information Server (IIS) from the perspective of an administrator familiar with the Apache HTTP Server.

Factors that affect Web server performance include:

- Operating system
- Connection speed
- User capacity

In answering this question, you will have covered the following assessment criterion:

2.1: Critically analyse different internet server technologies and their performance

TASK 4 PASS CRITERIA (400 words approx.) Interim deadline 18th of March

Develop a detailed, well-designed deployment plan that will allow organizations to maintain secure configurations and aids in identifying security vulnerabilities.

Guidelines:**In order to complete this task your answer should:**

In the planning stages of a Web server, the following items should be considered: Purpose(s) of the Web server; network services; network service software, client and server; the users or categories of users; privileges that each category of user will have; Web server management and appropriate access to information resources.

In answering this question, you will have covered the following assessment criteria:

- 3.1: Produce a system specification to meet a given requirement
- 3.2: Evaluate the suitability of internet server components

**TASK 5 PASS CRITERIA (Configured web server with explanation approx. 400 words)
Interim deadline 22th of March**

Build and configure your Web server using a step-by-step approach which installs the required products and components on the web server. This will include building and installing recommended configuration and the related management services.

Guidelines:**In order to complete this task your answer should:**

- Install only the IIS components needed to run your site.

In answering this question, you will have covered the following assessment criterion:

3.3: Build and configure an internet server including services to meet a given requirement



TASK 6 PASS CRITERIA (Test plan screenshots and an explanation of approx. 400 words)
Interim deadline 1st of May

Build a basic test plan required for a Web server. Briefly document a testing process.

Guidelines:

In order to complete this task your answer should:

Present common methods for testing Web servers include vulnerability scanning and penetration testing.

In answering this question, you will have covered the following assessment criterion:
3.4: Critically review and test an internet server

TASK 7 PASS CRITERIA (detailed screenshots with an explanation of approx. 400 words)
Interim deadline 26th of March

On a Web server, you have two levels of security, i.e. Windows security and IIS security. In this task you should perform the following administrative tasks:

Managing Windows Security

Before setting IIS security permissions, you should use the operating system security settings to complete the following tasks:

- Create and manage accounts for users and groups
- Configure access permissions for files and folders
- Set group policies for users and groups

Managing IIS Security

After setting the operating system security, use IIS security to

- Set the Web server and execute permissions for content
- Configure distributed authoring and versioning
- Configure authentication methods
- Control access by IP address or Internet domain name
- Manage Web site operator privileges

Guidelines:

In order to complete this task your answer should:

Before users can access files and directories, you must ensure that the appropriate users and groups have access at the operating system level. Then you must set IIS security permissions that grant permissions for content that IIS controls.

In answering this question, you will have covered the following assessment criteria:

- 4.1: Install and manage websites and services to meet a given requirement
- 4.2: Implement secure network access to meet a given requirement

TASK 8 PASS CRITERIA (Detailed screenshots with an explanation of approx. 250 words)
Interim deadline 30th of March

To maintain and manage the health of a Web server, it is necessary to constantly monitor its performance on a regular schedule. In this learning outcome your task is to demonstrate how to create



and configure counter logs in System Monitor so that you can monitor Web server performance and be able to troubleshoot your Web server.

Guidelines:

In order to complete this task your answer should:

In System Monitor, you can create logs to automatically collect server activity data at specified intervals. You can then use this data to help you identify the cause of delays, and to tune your server for optimal performance.

In answering this question, you will have covered the following assessment criteria:

4.3: Monitor and troubleshoot an internet server and services

4.4: Critically evaluate the performance of an internet server.

END OF PART A – PASS CRITERIA ONLY



PART B – MERIT CRITERIA ONLY

Merit

In order to achieve a Merit, students must achieve all the Pass Criteria plus M1, M2 and M3

MERIT ONE CRITERIA (approx. 400 words) *Interim deadline 14th of April*

Describe the ISO-OSI (Open Systems Interconnection) reference model and discuss the importance of every layer. Show that the relevant theories and techniques have been applied in discussing about the 7-layer model.

TASK 2 MERIT TWO CRITERIA (approx. 300 words) *Interim deadline 18th of April*

Justify the suitability of your chosen key components required for a Web server.

TASK 3 MERIT THREE CRITERIA (approx. 350 words) *Interim deadline 26th of April*

Justify the suitability of Web server tools you have used to measure and enhance internet server resources performance.

END OF PART B – MERIT CRITERIA ONLY



PART C – DISTINCTION CRITERIA ONLY

Distinction

In order to achieve a Distinction, students must achieve all the Pass Criteria plus all merits plus D1, D2 and D3

DISTINCTION ONE (approx. 400 words) *Interim deadline 3th of May*

Discuss the ISO-OSI (Open Systems Interconnection) reference model and its relation to the TCP/IP Protocol Model.

DISTINCTION TWO CRITERIA (approx. 400 words) *Interim deadline 5th of May*

Manage Web server memory/disk utilization for the Web server you have studied and recommend changes to increase efficiency.

DISTINCTION THREE CRITERIA *Interim deadline 10th of May*

Plan, coordinate, and implement testing standards, and recommend changes to improve performance.

END OF PART C – DISTINCTION CRITERIA ONLY



Merit Criteria

M1	Identify and apply strategies to find appropriate solutions.
M2	Select/design and apply appropriate methods/ techniques.
M3	Present and communicate appropriate findings.

Distinction Criteria

D1	Use critical reflection to evaluate own work and justify valid conclusions.
D2	Take responsibility for managing and organizing activities.
D3	Demonstrate convergent/lateral/creative thinking.

The following Generic Criteria may also be applied for Merit / Distinction:

Generic Merit Criteria

GM1	Only minor and agreed deviations from the deadlines that are set
GM2	Correct technical language and notation are used throughout
GM3	All sources are referenced
GM4	All answers follow a clear logical structure and are pitched at the correct level

Generic Distinction Criteria

GD1	All recommendations made are fully justified
GD2	All deadlines are adhered to
GD3	Innovative options were proposed
GD4	Used critical reflection to evaluate own work and justify valid conclusions

IMPORTANT

CHECK THAT YOUR ANSWERS ANSWER THE CRITERIA

COMPLETE THE ASSIGNMENT CRITERIAS AS YOU GO ALONG

DO NOT LEAVE THINGS TO THE LAST MINUTE