

Installation Guidelines

for

WebSAMS 3.0

Version 1.3.7 Feb 2021

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Amendme	nt History			
Change No.	Revision Description	Author	Revision Number	Date
1.	In Appendix 7, add: D. Enable Windows Firewall	EDB	1.1	27/6/2014
2.	Add Appendix 9 - Install WebSAMS Root Certificate on Wworkstations	EDB	1.1	27/6/2014
3.	Updating of section 8.1	EDB	1.2	10/7/2014
4.	Updating of section 8.2 – reminder for the command to backup the configuration file	EDB	1.2.1	16/7/2014
5.	Updating of section 7.6.3, point 3 - reminder on data conversion program	EDB	1.3	2/9/2014
6.	Updating of section 3, Overview – reminder to follow the sequence of installation procedure	EDB	1.3	2/9/2014
7.	Updating of section 8.7.2, patch for HTTP Server	EDB	1.3	2/9/2014
8.	Updating of section 9.3.1, reminder for installing ODBC driver on 64-bit workstation	EDB	1.3	2/9/2014
9.	Updating of section 4.2.2, a new file "Test39(ChineseChar).RTF" & "Annex: Acceptance Test Procedure", Test No.39, copy and paste of the two Chinese characters to perform the test.	EDB	1.3	2/9/2014
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11.	 Updating of section 8: Reorganize the procedures in sections 8.6 Add new patch02 in section 8.7.2 Add new paragraph in section 8 & new section 8.8 for steps of "Change of SSL Certificate" 	EDB	1.3.1	7/10/2014
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Amendmer	nt History			
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1. Objective

Since the rollout of WebSAMS from 2003, its usage rate keeps on rising and there have also been continuous enhancements to its functions to meet the increasing needs. On the other hand, we note that the system software of WebSAMS will not have upgrade patches from the vendors for fixing problems and addressing security issues in coming future. To improve the efficiency of the system and minimize the security risks, the Education Bureau considers it necessary to upgrade the WebSAMS server and system software.

The major objective of this document is to provide technical details on how to upgrade the existing WebSAMS to the new version of WebSAMS.

Throughout this document:

- The "New WebSAMS" that has been adapted to a new software platform with MS Windows Server 2012 R2 and Sybase SQL Anywhere 16 (64-bit) will be referred to as "WebSAMS 3.0";

Roughly speaking, the complete process environment should include the following major tasks:

- 1. Install and configure the WebSAMS 3.0 server;
- 2. Installation of SAP Crystal Server 2013;
- 3. Installation of Sybase SQL Anywhere 16 (64-bit);
- 4. Installation of the WebSAMS 3.0 application;
- 5. Installation of WebSAMS training;
- 6. Installation of HTTP server;
- 7. Install Sybase 16 ODBC driver (32-bit) and Crystal Reports 2013 as well as configure ODBC accounts in WebSAMS workstations.

This document also facilitates schools to install a brand new WebSAMS or to resume the WebSAMS operation when facing situations such as reinstallation of WebSAMS, upgrading of related system equipment or change of network settings.

2. Target Audience

This document is mainly for engineers who are responsible for the actual planning and installation works. They are expected to have total understanding of the existing network environment in school and also have basic knowledge in installation, configuration and administration of the network components such as routers, DNS service, DHCP service, Windows Server 2012 R2, and Linux server etc. The section regarding network setup is, in particular, recommended only to readers who possess *in-depth expertise and practical experience* in network design and implementation.

System administrators and technical support staff who have interest may also refer to this document in understanding the settings and installation procedures for the WebSAMS environment.

3. Overview

3.1 Scenarios

Two different scenarios for WebSAMS installation in school environment that have been mentioned above can be concluded as follows:

- 1. New WebSAMS Installation 🛈
- 2. WebSAMS Reinstallation **B**

Please refer to the "Task checklist for different scenarios" in next section to check what tasks have to be performed for the above 2 scenarios.

From now on, each subsequent section will be labeled with the icons, at the left side under the section heading, showing the scenarios that the section is related to. Where O stands for new WebSAMS installation, O for WebSAMS Reinstallation.

For example:



The above example indicates that the section is related to "New WebSAMS Installation" and "WebSAMS Reinstallation".

Inside a section, if specific steps are applicable to only some scenarios, these steps will be highlighted with colour and the square arrow shapes with the scenario icon inside like the followings:



(a) <u>Network Setup</u>

Subject to the events happened, the engineer has to judge the appropriate tasks that needed to be involved.

Common scenarios	Ta	asks that may l	be involved for s	setting up of the
	ne	etwork		
• Reconstruction of net	work 1.	Configure W	VebSAMS Route	er.
Setup	2.	Configure 1	DNS services	in WebSAMS
• Change of IP scheme		server and IT	TEd Domain Cor	ntroller.
• Relocation of cr	ritical 3.	Configure I	DHCP services	in WebSAMS
network component	such	server and I	TEd Domain Cor	ntroller.
as moving HTTP s	erver 4.	Configure of	ther network equ	ipment.
from ITED segmen	nt to			-
DMZ				
• Replacement of net	work			
equipment				

(b) <u>WebSAMS Server & Application</u>

Con	nmon Scenarios
Rei	nstallation due to
•	Hard disk crashed
•	System corrupted
	Replacement of server hardware

When a set of WebSAMS server backup data is on hand, a school can recover the server to the status up to the moment when the system is being backed up.

Should WebSAMS server backup data is not available or the school prefers to build up the school data from scratch, a brand-new WebSAMS has to be installed.

(c) <u>HTTP Server</u>

- Common scenarios
- Hard disk crashed
- System corrupted
- System hacked
- Replacement of server hardware

(d) Crystal Reports (For workstation)

- Common scenarios
- Hard disk crashed
- System corrupted
- Replacement of workstation hardware
- Transfer of license from one workstation to another

3.2 Task Checklist for Different Scenarios

				Sce	narios		
			New		Re-Inst	allation	
	Major Tasks	Section	Installation	Network Setup	WebSAMS Server & Application	HTTP Server	Crystal Reports (For workstation)
1.	Collect information	4	~	~	~	~	~
2.	Restore WebSAMS server and application	7.11			~		
3.	Network setup – Understanding the network setting of WebSAMS.	5.1	✓	~		*	<
4.	Network Setup – Configure WebSAMS router and other network equipment	5.2, 5.3	~	~			
5.	 WebSAMS server installation Windows Server 2012 R2 Standard Edition Install anti-virus software. Install backup software. 	6	✓				
6.	Network configuration for WebSAMS Server	7.3.1, 7.3.2, 7.3.3.1	✓				
7.	Network configuration for WebSAMS Workstations	7.3.3.2	✓	~			
8.	Sybase SQL Anywhere 16 installation	7.4	✓				
9.	SAP Crystal Server 2013 installation	7.5	✓				
10.	WebSAMS 3.0 application installation	7.7	~				
11.	Start up WebSAMS	7.8	~		~		
12.	WebSAMS training installation	7.9	✓				
13.	Schedule jobs	7.10	~				

Note: **(1)** New installation **(B)** Re-installation

				Sce	narios		
			New		Re-Inst	allation	
			Installation	Network Setup	S Server & Application	HTTP Server	ports (For workstation)
	Major Tasks	Section			WebSAM		Crystal Re ₁
14.	HTTP Server installation	8	✓			1	
15.	Installation of Crystal Reports in workstation	9.2	✓				~
16.	 Installation of Sybase 16 ODBC driver for Crystal Reports in workstation Configuration of ODBC accounts in workstation 	9.1, 9.3	✓				V
17.	Post installation check	10	✓	1	1	1	~

Note: **1** New installation **1** Re-installation

3.3 Setup Types

Other than different scenarios for installation, since the last 1 Server 2 WebSAMS school split to 2 servers. Only 1 setup type for all schools: 1 Server 1 WebSAMS (1S1W) – This is the most typical installation type. A school have one server for operating a WebSAMS system and one HTTP server for handling traffic between WebSAMS server and clients not in WebSAMS Segment

3.4 Assistance

Schools please contact their WebSAMS school liaison officer of the Education Bureau (EDB) for any clarification or assistance. The list of the school liaison officers is available from http://cdr.websams.edb.gov.hk.

4. WebSAMS Installation Kits and Media DVD/CDs

4.1 Information Worksheet

Before any installation or re-configuration, a school information worksheet including both administrative and technical information of school, such as the password of administrator accounts, IP addresses and subnet mask for different machines is recommended to be on hand in first place. A sample information worksheet can be used for reference in Appendix 2.

4.2 Installation Kits and Software

Subject to the scenarios of installation required, please verify that the following kits, product CDs, license keys and configuration information are ready and available.

4.2.1 WebSAMS Server Installation

- 1. Windows Server 2012 R2 Standard Edition DVD
- 2. Device drivers for the RAID controller and other system devices.
- 3. Anti-Virus software
- 4. Backup software

4.2.2 WebSAMS 3.0 Application Installation

- 1. Windows Server 2012 R2 Standard Edition DVD
- 2. Sybase SQL Anywhere 16 (64-bit) DVD
- 3. SAP Crystal Server 2013 DVD (to be provided by the school)
- 4. SAP Crystal Reports 2013 DVD (to be provided by the school)
- 5. New School Database CD (For a new WebSAMS installation) with digital certificates **
- 6. System Installation DVD for WebSAMS 3.0 that includes:
 - Basic Installer contains tools for basic installation of WebSAMS
 - Training Installer contains tools for installation of training system
 - *Guidelines documentation*
 - *Misc dummy database and certificate files that may be needed for re-installation of WebSAMS application.*

7. Test39(ChineseChar).RTF ,this file contains the Chinese characters to perform the test no.39 in the "Annex:Acceptance Test Procedure"

** Note: Schools may contact the WebSAMS Team of the EDB for acquiring the files when needed.

4.2.3 HTTP Server Installation

1. HTTP Server Installation CD for WebSAMS 3.0

Note: **(1)** New installation **(3)** Re-installation

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5. Network Setup

5.1 Introduction

5.1.1 Typical School Network Design

Design 1: Internet Gateway with DMZ



The characteristic of this setup is that the school has an Internet Gateway, in this case a firewall, to separate ITED segment, DMZ and Intranet. Servers which are exposed to Internet are placed in DMZ.

The firewall filters any IP traffic that pass among Internet, DMZ and ITED segment.

In this design, the HTTP server would be placed in DMZ while WebSAMS server would be placed in WebSAMS segment.

Note: **(1)** New installation **(1)** Re-installation

Design 2: Internet Gateway without DMZ



The characteristic of this category is that the school has an Internet Gateway to separate Internet and ITED segment.

The Internet Gateway could be a:

- Hardware Firewall
- Proxy Server supporting Network Address Translation (NAT)
- Router implementing NAT
- Linux box with two network Interface cards and running iptables or ipchains
- Windows Server 2012 R2 with two network interface cards and "running routing and remote access".

The Internet Gateway filters any IP traffic that pass between Internet and ITED segment.

In this design, the HTTP server would be placed in ITED segment while WebSAMS server would be placed in WebSAMS segment.

Note: **1** New installation **1** Re-installation

Not recommended School Network Design



This design assumes the school does NOT have a trusted Internet gateway to separate Internet from ITED segment. The coexistence of real IP network and the ITED segment in the same ITED switch will subsequently cause the ITED segment to be exposed to the Internet directly.

With the security of ITED segment solely rely on the protection mechanism of the server's operating system, this is a least secure design that school should be aware of. Adoption of this solution is not recommended.

5.1.2 User Characteristic

Based on the access pattern, there are 3 types of WebSAMS users. They are WebSAMS user, ITED user, and Internet user.

WebSAMS users are those users that access WebSAMS application in the WebSAMS segment. They would access WebSAMS server directly.

ITED users are those users that access WebSAMS application in the ITED segment. They are served by HTTP server.

Internet users are those users that access WebSAMS from Internet. They are served by HTTP server.

5.1.3 IP Address

The WebSAMS server needs a fixed private IP address in the WebSAMS segment. WebSAMS users access WebSAMS application by this IP address.

The HTTP server needs a fixed private IP address in the ITED segment. ITED users access WebSAMS application by this IP address.

The HTTP server also needs a public (real) IP address. Internet users access WebSAMS application by this IP address.

In summary, there should be:

- one private IP address for clients in WebSAMS segment
- one private IP address for clients in ITED segment and one public (real) IP address for Internet users are needed

The 3 IP addresses are considered as one set of IP addresses for WebSAMS.

5.1.4 IP Address Scheme for WebSAMS Network

Based on ITED project's Technical Guidelines for School Network Implementation, schools are recommended to follow the pre-assigned IP address range and each school will have 16 subnets which provide 4,096 IP address space (16 subnets * 256 IP address space per subnet). It should be noted that the first and the last IP addresses of each subnet are reserved for identifying the subnet itself and IP broadcasts within the subnet respectively. These two IP addresses in the subnet are not usable for hosts/network devices. The pre-assigned IP address range for each type of schools is as follow:

IP Address Ra	inge		School Type
10.40.0.0	to 10.99.255.2	255	(Primary)
10.100.0.0	to 10.179.255	.255	(Secondary)
10.180.0.0	to 10.199.255	.255	(Special)
For example:	10.40.0.0 10.40.16.0	to 10.40.15.255 to 10.40.31.255	assigned to ABC Primary School assigned to 123 Primary School

It is recommended that WebSAMS network to subscribe an IP address range in the last subnet of each school as WebSAMS network segment. The IP address scheme should be ready before

Note: Wew installation B Re-installation

proceeding to the Configuration of Windows server for WebSAMS.

The DHCP server is to lease IP address to workstations that run TCP/IP protocol as its communicating tool with server and other workstations. Workstation can obtain IP address dynamically from the DHCP server. This will ease the management of IP addresses for WebSAMS workstations and other IP-dependent devices. The use of DHCP server is a preferred and default option for the management of IP addresses of WebSAMS network.

The following example illustrates how to determine the IP address for WebSAMS Network:

If IP address 10.40.0.0 to 10.40.15.255 belongs to ABC Primary school, the last subnet of ABC school is 10.40.15.n (where n is 0 to 255). WebSAMS network will subscribe the IP address range from 10.40.15.1 to 10.40.15.254.

For school with one server, the NIC adapter of server will use IP address = 10.40.15.254.

If schools follow the ITEd 's IP allocation Standard and use DHCP 's dynamic assignment of IP address for WebSAMS network, IP Scheme for WebSAMS will be similar as follows:

Number of	Subnet used by	WebSAMS Server	DHCP IP	Example of DHCP
WebSAMS	WebSAMS	IP Address	Range	Start and End
server in				Range of ABC
school				Primary School
1	10.x.y.	10.x.y.254	10.x.y.128 to	Start
			10.x.y.239	10.40.15.128
				End
				10.40.15.239

Where 10.x.y is the last subnet of your school networks.

5.1.5 Domain Name Service (DNS)

The WebSAMS application is accessed from a web browser using a unique domain name, regardless of the user pattern. Since different users access WebSAMS application by different means, the unique domain name should resolve to different IP addresses accordingly.

The following example illustrates the idea.

Assume "websams1.schabc.edu.hk" to be the unique domain name, 192.168.1.100 to be the private IP address of the WebSAMS server, 10.10.10.100 to be the private IP address of the HTTP server, 202.202.202.100 to be the public IP of the HTTP server

In WebSAMS segment, the unique domain name should be resolved to the private IP address of the WebSAMS server. A local DNS service in WebSAMS server should resolve the unique domain name.

websams1.schabc.edu.hk = 192.168.1.100

In ITED segment, the unique domain name should be resolved to the private IP address of the HTTP server. A local DNS server in ITED segment should resolve the unique domain name. websams1.schabc.edu.hk = 10.10.10.100

In Internet, the unique domain name should be resolved to the public (real) IP address of the HTTP server. The DNS server of school ISP should resolve the unique domain name. websams1.schabc.edu.hk = 202.202.202.100

5.2 Configure WebSAMS Router

Due to security concern, the details have been included in the document "*Document 36 - Rules for Configuration of WebSAMS Router and Internet Gateway*" to be supplied by EDB separately in your package of WebSAMS rollout deliverables for new WebSAMS schools. You may also consult your WebSAMS school liaison officer for more details.

After configuration of the WebSAMS router is completed, you can test whether the access list is set up properly by using the telnet command in the HTTP Server to connect to the WebSAMS server at port 8009 and 7009. The following shows an example:

\$ telnet 10.40.15.201 8009 Trying 10.40.15.201... Connected to 10.40.15.201. Escape character is '^]'.

<u>Fallback school router configuration in case of any problem encountered</u> Load the backup configuration back to the router.

5.3 Configure Other Network Equipment

NR

Depending on the network setup of individual schools, there may be other network equipment that needs to be configured. Some examples of such equipment are

- Firewall, ISP router or other gateway,
- Proxy Server
- ISP equipment

Configuration of Firewall, ISP router or other gateway

Due to security concern, the details have been included in the document "*Document 36 - Rules for Configuration of WebSAMS Router and Internet Gateway*" to be supplied by EDB separately in your package of WebSAMS rollout deliverables for new WebSAMS schools. You may also consult your WebSAMS school liaison officer for more details.

Configuration of Proxy Server

- Make sure the host table in the WebSAMS server has been modified as mentioned in the section of "Configure DNS and DHCP Services"
- Configure proxy server to bypass WebSAMS domain name

6. WebSAMS Server Installation

Ø

In addition to the normal steps in installing the operating system of a server guided by the Windows Server 2012 R2 installation program, other settings specific to the WebSAMS server also have to be noted as follows:

- 1. Install the server as a standalone workgroup server. **Do not set up or join any domain.**
- 2. <u>Hard Disk Partitioning</u>

Partition the hard disk into three partitions:

- C drive as 200GB;
- D drive as 200GB and;
- E drive as the remaining.
- 3. <u>File system</u> All Drive (C, D and E) must be in NTFS format. *Compression* feature should not be used for the whole file system.
- 4. <u>Disk Volume Name</u> Do not assign Drive C, Drive D and Drive E with any volume name.
- 5. <u>Paging File</u> Initial Paging file size of Windows server 2012 R2 should be "Auto".
- 6. <u>Time Zone</u> Set Time Zone to (UTC+08:00).
- 7. <u>Network Protocol</u>

Each server should have two network interface cards (NIC):

- □ The first NIC will be used for connecting the WebSAMS server to the network switch in the WebSAMS segment. For this network connection, only install TCP/IP network protocol and choose the obtaining of IP address and DNS server address automatically as the default (A fixed IP address will be required later before WebSAMS application is installed).
- □ The second NIC is reserved for connecting the WebSAMS server to the networkattached storage device (NAS) when applicable (Physically a crossover UTP cable supporting Gigabit Ethernet may be necessary for making the direct connection between the server and the NAS).
 - The NAS device and the second NIC should form a private segment. A "192.168.1.X" scheme with subnet mask of "255.255.255.0" for this segment is recommended.
 - To configure the second NIC, choose installation of only the TCP/IP network protocol and set the fixed IP address to "192.168.1.x" where x can be any number from 1 to 254. This fixed IP address should be different from that of the NAS device.

For example, assuming the fixed IP address of the NAS device is

Note: 🚺 New installation 🛛 🔒 Re-installation

"192.168.1.1", the IP address of the second NIC can be set to "192.168.1.2". The DNS server address for the second NIC is always not needed and should be empty.



8. <u>Video Display Setting</u>

Select 1024x768 (or higher resolution when appropriate) screen size in server and install the appropriate Video driver.

9. Computer Name

Don't change the computer name. Keep the default computer name assigned by the system.

omputer You mu	Name and Administrator Password st provide a name and an Administrator password for your computer.
	Setup has suggested a name for your computer. If your computer is on a network, your network administrator can tell you what name to use.
	Computer name: EDE:02:033:05:05:05:0
æ	Setup creates a user account called Administrator. You use this account when you need full access to your computer.
a a a a a a a a a a a a a a a a a a a	Setup creates a user account called Administrator. You use this account when you need full access to your computer. Type an Administrator password.
.	Setup creates a user account called Administrator. You use this account when you need full access to your computer. Type an Administrator password. Administrator password:

10. Workgroup

Use "WebSAMSGROUP" as the Workgroup name.

11. Date Format

The format order should be set to dd/MM/yyyy in short date format.

12. <u>Regional options</u>

(Start -> Control Panel -> Change date, time, or number formats / Region)

Set your **Formats** to **"English (United Kingdom)"** on the **Formats** tab and **Home location** to **"Hong Kong SAR"** on the **Location** tab.

ministrative gdom) es mats dd/MM/yyyy dd MMMM yy HH:mm HH:mm:ss Monday 16/05/2014 16 May 2014. 11:07:36	✓
gdom) es mats dd/MM/yyyyy dd MMMM yy HH:mm HH:mm:ss Monday 16/05/2014 16 May 2014. 11:07:36	✓
gdom) es mats dd/MM/yyyy dd MMMM yy HH:mm HH:mm:ss Monday 16/05/2014 16 May 2014 11:07:36	✓
Es Inats Idd/MM/yyyyy HH:mm HH:mmss Monday 16/05/2014 16 May 2014 11:07 11:07:36	✓
es mats dd/MM/yyyyy dd MMMM yy HH:mm HH:mm:ss Monday 16/05/2014 16 May 2014 11:07 11:07:36	✓
dd/MM/yyyy dd MMMM yy HH:mm HH:mmss Monday 16/05/2014 16 May 2014 11:07 11:0736	✓
dd/MM/yyyy dd MMMM yy HH:mm HH:mm:ss Monday 16/05/2014 16 May 2014 11:07 11:0736	* ************************************
Idd MMMM yg HH:mm HH:mmss Monday 16/05/2014 16 May 2014. 11:07:36	× ×
HH:mm HH:mm:ss Monday 16/05/2014 16 May 2014 11:07 11:07:36	> > >
HH:mm:ss Monday 16/05/2014 16 May 2014 11:07 11:07:36	~ ~
Monday 16/05/2014 16 May 2014 11:07 11:07:36	v
16/05/2014 16 May 2014 11:07 11:07:36	
16/05/2014 16 May 2014 11:07 11:07:36	
16 May 2014 11:07 11:07:36	
11:07 11:07:36	
11:07:36	
	Additional settings
	OK Cancel Apply
1	Region
ministrativa	Legion
iding Windows, m ion. Some services	ay provide you with additional content provide local information such as news
	~
	ministrative iding Windows, m on. Some service:

Set your Language for non-Unicode programs to "Chinese (Traditional, Hong Kong SAR)" on the Administrative tab.

OK Cancel

Apply

Formats	1		
	Location	Administrative	
Welco Viev acco	ome screer v and copy ounts and	n and new user acco your international new user accounts.	settings to the welcome screen, system
Langu This text Curr	uage for no setting (sj in progran rent langua Chinese (T	on-Unicode prograi ystem locale) contrr ns that do not supp age for non-Unicod raditional, Hong Ko	ms ols the language used when displaying ort Unicode. le programs: ing SAR)

13. Must apply Windows Update regularly and apply Windows Server hardening (Please refer to Appendix 7 for details)

- 14. Keep Internet Explorer 11 or, if necessary, install a later version.
- 15. When you are prompted for installing Microsoft Internet Information Server, uncheck the check box and do not install the Microsoft Internet Information Server.
- 16. Disable the following unnecessary services, if any:
 - Distributed File System
 - Print Spooler (if no print queue is to be installed in the server)
 - SMTP
 - License Logging Service
- 17. Other configurations
 - <u>Anti-virus software</u> Install the anti-virus software immediately after the installation of Windows Server 2012 R2
 - 2. <u>Backup software</u> Install backup software into the server with proper settings that can communicate with the backup device.
 - 3. <u>Print queue</u> Set up a print queue for printers controlled by the server if any.
 - 4. <u>UPS</u>

If UPS is to be installed for supporting the WebSAMS server, it should be compatible with Microsoft Windows Server 2012 R2 and be properly configured.

Note: Wew installation B Re-installation

7. WebSAMS Application Installation in WebSAMS Server

The following steps should be taken in sequence:

- 1. Network Configuration
- 2. "SAP Crystal Server 2013" installation
- 3. "Sybase SQL Anywhere 16 (64-bit)" installation
- 4. "WebSAMS Version 3.0" installation

7.1 Health Check (Obsoleted)

7.2 Migration of Data from WebSAMS 2.0 to 3.0 (Obsoleted)

7.3 Network Configuration for WebSAMS Server and Workstation

7.3.1 Basic Network Setting

- 1. Disable the DHCP client service.
- 2. Assign the IP address of the WebSAMS server and the DNS server address to the network interface card that is used for connecting the WebSAMS server to the network switch in the WebSAMS segment.
- 3. Assign computer name for the server. Path: Start-> Control Panel -> System -> Change Settings -> 'Change...' in Computer Name tab

Computer Name	Hardware	Advanced	Remote			
Wind on th	lows uses the e network.	e <mark>following in</mark> l	omation to	o identify	your com	puter
Computer descr	iption:					
	Fo	or example; " Accounting S	IS Product erver".	tion Serv	ver" or	
Computer N	lame/Dor	main Chai	nges	×		
can change the nar puter. Changes migh	ne and the m at affect acce	embership of ess to networ	this resource	s.	Change	e
can change the nar puter. Changes migh puter name: computer name:	ne and the m	embership of	this c resource: More	s.	<u>Q</u> hanga	e
can change the nar puter. Changes migh puter name: computer name:	ne and the m	embership of	this resource: More	s.	<u> </u> Ghange	e
can change the nar puter. Changes migh puter name: computer name: mber of) Domain:	ne and the m	embership of	this cresource: More	s.	Chang	e
can change the nar puter. Changes migh puter name: computer name: smber of) Domain:	ne and the m	embership of ess to networ	this resource: More	s.	Qhangu d	e+
can change the nar puter. Changes migh puter name: computer name: amber of Domain:	ne and the m	embership of ess to networ	More	s.	Qhangu I	e

The computer name should be equal to the top level sub-domain name of WebSAMS fully qualified domain name (FQDN).

e.g.. websams, if the FQDN is websams.abc.edu.hk

e.g.. sams, if the FQDN is sams.abc.edu.hk

7.3.2 Configure DNS and DHCP Services in WebSAMS Server

7.3.2.1 Introduction

In WebSAMS segment, a DNS service running on the WebSAMS server is required to provide domain name resolution for the WebSAMS clients.

In ITEd segment, a DNS service is needed if the ITEd clients surf the web without using proxy. On the other hand, the proxy can provide the domain name resolution if ITEd clients are configured to use proxy. If the latter is the case, the host table of the proxy should be modified instead of setting up a DNS service in ITEd segment.

The following table summarizes what need to be done under different situations:

	WebSAMS segment	ITEd segment
Client PCs surf the Web	Configure DNS service in	Update host table in proxy
through proxy server with	WebSAMS server	server.
domain name resolution		

Note: **W** New installation **B** Re-installation

Client PCs surf the Web	Configure DNS service in	Configure DNS service in
without a proxy server or	WebSAMS server	ITEd domain controller.
proxy server without		
domain name resolution		

On the other hand, the DHCP service should also be provided by the WebSAMS server.

In ITEd segment, the Windows domain controller usually provides the DHCP service.

If a new DNS server has been introduced, the DHCP service should be modified to reflect the changes. Usually, this could be done by adding the DNS option in DHCP.

Before configuration of the DNS and DHCP services, make sure the Windows components of these two services have been added.

1. From "Add Roles and Features Wizard", select "Add Roles and Features". In "Before You Begin" select Next, In "Installation Type" select Next, In "Server Selection" select Next.



2. In Server Roles, Choose "DHCP Server" and "DNS Server", click "Next". In "Features", click "Next", In "DHCP Server" and "DNS Server", click "Next",

ia -	Add Roles and Features Wizard	_ _ ×
Select server ro Before You Begin Installation Type Server Selection Server Roles Features DHCP Server DNS Server Confirmation Results	Add Roles and Features Wizard Select one or more roles to install on the selected server. Roles Active Directory Certificate Services Active Directory Domain Services Active Directory Federation Services Active Directory Rights Management Services Active Directory Rights Management Services Application Server DHCP Server Fax Server File and Storage Services (1 of 12 installed) Hyper-V	Description Domain Name System (DNS) Server provides name resolution for TCP/IP networks. DNS Server is easier to manage when it is installed on the same server as Active Directory Domain Services. If you select the Active Directory Domain Services role, you can install and configure DNS Server and Active Directory Domain Services to work together.
	Network Policy and Access Services Print and Document Services Remote Access Remote Desktop Services <	t > Install Cancel

3. In "Server Manager" click "Complete DHCP configuration"



4. In "DHCP Post-Install configuration wizard" click "Commit" and "Close"

a	DHCP Post-Install configuration wizard
Description Description Summary	The following steps will be performed to complete the configuration of the DHCP Server on the target computer: Create the following security groups for delegation of DHCP Server Administration. - DHCP Administrators - DHCP Users
	< <u>P</u> revious <u>N</u> ext > Commit Cancel

Note: **W** New installation **B** Re-installation

7.3.2.2 Setup DNS Service

The configuration involves the following three tasks:

- Setup a forward lookup zone
- Add a host record for WebSAMS
- Configure DNS forwarder

(a) Setup a forward lookup zone for School Domain Name

1. Launch DNS management console. Right Click on the "Forward Lookup Zone" and choose "New Zone...".

(Start -> Programs -> Administrative tools -> DNS)



Note: **(**) New installation **(**) Re-installation

2. Click "Next"



3. Choose "Primary zone". Click "Next".

New Zone Wizard	×
Zone Type The DNS server supports various types of zones and storage.	
Select the type of zone you want to create:	
Primary zone	
Creates a copy of a zone that can be updated directly on this server.	
○ <u>S</u> econdary zone	
Creates a copy of a zone that exists on another server. This option helps balance the processing load of primary servers and provides fault tolerance.	
🔿 Stub zone	
Creates a copy of a zone containing only Name Server (NS), Start of Authority (SOA), and possibly glue Host (A) records. A server containing a stub zone is not authoritative for that zone.	
Store the zone in <u>Active Directory</u> (available only if DNS server is a writeable domain controller)	
< <u>B</u> ack <u>N</u> ext > Cancel]

4. Fill in the WebSAMS Domain Name in the text box. Click "Next". (e.g. websams.abc.edu.hk)

New Zone Wizard	x
Zone Name What is the name of the new zone?	
The zone name specifies the portion of the DNS namespace for authoritative. It might be your organization's domain name (for or a portion of the domain name (for example, newzone.micros not the name of the DNS server. Zone name:	r which this server is r example, microsoft.com) soft.com). The zone name is
websams.abc.edu.hk	
< <u>B</u> ack	Mext > Cancel

5. Accept the default file name. Click "Next".

New 2	Zone Wizard
Zone File You can create a new zone file or use	a file copied from another DNS server.
Do you want to create a new zone file from another DNS server?	or use an existing file that you have copied
websams.abc.edu.hk.dns	
O Use this existing file:	
To use this existing file, ensure tha %SystemRoot%\system32\dns on	t it has been copied to the folder this server, and then click Next.
	< Back Next > Cancel

Note: **()** New installation **()** Re-installation

6. Select "Do not allow dynamic updates" and click "Next".

	Ne	ew Zone Wizar	d	2
Dynamic U You can updates	pdate specify that this DNS zon	e accepts secure, n	onsecure, or no dynamic	
Dynamic resource	updates enable DNS clier records with a DNS serve	nt computers to regi er whenever change	ster and dynamically updates occur.	ate their
Select th	e type of dynamic update	es you want to allow	v:	
O Allow This	only secure dynamic upd option is available only fo	ates (recommended r Active Directory-in	for Active Directory) Integrated zones.	
○ <u>A</u> llow Dyna <u>♪</u>	both nonsecure and secu mic updates of resource This option is a significan accepted from untruste	ure dynamic updates records are accepte nt security vulnerab d sources.	s d from any client. ility because updates car	be
Do no Dyna these	t allow dynamic updates mic updates of resource r records manually.	ecords are not acce	pted by this zone. You m	iust update
		< Bac	-k Next >	Cancel

7. Click "Finish."

 New Zone Wizard
Completing the New Zone Wizar
You have successfully completed the New Zone Wizard, Yo specified the following settings:
Name: websams.abc.edu.hk
Type: Standard Primary
Lookup type: Forward
File name: websams.abc.edu.hk.dns 🗸
Note: You should now add records to the zone or ensure that records are updated dynamically. You can then verify name resolution using nslookup.
To close this wizard and create the new zone, click Finish.

(b) Add Host record for WebSAMS

1. Right click your new forward lookup zone under "Forward Lookup Zones", click "New Host (A)...".

👗 DNS Manager 📃 🗖 🗙							
File Action View Help							
🚊 DNS	Name	Туре	Data				
 WS1S1W_121 Image: Global Logs Forward Lookup Zones websams.abc.edu.bk 	(same as parent folder) (same as parent folder)	Start of Authority (SOA) Name Server (NS)	[1], ws1s1w_121., hostmas ws1s1w_121.				
▷ I Reverse Lookup Ur ▷ I Trust Points Re	odate Server Data File Ioad						
Conditional For New York	ew Host (A or AAAA)						
Ne Ne Ne Ot Di Al	ew Alias (CNAME) ew Mail Exchanger (MX) ew Domain ew Delegation her New Records ISSEC Tasks	» »					
VI	2W	•					
C III	lete fresh port List						
Create a new host resource	operties	_					

2. Leave the Name blank and fill in the IP address. Click "Add Host".

New	Host ×
<u>N</u> ame (uses parent domain name i	fblank):
L Fully qualified domain name (FQDN	۷):
websams.abc.edu.hk.	
I <u>P</u> address:	
10.10.10.100	
<u>Create associated pointer (PTF</u>	र) record
	Add <u>H</u> ost Cancel

Note: **W** New installation **B** Re-installation

3. The new host is displayed after creation.

🗴 DNS Manager 📃 🗕 🗖							
<u>File Action View Help</u>							
 DNS WS1S1W_121 Forward Lookup Zones websams websams.abc.edu.hk Reverse Lookup Zones Trust Points Conditional Forwarders III Global Logs 	Name (same as parent folder) (same as parent folder) (same as parent folder)	Type Start of Authority (SOA) Name Server (NS) Host (A)	Data [2], ws1s1w_121., hostmas ws1s1w_121. 10.15.255.15				

(c) <u>Configure DNS forwarder</u>

1. Right click your DNS server, click "Properties".

🖹 DNS Manager 📃 🗖 🗙						
File Action View Help						
 DNS US1S1W 121 US1S1W 121 Glo Fon New Zone Set Aging/Scav Set Aging/Scav Set Aging/Scav Scavenge Stale Tru Cor Update Server Clear Cache Launch nslook All Tasks Delete Refresh Properties Help 	Name (came as easent folder) VS Server venging for All Zones Resource Records Data Files up	Type Start of Authority (SOA) Name Server (NS) Host (A)	Data [1], ws1s1w_121., hostmas ws1s1w_121. 10.15.255.15			
< III >						
Opens the properties dialog box for the current selection.						
2. Under the Forwarders tab, add the DNS server IP of ITED network. If the school does not have a DNS server, add the Internet Service Provider DNS server IP instead.

Debug Loggin	g Eve	nt Logging	Monitoring
Interfaces	Forwarders	Advanced	Root Hints
Forwarders are D queries for record	NS servers that th is that this server (is server can use to cannot resolve,	resolve DNS
IP Address		Server FQDN	
Use root hints	if no forwarders a al forwarders are o	re available defined for a given o	Edit

IP Address	Server FODN	Validated	Delete
10.15.35.31			
			Up
			Down
umber of seconds b	efore forward queries time out	: 3	
e server FQDN will	not be available if the approp	iate reverse lookup zones and	l entries are not

Note: **(1)** New installation **(B)** Re-installation

(d) <u>Update host table</u>

For Windows operating system, the host table is located in %SYSTEMROOT%\system32\ drivers\etc\hosts.

Assuming the IP address is **10.10.10.100** and the domain name is **websams.abc.edu.hk**, use a text editor to append the following line in the host table:

10.10.10.100 websams.abc.edu.hk

7.3.2.3 Set up DHCP Service in WebSAMS Server

1. Open the **DHCP** in **Server Manager**. Make sure the DHCP scope has been set up; otherwise, create a new scope by right click the IPv4 of server node and then select "**New Scope...**" from the popup menu. Input the IP address range that will be automatically distributed to workstations in WebSAMS segment



2. The new DNS option is shown after creation.

🗧 🔿 🙋 📅 🧔 🕞 🚺 🦛	<u>\$</u>			
 2 DHCP ▲ ↓ ws1s1w_121 ▲ ↓ IPv4 ▲ ↓ Scope [10.10.10.0] websam 	Option Name © 006 DNS Servers 015 DNS Domain Name	Vendor Standard Standard	Value 10.15.78.30, 10.15.78.31 abc.edu.hk	Policy Name None None
 Address Leases ▶ Reservations Policies Server Options Policies 	General Advanced Available Options O04 Time Server O05 Name Servers O05 Name Servers O07 Log Servers C III Data entry Long: Dx0		Description Array of time Array of nar Array of DN Array of MIT >	

3. Configure other options (if any) similarly, e.g. "Default Router".

7.3.2.4 Fallback Procedures

Please refer to the following steps in case you need to recover the original settings:

Uninstall DNS or DHCP Service

Uncheck Domain Name System (DNS) or Dynamic Host Configuration Protocol (DHCP).

6	Remove Roles and Features Wizard	_ 0 ×
Remove server ro	ICS	DESTINATION SERVER WS1S1W_121 clear their check boxes.
Server Selection	Roles	Description
Server Roles Features Confirmation Results	Active Directory Certificate Services (Not installed) Active Directory Domain Services (Not installed) Active Directory Federation Services (Not installed) Active Directory Lightweight Directory Services (No Active Directory Rights Management Services (No Active Directory Rights Management Services (No Application Server (Not Installed) DHCP Server DNS Server Fax Server (Not Installed) Fat Server (Not Installed) File and Storage Services	Active Directory Certificate Services (AD CS) is used to create certification authorities and related role services that allow you to issue and manage certificates used in a variety of applications.
	Hyper-V (Not installed) Network Policy and Access Services (N Print and Document Services (Not installed) Remote Access (Not installed) <	the boxes
	< <u>P</u> revious <u>N</u> ext :	<u>R</u> emove Cancel

Note: **W** New installation **B** Re-installation

7.3.3 WebSAMS Workstations Login to the ITED Domain

This section provides the general guideline on setting the WebSAMS workstation to login to ITED domain. For further detail setting on the ITED domain, please refer to official document of the Windows Domain or technical support from Microsoft.

Please ensure that the Windows versions of WebSAMS workstations can support joining Windows domain, e.g. Windows 10 or etc.

7.3.3.1 Configuration to be done by Site Engineers or Experienced TSS

TSS may configure ITED domain DNS as DNS forwarder in WebSAMS server, as described in previous section.

(You should have already done it. It is stated here just for reference.)

7.3.3.2 Configuration to be done by the School TSS (Or the Site Engineers)

1. Reboot the WebSAMS workstation to refresh the DHCP settings.

2. Configure the workstation to join the ITED domain the same as you did for ITED workstations.

The following figure shows an example assuming the domain is QWE.local. (*Path: Right click My Computer -> Properties -> Network Identification -> Properties*)

ATRIC	ж			
ull com ATRIC Memb	puter name: K. er of		<u></u>	ore
• <u>p</u>	omain:			
l c	WE.local			
OV	/orkgroup:			
100	/DBKGBDUP			

7.4 Sybase SQL Anywhere 16 (64-bit) Installation

N

7.4.1 Install Sybase SQL Anywhere 16 (64-bit)

- 1. Insert the Sybase SQL Anywhere 16 media disc into the DVD drive.
- 2. Once the Sybase installation program has been launched, follow the installation wizard and choose the following:

Setup Language: English Country or region: Hong Kong

- 3. Accept the license Agreement and click "Next". After that, input the Registration key and click "Next" directly.
- 4. Fill in User Name and Organization appropriately. For Licensed cores, please input the number of CPU cores of the WebSAMS Server. Then click "Next".

18	SQL Anywhere 16 - InstallShield Wiz	zard ×
Server Li	censing Information	
Please	enter the following server license information	
<u>U</u> ser Na	ame:	
<u>O</u> rganiz	zation:	
License	d cores:	
4		
InstallShield		
	Next	> Cancel

- 5. Choose Typical for 'Setup Type' and click 'Next'.
- 6. Uncheck the option "Allow SQL Anywhere 16 to send info..." and click "Install".

7. When the installation completes, uncheck ALL the checkboxes and click 'Finish'.



7.5 SAP Crystal Server 2013 Installation

7.5.1 Install SAP Crystal Server 2013

- 1 Insert the SAP Crystal Server 2013 media CD into the DVD drive.
- 2 The Crystal Server installation program will be launched. Follow the installation wizard, and accept ALL default setting.
- Fill in the following for user information and license key:Product Key: {license key}
- 4 Continue to follow the installation wizard, and accept ALL default setting.
- 5 Select "Do not configure a version control system at this time" for the screen "Select Version Management" and click "Next".



- 6 Continue to follow the installation wizard, and accept ALL default setting and click "Next".
- 7 For the screen "Configure CMS Account", type in the password and cluster key. The "Administrator Account" will be used to login in the "Central Management Console" in section "7.7.1 Post Installation Task".

Configure CMS Account	
Enter the administrator account password and to connect multiple CMS servers together.	duster key for the CMS. The duster key is used
Administrator Account Information	
Password:	*******
Confirm Password:	*****
- Cluster Key Information	
CMS Cluster Key:	******
Confirm Cluster Key	*********

Note: Wew installation B Re-installation

8 For the screen "Configure Sybase SQL Anywhere", type in the password. This database account is only used for the Crystal Server 2013.

onfigure Sybase SQL Anywhere	
nter the server port and administrator passw	ord for the Sybase SQL Anywhere database.
SQL Anywhere Server Information	
Sybase SQL Anywhere Port:	2638
SQL Anywhere Administrator Account	
"dba" Account Password:	*****

- 9 Again, accept ALL default setting and click "Next". The installation will last for about 30 minutes. After the installation, click "Finish".
- 10 Finally, perform the following checking:

System variables Variable Value NUMBER_OF_P 8
Variable Value ^ NUMBER_OF_P 8
OS Windows_NT Path C:\Windows\system32;C:\Windows;C:\ PATHEXT .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS; New Edit Delete
e the path of Sybase 16 comes first. The follow is an example: Root%\system32;%SystemRoot%;%SystemRoot%\System32\Wbe

Note: **W** New installation **B** Re-installation

7.6 Data Conversion (Obsoleted)

7.7 WebSAMS 3.0 Application Installation

The installation wizard will guide you through the installation of WebSAMS 3.0 application. It will install the following programs into WebSAMS server:

Programs	Path
Zulu Java 11	D:\Java\zulu11.2.3-jdk11.0.1\
Dyna font	C:\Windows\Fonts\mingliu.ttc,
	the original one is renamed to
	mingliu.ttc.bak
Barcode font	C:\Windows\Fonts\FRE3OF9X.TTF
Wildfly 15.0.0	D:\WebSAMS3.0\wildfly-15.0.0.Final\
Apache 2.4.39	D:\WebSAMS3.0\Apache\
School data, report templates and	E:\Data\
keystores	

7.7.1 Install WebSAMS 3.0 Application

- 1. Execute the WebSAMS 3.0 installation wizard. *Path: System Installation DVD for WebSAMS 3.0:Basic Installer*\autorun.vbs
- 2. Click "Next" on the welcome screen.



3. Fill in the 4-digit unique SUID and the WebSAMS Server IP.

School Unique ID:	{SUID}	e.g. 1234
WebSAMS Server IP:	{WebSAM	IS server IP} e.g. 12.34.56.78

Input your school infor	mation			N-24
Your school information				
School Unique ID:	1234			
WebSAMS Server IP:	12.34.56.78			
stallShield				
		< Back	Next >	Cancel

4. Fill in the ITEd network number and the subnet mask.

Input your ITEd netwo	ork information			A-24
ITEd network number ar	nd subnet mask			
ITEd network number:	10.x.x.0			
Subnet mask:	255.255.255.0			
nstallShield				
		< Back	Next >	Cancel

e.g. ITEd network number: 12.34.56.0

Subnet mask: 255.255.255.0

Input your ITEd netwo	ork information			A.
ITEd network number ar	nd subnet mask			
ITEd network number:	12.34.56.0			
Subnet mask:	255.255.255.0			
InstallShield		< Back	Next >	Cancel

5. Input your data source path.

nput your Database Path		
- Source Folder		
- Source Folder E:\new_wsdata\1234\database	 [Browse
Source Folder E:\new_wsdata\1234\database	[Browse

	Scenario: Installing new WebSAMS
0	Click "Browse" to locate the source folder. Path : WebSAMS Database and Digital Certificate CD: \ <suid>\database</suid>
	Note: The source folder should contain the following files:
	websams_{school_id}.db websams_db1.dbRR websams_db2.dbRR to websams_db8.dbRR

6. Input your CDS path and press "Next".

DS Data	1
Input your CDS Path	
┌─ Source Folder	
Source Folder E:\new_wsdata\CDSKit	Browse
Source Folder E:\new_wsdata\CDSKit allShield	Browse

Scenario: Installing new WebSAMS

Click "Browse ..."to locate the CDS folder.

Path: WebSAMS Database and Digital Certificate CD:\CDSKit

7. Input your digital certificate and key path. Press "Next" to proceed.

chool Digital Certificate and Key		ALX.
Input your Key Path		
- Source Folder	 	
- Source Folder E:\new_wsdata\SchoolCert		Browse
Source Folder E:\new_wsdata\SchoolCert		Browse

Scenario: Installing new WebSAMS

B

Click "Browse ..." to locate the folder that contains the digital certificate and key.

Path: WebSAMS Database and Digital Certificate CD:\SchoolCert

8. Select your setup type and click "Next".

Setup Type	
Select the Setup Type to insta	А.
I Server 1 WebSAMS	Program will be installed for 1 Server 1 WebSAMS
nstallShield	
	< Back Next > Cancel

9. The summary of information will be shown. Click "Next" to continue the installation.

Click next to start copying	
Current Cettinger	
School ID: 1234 WebSAMS Server IP address: 12.34. ITEd network number: 12.34.56.0 ITEd subnet mask: 255.255.255.0	56.78
Source of Data: E:\new_wsdata\123 Source of CDS data: E:\new_wsdata Source of School Key: E:\new_wsdat Setup Type: 1 Server 1 WebSAMS /	AUGADASE VCDSKit a\SchoolCert 1 Server 2 WebSAMS - AM
Source of Data: E:\new_wsdata\123 Source of CDS data: E:\new_wsdata Source of School Key: E:\new_wsdat Setup Type: 1 Server 1 WebSAMS /	+ Udaudase CDSKit a\SchoolCert 1 Server 2 WebSAMS - AM >

Note: **W** New installation **B** Re-installation

10. The installation wizard will perform some configuration and file copying tasks. This could take a few minutes.

Setup Status	N=A
WebSAMS Setup is performing the requested operations.	
E:\Data\Doc\UM\TTL\Doc 27e - AUM Timetabling(TTL).pdf	
65%	
stallShield	

11. Once all installations are completed, you should find the following screen. Press "Finish" to exit.



Post Installation Tasks

- 1. Configure the SAP Crystal Server 2013
 - 1) Open Internet Explorer and go to "http://127.0.0.1:8080/BOE/CMC/" *Path:* Starts > Internet Explorer

SAP Busir	ressObjects	1	
Central Manag	ement Console		
Enter your user infor	mation, and click "Log On".	nur system	
administrator.	account information, contact y	bur system	
System:	:6400		
User Name:			
Authentication:	Entrancian		
	Literprise		
		_og On	

2) Log in the Central Management Console with 'administrator' account which has setup during installation before. Click "Close" to skip the welcome screen.

 Select 'Servers' in the drop down list of top left corner. Click on 'Crystal Reports Services' under the 'Service Categories' on the left. Right click on the server name ends with 'CrystalReports2013ReportApplicationServer' and select 'Properties'.

Servers			Wel	come: Admin	istrato	or Preferences
Manage • Actions •				Find Tit	tle 🔹	
영 😫 🎭 🖉 🖨 🕨 🔳 🕂	8 🖧					20 H
Bervers List	8	Server Name AdaptiveJobServer CrystalReports2013ProcessingServer	State	Enabled Disabled	Stale	Kind Job Server Crystal Report
Berrer Groups Server Groups Server Groups Server Groups Service Categories Gonectivity Services Gore Services Gore Services Gore Services Gore Data Federation Services Gore Management Services Gore Management Services Web Intelligence Services Gore Services		: CrystalReports2013ReportApplicationServer	Properties Start Serv Restart Se Stop Serv Force Ter Enable Se Disable Se Metrics Placehold	ver erver mination erver erver ers		Report Applica Crystal Report Crystal Report

4) Append ' -ipport 1566 -report directory E:\Data' in 'Command Line Parameters' part. Please note that the first character before "-ipport" is an empty space and no double quote is needed for the report template home path E:\Data.

Properties:	CrystalReports2013ReportApplicationServer	? 🗆 X
Hide Navigation		
Properties Translations User Security Metrics Placeholders Existing Server Group	Server Name: CrystalReports2013ReportApplicationServer ID, CUD: CrystalReports2013ReportApplicationServer Node: Crystal Reports 2013 Report Application Server	^
	Command Line Parameters	
	-loggingPath *C:/Program Files (x86)/SAP BusinessObjects/SAP BusinessObjects Enterprise XI 4.0/logging/" Hpport 1566 - reportdirectory E:\Data	
	-fg -restart -name Constant - CrystalReports2013ReportApplicationServer -pidfile "C:/Program Files (x86)/SAP BusinessObjects/SAP BusinessObjects Enterprise XI 4.0/serverpids/the constant - CrystalReports2013ReportApplicationServer.pid" -ns to the constant - consta	

Note: **W** New installation **B** Re-installation

5) Scroll to end of the page and change the value of 'Number of database records to read when previewing or refreshing a report' in 'Crystal Reports 2013 Viewing and Modification Service' part to -1. Click 'Save & Close'.

Properties:	ystalReports2013ReportApplicationServer		? 🗆 ×
Hide Navigation	1		
Properties	Windows SSPI Configuration		~
Translations	Single Sign-On Expiry (seconds): 86400		
User Security	Restore System Defaults		
Metrics	Set Configuration Template		
Placeholders	TraceLog Service		
Existing Server Group	Use Configuration Template		
	Log level: Unspecified		
	Restore System Defaults		
	Set Configuration Template		
	Crystal Reports 2013 Viewing and Modification Service		
	Use Configuration Template		
	Number of database records to read when previewing or refreshing a report (-1 for unlimited):	×	
	Batch Size (records):	100	
	Browse Data Size (records):	100	
	Allow Report Jobs to Stay Connected to the Database until the Report Job is Closed		
	Idle Connection Timeout (minutes):	30	
	Maximum Concurrent Report Jobs (0 for unlimited):	75	
	Oldest on-demand data given to a client (minutes):	20	
	Temporary Directory:	%DefaultDataDir%/CrystalReportsR	
	Restore System Defaults		
	Set Configuration Template		
< >			Save Save & Close Cancel

6) Select 'Users and Groups' in the drop down list of top left corner. Click on 'User List' on the left. Right click on the user 'Guest' and select 'Properties'.

Users and Groups	~					Welcome: Administr	ator Preferences Help	- Log	
lanage • Actions •						Find Title	•		
* 📽 🕫 🕹 🏙 🏝 🗊 🚣							æ H - 4 1	of 1 →	
🔓 User List		Name *		Full Name	Туре	Description	Date Modified	Tenant	
Group Herarchy Group He	2	Administrato	r		User	Administrator account	May 20, 2014 2:01 PM		
	8	Guest			User	Guest account	May 20, 2014 11:24 AM		
	Administrators Cryptographic Officers Data Federation Administrato	SMAdmir	SMAdmin	Join Grou	p	User	Solution Manager Admini May 20	ni: May 20, 2014 11:24 AM	
				Member Profile Va	Of alues				
			CMC Tab	Configuration					
			Account	Manager					
	Translators		User Sec	urity					
Chiverse Designer Users			New	>					
			Translati	ons					
			Tools	2					

Note: **W** New installation **B** Re-installation

7) Scroll to end of the page and uncheck the 'Account is disabled' checkbox under 'Attribute Binding' part. Click 'Save & Close'.

Properties: Guest				? 🗆 ×			
lide Navigation		_					
Properties Translations User Security Member Of Profile Values Account Manager	Password: Confirm:		 Password never expires User must change password at next logon User cannot change password 				
-	Database Credentials						
	Enable			-			
	Account Name:						
	Password:						
	Confirm:						
	Connection Type						
	Oncurrent User						
	 Named User 						
	Attribute Binding	ail Address and other attribut	es				
	Alias:	Authentication Type:	Enabled:	Assign Alias New Alias			
	secEnterprise:Guest	Enterprise	V				
				Save Save & Close Cancel			

8) Select 'Auditing' in the drop down list of top left corner. Set cursor to 'Off' under 'Set Event'. Click 'Save'.

Auditing		Welcome: Administrator Preference	5 Help ▼ I
tatus Summary			
Warning: Client auditing is unavailable.			
Warning: Auditing data may remain in server buffers. WS3_UAT.EventServer, WS3_UAT.AdaptiveJobServer, WS3_UAT.Dashboar	dsCacheServer		
ADS Last Updated On 5/2/18 12:12:31 PM CST	CMS Auditor	WS3_UAT.CentralManagementServer	
Auditing Thread Utilization (%)	ADS Database Connection Name	BI4_Audit_DSN	
ast Polling Cycle Duration (Seconds) 180	ADS Database User Name	dba	
et Events	Set Event Details		
	Query		
f Minimal Default Complete Oustom	User Group Details		
Minimal Default Complete Custom	Folder Path Details		
ommon Events	Rights Details		
View	Property Value Details		
Prompt			
Create	Configuration		
Delete	ADS Database		
Modify	Connection Name	BI4 Audit DSN	
Save	Type	SQL Anywhere	
_ Search	Hee Windows Artheritication		
Bun	Licor Name	dha	
Deliver	Destroyed		
Retrieve	Password	•••••	
Logon	Delete Events Older Than (Days)	36500	
Logout	ADS Auto Reconnect		
latform Events			
Auditing Modification			
Custom Access Level Modified			
Rights Modification			
ifecycle management Events			
Rollback			
VMS Add			
VMS Checkin			
VMS Checkout			

9) Click 'Log Off' on the top right corner to log off the console.

Note: 🛯 New installation 🔹 Re-installation

Centra	I Management Console		SAP	~
	CMC Home		Welcome: Administrator Preferences Help - Log Off	ff
	Organize	Define	Manage	

- 10) Open the following file by Notepad C:\Program Files (x86)\SAP BusinessObjects\tomcat\conf\server.xml
- 11) Search for the line with keywords Connector port="8009"

	server - Notepad	- 0
ile Edit Format View Help		
A "Service" is a<br so you may not defin <service "container"="" "service"="" a="" a<br="" connectors"="" is="" itself="" name="Catalin</td><td>collection of one or more " not="" note:="" share="" single="" that="">ne subcomponents such as "Valves" at this level. Documentation at /docs/config/service.html></service>	"Container",	
The connectors o<br <Executor na</td <td>can use a shared executor, you can define one or more named thread pools> ame="tomcatThreadPool" namePrefix="catalina-exec-" maxThreads="150" minSpareThreads="4"/>></td> <td></td>	can use a shared executor, you can define one or more named thread pools> ame="tomcatThreadPool" namePrefix="catalina-exec-" maxThreads="150" minSpareThreads="4"/>>	
A "Connector" r<br onnector: () (represents an endpoint by which requests are received and responses are returned. Documentation at : p) Java AJP Connector: /docs/config/ajp.html APR (HTTP/AJP) Co	Java HTTP nnector:
<conne compressio Find what: Conn</conne 	nTimeout="20000" redirectPort="8443" compression="on" URIEncoding="UTF-8" La, traviata"	
ompressab A<br □ Match gase</td <td>Direction Concel /css,text/javascript,text/json,application/json"/> O lb @ Down port="8080" protocol="HTTP/1.1" connectionTimeout="20000"</td> <td></td>	Direction Concel /css,text/javascript,text/json,application/json"/> O lb @ Down port="8080" protocol="HTTP/1.1" connectionTimeout="20000"	
<pre>vedirectPo <!-- Define a SSL HT we using the OpenSSL sty</pre--></pre>	TTP/1.1 Connector on port 8443 This connector uses the JSSE configuration, when using APR, the co yle configuration described in the APR documentation>	nnector should
<pre><!-- <Connector p lientAuth="false" sslPr</pre--></pre>	port="8443" protocol="HTTP/1.1" SSLEnabled="true" maxThreads="150" scheme="https" secure="true" rotocol="TLS" />>	
Define an AJP 1<br <<mark Connect	1.3 Connector on port 8009> top port="6009" protocol="AJP/1.3" redirectPort="8443" URIEncoding="UTF-8" enableLookups="false"/>>	
An Engine repre<br alone analyzes t Documentation at /docs/c	esents the entry point (within Catalina) that processes the HTTP headers included with the request, and passes them config/engine.html>	icat stand
You should set</td <td>jvmRoute to support load-balancing via AJP ie : <engine defaulthost="localhost" jvmroute="jvm</td><td>1" name="Catalina">></engine></td>	jvmRoute to support load-balancing via AJP ie : <engine defaulthost="localhost" jvmroute="jvm</td><td>1" name="Catalina">></engine>	

12) Check if the line is enclosed by the tags <!-- as shown below.



If not, add the tags, then save the file and close Notepad.

13) Reboot the server so that the change can take effect.

7.8 First Time to Start WebSAMS Application

Ø

1. After the WebSAMS installation, you should find a folder created on the desktop named "WebSAMS":



- 2. Open the WebSAMS folder, you should find the shortcuts as shown below. To start WebSAMS application, you need to execute the following shortcuts in sequence:
 - 1. Start Apache
 - 2. Start Database
 - 3. Start Wildfly



3. Execute the "1. Start Apache" shortcut to start the apache.



Note: **()** New installation **()** Re-installation

4. Execute the "2. Start Database" shortcut to start the database.

Starting on port 3268 TCPIP link started successfully Now accepting requests	Dening dbspace 'DB8' in file 'websams_db8.dbRR' for database 'websams' Transaction log: websams_8886.log Transaction log mirror: websams_8886.mlg Starting checkpoint of ''websams' (websams_8886.db) at Fri May 16 2014 18:24 Finished checkpoint of ''websams'' (websams_8886.db) at Fri May 16 2014 18:24 Database ''websams'' (websams_8886.db) started at Fri May 16 2014 18:24 Database server started at Fri May 16 2014 18:24 Trying to start SharedMemory link SharedMemory link started successfully Trying to start TCPIP link	^
Now accepting requests	TCPIP link started successfully	=
	Now accepting requests	

When the database completely loaded, the window will be automatically minimized as an icon on the taskbar as follow:



5. Execute "**3. Start Wildfly**" to start the WebSAMS application. The initialization of Wildfly could take a few minutes, depending on the performance of your server. When the Wildfly is ready, a message '**** WebSAMS started on **** ' will be shown, like the following:

3. Start Wildfly
ejb:WebSAMS/WebSAMS.jar/AreaSessionBean!websams.ejb.eb.hke.Area java:global/WebSAMS/WebSAMS.jar/AreaSessionBean java:app/WebSAMS.jar/AreaSessionBean java:module/AreaSessionBean
14:54:07,707 INFO [org.jboss.as.connector.deployers.jdbc] (MSC service thread 1 -4) WFLYJCA0005: Deploying non-JDBC-compliant driver class com.sybase.jdbc4.jdbc .SybDriver (version 7.0)
14:54:07,754 INFO [org.jboss.weld.Version] (MSC service thread 1-4) WELD-000900 : 3.0.5 (Final)
14:54:07,785 INFO [org.jboss.as.connector.deployers.jdbc] (MSC service thread 1 -6) WFLYJCA0018: Started Driver service with driver-name = WebSAMS.ear_com.sybas e.jdbc4.jdbc.SubDriver 7 0
14:54:10,629 INFO [org.jboss.as.jpa] (ServerService Thread Pool 80) WFLYJPA0 010: Starting Persistence Unit (phase 2 of 2) Service 'WebSAMS.ear/WebSAMS.jar#w ebsams'
14:54:10,738 INFO [org.hibernate.dialect.Dialect] (ServerService Thread Pool 80> HHH000400: Using dialect: org.hibernate.dialect.SybaseAnywhereDialect 14:54:10.800 INFO [org.hibernate.envers.boot.internal.EnversServiceImpl] (Serve
rService Thread Pool 80> Envers integration enabled? : true 14:54:10,988 INFO [stdout] (ServerService Thread Pool 80> WebSAMS Logging: [INFO.uebsams]
14:54:11,004 INFO [stdout] (ServerService Thread Pool 80) WebSAMS Logging: [INFO,websams] ***** WebSAMS stated on Thu Nov 07 14:54:11 CST 2019 *****

Note: **W** New installation **B** Re-installation

- 6. If Internet Explorer is the default browser of your WebSAMS server, add the following IP addresses of the sites into the "Trusted Sites" in the Internet Explorer:
 - IP address of your WebSAMS server, e.g. http://10.1.1.100
 - The link of the WebSAMS Central Repository, i.e. https://cdr.websams.edb.gov.hk/

Path: Internet Explorer: Tools -> Internet Options -> Security -> Trusted sites -> Sites.

Internet Explorer Enhar	Internet Options	? X		
Internet Explorer Enhanced Sect define how users browse Interne pose a security risk. For a compl <u>Configuration</u> . This enhanced level of security c such as files on Universal Namin, has been disabled, you can add t <u>Managing Internet Explorer Enha</u>	General Security Privacy Content Connections Select a zone to view or change security settings.	s Programs Advanced	umber of security setting rour server to Web sites i <u>Explorer Enhanced Secu</u> strict access to network s Internet Explorer funct s. For more information,	is that that might <u>urity</u> resources, ionality tha see
	Trusted sites This zone contains websites that you trust not to damage your computer or your files. You have websites in this zone. Security level for this zone Allowed levels for this zone: All Medium	Sites You can add an this zone will us	Trusted sites d remove websites from this zone e the zone's security settings.	. All website
	content - Unsigned ActiveX controls will no	http://10.1.1.100	ione:	Add
	Enable Protected Mode (requires restartin Custom level Reset all z	Websites: http://*.update.micros http://*.windowsupdat http://*.windowsupdat http://10.15.35.71	oft.com ^ te.com te.microsoft.com	Remove

7. Now, open a browser in the WebSAMS server and access the WebSAMS login page. A page similar to the following should be shown

URL: http://<your websams domain name>/



Note: You should make sure an entry for mapping your WebSAMS IP and WebSAMS domain name has been added in the hosts file.

Path: C:\WINDOWS\system32\drivers\etc\hosts

Please see "Update Host Table" in the Section of "Setup DNS Service" under "Network Configuration for WebSAMS Server" for details.

Note: **W** New installation **R**-installation

- 8. Login as "sysadmin"
- 9. Define the IP range of ITEd PCs by clicking the "Add" button on the "IP Configuration" page.

Path: Left pane > Security > Configuration > IPConfig

Code Management Security Access Control	[S-SEC06-01] Security > Configuration > IP Address	Configuration		
Configuration	To allow certain workstations in the ITED LAN virtual IP address) of these workstations into the	Segment to access to WebSAI he table below.	MS, please enter the IP addres	sses (usually
IP Config System Custom	IP Address Group Name No record.	IP Address Range	Exclusion Range	
 Report & Log Security Check 	Add XDelete			~
▶ E-Mail	* Click on the link of IP Address Group Name for maintai	ining IP address.		

Give a Group Name for your reference, e.g. "ITEd PCs".
 Fill in the IP Address Range for ITED network, egg. "10.10.10.1 to 10.10.10.254"
 Fill in the excluding range (if any).
 Click "Save".

 Report Managem 	[S-SEC06-02] Security > Configuration > IP Address Configuration	1
Data Managemen	Create IP Address Group	
 Code Manageme 	IP Address Group Name ITEd PCs	
V Security		
Access Contr	IP Address Range	
Configuration	From 10.10.10.1 To 10.10.254	
System Con		
IP Config	Excluding the following ID address Panger	
System Cus	Excluding the following in address Range.	
Report & Log	From To	
> E-Mail	Save Back	
Archive		
×		

- 11. Logout
- 12. Perform a major upgrade manually if a more recent major upgrade for WebSAMS 3.0 can be found.

https://cdr.websams.edb.gov.hk/版本升級/

Web SAMS 網 編上校管系機 Web	上校管系統資料庫 SAMS Central Document Repository	谷	版本升級	系統保安及系統事宜	模組資料	培訓課程	其他事宜	聯絡我們 Q
版本升級 主頁>版本升級								
	網上校管系統 (WebSAMS)	網上校管系統均 (WebSAMS Trai Instance)	音訓系統 ning	獨立版時間表 (STT)	編排工具			
	升級 🔽		升級 🗣	安装	及更新 🖵			

13. Select the corresponding build version to upgrade and synchronized the build version.

Web SAMS RLOFAR	網上校管系統資料 WebSAMS Central Document Rep	斗庫 Jository	â	版本升級	系統保安及系統事宜	模組資料	培訓課程	其他事宜	聯絡我們 Q
網上校管系統	版本升級								
主頁>版本升級>	>網上校管系統								
網上校管系統版	本升級主要包含各式系統	流更新,例如程式變更、新增	模組、功能	提升及資	4庫結構改動。				
進行升級前,學	校應閱讀版本升級指南)	及相關版本說明,並按所屬網_	上校管系統	版本的升	极連結進行升級。				
注意事項									
為確保網上校管	系統運作暢順,以及在	有需要時獲得迅速而適切的技	技術支援,	學校務必須	商時進行版本升級。				
字仪系就官理員	小應監察整個廻柱,以	確保系統并級成功。							
發行日期	系統現時版本	目標版本	版本該	說明	升級連結				
28.01.2021	3.0.0.26112020	3.0.0.28012021	英 🛓)	即時升級	ł ±	>		
▶ 按這裡下載以前	前升級版本								

Note: **W** New installation **B** Re-installation

7.9 WebSAMS Training Instance Installation (Optional)

Ø

The Training Instance is an add-on program to the WebSAMS application. The WebSAMS production instance must be installed prior to the installation of training instance.

1. Launch the training instance installation wizard. *Path: System Installation DVD: Training Installer/autorun.vbs*

Welcome to WebSAMS training instance installer
The InstallShieldR Wizard will install WebSAMS Training Instance on your computer. To continue, click Next.
< Back Next> Cancel

2. Click "Browse" and select the path for the Training Database (Please consult school for choosing appropriate database. For those through-train schools that have both primary and secondary school level, the school should be informed that only primary or secondary level of training database can be selected.)

Path: System Installation DVD: Training Installer/Training DB/...

Enter the pa	F:\	
	Directories:	
- Source Ed	▲ Training Installer ∧ ↓ Interm ↓ ↓ Release 1 ↓ ↓ Training DB ↓ ↓ 1_Primary (FMP Apr-Mar) ■ ↓ 2_Primary (FMP Sept-Aug) ■ ↓ 3_Secondary (FMP Apr-Mar) ■	
F:\ IShield —	4 Secondary (FMP Sept-Aug)	owse



3. Click "Yes" to confirm the database path and let the installation wizard to proceed.



4. When the installation is completed the screen below will be shown:

InstallShield Wizard Complete
Setup has finished installing WebSAMS Training Instance on your computer.
(Back Finish Cancel

Note: The installer installs the following programs into WebSAMS server:

- WebSAMS training application directory *Path: D:\WebSAMS_T*\
- WebSAMS training school data and report templates *Path: E:\Data\9999*
- WebSAMS training school original data set *Path: E:\Data\training*
- 5. Re-start the server.
- 6. Steps to start the training instance and login:

After the installation, you should find a folder on the desktop named "WebSAMS_T" :



Note: **(1)** New installation **(3)** Re-installation

Open the "WebSAMS_T" folder, you should find the shortcuts as shown below. To start WebSAMS Training Instance, you need to execute the shortcuts in sequence:

- Start Apache_t
 Start Database t
- 3. Start Wildfly t

After Wildfly is started, open a browser and access the WebSAMS login page.

URL: http://<your websams domain name>:7010/

7. Other tools which are helpful to the operation of WebSAMS training environment.

User can perform database restore or backup tasks for training database by the three script files as follows:

1. Restore_to_original.bat	- to reset or restore the training database to the
	original image
2. Backup_snapshot.bat	 to backup a training database snapshot
3. Restore_snapshot.bat	- to restore the training database snapshot

Path: Desktop/ WebSAMS T/tools/

7.10 Schedule Jobs

Ø

7.10.1 Window Scheduler Jobs

Upon completion of the WebSAMS installation program, there would be a number of batch scripts in "D:\WebSAMS3.0\batch\".

Window Scheduler would be used to schedule:

- "pre_backup.bat" to be run at 0000 everyday, and
- "post backup.bat" to be run at 0400 everyday

The following shows how to use Windows Scheduler to schedule the task "pre_backup.bat". Similarly, "post_backup.bat" can be done in the similar way.

- 1. Launch the "Task Scheduler" by "Start -> Administrative Tools -> Task Scheduler".
- 2. Click 'Create Task...' in the Action Menu.
- 3. Type a name in 'General' tab for this task: WebSAMS pre-backup and select the option of "*Run only when user is logged on*".

		Create Task	
General Trig	gers Actions Cond	litions Settings	
Na <u>m</u> e:	WebSAMS pre-back	up	
Location:	١		
Author:	WS3-147\Administra	ator	
<u>D</u> escription:			
Security op When runr	tions ing the task, use the fi	ollowing user account:	
			Changes Harris Course
WS3-147\A	dministrator		Change Oser or Group
WS3-147\4	dministrator y when user is logged	on	Change <u>O</u> ser or Group
● <u>R</u> un onl ● Run wh	dministrator y when user is logged ather user is logged on	on n or not	Change Eser or Group
WS3-147\4	dministrator y when user is logged ether user is logged on 10t store gassword. Th	on n or not he task will only have access to local comp	uter resources.
WS3-147\4	vdministrator y when user is logged ether user is logged on 1ot store <u>p</u> assword. Th 1 highest privileges	on n or not he task will only have access to local comp	uter resources.
WS3-147\4 Run onl Run who Run wit Hidd <u>e</u> n	dministrator y when user is logged ether user is logged on not store <u>p</u> assword. Th h highest privileges <u>C</u> onfigure for:	on n or not he task will only have access to local comp Windows Vista™, Windows Server™ 2008	uter resources.

4. Click 'New...' button in 'Triggers' tab. In Settings, select 'Daily' and set start date time to '(tomorrow) 00:00:00', then click 'OK' button.

	New Trigger	×
Begin the task: Settings	On a schedule v	
 One time Daily Weekly Monthly 	Start: 07/11/2019 🗐 🕶 00:00:00 💌 🗆 Synchronize across time zones	
Advanced setti	ngs for up to (random delav): 1 hour	
Repeat task	every: 1 hour for a duration of: 1 day	
Stop task if	it runs longer than: 3 days	
Enabled	/11/2020 □ 15:51:19 文 🗌 Synchronize across time zones	
	OK Cancel	

5. Click 'New...' button in 'Actions' tab and click Browse button to choose the location of the script file (i.e. "D:\WebSAMS3.0\batch\pre_backup.bat"). And then cut the path "D:\WebSAMS3.0\batch\" from the "Program/script" field and paste it to the "Start in (optional)" field. And click 'OK' button.

	Ne	w Action	
You mu	st specify what action this ta	sk will perform.	
Action:	Start a program		~
Setting	s		
Progra	am/script:		
pre_ba	ackup.bat		B <u>r</u> owse
Add a	rguments (optional):		
S <u>t</u> art i	n (optional):	D:\We	bSAMS3.0\batch\
		OK	Cancel

6. Click **OK** button.

	Create Task
General Triggers A	ctions Conditions Settings
When you create a t	task, you must specify the action that will occur when your task starts.
Action	Details
Start a program	D:\WebSAMS3.0\batch\pre_backup.bat
	~
4	Ш
<u>N</u> ew	<u>L</u> ait <u>D</u> elete

Note: **1** New installation **1** Re-installation

7.10.2 Backup Job

It is recommended to make a full backup of the whole WebSAMS server for backup job.

Daily backup should be performed from Monday to Sunday. Weekly backup should be run every Sunday and finally a monthly backup has to be run every 1st day of the month.

Retention periods for the backup images are subject to the requirement of a school. A suggested retention plan is list for reference as follows:

Type of backup image	Retention Period
Daily	1 month
Weekly	3 months
Monthly	3 years

The following shows an example of how to schedule the backup jobs using the software of "Symantec Backup Exec System Recovery".

The configuration of "Symantec Backup Exec System Recovery" consists of 4 tasks. They are

- Set up share folder in NAS,
- Set up Daily backup job,
- Set up Weekly backup job, and
- Set up Monthly backup job

Set up share folder in the NAS device

(The method to configure a shared folder shown below may vary from your machine. Please consult the user manual or your vendors for more details on sharing a folder specific to your machine).

1. Open Internet Explorer in WebSAMS Server and connect to the configuration website of the NAS. (e.g. <u>http://192.168.1.1</u>)

💁 Login	HELP
🌤 Please Provide your User Name and Password	
User Name	
Password	
Login	

2. Log in the site

3. Click "Basic" in left hand menu, in Date and Time setup, click "Use Local Time" and then click "Apply"

Date	2008 Year 12 Month 12 Day
Time	17 Hours 8 Mins 8 Secs
	Use Local Time
Time Zone	GMT+08:00 💌
NTP Settings	C Enable © Disable
NTP Settings	C Enable 💿 Disable
NTP Server Address	
	📕 Use default NTP server (ntp.jst.mfeed.ad.jp)
NTP Synchronization Frequer	Once a day 💌
Text Display Settings	
Display Language	English Englisch 英語
Windows Client Language	CP437 (United States, Canada)

4. Click "Shared Folders" in left menu

	Shared	1 Folders		HEL
Basic				
Network	Shar	ed Folders Setup		
Disk Management	0	Disk or Array	Shared Folder Name	
Shared Folders		100	19122-7	Shared Folder Description
Shared Folders Setup			Info	Taratituhon utilities
Service Setup				TELEVILLE VILLEVILLE
DFS Setup				
Group Management				
User Management	maril II	No. of Concession		
Disk Backup	A00	AD426.1		
Maintenance				
Maintenance System Status				

5. Click "Add"

Input the values as the following screen.

Shared Folders		HELP			
Add New Shared Folder					
Shared Eolder Name					
Scaled Police meme	Ishare				
Shared Folder Description	WebSAMS Backup				
Volume	RAID Array 1 💌				
Shared Folder Support	Windows P Apple C FTP P Disk Backup				
Shared Folder Attributes	E minute E spin () in E sourcestap				
Source Forder Annoules	C Read Only @ Read / Write / IE Hidden Share(SMB Only				
Recycle Bin	C Enable C Disable				
File Operation Log	Cossibled				
Remote Backup Password	· · · · · · · · · · · · · · · · · · ·				
Offine Files	Disable Offine Files	2			
Access Restrictions	Access Restrictions				
Access Restrictions	C Enable @ Disable				
Read / Write	Read Only	All Groups / Users			
Group		admin guest hdusers			
User		se admin guest			
	Shared Folders Add New Shared Folder Shared Folder Name Shared Folder Description Volume Shared Folder Support Shared Folder Attributes Recycle Bin File Operation Log Remote Backup Password Offine Files Access Restrictions Read / Write Group User	Shared Folders Add New Shared Folder Shared Folder Name Shared Folder Name Shared Folder Name Shared Folder Description WebSAMS Backup Volume RAID Array 1 Shared Folder Support Volume Recycle Ein C Read Only @ Read / Write Recycle Ein C Enable @ Disable Remote Backup Password Offine Files Offine Files C Enable @ Disable Read / Write Read Only Group User User User			

- 6. Click "Apply" to save the record.
- 7. The shared folder has been created successfully and can be accessed by WebSAMS server now.
Set up Daily backup job

- 1. Launch the "Backup Exec System Recovery" application in Start → All Programs → Symantec → Backup Exec System Recovery → Backup Exec System Recovery
- 2. Click "Tasks"
- 3. Click "Run or Manage Backups"

Symantec	Backup Ex	ec System Rec	overy	_ 🗆 ×
<u>File View</u>	/ <u>T</u> asks	<u>C</u> omputers	<u>H</u> elp	
	Task	S		
Home		Backup		
Status			Run or Manage Backups Run, define, remove, or edit an existing backup job.	
Tasks			One Time Backup	
Tools		<u>a</u>	Create a one time independent recovery point without saving the backup job for future use.	
		Recove	ry	
Advanced		5	Recover My Computer Recover my computer to a specific time and day when it was working correctly.	
			Recover My Files	
			n recover specific files of folgers that have been rost, dannaged, changed, of defeted.	
			Run Recovery Point Browser View and recover files within recovery points.	
Ready				symantec

4. Click "Define New"

ne view la: Run Now IC Defi	sks <u>H</u> elp neNew Maremove Immich	ange Schedule 🕼 Edit Settings	Redit Offsite		
1					
elect backup jobs	from the list, and then selec	t one of the options above.	_		
Vame	Drives	Destination	Last Run	Next Run	0
1					

5. Choose "Back up my computer" and click "Next"



6. Select "C", "D" and "E" drive and click "Next"

ect a drive, or press <(Otrl> and select	multiple drive	es:		
				🗖 Shoy	<u>w</u> Hidden Drive
rive	Size	Used	Last Backup		
(C:I)	49.0 GB	11.0 GB			
New Volume (D:1)	39.1 GB	363.6 MB			
New Volume (E:I)	250.7 GB	2.1 GB			
	3				
Used space:			14,450,258,944 bytes	13.5 GB 🧹	
Free space:			349,271,584,256 bytes	325.3 GB	

7. Select "Independent recovery point" and click "Next"

Define	Backup Wizard			×
Reco Select t	very Point Type the type of recovery point you want created.			
с ම	Recovery point set (recommended) Create an initial recovery point with additional recovery j made to your computer since the previous backup. Incr disk space than creating an independent recovery point	points containing emental recovery L	only the increm points are faste	ental changes r and use less
•	Independent recovery point Always create a complete, independent copy of the drive	es you selected.		
		< <u>B</u> ack	Next>	Cancel

8. In Folder, type "<u>\192.168.1.1\share\daily</u>" (let's say IP address of the NAS is "192.168.1.1") and click "Next". If system asks whether to create the "daily" folder, click "Yes".

E <mark>older:</mark>					
192.168.1.1\sh	ire\daily				Bro <u>w</u> se
Network Crede	ntials				
<u>U</u> ser name				0	
Password:					
2 - 1-					
<u>S</u> ustomize recov	ery point file names				
Offsite Copy	2			[<u>A</u> dd
and and	Offsite Copy adds extra	a protection to yo	ur recovery points.		
	Offsite Copy will make	a copy of your re	covery points to one o	or two storage	locations.
-		,		.,	
				nousble drue	HOLL ODD

9. Input "Daily Backup" as the name and then click "Advanced".

ecify recovery poin	t options.			
Na <u>m</u> e:	Daily Backup			
C <u>o</u> mpression:	Standard (recommended)			•
□ <u>V</u> erify recove	ery point after creation			
✓ Limit the nu Maximum:	mber of recovery points save	l for this backup		
		D 10 10 1	с р.:-	
Enable sear	ch engine support for Google system and temporary files	Desktop and Backup	Exec Retrieve	
Enable <u>s</u> ear	ch engine support for Google system and <u>t</u> emporary files cluded in each recovery point	Desktop and Backup	Exec Retrieve	
Enable sear	ch engine support for Google system and temporary files cluded in each recovery point	Desktop and Backup	Exec Retrieve	×
Enable sear Include s Description (inc	ch engine support for Google system and temporary files cluded in each recovery point	Desktop and Backup	Exec Retrieve	*

10. Check the "Use password" option and request the school users to input the Password. Also check "Use AES encryption" for higher security level. Press "OK" to return to the previous "Options" screen.

ecify recover 👥	Advanced Uptions	×
Na <u>m</u> e: C <u>o</u> mpres □ <u>V</u> erify ☑ Limit Ma <u>x</u> ir □ Enab □ Ini <u>Descripti</u>	 Divide into smaller files to simplify archiving File size (MB): 640 ▼ Disable SmartSector copying Ignore bad sectors during copy Perform full VSS backup Security Options ✓ Use password Eassword: ******** Confirm password: ******* ✓ Use AES encryption Standard 128-bit (8+ character password) 	
	OK Cancel	Advar

11. Click "Next" to proceed to next step.

Define Backup Wizard
Options Specify recovery point options.
Na <u>m</u> e: Daily Backup Compression: Standard (recommended)
□ <u>V</u> erify recovery point after creation
Limit the number of recovery points saved for this backup Maximum: 3 -
Enable search engine support for Google Desktop and Backup Exec Retrieve Include system and temporary files
Description (included in each recovery point):
< <u>B</u> ack <u>N</u> ext> Cancel

12. Click "Next" again.

belore data captare.			^[]	meout (sec):
<none></none>			•	60 📩
After <u>d</u> ata capture:				
<none></none>			•	60 📩
Af <u>t</u> er recovery point creation	1:			
<none></none>			•	60 🐳
<u>A</u> ll command files must ex gs\All Users\Application Da	st in the following folder: ita\Symantec\Backup Exe	c System Recovery/Cor	nmandFiles <mark>,</mark>	Bro <u>w</u> se
-Network Credentials (for	accessing command files)		
<u>U</u> ser name			2	
-				
Password:				

13. Select "Weekly" in the "Automatically create a recovery point:" option. Set start time to "2:15"a.m. and select week days from Monday to Saturday. At last click "Next"

pecify when and how often the backup should run.		
Automatically greate a recovery point: Weekly		
Select days of the week to protect Start time: 2:15 AM		
Sun Mon Tue Wed Thu Eri Sat		
erags. cheduled backup time: At 2:15 AM on the specified days of the week, starting 12/11/200	3	 2
4		Þ

14. Click "Finish" to save the schedule

Drives and backup de (C:\) to \\192.168.1 New Volume (D:\) to New Volume (E:\) to	stinations: .1\share\daily\C_Drive \\192.168.1.1\share\ \\192.168.1.1\share\	e021.v2i dailyAD_Drive021.v2i dailyAE_Drive021.v2i	
Scheduled backup tim At 2:15 AM on the s Next run time: 12/3	e: pecified days of the we /2008 2:15 AM	ek, starting 12/11/2008	
Options: Backup name: Daily Compression level: { []Venify recovery po No of Recovery poi []Search engine s [X]Prepend comput []Save backup file Description: None	Backup Randard ints after creation its: 3 upport er name to backup dat s to a unique subfolder	a file names	
Advanced options: [X] Use password Encryption level: Sta Max file size: None [] Userse back	indard 128-bit (8+ char is during copy	acter password)	

15. Schedule entry is added

Run Now Define N	lew 🗯 Remove 🛛 🎆 Change 5d	vedule 💽 Edit Settings 🔗	Edit Offsite		
elect backup jobs from th	e list, and then select one of the op	ions above.			
Name	Drives	Destination	Last Run	Next Bun	0
d.				1	

Set up Weekly backup job

- 1. Repeat step 1 to Step 7 of the part for "Setup up Daily backup job".
- 2. In Folder, type "<u>\\192.168.1.1\share\weekly</u>" (let's say IP address of NAS is "192.168.1.1") and click "Next". When system asks if you want to create the "weekly" folder, click "Yes".

Define Backup Wiz	ard	×
Backup Destin Specify destinations	ations for storing backup data.	4
<u>F</u> older: 1\192.168.1.1\sh	aretweeklyt	Bro <u>w</u> se
Network Crede User name <u>P</u> assword:	ntials	
Customize recov	Offsite Copy adds extra protection to your recovery points	<u>A</u> dd
	Offsite Copy will make a copy of your recovery points to one or two stor Once you have an extra copy of your recovery points on a removable d take them to an offsite location.	age locations. rive, you can
	< <u>B</u> ack <u>N</u> ext>	Cancel

3. System will ask if you want to create the "weekly" folder, click "Yes"

4. Input "Weekly Backup" as the name and then click "Advanced".

Define Backup W Options Specify recovery po	izard
Na <u>m</u> e: C <u>o</u> mpression	Weekly Backup
☐ ⊻erify reco ☑ Limit the I Ma <u>x</u> imum ☐ Enable <u>s</u> e ☐ Includ	wery point after creation number of recovery points saved for this backup 자 [3 클 earch engine support for Google Desktop and Backup Exec Retrieve e system and temporary files
Description (included in each recovery point):
	Advanced

5. Check the "Use password" option and request the school users to input the Password. Also check "Use AES encryption" for higher security level. Press "OK" to return to the previous "Options" screen.

Na <u>m</u> e: C <u>o</u> mpres Verify Limit Maxir Enab Descripti	 Divide into smaller files to simplify archiving File size (MB): 640 ▼ Disable <u>S</u>martSector copying Ignore bad sectors during copy Perform full <u>V</u>SS backup Security Options ✓ Use password Password: ******** Confirm password: ******* ✓ Use <u>A</u>ES encryption Standard 128-bit (8+ character password) 	
	OK Cancel	Adva

6. Click "Next" to proceed to next step.

ecify recovery point options.		
Na <u>m</u> e: WeeklyBackup		
Compression: Standard (recommende	d)	
\Box Verify recovery point after creation		
 ✓ Limit the number of recovery points s Maximum: 3 ³ ✓ Enable search engine support for Go ✓ Include system and temporary file 	aved for this backup ogle Desktop and Backup Exec F s	Retrieve
Description (included in each recovery p	oint):	*

7. Click "Next" again

B <u>e</u> fore data capture:				Ti	meout (sec):
<none></none>				-	60 📩
After <u>d</u> ata capture:					
<none></none>				-	60 📩
After recovery point crea	ation:				
<none></none>				-	60 🙀
gstAll UserstApplication	n Data\Symantec\Ba for accessing comm	ckup Exec System Re and files)	ecoveryACommand	Files,	Bro <u>w</u> se
<u>U</u> ser name				(?)	
<u>P</u> assword:					

8. Select "Weekly" in the "Automatically create a recovery point:" option. Then set start time to "2:45" a.m. and select "Sunday" only. At last, click "Next".

utomatically <u>c</u> rea	ite a recovery p	oint:					
Veekly		Def.	ault				
Start time: 2	45 AM	ect					
Sun Mon	Tue W	ed Thu	Fri	Sat			
etajls:							
-	n time:		5554				
cheduled backu At 2:45 AM eve	p ame: erv Sundav, stari	tina 12/12/20	08				
cheduled backu At 2:45 AM eve	p ane: ery Sunday, stari	ting 12/12/20	08				

9. Click "Finish" to save the schedule

Drives and backup destinatio (C:\) to \\192.168.1.1\sha New Volume (D:\) to \\192 New Volume (E:\) to \\192	ns: re\weekly\C_Drive005.v2i :168.1.1\share\weekly\D_Drive00 :168.1.1\share\weekly\E_Drive005	5.v2i i.v2i
Scheduled backup time: At 2:45 AM every Sunday, Next run time: 1/4/2009 2	starting 12/12/2008 45 AM	
Options: Backup name: Weekly Bac Compression level: Standa [] Verify recovery points al No of Recovery points: 3 [] Search engine support [X] Prepend computer name [X] Save backup files to a Description: None	ckup Id ter creation e to backup data file names unique subfolder	
Advanced options: [X] Use password Encryption levet: Standard Max file size: None [] Ignore bad sectors during	128-bit (8+ character password) ig copy	
30		3

10. Schedule entry is added

Run or Manage Backup	15				E
Ele Yew Lasks h	jelp				
Run Now	w 🎇 Remove 🛛 🏢 Change Sch	hedule 🔄 Edit Settings 🧬	Edk Offske		
Select backup jobs from the	list, and then select one of the op	tions above.			
Name	Drives	Destination	Last Sun	Next Run	Off
😑 Dally Backup	(C:\): New Volume (D:\]	\\192.168.1.1\share	- 12	Tomorrow 2:15 AM	Dis
🥲 Weekly Backup	(C.\): New Volume (D.\)	\\192.168.1.1\share	di.	Sunday 2.45 AM	Dis
4					2

Set up Monthly Backup Job

- 1. Repeat step 1 to Step 7 of the part for "Setup up Daily backup job".
- 2. In Folder, type "<u>\\192.168.1.1\share\monthly</u>" (let's say IP address of NAS is "192.168.1.1") and click "Next". If system asks whether you want to create the "monthly" folder, click "Yes".

<u>F</u> older:			
\\192.168.1.1\sh	reimonthly		Browse
Network Crede	tials		
<u>U</u> ser name		0	
<u>P</u> assword:			
<u>C</u> ustomize recov	ry point file names		
Offsite Copy			Add
and and	Offsite Copy adds extra protection to your recovery	/ points.	
	Offsite Copy will make a copy of your recovery poin	nts to one or two stora	ge locations.
	IUnce you have an extra copy of your recovery point	its on a removable dri	ve, you can

3. Input "Monthly Backup" as the name and then click "Advanced".

Define Backup Wi	zard
Options Specify recovery poi	int options.
Na <u>m</u> e:	Monthly Backup
C <u>o</u> mpression	: Standard (recommended)
□ <u>V</u> erify reco	very point after creation
☑ Limit the n Ma <u>x</u> imum □ Enable <u>s</u> e	umber of recovery points saved for this backup : 3 = 3 arch engine support for Google Desktop and Backup Exec Retrieve
🔲 Include	system and temporary files
Description (i	ncluded in each recovery point):
	_
N	Advanced
	< <u>Back</u> <u>N</u> ext> Cancel

4. Check the "Use password" option and request the school users to input the Password. Also check "Use AES encryption" for higher security level. Press "OK" to return to the previous "Options" screen.

	\square Divide into smaller files to simplify archiving	
Na <u>m</u> e:	File size (MB): 640	
C <u>o</u> mpres	Disable SmartSector copying	
□ ⊻erify ☑ Limit Ma <u>x</u> ir □ Enab □ In:	Ignore bad sectors during copy Perform full <u>V</u> SS backup Security Options Use password <u>Password: </u>	
<u>Descripti</u>	Confirm password: ++++++++ Use <u>A</u> ES encryption Standard 128-bit (8+ character password)	

5. Click "Next" to proceed to next step.

Define Backup W	zard				>
)ptions pecify recovery po	int options.				
Na <u>m</u> e:	Monthly Backup				
C <u>o</u> mpressio	: Standard (recommend	ed)			
□ <u>V</u> erify rec	overy point after creation				
✓ Limit the Maximum	umber of recovery points : 3	saved for this bac àoogle Desktop a	kup nd Backup Exec Retri	eve	
🗖 Includ	e system and temporary fi	les			
Description (included in each recovery	point):			
				~	
					vanced
					ancea
			< <u>B</u> ack	Next>	Cancel

6. Click "Next" to proceed to next step.

Na <u>m</u> e: <u> Monthly E</u>	ackup		
Compression: Standard	(recommended)		
□ Verify recovery point a	fter creation		
✓ Limit the number of re Maximum: 3	ecovery points saved for thi	s backup	
Enable search engine	e support for Google Deskt	op and Backup Exec Ret	trieve
📕 Include system an	d temporary files		
Description (included in	each recovery point):		-
1			~

7. Click "Next" again

Define Backup Wizard				>
Command Files Select command files to run at key points dur	ing the backup proce	\$\$.		
B <u>e</u> fore data capture:				Timeout (sec):
<none></none>			•	60 茾
After <u>d</u> ata capture:				
<none></none>			•	60 💼
After recovery point creation:				
<none></none>			-	60 🚍
gstAll UserstApplication Data(SymantectBa	ackup Exec System F	lecovery\Comm	handFiles,	Bro <u>w</u> se
User name			(?)	
Password:				
		< <u>B</u> ack	<u>N</u> ext >	Cancel

8. Select "Monthly" in the "Automatically create a recovery point:" option. Then set start time to "3:15" a.m. and select "1^{st"} day of the month to protect. At last, click "Next".

utomatically <u>c</u> reate a r	ecovery point:		
Coloct days of the may			
Start time:	Days of the month:		
3:15 AM	Last Day Ist Cand Grad Grad Grad Sth		
etajls: cheduled backup time	Eth		
A G. TO AM OIL days	r or every morket, statung 1271272000		

9. Click "Finish" to save the schedule



10. Schedule entry is added

Run Now	w 🇱 Remove 🛛 🏢 Change Sch	nedule 💽 Edit Settings 🔗	Edit Offsite		
Select backup jobs from the	list, and then select one of the op	ions above.			
Name	Drives	Destination	Latt Run	Next Bun	0
😑 Daily Backup	(C.\); New Volume (D:\).	\\192.168.1.1\share	-	Tomorrow 2.15 AM	Di
Monthly Backup	(C.\): New Vokane (D.\).	\\192.168.1.1\share		January 01 315 AM	Di
🤒 Weekly Backup	(C.\); New Volume (D:\)	\\192.168.1.1\share		Sunday 2.45 AM	Di

7.10.3 Create Recovery CD

At the moment when disaster happens that your system cannot function properly or you need to roll back your system to the status of a specific backup moment, system restoration or recovery is necessary. To restore your WebSAMS system, in addition to your backup copy of full system image, a tool that can boot up your machine to an rescue environment for supporting recovery of your machine, despite how worse the current situation of your system is, has to be available. This tool, which is usually called as Recovery CD or Rescue CD, can normally be created by your backup software. In view of the importance of this Recovery CD, you are highly recommended to ALWAYS store it in a safe place that can only be accessed by the authorized persons and also can easily be found at the critical moment when it is needed.

The following shows an example of how to create a recovery CD using the software of "Symantec Backup Exec System Recovery".

- Launch the "Backup Exec System Recovery" software Path: Start > Symantec > Backup Exec System Recovery > Backup Exec System Recovery
- Open the "Create Recovery Disk" user interface Path: Task > Create Recovery Disk
- 3. Click "Next" on the welcome screen.



4. Insert the *Symantec Recovery Disk* to your CD-ROM drive. Click "Browse" and select the CD-ROM drive. Click "next" to proceed.

Create Custom Symantec Recovery Disk	
Source Location Specify the path to a Symantec Recovery Disk.	2
Symantec Recovery Disk location:	Browse
	< <u>Back</u> <u>Next</u> Cancel

5. Select "Custom" and click "Next".

Trivar	Comparison Desults
Sele	ct a method for adding the correct storage and network drivers to the customized Symantec Recovery Disk.
	The Wizard has found drivers on your computer that do not exist on the Symantec Recovery Disk.
	How would you like to resolve the missing drivers?
	C Automatic (Recommended)
	Use the storage and network drivers identified during the driver comparison process, and then continue creating the custom Symantec Recovery Disk.
	© Cystom
	Let me add or remove drivers manually before creating the custom Symantec Recovery Disk. This option also lets you save the custom Symantec Recovery Disk as a CD/DVD image file (.iso).
	View Missing Drivers

6. If the Storage and Network Drivers of your WebSAMS server is different from those drivers in the *Symantec Recovery Disk*, the drivers should be shown like the screen below. Accept the default and click "Next".

eate Custom Symantec Recovery Disk			
rivers to Include Add or remove the drivers you want included on the custom Symantec Recover	ry Disk.		
Storage and Network Drivers:			
Broadcom NetXtreme II BXND		<u>A</u> dd <u>R</u> emove	
31	1		
	000000000	r	Roberta

7. Copying task will be started automatically. Click "Next" when it completes.

Create Custom Symantec Recovery Disk			
Copying Required Files Please wait while the required files are being copied.			2
Copying Symantec Recovery Disk files to a temporary locat	tion		
			17%

8. Make sure to uncheck the first option and select the second option only. You should create the ISO file of the custom Recovery CD directly. Choose a destination and decide the file name as you like.

reate Lustom Symantec Recovery Disk			-15
ymantec Recovery Disk Creation Finalize settings for burning to CD/DVD.			
Disk label:			
W52-151W_SRD			
Burn Symantec Recovery Disk to CD/DVD			
Select a CD/DVD degice:			
B HL-DT-ST DVDRA			
, ✓ ≦ave a copy of the custom Symantec Recovery Disk (CD/DVD ima CD/DVD image file name:	ge file)		
E:\WebSAMS_Recovery_Disk.iso		Browse	
	1.000		

9. The CD image will be created automatically.

Create Custom Symantec Recovery Disk Burning Symantec Recovery Disk Diases wait while the Symantec Recovery Dick is created		
		•
Creating CD/DVD image		
		33%
	2 Rock May	Caprel

10. Your custom Recovery CD image is created successfully.



Note: You should manually burn the Recovery CD from the ISO image right away and store your custom Recovery CD in a safe place.

7.11 Restore WebSAMS Server and Application

R

As your backup software supports the bare-metal restore, the only resources you need to recover your system are only:

- A recovery CD that you have created beforehand;
- A full backup image of your system and;
- The password that entitle the reading of the full backup image.

Please be alerted that while the system is being restored, all data in the hard disk of the WebSAMS server will be erased in order to restore the system back to the moment when the backup job is run. Restore your WebSAMS server only when it is really necessary.

The following shows an example of how to create a recovery CD using the software of "Symantec Backup Exec System Recovery".

- Insert the Backup Exec System Recovery CD (created in 7.10.3) into the DVD/CD-ROM 1. drive of the WebSAMS server.
- 2. Restart the server and boot by the CD. Note: Make sure the boot sequence of your server is set.
- 3. As soon as you see the prompt "Press any key to boot from CD", press a key to start the recovery environment.
- 4. The system will start loading the necessary setting. Read the license agreement and then click "Accept" to proceed.
- The main window of the recovery environment will be launch. First of all, you should 5. configure the network setting.

Path: Network > Configure Network Connection Settings

	Welcome to the Symantec Recovery Disk
Home	When you can no longer start Windows, you can recover your computer from here, provided that you have a recovery point that is accessible, such as on a
Recover	working hard disk drive, or on a network drive.
Analyze	Recover my computer to a specific time and day when it was working correctly.
Network	Start the pcAnywhere Thin Host Allow other computers to remotely troubleshoot my computer.
Utilities	Asign a drive letter to a shared network folder.
	Add a storage or network driver.
	(GMT-08:00) Pacific Time (US & Canada)
symanter	- Exit

6. In the Network Adapter Configuration screen, select the option "Use the following IP address". Specify a unique IP address (e.g. 192.168.1.2) and subnet mask of the WebSAMS server. Be sure that the subnet mask matches the subnet mask of the network Segment. Click "OK" to proceed.

	Network Adapters:		
	AMD PONET Family Ethernet Adapter (PCI)	×	
fottine.	IP Address	1	
	C Obtain an IP address automatically		
lecover	Use the following IP address:		
	IP Address:	-	
nalyze	Subnet Mask:		
	Default Gateway:	-	
letwork			
	Cristeria 1995 and an address of the set of the		
tötes	Con a fair and a data		
	 Use the following DNS server addresses: 	_	
	Preferred:		
	Alternate:		
	OK Cancel		

Path: Network > Configure Network Connection Settings

- 7. Click "Close" to return to the recovery environment's main menu.
- 8. Input IP address (e.g. "<u>\\192.168.1.1\share</u>") of the NAS server. Click "OK" to proceed.

Path: Network > Map Network Drive

Home	Windows o assign a d the folder.	on help you connect to a shared network folder a rive letter to the connection so that you can accer	ind ss
Recover			
Analyze	Specify the you want	e drive letter for the connection and the folder the to connect to:	at
	Drive:	Z:	
letwork	Fgiden	\\192.168.1.1\share Brows	ie i
Julities		Example: \'server\share	
		Connect using a different user name.	
		OK Cano	e
		(GMT-08:00) Pacific Tir	ne (US & Canal

- 9. Return to the Home panel, click "Recover My Computer".
- 10. On the Welcome page of the wizard, click "Next".
- 11. Select "System" in the "View by" tab.

Too can specify the system moex me to use for the recovery.	
View by:	
System 🗾	

12. Click "**Browse**", locate and select a recovery point (.sv2i) in the mapped drive, and then click "**Open**".

Open			20 - C		×
Look in	Computer		- 4	• 🗈 🖆 🖽•	
3	Name -	Type * + Total Size	Free Space 27.9	MB free of 30.3 M	<u> </u>
Recent Places	Devices wit	h Removable Storage	(3)		Ξ
SYSTEM	Por Por	ppy Disk Drive (A:)		Drive (F:) 18.0.1-SRD tes free of 404 MB	
Computer		Drive (G:) iR8.0.1-SRD ytes free of 404 MB			
	Network Lo	cation (1)			Θ
		re (\\10.15.35.83) (Z:)			
		5 GB free of 9.76 GB			-
	File name:		22.2.30	-	Open
	Files of type:	System Index Files (*	sv2)	-	Cancel

Open					
Look in:	👳 share (\\10).15.35.83) (Z:)	-		. .
SYSTEM Computer	Name U	Date + Type	- Size	<u> </u>	
	File name:	1		•	Open

Look in	: 🔒 daily			⇔ 🗈 💣 🗊 •	
Recert Places	Name • • D	ste V Type	+ Sze	-	
	File name:	Catan Index Si			Open

13. Click "Next"

Recover My Computer Wizard	×
System Index File You can specify the system index file to use for the recovery.	
View by: System	
System index folder and filename:	Damage 1
A system index file includes information about the drives that have recovery points. Using the index file reduces the amount of time required to select drives and the locations to recover them. The drives will be restored to their original locations with their last recovery point unless you click 'Change' on the next screen to specify different options.	
< Back Nex	t > Cancel

14. Enter the password for the backup image and press "OK".

Aew by: System		
A system The driv click Ch	OK Cancel	

15. A prompt may be shown to let the system to know whether the recovery is to be applied to a machine different from the one where the backup image created. Normally, the answer is "No".

ew by:								
ystem	Recover	Hy Compute	r Wizard				×	
A system	0	The system v like to perfor system?	rolume is licensed m a Restore Anyi	for Restore ware as part	Anyware. t of the rec	Would you overy of this	8	Browse
The di click (<u>Y</u> es	<u>No</u>		

16. The latest backup will be loaded and listed automatically by the system. Check "Reboot when finished" and click "Finish"

ecovery points to restore:			
Filename	Drive	Target drive	<u>A</u> dd
WS2-1S1W_C_Drive002.v2i WS2-1S1W_D_Drive002.v2i	No Label (C:) New Volume (D:)	Disk 1 Disk 1, New Volume	
WS2-1S1W E Drive002 v2i	New Volume (E:)	Disk 1. New Volume	
ecovery point details: iource recovery point: \\192.16 Created: 12\17\2008 12:16 AP	i8.1.1\share\daily\WS2	2-1\$1W_D_Drive0007.v2i	<u>H</u> emove

17. The recovery process will start and the system will reboot once the process is completed.



7.12 Fallback and Recovery

Ø

This section describes how to uninstall WebSAMS applications. Make sure that you have shutdown Apache, Wildfily, and Sybase before you are going to do so.

Removal of WebSAMS training instance

1. From Start -> Control Panel -> Programs and Features, select WebSAMS Training and follow the wizard to remove.

Removal of WebSAMS application (includes Apache, Wildfly, Java development kit, school data, report templates and keystores)

2. From Start -> Control Panel -> Program and Features, select WebSAMS and follow the wizard to remove.

Removal of SAP Crystal Server 2013

3. From Start -> Control Panel -> Program and Features, select SAP Crystal Server 2013 SP01 and follow the wizard to remove.

Removal of Sybase SQL Anywhere 16

4. From Start -> Control Panel -> Program and Features, select SQL Anywhere 16 and follow the wizard to remove.

Removal of Windows Scheduler Tasks

5. Start -> Administrative Tools -> Task Scheduler. Double click on WebSAMS pre-backup and WebSAMS post-backup and click on the Delete option on the right. Click 'Yes' to remove.

	Task	Scheduler		×
Eile Action ⊻iew Help				
🗧 🔿 🙎 📰 📓 📰				
Task Scheduler (Local)	Name Status Triggers	Next Run Time La	est Run Time Las	Actions
Task Scheduler Library	🕒 Optimize Sta Disabled When computer is idle	10	0/01/2014 16:25:46 (0x	Task Scheduler Library
	WebSAMS p Ready At 00:00 every day	20/05/2014 00:00:00 N	ever	💿 Create Basic Task
				😁 Create Task
				Import Task
				Display All Running Tasks
				📓 Enable All Tasks History
				📁 New Folder
	<		>	View 🕨
	General Triggers Actions Conditions Settings	History (disabled)		Refresh
	Name: WebSAMS pre-backup		^	7 Help
	Location:			Selected Item
	Authon: WS3-147\Administrator			Bun
	Description:			End
			=	- Disable
				Export
				Properties
	Security options			X Delete
	When running the task, use the following user ac	ount:		7 Help
	WS3-147\Administrator			-
	Run only when user is logged on			
	 Run whether user is logged on or not 		~	
	< 111		>	

8. HTTP Server Installation

The following steps should be taken in sequence:

- 1. Back up the configuration of the HTTP Server for WebSAMS 3.0[®]
- 2. Installation of the SUSE Linux 🛛 🛛
- 3. Installation of the anti-virus software Trend Micro ServerProtect 3.0 🕫
- 4. Configuration of the new HTTP Server with backup configuration files 🛽
- 5. Configuration of the new HTTP Server for new installation ⁽¹⁾
- 6. Post installation tasks 🔘 🛽

As the installation of the HTTP server has no direct dependency on the installation of the WebSAMS' server and application, it may be performed concurrently with other installations.

Should any school need to change the SSL Certificate, please refer to *Section 8.8* for detailed procedures.

8.1 Back up the Configuration of HTTP Server for WebSAMS 2.0 (Obsoleted)

8.2 Back up the Configuration of HTTP Server for WebSAMS 3.0

In case after the installation of the HTTP server for WebSAMS 3.0, it happens that re-installation of the HTTP server is necessary. If possible, please back up the configuration in the first place.

Please follow steps below to save the HTTP configuration and School Certificate:

- 1. Log in HTTP server using the "root" account.
- 2. Execute the backup script that is located in HTTP server by the following commands:
 - 2.1. In case the USB flash drive is to be used for backup:
 - a. Find the name of the USB flash drive first by:
 - i. **DON'T INSERT** any USB device and type the command "fdisk –l" (note: l is the lower case "L"). Usually hard disk device names (e.g. hdb1, hdb2, etc.) will be shown on the screen like the following:

Disk /dev/hdt	b: 40.9 G	GB, 4098216	51168 by	tes			
255 heads, 63 sectors/track, 4982 cylinders							
Units = cylind	ders of 1	6065 * 512 :	= 822528	30 bytes			
Device	Boot	Start	End	Blocks	Id	System	
/dev/hdb1		1	121	971901	82	Linux swap / Solaris	
/dev/hdb2		122	4982	39045982+	83	Linux	

NOW INSERT the USB flash drive to the HTTP server, and type the command "fdisk -l" (note: l is the lower case "L") again. A new device in additional to those shown before should appear, such as sda1 or sdb1. In the example below, the system shows that your USB flash drive gets the device name "sda1"

Disk	/dev/sda	a: 2004 M	B, 2004877	312 byte	s		
129	heads, 3	2 sectors	/track, 948 (cylinders			
Units	Units = cylinders of 4128 * 512 = 2113536 bytes						
	Device	Boot	Start	End	Blocks	ld	System
/de	ev/sda1		1	949	1957872	b	W95 FAT32
Parti	tion 1 ha	as differen	t physical/lo	gical en	dings:		
	phys=(956, 128,	32) logical=	(948, 75	, 32)		

- b. After recognizing the device name of the USB flash drive, enter the following command:
 - i. For ordinary schools of 1 Server 1 WebSAMS, please type:

grepconfig /dev/<<usb device name>>

Note: please type *grepconfigHTTP081211* if the above command cannot be found.

3. Once "y" has been entered, the script then collects the information of the current configuration. If there is any missing information, it is required to enter it manually. The script will not proceed until all configuration information has been either collected or entered manually.

For ordinary schools of 1 Server 1 WebSAMS,

Current HTTP Server	Configuration
(1) Hostname	: HTTP
(2) IP	: 192.168.2.211
(3) netmask	: 255.255.255.0
(4) gateway	: 192.168.2.1
(5) DNS	: 192.168.1.204
(6) WebSAMS IP	: 192.168.3.111
(7) Router ITED Leg	: 192.168.2.254
(8) FQDN	: websams.abcschool.edu.hk
(9) SUID	: 1234
Choose 1 - 9 for Mod	lification,
or enter 0 if All In	nformation is Correct: 0
Confirm to copy conf	`iguration and files into the floppy? (y/n) _

(The message of "Confirm to copy configuration and files into the floppy" is also applicable to the case of using thumb drive for backup)

8.3 Installation of the SUSE Linux

- a. Insert the HTTP Server Installation CD into the CD-ROM drive and restart the machine for installation of the HTTP Server. The "Welcome" screen will be displayed.
- b. Select "websams SLES 11 SP3" and press "Enter" for installation (Remark: After pressing the "Enter", the hard disk will be automatically re-partitioned. All the data will be <u>lost</u>.)



c. Read the license terms carefully and press "q"



- d. Press "y" to accept the EULA and press enter.
- e. After that, login with "root" and password.



f. Type "yast live-installer" to start installation

linux-6rgs:" # yast live-installer

g. The alert will appear if the machine has less than 1GB of memory. Select "continue" and press enter.



h. Select "Next" and press enter.

Note: If you want to change the date and time, select "change" at Date and Time to change it.

YaST2 - live-installer	@ linux-6rgs		
Clock and Time Zone			
Region Africa Argentina Asia Atlantic Australia Brazil Canada Central and South f Etc Europe Global Indian Ocean Mexico Pacific Russia USA	America	Time Zone Cho iba Isan Chongq ing Co Iombo Damascus Dhaka Di I i Duba i Dushanbe Gaza Harb in Hongkong Hovd Irkutsk Israel Jakarta Japan Jayapura Kanchatka Karach i Kashgar Katmandu	
[] Hardware Clock S	Set To UTC	Date and Time	[Change]
[Help]	[Back]	[Abort]	[Next]
F9 Cancel F10 Accept			

i. Select "install" and press enter.



j. Click "Install" and press enter.



k. Once the installation completed, select "OK" and press enter. After that, type "reboot" to reboot the machine. Please remember to keep the CD in the CD rom at the moment.

aST2 - live-inst	taller @ linux-6rgs		
Finishing Basic	Installation		
x Copy files x Save config x Install box x Save instal x Prepare sys	to installed system juration it manager llation settings stem for initial boot		
	Reboot the computer without to continue the installat Note that the CD cannot be it after the Live system : "Hard Disk" in the boot me	At the Live CD in the drive ion. s ejected now. You can eject shuts down or by selecting enu of the Live CD.	
		KI	
Finished.	10	J.	
lelp]	[Back]	[Abort]	INext
Help F9 Abort	R		

1. For this first boot, select "Boot from Hard Disk" and press enter.



m. At this moment, the linux has been installed. Now, login with "root" account



8.4 Installation of the Anti-Virus Software – Trend Micro ServerProtect 3.0

- a. First, log in the server using the "root" account.
- b. In command mode, enter the following command to trigger the installation.



c. The Trend Micro license agreement will be displayed on the screen. Press "Enter" to read the license agreement.


d. Enter "yes" to accept the licence terms then the installation will be started automatically.



- e. When the statement ""Do you wish to connect this SPLX server to Trend Micro Control Manager?" displayed on the screen, press "n" to refuse the connection to Trend Micro Control Manager.
- f. When the statement "Activation code :" is displayed, enter the 32 digits "Activation code" in the format as follows:

"XX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX"



g. At the end, enter "No" when you are asked to participate in the "World Virus Tracking Program". Now, you have successfully installed the Trend Micro and ready to proceed to next step to install the patch.

h. Installation of Trend Micro patch 5

Now, type "cd /usr/bin/" and press enter. Then, type ./cp_deploy_script.sh and press enter.

linux-brgs:" # cd /usr/bin/								
linux-6rgs:/usr/bin # ./cp deploy script.sh								
Check sustem								
The current installation of ServerProtect on your system	is S	Prot	ectLi	nux-3.	0-129	8.		
Shutting down ServerProtect for Linux:								
Shutting down splxcore:								
Shutting down vsapiapp	I	OK]					
Unloading splx kernel module:	E	OK	1					
Shutting down entitu:	E	OK	1					
BerverProtect for Linux core stopped normally.								
	E	OK]					
Shutting down splxhttpd:								
Shutting down splxhttpd:	Γ	OK	1					
BerverProtect for Linux httpd stopped normally.								
	Г	OK	1					
ServerProtect for Linux stopped normally.								
Starting ServerProtect for Linux:								
Checking configuration file:	Γ	OK	1					
Starting splxcore:								
Starting Entitu:	E	OK	1					
Loading sulx kernel module:	Ē	OK	1					
Starting vsapiapp:	Ē	OK	1					
BerverProtect for Linux core started.								
	E	OK]					
Starting splxhttpd:								
Starting splxhttpd:	Ľ	OK]					
BerverProtect for Linux httpd started.								
	ſ	OK	1					
BerverProtect for Linux started.								
The product has expired.								
You may purchase a new activation Code or renew your cur	rent	lice	nse t	o keep	your	security	and	produ
ct updates current.								
Buccessfully deployed critical patch.								
1 town of the second state								

i. After that, type "splx_30_lx_en_sp1_patch5.bin" to install the patch. And, type "yes" to remove the previous RPM info.



j. The patch5 has been installed successfully!

Shutting down splxcore:				
Shutting down vsapiapp	I	OK]	
Unloading splx kernel module:	I	OK	1	
Shutting down entitu:	Ē	OK]	
ServerProtect for Linux core stopped normally.				
a for the stand of a stapped hormany.	ſ	OK	1	
Shutting down splxhttpd:				
Shutting down splanttpd:	ſ	OK	1	
ServerProtect for Linux httnd stonmed normallu.				
our our rouge and a man house coopped normarig.	ſ	nк	1	
ServerProtect for Linux stonmed normally.				
Starting ServerProtect for Linux:				
Checking configuration file:	ſ	OK	1	
Starting splxcore:				
Starting Entity:	ſ	0K	1	
Loading snlx kernel module:	Ē	OK	1	
Starting usaniann:	Ē	UK	i	
ServerProtect for Linux core started.		0.11		
	ſ	ПK	1	
Starting snlxhttnd:		0,11		
Starting spiritul:	Г	nк	1	
ServerProtect for Linux httnd started		011		
berverribtetet for Britax heepa startea.	г	אט	1	
ServerProtect for Linux started		011		
The product has expired				
You may nurchase a new activation Code or renew your cu	rent	lice	nse to keen	LIOUR
ct undates current.	10110	1100	noo to noop	goar
ServerProtect for Linux 3.A Service Pack 1 match 5 inst	allati	on c	ompleted.	
linux-fras:/usr/hin #		0	emprovou.	
a anton to a go th doar to an in				

Note: **W** New installation **B** Re-installation

8.5 Configuration of HTTP Server with Backup Configuration Files

This section is applicable mainly for upgrading of the HTTP server or re-installation of HTTP server. A backup copy of configuration files (SUSE Linux Enterprise 11) of HTTP Server must be on hand.

- 1. Log in the HTTP server using the "root" account.
- 2. Execute the installation script which is located in the HTTP server by typing the following command:
 - 2.1.In case the School Certificate and Configuration file are located in the USB flash drive:
 - a. Find the name of the USB flash drive first by:
 - i. **DON'T INSERT** any USB device and type the command "fdisk –l" (note: l is the lower case "L"). Usually hard disk device names (e.g. hdb1, hdb2, etc.) will be shown on the screen like the following:

Disk /dev/hdb: 40.9 GB, 40982151168 bytes						
255 heads, 63 sectors/track, 4982 cylinders						
Units = cylinders of 16065 * 512 = 8225280 bytes						
Device	Boot	Start	End	Blocks	Id	System
/dev/hdb1		1	121	971901	82	Linux swap / Solaris
/dev/hdb2		122	4982	39045982+	83	Linux

NOW INSERT the USB flash drive to the HTTP server, and type the command "fdisk –l" (note: l is the lower case "L") again. A new device in additional to those shown before should appear, such as sda1 or sdb1. In the example below, the system shows that your USB flash drive gets the device name "sda1"

Disk /dev/sda: 2004 MB, 2004877312 bytes							
129 heads, 3	129 heads, 32 sectors/track, 948 cylinders						
Units = cylind	Units = cylinders of 4128 * 512 = 2113536 bytes						
Device	Boot	Start	End	Blocks	Id	System	
/dev/sda1	*	1	949	1957872	b	W95 FAT32	
Partition 1 has different physical/logical endings:							
phys=(phys=(956, 128, 32) logical=(948, 75, 32)						

b. After recognizing the device name of the USB flash drive, enter the following command:

Note: **W** New installation **B** Re-installation

i. For ordinary schools of 1 Server 1 WebSAMS, please type:

reinstall /dev/<<usb device name>>

Note: **1** New installation **B** Re-installation

3. After message of the HTTP server meeting the prerequisites has been confirmed, the HTTP server configuration will be shown. Adjust it when it is necessary or confirm it if it is correct. Then enter "reboot" to re-boot the new SUSE Linux machine.

For ordinary schools of 1 Server 1 WebSAMS:

Current HTTP Server Configuration: (1) Hostname : HTTP (2) IP : 192.168.2.211 (3) Netmask : 255.255.255.0 (4) Gateway : 192.168.2.1 (5) DNS : 192.168.1.204 (6) WebSAMS IP : 192.168.3.111 (7) Router ITED Interface IP : 192.168.2.254 (8) FQDN : websams.abcschool.edu.hk (9) SUID : 1234 Choice 1 - 9 for Modification, or Enter O if All Information are Correct: O Confirm to install? (y/n)

8.6 Configuration of HTTP Server for New Installation

Ø

This section is applicable mainly for new installation of the HTTP server. The following files which are provided by EDB must be on hand and copied into a USB flash drive under the folder "/SchoolCert":

- "<School_ID>SvrCert.pem"; and
- "<School_ID>SvrKey.key"
- 1. First, log in the HTTP server using the "root" account.
- 2. Execute the configuration script which is located in the HTTP server by typing the following command:
 - 2.1. In case the School Certificate and Configuration file are located in the USB flash drive:
 - a. Find the name of the USB flash drive first by:
 - i. **DON'T INSERT** any USB device and type the command "fdisk –l" (note: l is the lower case "L"). Usually hard disk device names (e.g. hdb1, hdb2, etc.) will be shown on the screen like the following:

Disk /dev/hdl	Disk /dev/hdb: 40.9 GB, 40982151168 bytes							
255 heads, 6	255 heads, 63 sectors/track, 4982 cylinders							
Units = cyline	Units = cylinders of 16065 * 512 = 8225280 bytes							
Device	Boot	Start	End	Blocks	Id	System		
/dev/hdb1		1	121	971901	82	Linux swap / Solaris		
/dev/hdb2		122	4982	39045982+	83	Linux		

Note: **W** New installation **B** Re-installation

ii. NOW INSERT the USB flash drive to the HTTP server, and type the command "fdisk –l" (note: l is the lower case "L") again. A new device in additional to those shown before should appear, such as sda1 or sdb1. In the example below, the system shows that your USB flash drive gets the device name "sda1"

Disk /dev/sda: 2004 MB, 2004877312 bytes							
129ł	129 heads, 32 sectors/track, 948 cylinders						
Units	Units = cylinders of 4128 * 512 = 2113536 bytes						
	Device	Boot	Start	End	Blocks	Id	System
/de	ev/sda1	*	1	949	1957872	b	W95 FAT32
Partit	Partition 1 has different physical/logical endings:						
	phys=(956, 128, 32) logical=(948, 75, 32)						

- b. After recognizing the device name of the USB flash drive, enter the following command:
 - i. For ordinary schools of 1 Server 1 WebSAMS, please type:

reinstall /dev/<<usb device name>>

3. When the installation script is executed, the following options are shown.

For ordinary Schools of 1 Server 1 WebSAMS:

Current HTTP Server (1) Hostname	Configuration: :
(2) IP	:
(3) Netmask	:
(4) Gateway	:
(5) DNS	:
(6) WebSAMS IP	:
(7) Router ITED Inte	rface IP :
(8) FQDN	:
(9) SUID	:
Choice 1 - 9 for Moo Or Enter 0 if All Ir	lification, Iformation are Correct:

Choices	Descriptions	Examples (Examples only. DON'T just key in these values)
(1) Hostname	 Any name for the HTTP Server 	НТТР
(2) IP	- The IP address of the HTTP Server.	10.10.10.10
(3) Netmask	- The subnet mask for the HTTP Server.	255.255.255.0
(4) Gateway	- The default gateway for the HTTP Server	10.10.10.254
(5) DNS	- The IP address of the DNS Server for the HTTP Server	210.210.210.20
(6) WebSAMS IP	- The IP address of the WebSAMS server inside the WebSAMS network segment	10.30.30.30
(7) Router ITED Interface IP	- The IP address of the router's interface which is connecting the ITED network segment	10.10.10.1
(8) FQDN	- The "Fully Qualified Domain Name" for the WebSAMS	Websams.mysch.edu.hk
(9) SUID	- The school unique ID for identification of the school in WebSAMS	1234

- 4. Enter '0' to finish the input and then type 'Y' to confirm.
- 5. The script would terminate itself once it finishes the installation. Restart the server to make the configuration effective.

8.7 **Post Installation Tasks**

NR

8.7.1 Configuration of Trend Micro

After restarting the HTTP server, perform the following tasks:

- 1) Log in HTTP server by using the "root" account. Enter the command "passwd" and ask the school to change the "root" account password. Please note that a complex password is needed and ensure no warning has been shown after the new password has been inputted.
- 2) Configure of the Trend Micro Version 3.0 by:
 - a. Accessing the Server Protect Web console at "http://<HTTP Server IP>:14942" from the browser of a workstation in ITED network segment.
 - b. Pressing "Log On" button to enter Trend Micro Version 3.0. (The password can be ignored).

File Edit View Favorites Tools Help Links	
🔇 Back 🔹 🕥 - 🖹 🖻 🏠 🔎 Search 👷 Favorites 🤣 🔗 🗣 💺 厄 🔹) 📴 🛍
Address 🗃 http:// ###################################	
TREND MICRO ^{""} ServerProtect"	
TREND M	ICRO
ServerPi	r <mark>otect</mark> for Linux
Piease type your pa	sswurd to access the product console.
Password:	Log On

c. The below screen will be displayed indicating that the license has ended on 2008-09-30

dress 🗃 http://	:14942/SProtectLinux/showp	age.cgi?page=/html/splx_m	ain.htm			
Summary	CRO"ServerProtectr Summary			@ Help		
Scan Options	Product updates ended o	on 2008-09-30.				
Jpdate						
ogs	System Information (200	8-10-03 23:15:19)				
otification	Product version: Trend M	Aicro ServerProtect for Linux 3.0) 			
Administration Platform: Intel(R) Pentium(R) M processor 1.70GHz (i686)						
	OS: SUSE LI	nux Enterprise Server 10 (i586)			
	Kernel version: 2.6.16.	46-0.12-default				
	Scan Results for Virus	*	0 viruses/spywares detected today.			
	Summary		Today	Last 7 days		
	Virus uncleanable		0	0		
	Virus quarantined		0	0		
	Virus deleted		0	0		
	Virus passed		0	0		
	Virus cleaned		0	0		
	Virus renamed		0	0		
	Scan Status					
	Real-time Scan: Enabled Scheduled Scan: Disable Manual Scan: Scan	d (Incoming files) d now				
	Update Status			Update now		
	Component	Current Version	Last Upda	ated		
	Virus Pattern	4,543,00	2007-06-	20 10:09:23		

- d. Update the Trend Micro 3.0 license as below:
 - i. Select the "Administration" at the left hand side.
 - ii. Select "Product Registration".
 - iii. Press "Update Information" button for renew License.

File Edit View Favorite	s Tools Help Link	s						
🔇 Back 🝷 🔘 🕤 🛃	💈 🏠 🔎 Search	🛧 Favorites 🕢 🔗	🎍 🖻 🔹 🗖					
ddress 🛃 http://	:14942/SProtectLinux/s	howpage.cgi?page=/html/sj	olx_main.htm					
TREND MICR	O'ServerProtect							
Summary	Product Registration	n		🔞 Help				
Scan Options		ac ao aoac L-L) (ion repond instructions				
▶ Update	Maintenance expired on 3	Weintenance expired on 2008-09-31 and the grace period ended on 2008-09-30.						
▶ Logs	Renewal is necessary to k	eep your security and product	: updates current.					
Notification	C anno 1997 - 1997							
 Administration 	License information las	st updated on: 2008-10-03	Update Informati					
Startup Settings	License Information			View detailed license online				
Password	Products	TrendMicro ServerProtect for	Linux 3.0					
Proxy Settings	Lisensey	Full						
Control Manager Settings	License:	Site shifts all second departies Shi	Stinate state					
Product Registration	Activation Code:	and the second second second second	and a state of the	New Activation Code				
World Virus Tracking	Status:	Maintenance expired						
	Maintenance expiration:	2008-08-31						

- e. Update the Trend Micro 3.0 components
 - i. Select the "Update" at the left hand side.
 - ii. Select "Manual Update".
 - iii. Press "Update now" button for update the new components

Summary	Mai	nual Update		@ Hel		
Scan Options	Co	mponents to Update				
▼ Update		Component	Current Version	Last Updated		
Manual Update		Virus Pattern	4.543.00	2007-06-20 10:09:23		
Scheduled Update	-	Spyware/Grayware Pattern	0.513.00	2007-06-20 10:09:23		
 Logs Notification 	-	Scan Engine	8.310.1002	2007-04-17 17:11:05		
Administration	Download Source Configure Proxy St					
		Trend Micro ActiveUpdate ser Other Internet source URL: (e.g. http://www.o	iownload.com/download)			

8.7.2 Applying the patch for HTTP Server

New patch for **HTTP Server of WebSAMS 3.0** is now available for download. Please go through the steps in **Part I** to apply the patch.

For new installation of the HTTP server, please go through steps of Section 8.6 to setup the configuration first.

Part I: Normal Operation

1) Log in HTTP server by using the "root" account.

2) Type the following command and press [Enter]:

starthsp

3) Possible results will be shown:

a) If the following message is shown:



Please go through the steps in Part II.

b) If the process is successful, the following message will be shown:



Type "y" to reboot the HTTP Server.

** Please be reminded to input the PassPhrase for starting the Apache SSL service after system reboot!

The process is completed.

c) If there is no new patch to be downloaded, the following message will be shown:



The process is completed.

Part II: Setup Operation

1) Type the following command and press enter:

cd /tmp

2) Then, type the following command and press enter:

wget http://cdr.websams.edb.gov.hk/hspatch_SELS11/setuphsp

The following screen will be shown:



3) Finally, type the following command and press [Enter]:



The following screen will appear if the patch execution is successful.

 $\ensuremath{\texttt{Please}}$ be reminded to input the PassPhrase for starting the Apache SSL service after system reboot!

System will be rebooted! Confirm? (y/n)

Type "y" to reboot the HTTP Server.

** Please be reminded to input the PassPhrase for starting the Apache SSL service after system reboot!

Note: 🔍 New installation 🛛 🚯 Re-installation

4) Since 2019 Jan, SP4 will applied to HTTP server and the following new login page will be shown:



The process is completed.

**** Notice ***

For any assistance, schools may contact WebSAMS Help Desk at 3125-8510 for further assistance or enquiry.

8.8 Change the SSL certificate

R

There may be circumstances that the SSL certificate is needed to change or renew, such as the domain URL has been changed. To change the SSK certificate, the following steps should be taken in sequence:

- 1) Go through steps of Section 8.1 to back up the configuration of the HTTP Server.
- 2) In folder "/SchoolCert" of above backup media, replace the following files with the new ones which are provided by EDB:
 - "<School_ID>SvrCert.pem"; and
 - "<School_ID>SvrKey.key"

3) Go through steps of Section 8.4 by using the above backup media.

9. Crystal Reports Installation in Workstation

The SAP Crystal Reports 2013 is supposed to be installed in **ONE** WebSAMS workstation. Consult the school to see which workstation the software should be installed.

The installation of Crystal Reports involves four tasks:

- Install Sybase 16 ODBC driver **OB**,
- Install SAP Crystal Reports 2013 **O** and,
- Configure two System DSNs (ODBC accounts) **QB**.

For new installation of WebSAMS and re-installation of WebSAMS (in case re-installation of workstation is required), all the above tasks are necessary.

9.1 Install Sybase 16 ODBC Driver

- 1. Remove Sybase 10 ODBC driver (if exists)
- 2. Insert the Sybase SQL Anywhere 16 CD into the CD-ROM drive. The installation wizard will be shown.
- 3. Install the 32-bit SQL Anywhere Client only:

For 32-bit workstation: Select "Databases > SQL Anywhere > SQL Anywhere Client"



For 64-bit workstation: Select "Databases > SQL Anywhere (32-bit) > SQL Anywhere Client"



• Only 32-bit SQL Anywhere client should be installed no matter the workstation is 64-bit or 32-bit!



9.2 Install SAP Crystal Reports 2013

- 1. Insert the Crystal Report CD into the CD drive.
- 2. Follow the installation wizard, and accept all default settings.
- 3. Input school name and license key when being asked for registration information.

9.3 Configure Two ODBC Accounts

NR

The following figures illustrate how to configure the ODBC accounts for a school with the following settings:

School Unique ID (suid): 9999 WebSAMS server IP (websams_ip): 10.15.38.38

1. Setup a System DSN (ODBC account) called websams.

a. For 32-bit workstation:

Go to ODBC configuration for SQL Anywhere (Start -> Control Panel -> Administrative Tools -> Data Sources (ODBC) -> System DSN -> Add... -> Select "SQL Anywhere 16" and click 'Finish')

b. For 64-bit workstation:

Go to "Start" > and type "odbc" to search for "ODBC Data Source Administrator (32bit)"

程式 (2) ODBC Data Source Administrator (64 SOBE Data Source Administrator (32)	4-bit) 2-bit)
odbc ×	關機 ▶

Then, click "Add" on the "System DSN" screen and select "SQL Anywhere16" and click "Finish"

名稱		^
Microsoft Text Driver (*.txt; *.csv)		
Microsoft Text-Treiber (*.txt; *.csv)		
Microsoft Visual FoxPro Driver		
Microsoft Visual FoxPro-Treiber		
SQL Anywhere 10		
SQL Anywhere 16		E
SQL Server		+
< III	÷.	



c. Under ODBC tab, fill in Data source name as websams.



d. Under Login tab, leave the User ID and Password blank. Select 'Connect to a running database on another computer' as Action. Fill in Host with {*websams_ip*} and Port with 3268. Fill in Server name as websams_{suid} and Database name as *websams*.

DBC Login Ne	etwork Advanced
Authentication:	Database
User ID:	
Password:	
	Encrypt password
Action:	Connect to a running database on another computer 🔹
A <u>c</u> tion: <u>H</u> ost:	Connect to a running database on another computer 10.15.38.38
A <u>c</u> tion: <u>H</u> ost: <u>P</u> ort:	Connect to a running database on another computer 10.15.38.38 3268
A <u>c</u> tion: Host: Port: Server name:	Connect to a running database on another computer 10.15.38.38 3268 websams_9999

- e. Click OK.
- 2. Setup a System DSN (ODBC account) called *websamsfmp*.
 - a. Repeat step 1 to create another Data source name as *websamsfmp*.

10.Post Installation Check

After the installation has been set up, the following preliminary testing could be carried out to verify the installation.

DHCP Test

- 1. Re-boot an ITED client PC. The PC can get an IP address and a DNS address (if any) from DHCP.
- 2. Re-boot a WebSAMS client PC. The PC can get an IP address and a DNS address from DHCP.

DNS Test

- 1. An ITED client PC can resolve the unique domain name of WebSAMS. The domain name is resolved to the private IP address of the HTTP server.
- 2. A WebSAMS client PC can ping the unique domain name of WebSAMS. The domain name is resolved to the private IP address of the WebSAMS server.

URL Accessing Test

- 1. An ITED client PC can view the WebSAMS login page from a browser.
- 2. A WebSAMS client PC can view the WebSAMS login page from a browser.

Unauthorized Access Test

1. An ITED client PC cannot ping any WebSAMS segment IP.

More detailed tests have been documented in the "Form C - Report on Completion of Upgrading of WebSAMS 3.0" in Appendix 5.

Appendix 1: Hardware and Software Specification Hardware and Software Specification

Appendix 1

WebSAMS Server

Hardware

Basic server requirement

- Intel Quad-Core Xeon E5 3.0 GHz and 6.4 GT/s, or other compatible model with better performance
- At least 16 GB DDR3 ECC RDIMM RAM
- At least 800 GB usable disk capacity in RAID 5 configuration
- 6Gbps SAS hot swap hard disks at least 10,000 rpm
- At least two Gigabit Ethernet network adaptors (one for connection to the backup device)
- DVD writer
- On-board VGA display supporting 1024x768 resolution
- Redundant hot swap power supply
- 2U or less rack mount form factor

Software

- Microsoft Windows Server 2012 R2 Standard Edition
- SAP Crystal Server 2013
- Sybase SQL Anywhere 16 (64-bit)
- Zulu Java 11 (64bit)
- Wildfly 15.0.0
- Apache 2.4.39
- Anti-virus software
- System backup & recovery software

HTTP Server

Hardware

PC workstation with basic requirement:

- Pentium IV 1.4 GHz or above CPU
- At least 512 MB RAM
- At least 20GB hard disk
- 10/100 Ethernet network adapter supported by SUSE Linux Enterprise 11
- Monitor supports at least 800x600 resolution (preferably 1024 x 768)

Software

- SUSE Linux Enterprise 11
- Trend Micro ServerProtect for Linux 3.0

Appendix 2: Information Sheet

Appendix 2

Information Sheet

(For reference only)

Information Sheet

This sheet is for o	one session of a sch	pol.	
School Contact P	erson:	Tel No:	E-mail:
School Name	(Eng):		
	(Chi):		
School Address	(Eng):		
	(Chi):		
SUID (School	Unique ID)*:	(4 digits e.g. "()123")
* Apart from the i	new schools with no V	VebSAMS server, a school can	find its SUID by:
1) Checking the WebSAMS se	name of a folder wit rver. This name is the	h a 4-digit figure (other than i e SUID of the school.	the "9999") inside the "E:\data" folder of th
WebSAMS Se	tup Type: 🗆 1 So	erver 1 WebSAMS (1S1W)	
The training d	atabase to be install	ed in WebSAMS (choose on	ly one):
🗆 For pri	mary school with F	MP data of AprMar. accou	nting period
□ For pri	mary school with F	MP data of SepAug. accou	nting period
\Box For sec	condary school with	FMP data of AprMar. acco	ounting period
	condary school with	FMP data of SepAug. acc	ounting period
WebSAMS set (The private II	rver IP and subnet n P address in WebSA	nask: MS segment assigned for the 	e WebSAMS server)
HTTP server I (The private II	P and subnet mask: ^D address in ITED s	egment assigned for the HT	TP server)
FQDN (Fully ((That is the U)	Qualified Domain N RL for accessing We	lame): bSAMS e.g. websams.scha	bc.edu.hk)
ITED network (The network I	number and ITED P scheme of ITED 1	subnet mask: network and its subnet mask	e.g. 10.15.40.0 (255.255.255.0))
Current WebS.	AMS version numb	er (Not applicable to new in	stallation of WebSAMS):
Administrator	account and passwo	ord for the operating systems	s of WebSAMS 3.0 server:
(WebSAMS 3.	.0)		
Schools MUS	T change the passw	ord of the account after the	e completion of all installation tasks.

Other Information for Authentication

A school may not need to supply the following information to the contractor but has to ensure the following information have to be available at the moment when they are needed to be inputted by users:

- 1. Account and password of the administrator of WebSAMS
- 2. The 3 user accounts and passwords for connecting the WebSAMS database via ODBC:
 - genuser
 - fmpuser
 - stfuser

(If the above 3 passwords are forgotten, please call WebSAMS helpdesk at 3125 8510 and ask for their assistance in resetting the passwords.)

- 3. Password for the 'root' account of the HTTP Server
- 4. Activation code for the anti-virus software used in HTTP Server Trend Micro ServerProtect 3
- 5. Password (school key) for encryption and decryption of CDS messages (*This password is used for performing CDS registration after WebSAMS installation.*)

The following are mainly for new installation of WebSAMS:

Real IP (For new installation of WebSAMS for new school only): (The public (real) IP address provided by the ISP (Internet Service Provider) for HTTP server setup)

The default gateway for the HTTP Server : _____

The IP address of the DNS Server for the HTTP Server:

The router interface connecting the ITED segment:

Other Information:

Appendix 3: Form A

Form A

索取網上學校行政及管理系統 3.0 安裝套件 Request Form for WebSAMS 3.0 Installation Kit

Form A

索取網上學校行政及管理系統 3.0 安裝套件

致:教育局常任秘書長

收件人:「網上校管系統」小組學校聯絡主任 (完成甲部及乙部後,請把已填妥的表格傳真至 3464 0567。)

甲部 (由學校填寫)

本校已委託_____(供應商名稱)為本校安裝新「網上校管系統」及系統遷移服務。請將所須的套件*轉交上述供應商。

校長簽署	:	
校長姓名	:	
學校名稱	:	
學校編號	:	
總支出	:(上限 \$50,000)	
負責老師姓名	:	
學校電話號碼	:	學校印鑑
日期	:	

乙部 (由供應商填寫)

請將安裝新「網上校管系統」所須的套件轉交本公司。本公司承諾所取得的套件將只用於學校安裝新「網上校管系統」伺服器。

負責人簽署	:	
負責人姓名	:	
負責人職位	:	
公司名稱	:	
公司地址	:	
公司電郵	:	
公司電話號碼	:	公司印鑑
日期	:	

* 系統及資訊管理組將提供下載的超連結

Form A

Request Form for WebSAMS 3.0 Installation Kit

To: Permanent Secretary for Education Attn: WebSAMS School Liaison Officer (SLO) (Please fax to 3464 0567 after completion of both Parts A and B)

Part A (to be completed by the school) My school has appointed ______ (name of the vendor) to provide the system installation and migration services for upgrading of our WebSAMS to Version 3.0. Please provide the installation kit* to the above-named vendor for this upgrading exercise.

Signature of Principal	:	
Name of Principal	:	
Name of School	:	
School Number	:	
Cost of the upgrade	:(max \$50,000)	
Teacher-in-charge	:	School shop
Telephone number	:	School chop
Date	:	

<u>Part B</u> (to be completed by the vendor)

Please provide the WebSAMS 3.0 installation kit* mentioned in Part A to my company. I understand that my company can only use the installation kit for upgrading the WebSAMS of the school.

Signature of Authorized		
Person	:	
Name of Authorized Person	:	
Post of Authorized Person	:	
Name of Company	:	
Address of Company	:	
Email address	:	
Telephone number	:	Company chop
Date	:	

* SIM section will provide the hyperlink for downloading.

Appendix 4: Form B

Appendix 4

<u>Form B</u>

Hardware Equipment Acceptance Form for Upgrading of WebSAMS 3.0

(For reference only)

Form **B**

Hardware Equipment Acceptance Form for Upgrading of WebSAMS 3.0 (in English version only)

Note: The Windows operating system should have been installed before conducting these tests. This form is for school's reference. Schools are **<u>NOT required</u>** to submit this form to the EDB.

Server System Unit

Item Model:

Serial No.:

Test Result: Pass / Fail

	Test to be conducted	Expected Result
LAN port (Ethernet network adaptors)	Check how many LAN port the server has.	The server should have at least 2 Gigabit LAN ports
USB port	Check how many USB port the server has.	The server should have at least 2 front and 2 rear USB 2.0 ports.
Server size	Check the size of the server.	The server should be 2U (approximately 3.5 inches) or less in height.
Power-On Self Test (POST)	Power on the server and note the memory checking and other BIOS items being loaded during POST.	Memory check should report no error during POST.
Hard Disk Test	There are usually several ways to test the Hard Disk (HDD). Any one of the following is acceptable:	The HDD should be detected. Its model number and ID should be displayed.
	1. When the server boots up, before loading into Windows, HDD information might be listed alongside with CPU and memory checking result.	
	2. When the server boots up, before loading into Windows, it might prompt you to press certain keys to startup the BIOS configuration menu, or RAID utility program. In those programs you should be able to see HDD info.	
	3. Some server manufacturers provide Windows program for you to manage the HDD. Usually you need to install the Utility Disc bundled with the server first.	

	Test to be conducted	Expected Result
RAID Test	There are usually several ways to check the RAID status. Any one of the following is acceptable:	The program should show a RAID disk with at least 800GiB useable space, composed of at least 3 HDD in RAID 5 configuration.
	1. When the server boots up, before loading into Windows, it might prompt you to press certain keys to startup the RAID utility program. In this program you should be able to see the RAID status.	
	2. Some server manufacturers provide Windows program for you to manage the RAID status. Usually you need to install the Utility Disc bundled with the server first.	
Boot-up Test	Power on the server and let the operating system boots up.	The Windows Server 2012 R2 Standard Edition should start up. Users can log into the system and use the services provided by the server.
CPU Speed Test	Open "Control Panel \rightarrow View by Category \rightarrow System and Security \rightarrow System".	The CPU should be Intel Quad-core Xeon E5 processor with clock speed at least 3.0GHz, or other Intel model with better performance.
Memory Size Test	Open "Control Panel \rightarrow View by Category \rightarrow System and Security \rightarrow System".	The memory size should be at least 16GB
Workgroup Setting	Open "Control Panel \rightarrow View by Category \rightarrow System and Security \rightarrow System".	The server is in a workgroup called "WebSAMSGROUP".
Computer Name	Open "Control Panel \rightarrow View by Category \rightarrow System and Security \rightarrow System".	The computer name should be the default computer name assigned by the system or any other name but MUST NOT equal to the 'top level sub-domain name' of the WebSAMS fully qualified domain name (FQDN) as long as WebSAMS 3.0 has not been installed.
		E.g. the top level sub-domain name is "websams", if the FQDN is "websams.abc.edu.hk"; or "sams", if the FQDN is "sams.abc.edu.hk".
Scandisk Test	Run "CHKDSK" in "Windows Command Prompt" for all partitions.	No error reported.
Shutdown And Reset Test	Shutdown the server and do Boot-up Test again (both warm and cold boot).	The server should be shut down normally and then can be restarted successfully.
Graphic Mode Test	Change the resolution of the screen to 800x600.	The screen under the resolution of 800x600 should be displayed correctly without distortion.
Hard Disk Size Check	Open "Windows Disk Management"	The hard disk size should match with the RAID Disk created.
Hard Disk Partitioning Check	Open "Windows Disk Management"	C drive has 200 GB; D drive has 200 GB and E drive has the remaining space.
Anti-Virus	Perform a manual scan on the whole system.	No virus is found.
System Date and time test	Click the system clock on the taskbar.	The date and time are correct.

	Test to be conducted	Expected Result
Regional Option	Open "Control Panel \rightarrow View by Category \rightarrow Change date, time, or number formats".	• On "Formats" tab, the Format should be "Chinese (Traditional, Hong Kong SAR.)".
		• On "Location" tab, the Home location should be "Hong Kong SAR".
		• On "Administrative" tab, the Language for non-Unicode programs should be "Chinese (Traditional, Hong Kong SAR.)".
Data Writing Test	Insert a blank writable DVD into the drive. Open the Windows explorer and copy some files to the X: drive (X: is drive letter of DVD writer drive). Finally, right click the X: drive icon and select to burn the files into the DVD.	A message will show that the burning process is done successfully.
Data Reading Test	Eject the DVD after burning process is completed and insert the same DVD disc into the DVD writer again. In the Windows explorer, open the X: drive and check the files.	The files listed should be equal to those that have been copied into the X: drive for burning.

Appendix 5: Form C

Form C

User Acceptance Test Form



USER ACCEPTANCE TEST FORM FOR INSTALLATION OF WEBSAMS 3.0

For Office Use:

WebSAMS Installation Date: _____

Test Cases: Please refer to the <u>Appendix: Acceptance Test Procedures</u> for the details of each test item.

Item No.	Test Items		Test Res	ults /	Answ	ers		
1. WebSA	MS Application							
1.1	Start-up of WebSAMS System	Test 1:						_
1.2	Start-up of WebSAMS Training System	Test 2:						
		Test 3:						
1.3	Version Upgrade of WebSAMS System	Test 4:						_
		Test 5:						
1.4	Account Name & Password	Test 6:			Yes			lo
	Software	Componen	ts					
	Apache	Test 7:						_
	Wildfly	Test 8:						_
	JDK	Test 9:						_
1.5	Sybase SQL Anywhere 16	Test 10:			Yes		<u> </u>	lo
		Test 11:						
	Crystal Server 2013	Test 12:			Yes		<u> </u>	lо
		Test 13:						
	Anti-Virus	Test 14:			Yes		🗌 N	10
	Configuration of the Operating System							
	Hard Disk Partitioning	Test 15:	C drive			GB		
			D drive E drive			GB GB		
1.6	File System	Test 16:						_
	Workgroup	Test 17:						_
	System Locale and Language Setting	Test 18:						
1.7	Internet Connectivity	Test 19:			Yes		<u> </u>	lo
		Test 20:	Pre-backup					
1.8	Scheduled Backup Job	Test 21:	Post-backup					



USER ACCEPTANCE TEST FORM FOR INSTALLATION OF WEBSAMS 3.0

2. HTTP S	erver				
		Test 22:			
2.1	Environment of the HTTP Server	Test 23:			
		Test 24:		Yes	□ No
2.2	Anti-Virus Software of the HTTP Server	Test 25:			
3. ITED W	Vorkstation				
3.1	Accessing WebSAMS Website	Test 26:		Yes	🗌 No
3.2	DNS Test	Test 27:			
3.3	WebSAMS System Login	Test 28:		Yes	🗌 No
3.4	Training System Login	Test 29:		Yes	🗌 No
4. WebSA	MS Workstation				
4.1	Counted Barrant 2012 Design on Edition	Test 30:		Yes	🗌 No
4.1	Crystal Report 2013 Designer Edition	Test 31:			
	ODBC Test	Test 32:	genuser		
4.2			fmpuser		
4.2	ODBC Test				
4.2	ODDC Test		stfusor	N/A (Gover	mment school)
4.2	DHCP Test	Test 33.	stfuser	□ N/A (Gover	mment school)
4.2	DHCP Test	Test 33:	stfuser	□ N/A (Gover	rnment school)
4.2 4.3 4.4	DHCP Test Accessing WebSAMS Website	Test 33: Test 34:	stfuser	□ N/A (Gover	rnment school)
4.2 4.3 4.4 4.5	DHCP Test Accessing WebSAMS Website WebSAMS System Login	Test 33: Test 34: Test 35:	stfuser	N/A (Gover Yes Yes	rnment school)
4.2 4.3 4.4 4.5 4.6	DHCP Test DHCP Test Accessing WebSAMS Website WebSAMS System Login Training System Login	Test 33: Test 34: Test 35: Test 36:	stfuser	 N/A (Government) Yes Yes Yes Yes 	rnment school)
4.2 4.3 4.4 4.5 4.6 5. Commu	DHCP Test DHCP Test Accessing WebSAMS Website WebSAMS System Login Training System Login nication and Delivery System (CDS)	Test 33: Test 34: Test 35: Test 36: Test 37:	stfuser	 N/A (Gover Yes Yes Yes Yes Yes 	mment school)
4.2 4.3 4.4 4.5 4.6 5. Commu 6. Generat	DHCP Test DHCP Test Accessing WebSAMS Website WebSAMS System Login Training System Login nication and Delivery System (CDS) ion of Reports	Test 33: Test 34: Test 35: Test 36: Test 37: Test 38:	stfuser	 N/A (Gover Yes Yes Yes Yes Yes Yes Yes 	mment school)
4.2 4.3 4.4 4.5 4.6 5. Commu 6. Generat 7. Special	DHCP Test DHCP Test Accessing WebSAMS Website WebSAMS System Login Training System Login nication and Delivery System (CDS) ion of Reports Chinese Characters	Test 33: Test 34: Test 35: Test 36: Test 37: Test 38: Test 39:	stfuser	N/A (Gover	mment school) mment school) No No No No No No No No No N
4.2 4.3 4.4 4.5 4.6 5. Commu 6. Generat 7. Special 8. Applica	DHCP Test DHCP Test Accessing WebSAMS Website WebSAMS System Login Training System Login nication and Delivery System (CDS) ion of Reports Chinese Characters tion User Manual (AUM)	Test 33: Test 34: Test 35: Test 35: Test 36: Test 37: Test 38: Test 39: Test 40:	stfuser	N/A (Gover	mment school) mment school) No No No No No No No No No N
4.2 4.3 4.4 4.5 4.6 5. Commu 6. Generat 7. Special 8. Applica 9. Pre-load	DHCP Test DHCP Test Accessing WebSAMS Website WebSAMS System Login Training System Login nication and Delivery System (CDS) ion of Reports Chinese Characters tion User Manual (AUM) led Data in Training System	Test 33: Test 34: Test 35: Test 35: Test 36: Test 37: Test 38: Test 39: Test 40:	stfuser	N/A (Gover Yes Yes	mment school)
4.2 4.3 4.4 4.5 4.6 5. Commu 6. Generat 7. Special 8. Applica 9. Pre-load 9.1	DHCP Test DHCP Test Accessing WebSAMS Website WebSAMS System Login Training System Login nication and Delivery System (CDS) ion of Reports Chinese Characters tion User Manual (AUM) led Data in Training System Pre-loaded User Accounts	Test 33: Test 34: Test 34: Test 35: Test 36: Test 37: Test 38: Test 39: Test 40:	stfuser	N/A (Gover	mment school) mment school) No No No No No No No No No N
4.2 4.3 4.4 4.5 4.6 5. Commu 6. Generat 7. Special 8. Applica 9. Pre-load 9.1 9.2	DHCP Test DHCP Test Accessing WebSAMS Website WebSAMS System Login Training System Login nication and Delivery System (CDS) ion of Reports Chinese Characters tion User Manual (AUM) led Data in Training System Pre-loaded User Accounts Generate Report	Test 33: Test 34: Test 34: Test 35: Test 36: Test 37: Test 38: Test 39: Test 40: Test 41: Test 42:	stfuser	N/A (Gover Yes	mment school) mment school) No No No No No No No No No No No No



USER ACCEPTANCE TEST FORM FOR INSTALLATION OF WEBSAMS 3.0

 Remarks (if any):

 Second Sec

This is to confirm that my school has conducted the above criteria test cases completely and acknowledge that WebSAMS installation is successful

Signature of Principal	:	
Name of Principal	:	
Name of School	:	
School Number	:	Chop
Date	:	
For Office Use:		

Annex: Acceptance Test Procedures

1. WebSAMS Application

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1.1. Start-up of WebSAMS System

?	Test 1	What is the message shown in the position as masked below?
	1.	In WebSAMS server, open the folder named "WebSAMS" and execute the shortcuts in sequence as shown: Path: Desktop > "WebSAMS" folder
		→ 1. Start Apache 2. Start Database WebSAMS
	2.	The Wildfly console will be launched. Wait for a few minutes until a message is shown on the screen which indicates that the WebSAMS Production System has been started up successfully.
		3. Start Wildfly
		ebsams' 10:12:42,229 INFO [org.hibernate.dialect.Dialect] <serverservice pool<br="" thread="">79> HHH000400: Using dialect: org.hibernate.dialect.SybaseAnywhereDialect 10:12:42,295 INFO [org.hibernate.envers.boot.internal.EnversServiceImpl] (Server rService Thread Pool 79> Envers integration enabled? : true 10:12:42,593 INFO [stdout] (ServerService Thread Pool 79> WebSAMS Logging: [INFO,websams] 10:12:42,595 INFO [stdout] (ServerService Thread Pool 79> WebSAMS Logging: [INFO,websams] *****</serverservice>

1.2. <u>Start-up of WebSAMS Training System</u>

Test 2	What is the message shown in the position as masked below?				
1.	In WebSAMS server, open the folder named "WebSAMS_T" and execute the shortcuts in sequence as shown: Path: Desktop > "WebSAMS T" folder				
	→ â 1. Start Apache_t ② 2. Start Database_t ③ 3. Start Wildfly_t				
2.	The Wildfly console will be launched. Wait for a few minutes until a message is shown on the screen which indicates that the WebSAMS Training System has been started up successfully.				
	3. Start Wildfly_t				
	3. Start Wildfly_t 10:18:27,883 INFO [org.jboss.as.connector.deployers.jdbc] (MSC service thread 1 ^ -4) WFLYJCA0018: Started Driver service with driver-name = WebSAMS.ear_com.sybas e.jdbc4.jdbc.SybDriver_7_0 10:18:38,978 INFO [org.jboss.as.jpa] (ServerService Thread Pool 79> WFLYJPA0 010: Starting Persistence Unit (phase 2 of 2) Service 'WebSAMS.ear/WebSAMS.jar#websams' 10:18:31,037 INFO [org.hibernate.dialect.Dialect] (ServerService Thread Pool 79> HHH000400: Using dialect: org.hibernate.dialect.SybaseAnywhereDialect 10:18:31,085 INFO [org.hibernate.envers.boot.internal.EnversServiceImpl] (ServerService Thread Pool 79> Envers integration enabled? : true 10:18:31,174 INFO [stdout] (ServerService Thread Pool 79> WebSAMS Logging: [INFO,websams] 10:18:31,176 INFO [stdout] (ServerService Thread Pool 79> WebSAMS Logging: [INFO,websams]				

Annex: Acceptance Test Procedures

1.3. Version Upgrade of WebSAMS System



fest 4	What is the n	nessage that you	have recorded ac	cording to the foll	owing instructions?	
1.	In WebSAM	S server, shut do	wn Wildfly			
2.	Go to WebSA	AMS Download	Site			
	URL: http://	cdr.websams.edł	o.gov.hk			
3.	Go to the we	bpage of "版本升	升級 > 網上校管	系統". Find the fi	irst upgrade link.	
	Path: Version	n Upgrade				
	網上校管系統	版本升級				
	主頁>版本升級>	》網上校管系統				
	细上达签系统近		本再新,例如积武總再,	光惨措织, 市能担 4 7 7 2 8	「康結構み動。	
	進行升級前,學樣	华开殿 主要包召各式系統 咬應閱讀版本升級指南)	及相關版本說明,並按所	而垣侯組、功能提升及貝和 屬網上校管系統版本的升線	7単結構以動。 發連結進行升級。	
	计杂志语					
	注息事項 為確保網上校管	系統運作暢順,以及在	有需要時獲得迅速而適り]的技術支援,學校 <u>務必適</u>	時進行版本升級。	
	學校系統管理員	亦應監察整個過程,以	確保系統升級成功。			
	發行日期	系統現時版本	目標版本	版本說明	升級連結	
	28.01.2021	3.0.0.26112020	3.0.0.28012021	英 🕹	即時升級 🛓	
		1 37 9 1	1.1			
4.	Click "Upgra	ide Now" to lau	nch the wizard. The	ne wizard will exe	cute the upgrade	
	immediately.					

Annex: Acceptance Test Procedures

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🔬 WebSA	AMS Version Upgrade Wizard	X
OPERATION UPGRADING WEBSAMS DATABASE UPGRADING WEBSAMS APPLICATION UPGRADING WEBSAMS APPLICATION UPGRADING WEBSAMS DATABASE UPGRADING WEBSAMS REPORTS CLEARING JSP CACHE UPGRADE COMPLETED SUCCESSFULLY	Current Version: 3.0.0.31102018 Upgrade Version: Checking for WebSAMS upgrade	
	0%	
		Finish

5. Wait for a while until the upgrade process is finished and "Finish" button is activated.

If the upgrade is completed, the following screen will be shown.



Otherwise, the upgrade will be aborted by the system and the following screen will be shown.

🛃 WebSAM	IS Version Upgrade Wizard 📃 🗖 🗙
OPERATION 1. UPGRADING WEBSAMS DATABASE	STATUS DETAILS Current Version: 3.0.0.31102018 Upgrade Version: 3.0.0.29012019
2. SHUTDOWN APPLICATION SERVER 3. UPGRADING WEBSAMS APPLICATION 4. UPGRADING WEBSAMS DATABASE 5. UPGRADING WEBSAMS REPORTS 6. CLEARING JSP CACHE 7. UPGRAC Decord this sentance if a	Checking for WebSAMS upgrade Attempted upgrade to target version not allowed. Prerequisite version: 3.0.0.20112018 WebSAMS Upgrade aborted.
Record uns senence in	
	Finish

•	Test 5	What is the WebSAMS Version shown in the position as masked below?
	1.	After the Test 4, start the Wildfly again.
	2.	After the Wildfly has been started up, open the Internet Explorer and go to the WebSAMS
		login page.


1.4. Account Name & Password

Test 6	Can you successfully log into the system with the Administrator account?
1.	In the WebSAMS server, open an Internet Explorer and go to the WebSAMS login page.
2.	Log into the "sysadmin" account.

1.5. Software Components

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1.	Open the window "httpd.exe Properties" in WebSAMS server. Path: Right click on the file "D:\WebSAMS3.0\Apache24\bin\httpd.exe" and click "Properties" > "Details"
	Application Tools bin View Manage
	Name httpd.exe Properties ico General Compatibility Security Details Previous Versions ab ab Property Value Description cation File description File description File description File description File version 2.4.39.0 Product version Copyright Copyright Copyright 2019 The Apache Software F Size 28.0 KB
	db Date modified 30/05/2019 11:07 ■ ht Language English (United States) cation

-	Administrator: Command Prompt - d:\WebSAMS3.0\wildfly-15.0.0.Final\bin\sta 💻 🗖
	JBoss Bootstrap Environment
3	JBOSS_HOME: "D:\WebSAMS3.0\wildfly=15.0.0.Final"
	JAVA: "D:\Java\zulu11.2.3-jdk11.0.1\bin\java"
et	JAUA_OPTS: "-Dprogram.name=standalone.bat -server -Xms4096M -Xnx4096M -XX:Ma aspaceSize=1024M -XX:+UseParalle1GC -XX:NewRatio=3 -noverify -Djava.net.pref
IP .b	v4Stack=true -Djboss.modules.system.pkgs=org.jboss.bytemanadd-exports=ja ase/sun.nio.ch=ALL-UNNAMEDadd-exports=jdk.unsupported/sun.misc=ALL-UNNAMI add-exports=jdk.unsupported/sun.reflect=ALL-UNNAMEDadd-modules=java.se"

	(WildFly Core 7.0.0.Final)
Pr	ess any key to continue 🚆



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- Test 10 Does the application "SQL Anywhere 16" exist?
 - 1. In WebSAMS server, open the "Programs and Features" window and find the application "SQL Anywhere 16".

Path: Start > Control Panel > Programs and Features

825		Programs and	reatures		~	
E) 💿 👻 🕇 🧾 🕨 Control F	anel + All Control Panel Items + Programs and Features		~ ¢	Search Progra	ms and Featu
•	Control Panel Home View installed updates Turn Windows features on or off	Uninstall or change a program To uninstall a program, select it from the list and then Organize - Uninstall Change Repair	click Uninstall, Change, or Repair.			8==
		Name	Publisher	Installed On	Size	Version
		Adobe Reader XI (11.0.06)	Adobe Systems Incorporated	06/02/2014	129 MB	11.0.06
		Microsoft Visual C++ 2005 Redistributable	Microsoft Corporation	13/05/2014	4.84 MB	8.0.61001
		Microsoft Visual C + + 2005 Redistributable (x64)	Microsoft Corporation	13/05/2014	6.83 MB	8.0.61000
		Microsoft Visual C++ 2008 Redistributable - x64 9.0.30	Microsoft Corporation	29/09/2013	13.2 MB	9.0.30729.6
		Microsoft Visual C + + 2008 Redistributable - x86 9.0.30	Microsoft Corporation	29/09/2013	10.1 MB	9.0.30729.4
		Microsoft Visual C++ 2010 x86 Redistributable - 10.0	Microsoft Corporation	13/05/2014	11.1 MB	10.0.40219
		MSXML 4.0 SP2 Parser and SDK	Microsoft Corporation	13/05/2014	2.51 MB	4.20.9818.0
		🗲 SAP Crystal Server 2013 SP01	SAP	20/05/2014		14.1.1.1036
		SQL Anywhere 12 Deployment	iAnywhere Solutions	20/05/2014	186 MB	
		😴 SQL Anywhere 16	SAP AG	20/05/2014	583 MB	16.0.1324
		🖤 Symantec Endpoint Protection	Symantec Corporation	31/10/2013	847 MB	12.1.2015.2
		VMware Tools	VMware, Inc.	30/10/2013	54.7 MB	9.4.0.128054
		Image: WebSAMS	Education Bureau	21/05/2014	801 MB	1.00.0000

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- Test 11 What is the Sybase Central version shown in the position as masked below?
 - In WebSAMS server, launch the Sybase Central

 Path: Start > Sybase Central (64-bit)

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COP.

2. Click Help > About Sybase Central



Test 12 Does the application SAP Crystal Server 2013 exist?

1. In WebSAMS server, open the "Programs and Features" window and find the application "SAP Crystal Server 2013".

Path: Start > Control Panel > Programs and Features

Control Panel Home	Uninstall or change a program					
View installed updates	To uninstall a program select it from the list an	d then click Uninstall Change or Rena	dr.			
Reatures on or	to diminante program, selecci in nom the instan	a alen ellek onlinkali, enange, or hepe				
off	Organize 👻 Uninstall/Change				800 ·	
	Name	Publisher	Installed On	Size	Version	
	Microsoft Visual C++ 2005 Redistributable	Microsoft Corporation	18/11/2013	4.84 MB	8.0.61001	
	Microsoft Visual C++ 2005 Redistributable (x64)	Microsoft Corporation	18/11/2013	6.83 MB	8.0.61000	
	Microsoft Visual C++ 2008 Redistributable - x64 9	.0.30 Microsoft Corporation	29/09/2013	13.2 MB	9.0.30729.6161	
	Microsoft Visual C++ 2008 Redistributable - x86 9	.0.30 Microsoft Corporation	29/09/2013	10.1 MB	9.0.30729.4148	
	Microsoft Visual C++ 2008 Redistributable - x86 9	0.30 Microsoft Corporation	06/05/2019	10.1 MB	9.0.30729.6161	
	Microsoft Visual C++ 2010 x64 Redistributable -	10.0 Microsoft Corporation	06/05/2019	14.6 MB	10.0.40219	
	Microsoft Visual C++ 2010 x86 Redistributable -	10.0 Microsoft Corporation	06/05/2019	15.0 MB	10.0.40219	
	Microsoft Visual C++ 2015-2019 Redistributable (x64) Microsoft Corporation	08/10/2019	25.0 MB	14.23.27820.0	
	MSXML 4.0 SP2 Parser and SDK	Microsoft Corporation	18/11/2013	2.51 MB	4.20.9818.0	
	SAP Crystal Server 2013 SP4	SAP	17/05/2018		14.1.4.1327	
	SQL Anywhere 12 Deployment	iAnywhere Solutions	17/05/2018	186 MB		
	SOL American 16	SADAG	07/11/2013	593 MB	16.0.1324	

Test 13 What is the file version of the Crystal Server 2013 file "crystalras.exe"? 1. Open the window "crystalras.exe Properties" in WebSAMS server. Path: Right click on the file "C:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0/win32 x86/crystalras.exe" and click "Properties" > "Details" win32_x86 _ 🗆 X]] **∓** | Application Tools ~ 🕜 Share View Manage Home 💿 👻 🛧 🌗 « SAP BusinessObjects 🔸 SAP BusinessObjects Enterprise XI 4.0 🔸 win32_x86 v ♂ Search win32_x86 0 € 📔 java Name 1 crystalras.exe Properties 📕 Languages CrystalEnterp Digital Signatur Previous Version Gen Compatibility Details _ LCM_repository 🚮 crystalras.exe 40 Security logging 🚳 crystalras_res 퉬 managed Property Value 34 🚳 cs_adm_plugir Description 퉬 packages 🚳 cs_celogon.dl File description Report Application Serve 🍌 ppms s_cs_cInt.dll 10 퉬 reposcan 퉬 Samples Application 🚳 cs_core.dll Product name SBOP Report Application Server sen/emid

- Test 14Does the Anti-Virus software exist?1.Click "Start" > "Control Panel" > "Programs and Features"2.Locate the anti-virus software in WebSAMS server.
 - 1.6. Configuration of the Operating System

<i>`</i> ?"	Test 15	What is the capacity of C, D and E drive of the WebSAMS Server?
	1.	Click "Computer" of the WebSAMS server. Path: Start -> Computer
		Favorites A Hard Disk Drives (3) Desktop Local Disk (C:) Dewrloads 61.4 GB free of GB Recent places New Volume (E:) Documents 40.4 GB free of GB
Ŧ	Test 16	What is the File System Type as masked in the screen below?
	1.	Click "Computer" of the WebSAMS server. Path: Start -> Computer
	2.	Right click "Local Disk (C:)" and select "Properties".
		Shadow Copies Previous Versions General Tools Hardware Sharing Security Type: Local Disk File system: Image: Used space: 41,052,807,168 bytes 38.2 GB Free space: 65,952,272,384 bytes 61.4 GB Capacity:
(P	Test 17	What is the Workgroup as masked in the screen below?
	1.	Right click "Computer" and select "Properties" in the WebSAMS server. Path: Start -> Computer
	2.	Click "Advanced system settings" in the 'System' window.
	3.	Select "Computer Name" tab.
		System Properties Computer Name Hardware Advanced Remote Image: Windows uses the following information to identify your computer on the network. Windows Computer description: Image: The production Server'' or the production Server'' or the production Server'' or the production Server''. Full computer name: WS3-147 Workgroup: Image: The production Server'' or the production Server'' or the production Server'' or the production Server'' or the production Server''.

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Test 18	Record the value of "Location" in the screen Region.	
1.	In WebSAMS server, open the "Region" window. Path: Start > Control Panel > Region	
2.	Select "Location" tab.	Record this
	Formats Location Administrative	sentence
	for a particular location. Some services provide local information such as performance and weather.	

1.7. Internet Connectivity

Test 19	Can the website be loaded successfully?
1.	Open Internet Explorer in the WebSAMS server and go to the EDB website. URL: https://www.edb.gov.hk/

1.8. <u>Scheduled Backup Job</u>

3	Task Scheduler	
Eile Action View Help		
(€) Task Scheduler (Local)	Task Scheduler Summary (Last refreshed: 21/05/2014 17:25:33) Task Name Run Result Run Start Run End Tr Active Tasks Active Tasks are tasks that are currently enabled and have not expired.	Actions Task Scheduler (Local) Connect to Another Compute Create Basic Task © Create Task Import Task Import Task Import Task Import Task Import Task Import Task Consect of task Import Task </th
	Summary: 26 total Task Name Next Run Time Triggers At WebSAMS pre, backup At every day At Data Integrity Scan 17/06/2014 19:42:29 Multiple triggers dafin Custom event filter RindinaWarkItemOueueHandler III At system startun > >	

Test 21	Record the name of the 3 scheduled tasks (daily backup, weekly backup and monthly backup) for backing up the system to the NAS/DAS.
1.	Launch the application for system backup in WebSAMS server.

2. Open the summary that listed all scheduled backup tasks and record the name of the required tasks:

An example screen is shown for reference as follows:

🖗 Fun Nore 🛛 c <mark>h</mark> a Define New	Remove Charge Sch	nduler 🞯 Edit Settings 🧬	Edz Offsite	
Name	Drives	Destination	Last Run	Next Run
	(C1); New Volume (D.	1192.168.1.11share	-	Tomorrow 0.15
	(C1); New Volume (D.	10192.168.1.1\share		1 January 1:15
	(CQ: New Volume (D.	0192.168.1.1\share	*	Sunday 0:45

2. HTTP Server

2.1. Environment of the HTTP Server



- rpm -qa | grep SProtectLinux-3.0
- 3. ITED Workstation

3.1. Accessing WebSAMS Website



3.2. DNS Test

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Test 27	Record the nslookup result.
	(For checking whether the WebSAMS domain name is able to be resolved to the private IP address of the HTTP server)
1.	In an ITED workstation, open the DOS command window.
	Path: Start > run > type "cmd"
2.	Type the command: nslookup <websams domain="" name="">></websams>
	e.g.: nslookup websams.abc.edu.hk

3.3. <u>WebSAMS System Login</u>

Test 28	Can you successfully login to the WebSAMS System?
1.	Open an Internet Explorer and go to the WebSAMS website.
2.	Log into the "sysadmin" account.

3.4. Training System Login

Fest 29	Can you log into the Training System successfully?
1.	Open an Internet Explorer and go to the Training System website.
	Note: If the URL of your webSAMS System is "http://websams.xxx.edu.hk", then the URL

for the Training System should be "https://websams.xxx.edu.hk:7010".

2. Log into the "sysadmin" account.

4. WebSAMS Workstation

4.1. SAP Crystal Report 2013

6	Test 30	Can you see the application interface as shown in the screen below?
	1.	Select a workstation within the WebSAMS segment.
	2.	Open the Crystal Reports. Path: Start > All Programs > SAP Business Intelligence > SAP Crystal Reports 2013 > SAP Crystal Reports 2013
		/ richlohts / Ker/Resurces / exermine /
(F	Test 31	What is the file version of the Crystal Report Designer file "crw32.exe"?
	1.	Open the window "crw32.exe Properties" in workstation. Path: Right click on the file "C:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\win32_x86" and click "Properties" > "Details" **********************************

4.2. ODBC Test

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Test 32	What is the message as masked in screen below?
	(All the three accounts of genuser, fmpuser and stfuser should be tested one by one. fmpuser account is not applicable to government school.)
1.	Open the ODBC Configuration window of websams in System DSN tab. Path: Start > Control Panel > Administrative Tools > Data Source

- 2. In Login tab, input the user name (e.g. "genuser") with the password given.
- Go back to ODBC tab, click "Test Connection".

Data source name:	websams		
Description:			Record the
Isolation level: Note	<u>.</u>	×	message
Microsoft a			L
Delphi appl			
Suppress fe			
Prevent driv	ОК		
Delay Auto	havior		
	If required	Alwave	

4.3. DHCP Test

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Test 33	What is the IP address as masked in the screen below?
1.	Select a workstation within the WebSAMS segment and reboot it.
2.	After rebooting, open the DOS command window. Path: Start > run > type "cmd"
3.	Type "ipconfig" and press enter.
	C:\Windows\system32\cmd.exe
	Microsoft Windows [Version 6.1.7601] Copyright (c) 2009 Microsoft Corporation. All rights reserved. C:\Windows\system32>ipconfig
	Windows IP Configuration Record this only
	Ethernet adapter Local Area Connection: Connection-specific DNS Suffix Link-local IPv6 Address

4.4. Accessing WebSAMS Website

Test 34	Can you access the WebSAMS website successfully?
1.	Select a workstation within the WebSAMS segment.
2.	Open an Internet Explorer and go to the WebSAMS website by entering the URL for the WebSAMS of the school.



4.5. WebSAMS System Login

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Test 35	Can you successfully log into the WebSAMS System?
1.	In a workstation in WebSAMS segment, open an Internet Explorer and go to the WebSAMS website.
2.	Log into the "sysadmin" account.

4.6. Training System Login

Test 36	Can you log into the Training System successfully?
1.	In a workstation in WebSAMS segment, open an Internet Explorer and go to the Training System website.
	Note: If the URL of your WebSAMS System is "https://websams.xxx.edu.hk", then the URL for the Training System should be "https://websams.xxx.edu.hk:7010".
2.	Log into the "sysadmin" account.

5. Communication and Delivery System (CDS)

Test 37	Can you send CDS message successfully?
1.	Log into the WebSAMS System in any workstation.
2.	Go to "Send WebSAMS Version Number" screen. Click "Start" to send Version Number. Path: CDS > Send WebSAMS Version

	Student Info E	[S-CDS13-01] CDS > Send Web	SAMS Version Number		
	School Managen	Current WebSAMS Version	Number	3.0.0.	
	Student	CDS Destination ID		8881670001331	
	Attendance	SCRN		1125930001211	
	Student Activitie			1125930001221 1125930001331	
	Award & Punishi				
	Assessment	Click "Start" to send Version	n Number		
	> SLP	Start			
	Special Assessm	Guit			
	Staff Deploymen				
	💎 CDS				
2	Co to "Outgoing N	laggago" ganaan Cliak t	ha link and than an	awat the masses	
5.		nessage screen. Click t		crypt the message.	
	Path: CDS > Outg	going Message > Mainta	in Message		
	Note: If an alert m	essage reminding you to	o register the CDS i	s shown, you can simply igno	re
	1t.				
	• Home	[S-CDS01-01] CDS > Outgoing Messa	ne > Maintain Message		
	Student Info E	The system registration is revoked, trans	mission for general message is n	ot allowed. Please go to [CDS > Registration] to reg	gister a
	School Managen	Maintain Message Process Mes	sage Upload Data		
	▶ Student			Page 1 V of 18 V Bo	ottom
	Attendance	Message Description	Creation Ack Time Su	biect Type Party Priority School Ow	mer
	Student Activitie	Ready SCRN, WebSAMS	22/05/2014 SAMS	Data EDB Normal sysad	dmin
		Version	10:30 AM vers	n (DAT)	
	> SI D		(AI)		
	🦉 View Outgoing Message - In	ternet Explorer	X		
	Attp://10.15.35.147/cds/vie/	vOutgoingMsg.do?msgID=7807			
	IS CDS04 021 CDS > Outroing	feenage > Maintain Message			
	View Outgoing Messag	2			
	Description	View Outgoing Message - Internet Explore	er 🖂		
	SCRN, WebSAMS Version	about:blank			
	Type (Code)				
	Message Status	-CDS01-05] CDS > Outgoing Message > Encr	yption		
	Creation Time	ncryption			
	Acknowledge Receipt	lease input the school key. ffective Period : 05/12/2013 - 23/06/2014			
	Priority	1001101 1 0100 . 00112/2010 20100/2014			-,
	School Reference	chool Key 2.	Input the key p	assword (Please ask the	
	CDSVERS1.DAT		school user to i	nput the key password)	
	SCRN	Encrypt Close			
	Encrypt Zelete	lemarks:			
		ncryption of messages.	between each batch of individ	ruai	
			3 Click "End	prynt" to send this	
	1. Click "E	ncrypt" button	J. CHCK LIN	crypt to send this	
			×		
		🔍 100%	• -		
	6				
4.	The message statu	s should become "Proce	ssing".		
	The message state		bonng i		
	[S-CDS01-01] CDS > Out	going Message > Maintain Mess	age		
	Encryption is successful!	Message(s) is sending at backend.			
	Hamtam Hessage	rocess nessage opioad bai	Ld		
				Page 1 v of 12 V Bottom	
	Message	Description Creation Ac	k Time Subject Type	Party Priority School Owner	
		IIme -	(Code) (Code) SAMS Data	EDB Normal sysadmin	
		ersion 10:50 AM	version (DAT)	System 1	
			setup		
5.	Refresh the screen	by clicking "CDS > Ou	tgoing Msg", until	the status has become "Sent".	
		-			

School Manager	Mai	ntair	n Message	Process Messa	age Uploa	d Data						
> Student									K Pa	age 1	of 12	Bot
Attendance			Mossano		Creation		Subject	Type			School	
Student Activitie			Status	Description	Time -	Ack Time	(Code)	(Code)	Party	Priority	Reference	Own
> Award & Punishi	U		Sent	SCRN, WebSAMS	22/05/2014		SAMS	Data	EDB	Normal		sysadn
Assessment				Version	10:50 AM		version setup	(181)				
> SLP							(AI)					
Special Assessm	Ű		Received	RESEND:SCRN	16/05/2014	16/05/2014	SAMS	Data	EDB	Normal	-	sysadı
Staff Deployment				WebsAMs Version	12:04 PM	12:05 PM	version sctup	(DWI)				
- CDC							(AI)					
UDS	U		Send	SCRN, WebSAMS	16/05/2014	-	SAMS	Data	EDB	Normal		sysadn
 Registration 			Fail	Version	07:25 AM		version	(DAT)				
Outgoing Msg							Secup					

6. Generation of Reports

Test 38	Can you generate and preview the report successfully?						
1.	Log into the WebSAMS System in any workstation.						
2.	Select "Report" in Student module or in other modules which support "Report" function.						
3.	Select the appropriate Category and Language.						
4.	Click the "Search" button to view the list of reports under the Category selected.						
5. Click on the Report name to view the corresponding templates.							
6.	Click on the appropriate template for producing the report. [S-STU08-01] Student > Report						
	Category Language Class List						
	Search Reset						
	Report Name (ID) Class List (with Age and Guardian English Name) (R-STU007-E) Class List (with English Name, and Sex) (R-STU004-E) Class List (with English Name, Chinese Name and Sex) (R-STU005-E) Class List (with English Name, Chinese Name and Sex) (R-STU005-E) Class List (with English Name, Chinese Name, Sex, Nationality, Ethnicity and Spoken Language at Home (R-STU076-E) Class List (with English Name, Sex and School House) (R-STU006-E) Class List (with Father and Mother Contact) (R-STU010-E) Class List (with STRN, DOB and Guardian English Name) (R-STU009-E) Class List (with STRN, DOB and Guardian English Name) (R-STU008-E)						
	Template Description Type Creator Creation Time						
	Built-in Template Built-In						
7.	Click "Preview & Print".						
	[S-STU08-08] Student > Report						
	Class List (with STRN, DOB and Guardian English Name) (R-STU008-E) :- Built-in Template Please input the print criteria.						
	School Year 2013 V School Level Secondary						
	School Session Whole Day Class Level Secondary 1						
	Class Name						
	Subject Group						
	Format PDF						
	🗊 Preview & Print) 🙀 To File) 🕑 Reset) < Back						
8	The report will be shown						
0.							

R-STU008-E			LUI KEE GOVE	RNMENT SECO	DARY SCHOOL				Date: 22.
			Class List (with STR	N, DOB and	Quardian Engli	ish Name)			
School Year: 2013/201	4								page
School Level: Second	ary School Se	ssion:	Whole Day Cla	ss Teacher:	STAFF FIVE	THREE ZERO			
Class Level: Seconda	ary 1 Class Nam	e: 1A							
No English Name	Chinese	Sex	Subject Group	STRN	DOB	House	Phone No	Guardian	Emerge
	Name								Teleph
40 afduad		M		J598*****	11/09/2001				

7. Special Chinese Characters

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Test 39	Can you print the report with the Chinese characters displayed correctly?						
	(This test is to verify the successful installation of the Dynafont font set in WebSAMS)						
1	(This test is to verify the successful instantion of the Dynatone font set in (verify in))						
1.	Log into the webSAMS in any workstation.						
2.	Go to "Create Individual Account" screen.						
	Path: 'Security > Access Control > User Account > Create Individual Account'						
3	Enter the two special Chinese characters 沈傑 as "Chinese User Name", either by						
5.	i) some the two words directly from the file Test 20/($Chinese Chen)$ DTE OD						
	1) copy the two words directly from the file <i>Test39</i> (<i>Chinese Char</i>). <i>RTF</i> , OK						
	n) enter the word by (倉韻: EE) and (倉韻: OYQD).						
	After that, fill in relevant fields and save the record.						
	Student Info E						
	School Managen						
	User Group(s) selected successfully. To save the Group information of this user, please click on the "Save" button.						
	Attendance Search User Account Create Individual Account Create Student/Parent Account						
	School Level/Session (* For data access control for Staff and Others accounts only) School Level 411						
	Award & Punish User Type Staff Student Parent Others						
	> Assessment User Code						
	SLP * "Staff Code" for "Staff" User Type, "Student Registration No." for "Student / Parent" User Type						
	Special Assessm User ID (* For login use) tester						
	Staff Deploymen Password						
	CDS Password Expiry						
	HKAT Never Expire Password Expiry Date 30/05/2014						
	Applied Learning English User Name tester						
	▶ HKEAA Chinese User Name 泳傑						
	> SPA Login Language Chinese V						
	Report Managen *Actual access time is also subject to "System Access Time" setting.						
	Data Managemer Monday - Saturday O Co V : 00 V To 23 V : 00 V O 24 Hours						
	➤ Timetabling Sunday Image: Object of the second secon						
	Code Manageme Account Expiry Account Expiry Date						
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	Special Tea						
	User Accou Internet Access Time Profile STAFF_OR_OTHERS						
	Loc Access Attach Profile Detach Profile						
	Internet Act Reset Reset Save						
4.	Go to "Security > Report & Log > Report". Choose "Chinese" and click Search						
	Salact "P. SEC002 C" report to view the characters						
	N (The state of t						
	Note: The report should be previewed in PDF format.						

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▶ <u>在Ⅰ稅營業統網絡」以外可使用的功定</u> ▶ <u>存取時間概況內用戶名單(R-SEC011-C</u>	<u>斉軍 (R-SEC007-C)</u>]		
▷成功登人系統紀錄 (R-SEC004-C) ▷用戶組別內用戶名單 (R-SEC001-C)			
▶ <u>用戶詛別仔取確限 (R-SEC003-C)</u> ▼ <u>用戶資料報告 (R-SEC002-C)</u>			
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<u>系統提供範本</u> 	Built-In		
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8. Application User Manual (AUM)

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9. Pre-loaded Data in Training System

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9.1. Pre-loaded User Accounts

Test 41Can you log into the system successfully with those 3 accounts?1.Log into the WebSAMS Training System on any workstation by using the preloaded user
accounts with the user ID of "user01", "user02" and "user03" one by one.

9.2. Generate Report

Test 42	Can you preview the report successfully?
1.	Log into the WebSAMS Training System on any workstation.
2.	Select "Report" in Student module or in other modules, which support "Report" function.
3.	Select the appropriate Category and Language.
4.	Click the "Search" button to view the list of reports under the Category selected.

5.	Click on the Report name to view the corresponding templates.							
6.	Click on the appropriate template for producing the report. [S-STU08-01] Student > Report							
	Category Class List Language e English Chinese							
	Search Reset							
	Report Name (ID) >Class List (with Age and Guardian English Name) (R-STU007-E) >Class List (with English Name, Age and Sex) (R-STU005-E) >Class List (with English Name, Chinese Name and Sex) (R-STU005-E) >Class List (with English Name, Chinese Name, Sex, Nationality, Ethnicity and Spoken Language at Home (R-STU076-E) >Class List (with English Name, Sex and School House) (R-STU006-E) >Class List (with Father and Mother Contact) (R-STU010-E) >Class List (with STRN, DOB and Guardian Chinese Name) (R-STU009-E) *Class List (with STRN, DOB and Guardian English Name).(R-STU008-E)							
	Template Description Type Creator Creation Time							
	Built-in Template Built-In							
7.	Click "Preview & Print" [S-STU08-08] Student > Report Class List (with STRN, DOB and Guardian English Name) (R-STU008-E) :-							
	Please input the print criteria. School Year 2019 School Level Secondary School Session Whole Day Class Level Secondary 1 Class Name 1A Subject Group All Print Departed Students Include "Printing in Report" indicators are checked Format PDF							
	🗊 Preview & Print) 🕞 To File) 🖓 Reset) < Back							
8.	The report will be shown.							
0.	R-STUDOR-E Date: 08/11/2019 Class List KEE GOVERNMENT SECONLARY SCHOOL Class List (vith STRM, DOB and Guardian English Kame) School Year: 2019/2020 page: 1 of 1 School Year: 2019/2020 page: 1 of 1 School Year: 2019/2020 Class Teacher: STAFF SIX EERO ZERO Class Level: Secondary 1 Class Name: 1A KABRY JAMES POTERS No English Name Chinese Bex Subject Group STRM DOB Rouse Phone No Guardian Emergency 53 Chan F R 1000000 Class Teacher: 20/09/2000 Class Teacher 20/09/2000 Class Teacher 20/09/2000 Class C							

9.3. FMP Accounting Period

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Test 43	What is the accounting period as masked in screen below?
1.	Log into the WebSAMS Training System on any workstation with the preload account "fmpuser01".
2.	Go to "FMP > Common Setup > School Accounting Information".

	Home	[S-FC S01-01] FMP > Common Setup > School Accounting	Information
	 Common Setu 	Search School Accounting Information	112593
	Sch Account	School Name	LK Through-train School
	A/C Year Ma COA Mainte	Accounting Period Sch Level/Session	Primary/AM 🗸
	Voucher Ty Location Ma	Search	
	Report		
3.	The correct accounting	ng period will be displayed on the main screen.	

- End -

Appendix 6: Troubleshooting

Troubleshooting

1. Special Chinese characters cannot be displayed correctly in PDF report.

The new Dynafont font set is not able to take effect in the Server. You may need to perform following steps to let the Dynafont font set effective.

- i. Reboot the server and press F8 during startup to enter Safe Mode
- ii. Open the DOS command window. Path: Search > Command Prompt;



iii. Type the command: "takeown /f C:\Windows\Fonts\mingliu.ttc"



iv. Type the command: "icacls C:\Windows\Fonts\mingliu.ttc /grant administrators:F"



v. Type the command: "ren C:\Windows\Fonts\mingliu.ttc.bak mingliu.bak"



vi. Reboot the server to Normal Mode.

Windows Server 2012 R2 - OS Hardening Guide

A. Local Security Policy

Go to Control Panel > Administrative Tools > Local Security Policy

A.1 Account Policy

A.1.1 Password Policy

Policy	Security Setting
Enforce password history	5 password remember
Maximum password age	30 days
Minimum password age	3 days
Minimum password length	8 characters
Password must meet complexity requirement	Enable
Store password using reversible encryption for all users in the domain	Disable
uie domain	

A.1.2 Account Lockout Policy

Policy	Security Setting
Account lockout duration	30 minutes
Account lockout threshold	3 invalid logon attempt
Reset account lockout counter after	30 minutes

A.2 Local Policy

A.2.1 Audit Policy

Policy	Security Setting
Audit account logon events	Failure, Success
Audit account management	Failure, Success
Audit directory service access	No Audit
Audit logon events	Failure, Success
Audit object access	No Audit
Audit policy change	Failure, Success
Audit privilege use	Failure
Audit process tracking	No Audit
Audit system events	Failure

A.2.2 Security Options

Policy	Security Setting
Accounts: Guest account status	Disabled
Accounts: Rename guest account	Assign any name other than the default one. For example: abc123
Audit: Shut down system immediately if unable to log security audits	Disabled
Domain member: Digitally encrypt or sign secure channel data (always)	Enabled
Domain member: Digitally encrypt secure channel data (when possible)	Enabled
Domain member: Digitally sign secure channel data (when possible)	Enabled
Interactive logon: Do not display last user name	Enabled
Interactive logon: Message text for users attempting to log on	"Authenticated User Only"
Interactive logon: Message title for users attempting to log on	"WebSAMS"
Interactive logon: Number of previous logons to cache (in case domain controller is not available)	0 logons
Interactive logon: Prompt user to change password before expiration	5 days
Microsoft network server: Digitally sign communications (always)	Enabled
Microsoft network server: Digitally sign communications (if client agrees)	Enabled
Recovery console: Allow automatic administrative logon	Disabled
Recovery console: Allow floppy copy and access to all drives and all folders	Disabled
System cryptography: Use FIPS compliant algorithms for encryption, hashing, and signing	Not Defined

Note: A full list of the security options and the corresponding default values are shown in Appendix 8.

B. Set Remote Desktop with Network Level Authentication

Go to the "System Properties" screen and check the option as shown to allow connect remote desktop by NLA.

2	System	
🍥 🍥 = 🛧 🕎 🕨 Contro	'anel → System and Security → System v C	Search Cont
Control Panel Home	View basic information about your computer	
💔 Device Manager	Win System Properties	2
Remote settings Advanced system settings	Computer Name Hardware Advanced Remote	
	Remote Assistance	
	Syst Allow Remote Assistance connections to this compute	er -
	Cor Choose an option, and then specify who can connect.	
	<u>D</u> on't allow remote connections to this computer	
	Allow remote connections to this computer	
	✓ Allow connections only from computers running Re Desktop with <u>Network Level Authentication</u> (recom Win	mote mended)
	Help me choose	Select Users
See also	OK Cancel	Apply
Action Center		

C. Enable Screen Saver Timeout

Go to Start > Control Panel > Appearance > Display > Change screen saver". Select Wait: "10 minutes" and Check "On resume, display logon screen"



D. Enable Windows Firewall

To provide better security protection, the firewall is recommended to be enabled in order to restrict the inbound ports that go into WebSAMS server. An example using "Windows Firewall" is as shown:

(1) Go to "Control Panel > System and Security > Windows Firewall" and click "Advanced settings" at left menu.



(2) Click "Inbound Rules" at left menu. Then click "New Rule" at the right menu to create a firewall rule for WebSAMS Server.

<u>File Action View Help</u>							
🗧 🐟 🛛 🔂 🔂 🔂							
Windows Firewall with Advance Inbound Rules						Actions	
Inbound Rules Name		Group	Profile	Enabled	Action ^	Inbound Rules	-
Outboand Rules	ntent Retrieval (HTTP-In)	BranchCache - Content Retr	All	Yes	Allow	New Rule	
BranchCache Ho	sted Cache Server (HTT	BranchCache - Hosted Cach	All	Yes	Allow ≡	-	
🖉 🐨 🕅 🖉 BranchCache Pe	er Discovery (WSD-In)	BranchCache - Peer Discove	All	No	Allow	Y Per by Profile	
COM+ Network	Access (DCOM-In)	COM+ Network Access	All	No	Allow	r by State	0
COM+ Remote	Administration (DCOM-In)	COM+ Remote Administrati	All	No	Allow	by Group	9
	tion Unreacha	Core Networking	All	Yes	Allow		
Windows Firewall with Ad	vanc tion Unreacha	Core Networking	All	Yes	Allow		
	c Host Config	Core Networking	All	Yes	Allow	in	
🔣 Inbound Rules	c Host Config	Core Networking	Action	16			
	Group Mana	Core Networking	/icuoi				
Cutbound Rules	S (TCP-In)	Core Networking	Inho	und Pr	iloc		
	v6-ln)	Core Networking	IIIDO		lies		itent Retriev
The Connection Security R	ules st Listener Do	Core Networking		lew Rule			
Manitaring.	st Listener Qu	Core Networking		New Kule			
	st Listener Rep	Core Networking		ilter bu [Drofile		
	st Listener Rep	Core Networking	ЧГ	inter by i	rome		
Core Networking	 Neighbor Discovery A 	Core Networking		ilter bu (Ctata .		
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(3) At the "New Inbound Rule Wizard" and you will see the "Rule Type" page. Click the option "Port" and then click "Next".

@	New Inbound Rule Wizard
Rule Type Select the type of firewall rule	o create.
Steps: Rule Type Protocol and Ports Action Profile Name	What type of rule would you like to create? Pogram Rule that controls connections for a program. Port Due street excertain connections for a TCP or UDP port. Prodefined: BranchCache - Content Retrieval (Uses HTTP) v Rule that controls connections for a Windows experience. Qustom Custom rule.
	< Back Next > Cancel

- (4) At the "Protocol and Ports" page, select "TCP" and "Specific local ports".
 - At the "Specific local ports:", type in the inbound ports that WebSAMS Server allow, including 80, 443, 8009, 7009, 3268, 7010, 7268 and separate them by comma.

Protocol and Ports	
Specify the protocols and ports to	which this rule applies.
Steps:	
Rule Type	Does this rule apply to TCP or UDP?
Protocol and Ports	• <u>I</u> CP
Action	O <u>U</u> DP
Profile	
Name	Does this rule apply to all local ports or specific local ports?
	O All local ports
	Specific local ports: 80,443,8009,7009,3268,7010,7268
	Example: 00, 449, 3000 3010
	< Back Next > Cancel
	Country Country

(5) At the "Action" page, select "Allow the connection" and click "Next".

Action				
Specify the action to be taken v	when a connection matches the conditions specified in the rule.			
Steps:				
Rule Type	What action should be taken when a connection matches the specified conditions?			
Protocol and Ports	Allow the connection			
Action	This includes conceptions that are protected with Psec as well as those are not.			
Name	 Allow the connection if it is secure This includes only connections that have been authenticated by using IPsec. Connections will be secured using the settings in IPsec properties and rules in the Connection Security Rule node. Customize Customize Block the connection 			
	< Back Next > Cancel			

(6) At the "Profile" page, check all options and click "Next".

@	New Inbound Rule Wizard
Profile	
Specify the profiles for which t	his rule applies.
Steps:	
Rule Type	When does this rule apply?
Protocol and Ports	
 Action 	✓ Domain
Profile	Applies when a computer is connected to its corporate domain.
 Name 	Private Applies when a computer is connected to a private network location, such as a home or work place. Public Applies when a computer is connected to a public network location.
	< Back Next > Cancel

(7) Finally, define the name as "websams" and all are done!

Appendix 8: Windows Server 2012 R2 – Default Value of Security Options

Windows Server 2012 R2 – Default Value of Security Options

Default value of security options of Windows Server 2012 R2

	Policy	Security Setting
(1)	Accounts: Administrator account status	Enabled
(2)	Accounts: Block Microsoft accounts	Not Defined
(3)	Accounts: Guest account status	Disabled
(4)	Accounts: Limit local account use of blank passwords to console logon only	Enabled
(5)	Accounts: Rename administrator account	Administrator
(6)	Accounts: Rename guest account	Guest
(7)	Audit: Audit the access of global system objects	Disabled
(8)	Audit: Audit the use of Backup and Restore privilege	Disabled
(9)	Audit: Force audit policy subcategory settings (Windows Vista or later) to override audit policy category settings	Not Defined
(10)	Audit: Shut down system immediately if unable to log security audits	Disabled
(11)	DCOM: Machine Access Restrictions in Security Descriptor Definition Language (SDDL) syntax	Not Defined
(12)	DCOM: Machine Launch Restrictions in Security Descriptor Definition Language (SDDL) syntax	Not Defined
(13)	Devices: Allow undock without having to log on	Enabled
(14)	Devices: Allowed to format and eject removable media	Not Defined
(15)	Devices: Prevent users from installing printer drivers	Enabled
(16)	Devices: Restrict CD-ROM access to locally logged-on user only	Not Defined
(17)	Devices: Restrict floppy access to locally logged-on user only	Not Defined
(18)	Domain controller: Allow server operators to schedule tasks	Not Defined
(19)	Domain controller: LDAP server signing requirements	Not Defined
(20)	Domain controller: Refuse machine account password changes	Not Defined
(21)	Domain member: Digitally encrypt or sign secure channel data (always)	Enabled
(22)	Domain member: Digitally encrypt secure channel data (when possible)	Enabled
(23)	Domain member: Digitally sign secure channel data (when possible)	Enabled
(24)	Domain member: Disable machine account password changes	Disabled
(25)	Domain member: Maximum machine account password age	30 days
(26)	Domain member: Require strong (Windows 2000 or later) session key	Enabled
(27)	Interactive logon: Display user information when the session is locked	Not Defined
(28)	Interactive logon: Do not display last user name	Disabled
(29)	Interactive logon: Do not require CTRL+ALT+DEL	Disabled
(30)	Interactive logon: Machine account lockout threshold	Not Defined
(31)	Interactive logon: Machine inactivity limit	Not Defined
(32)	Interactive logon: Message text for users attempting to log on	
(33)	Interactive logon: Message title for users attempting to log on	

	Policy	Security Setting
(34)	Interactive logon: Number of previous logons to cache (in case domain controller is not available)	10 logons
(35)	Interactive logon: Prompt user to change password before expiration	5 days
(36)	Interactive logon: Require Domain Controller authentication to unlock workstation	Disabled
(37)	Interactive logon: Require smart card	Disabled
(38)	Interactive logon: Smart card removal behavior	No Action
(39)	Microsoft network client: Digitally sign communications (always)	Disabled
(40)	Microsoft network client: Digitally sign communications (if server agrees)	Enabled
(41)	Microsoft network client: Send unencrypted password to third-party SMB servers	Disabled
(42)	Microsoft network server: Amount of idle time required before suspending session	15 minutes
(43)	Microsoft network server: Attempt S4U2Self to obtain claim information	Not Defined
(44)	Microsoft network server: Digitally sign communications (always)	Enabled
(45)	Microsoft network server: Digitally sign communications (if client agrees)	Enabled
(46)	Microsoft network server: Disconnect clients when logon hours expire	Enabled
(47)	Microsoft network server: Server SPN target name validation level	Not Defined
(48)	Network access: Allow anonymous SID/Name translation	Disabled
(49)	Network access: Do not allow anonymous enumeration of SAM accounts	Enabled
(50)	Network access: Do not allow anonymous enumeration of SAM accounts and shares	Disabled
(51)	Network access: Do not allow storage of passwords and credentials for network authentication	Disabled
(52)	Network access: Let Everyone permissions apply to anonymous users	Disabled
(53)	Network access: Named Pipes that can be accessed anonymously	

(54)	Network access: Remotely accessible registry paths	System\CurrentControlSet\Control\ProductOptions,System\CurrentC ontrolSet\Control\Server Applications,Software\Microsoft\Windows NT\CurrentVersion
(55)	Network access: Remotely accessible registry paths and sub-paths	System\CurrentControlSet\Control\Print\Printers,System\CurrentCon trolSet\Services\Eventlog,Software\Microsoft\OLAP Server,Software\Microsoft\Windows NT\CurrentVersion\Print,Software\Microsoft\Windows NT\CurrentVersion\Windows,System\CurrentControlSet\Control\Con tentIndex,System\CurrentControlSet\Control\Terminal Server,System\CurrentControlSet\Control\Terminal Server\UserConfig,System\CurrentControlSet\Control\Terminal Server\DefaultUserConfiguration,Software\Microsoft\Windows NT\CurrentVersion\Perflib,System\CurrentControlSet\Services\Sysmo nLog

(56)	Network access: Restrict anonymous access to Named Pipes and Shares	Enabled
(57)	Network access: Shares that can be accessed anonymously	Not Defined
(58)	Network access: Sharing and security model for local accounts	Classic - local users authenticate as themselves
(59)	Network security: Allow Local System to use computer identity for NTLM	Not Defined
(60)	Network security: Allow LocalSystem NULL session fallback	Not Defined
(61)	Network security: Allow PKU2U authentication requests to this computer to use online identities.	Not Defined
(62)	Network security: Configure encryption types allowed for Kerberos	Not Defined

(63)	Network security: Do not store LAN Manager hash value on next password change	Enabled
(64)	Network security: Force logoff when logon hours expire	Disabled
(65)	Network security: LAN Manager authentication level	Not Defined
(66)	Network security: LDAP client signing requirements	Negotiate signing
(67)	Network security: Minimum session security for NTLM SSP based (including secure	Require 128-bit
(07)	RPC) clients	encryption
(68)	Network security: Minimum session security for NTLM SSP based (including secure	Require 128-bit
	RPC) servers	encryption
(69)	authentication	Not Defined
(70)	Network security: Restrict NTLM: Add server exceptions in this domain	Not Defined
(71)	Network security: Restrict NTLM: Audit Incoming NTLM Traffic	Not Defined
(72)	Network security: Restrict NTLM: Audit NTLM authentication in this domain	Not Defined
(73)	Network security: Restrict NTLM: Incoming NTLM traffic	Not Defined
(74)	Network security: Restrict NTLM: NTLM authentication in this domain	Not Defined
(75)	Network security: Restrict NTLM: Outgoing NTLM traffic to remote servers	Not Defined
(76)	Recovery console: Allow automatic administrative logon	Disabled
(77)	Recovery console: Allow floppy copy and access to all drives and all folders	Disabled
(78)	Shutdown: Allow system to be shut down without having to log on	Disabled
(79)	Shutdown: Clear virtual memory pagefile	Disabled
	System cryptography: Force strong key protection for user keys stored on the	Net Defined
(80)	computer	
(81)	System cryptography: Use FIPS compliant algorithms for encryption, hashing, and	Enabled
(02)	Signing System objects: Require case inconsitivity for non Windows subsystems	Enabled
(02)	System objects: Require case insensitivity for non-windows subsystems	
(83)	Symbolic Links)	Enabled
(84)	System settings: Optional subsystems	Posix
(85)	System settings: Use Certificate Rules on Windows Executables for Software	Disabled
(05)	Restriction Policies	
(86)	User Account Control: Admin Approval Mode for the Built-in Administrator account	Disabled
(87)	User Account Control: Allow UIAccess applications to prompt for elevation without using the secure desktop	Disabled
(88)	User Account Control: Behavior of the elevation prompt for administrators in	Prompt for consent for
(00)	Admin Approval Mode	non-Windows binaries
(89)	User Account Control: Behavior of the elevation prompt for standard users	Prompt for credentials
(90)	User Account Control: Detect application installations and prompt for elevation	Enabled
(91)	User Account Control: Only elevate executables that are signed and validated	Disabled
(92)	User Account Control: Only elevate UIAccess applications that are installed in secure locations	Enabled
(93)	User Account Control: Run all administrators in Admin Approval Mode	Enabled
(94)	User Account Control: Switch to the secure desktop when prompting for elevation	Enabled
(95)	User Account Control: Virtualize file and registry write failures to per-user locations	Enabled

Install WebSAMS Root Certificate on Workstations

This section describes how to import WebSAMS Root Certificate into your browser. The purpose of importing the certificate is to trust the WebSAMS website of your school, so that your browser would not prompt you for warning messages.

\checkmark	
	此網站出示的安全性憑證是為其他網站的位址所發行的。
	安全性憑證問題可能表示其他人可能正在嘗試欺騙您,或是攔
	我們建議您關閉此網頁,而且不要繼續瀏覽此網站。
	愛 按這裡關閉此網頁 ●
	⑧ 繼續瀏覽此網站 (不建議) ▪
	 ○ 其他資訊

The following steps use Microsoft Internet Explorer as an example:

- (1) Download the certificate on the following url https://cdr.websams.edb.gov.hk/Files/Sys_sec/Sys_operation/edbcacert.cer
- (2) Double click the downloaded file and the following screen will pop up. Clicks the "Install Certificate..." button.

◎ 為 憑證資計	l.
這個CA根憑證	不受信任。如果您要啟用信任,請將這個憑證安裝到
信任仮想道授催	≠Ⅲ纾ړ险。
發給:	EDB
簽發者:	EDB
方林即白,	15/17/2014 A THI 2/5/2017
有双射日	10/12/2014 ± 5/3/2042
	安裝憑證(I) 蓋發者聲明(S)

(3) The following screen will be shown. Click the "Next" button.

🔶 🐉 憑證匯入精靈	×
歡迎使用憑證匯入精靈	
這個精靈可協助您將憑證、憑證信任清單及憑證撤銷清單從磁碟複製到憑證存放區。	
憑證由憑證授權單位發發,能識別您的身分,並包含用來保護資料或建立安全網路連線的] 訊,憑證存放區是用來存放憑證的糸統區域。	e i
存放位置 ● 目前使用者(C) 〇 本機電腦(L)	
請按 [下一步] 維續。	
下一步(N)	取演

(4) The following screen will be shown. Choose the option "Place all certificates in the following store" and click "Browse" button.

馮譜右故區			
源證存放區是用 	來存放憑證的系統區域。		
Windows 可自	動選取憑證存放區,您也可以為憑證指定存放位置。		
○自動根據	憑證類型來選取憑證存放區(U)		
將所有憑 馮淵方向	證故入以下的存故區(P) I.E.		
		瀏覽(R)	

(5) Select "Trusted Root Certification Authorities" and click "OK".

	個人	-
	受信任的根憑證授權單位	
	企業信任	
-6	中繼憑證授權單位	
	受信任的發行者	
	沒有信任的憑證	
	第三方根憑證授權單位	
TRA	或信任的 1	`

(6) Click the "Next" button to continue.

憑證存放區		
憑證存放區是	用來存放憑證的系統區域。	
Windows 可	自動攫取憑證存放區,您也可以為憑證指定存放位	置。
〇自動根	據憑證類型來選取憑證存放區(U)	
◉ 將所有	愚證放入以下的存放區(P)	
憑證存	·放區:	
受信	王的根憑證授權單位	瀏覽(R)

(7) The following screen will be shown. Clicks "Finish" button.

🗲 🍠 憑證匯入精靈		
完成憑證匯入	精靈	
按一下 [完成],即	可匯入憑證。	
您已指定下列設定 使用者撰取的憑	:	
內容	透證	

(8) Click "Yes" button in the following screen.

	您正要安装來自某憑諂授權單位 (CA) 的憑證,該憑證授權單位聲稱代表:	
-	EDB	
	Windows 無法確認憑證確實來自 "EDB"。您應該連絡 "EDB" 以確認它的來 源。下列數字在這個過程中將可以協助您:	
	憑證指紋 (sha1): 4 A	
	警告: 如果您安裝這個根憑證,Windows 將自動信任任何由這個 CA 所簽發的憑 證。安裝具有未經確認之憑證指紋的憑證將會有安全性風險。按一下 [是] 表示 您了解此風險。	
	您要安装此憑證嗎?	
		٦

(9) "The import was successful" message should be shown.

◎ 用 憑證習	2 iR	
這個 CA 根憑語 信任根憑證授	登不受信任。如果您要啟用信任, 攀單位存放區。	請將這個憑證安裝到
	e+ u Fike	
	· · · · · · · · · · · · · · · · · · ·	
發給:		1
	值 匯入執行成功。	
簽發者:		
有效期自	4 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4	
	安装馮證(1)	答發考替明(S)