



COMPUTER OPERATING PROCEDURES MANUAL
OF CLOUD SERVICE OF CLOUDSAMS
FOR SCHOOL

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1. PURPOSE

The purpose of this document is to provide details on how to conduct operational tasks for the CloudSAMS' Cloud Service.

2. BACKGROUND

The CloudSAMS is an administrative computer system currently used by around 1,000 public sector schools, including government, aided and caput schools as well as local schools under the Direct Subsidy Scheme (DSS schools) in Hong Kong. It also performs electronic data exchange with the Education Bureau (EDB) / other related parties through Fast Information Transmission System (FITS).

Originally, the CloudSAMS is a school-based system with servers installed and operated in each school campus, known as WebSAMS back then. Since 2018, the CloudSAMS of all aforementioned schools have been relocated from school campus to an EDB contractor's cloud platform for centralized server management and operational support.

3. SCOPE

The Cloud Contractor is responsible for most of the maintenance and operational tasks of the hardware and software hosted on the cloud (e.g. routine data backup, file housekeeping, monitoring, etc.). These tasks are out of the scope of this document. **This document mainly focuses on the operation procedures responsible by school staff.**

The CloudSAMS server and network architecture on the cloud is not completely the same as that in school campus. For example, the roles of school-local hardware such as HTTP Server and dedicated router are replaced by some other enterprise grade equipment on the cloud platform and maintained by the Cloud Contractor, relieving workload of school staff on related operational tasks. Nevertheless, relevant sections of the [CloudSAMS Security Guide and Recommended Practice](#) continue to apply on the cloud. School staff do not need to login the Operating System (OS) of the server on cloud to perform operational tasks. Most of the operational tasks (e.g. startup/stop of CloudSAMS) are automated. The remaining tasks can be performed through,

- a) the **Cloud Service Management** page in CloudSAMS; and
- b) the **Cloud Service Helpdesk**, a helpdesk service provided by the Cloud Contractor

CloudSAMS will provide online service between **0600 and 0100**. It will be offline for maintenance (e.g. backup, file housekeeping, etc.) between **0100 and 0600** under normal operation.

4. CLOUD SERVICE MANAGEMENT PAGE IN CLOUDSAMS

Cloud Service Management Page is a sub-section under the Security Module of CloudSAMS. It contains the following sub-menu and functions:

- OS Administration (操作系統管理)
 - Change Data Encryption Password (更改數據加密密碼)
 - Reset Data Encryption Password (重設數據加密密碼)
- Reboot CloudSAMS (重啟雲端校管系統)
- CloudSAMS Management (雲端校管系統管理)
 - Download Database Backup (下載資料庫備份)
 - JBoss Debug Mode (JBoss偵錯模式)
 - CloudSAMS Log (雲端校管系統日誌)
 - CloudSAMS Upgrade (雲端校管系統版本升級)
 - Execute Hotfix Patch (執行數據修補程式)
- Reset Database Password (重置資料庫密碼)
 - Reset genuser Password (重置genuser密碼)
 - Reset stfuser Password (重置stfuser密碼)
 - Reset fmpuser Password (重置fmpuser密碼)

This document only advises which functions should be used for school to perform related operational tasks. For detailed procedures of using these functions, please refer to the [User Manual for Cloud Service Management Page](#).

This **Cloud Service Management** page can only be accessed when school staff are logging in CloudSAMS by

- VPN Workstation; and
- CloudSAMS user accounts belonging to one of the following user groups,
 - SCHOOL_HEAD (School Head)
 - CS_ADMIN (Cloud Service Administrator)
 - CS_SUPP (Cloud Service Support)

The functions under OS Administration can only be accessed by CS_ADMIN group users.

5. CLOUD SERVICE HELPDESK

A helpdesk service is provided by the Cloud Contractor for schools to make service requests related to the cloud service, from simple enquiry of server health status to server reboot/backup.

Each school should authorise staff to act as the contact persons for the **Cloud Service Helpdesk**. Only these authorised staff can make service requests through the **Cloud Service Helpdesk**. The **Cloud Service Helpdesk** will verify the identity of the requester before providing any service.

The **Cloud Service Helpdesk** can be reached by either phone call or email:

<https://cdrcloudsams.edb.gov.hk/聯絡我們/>

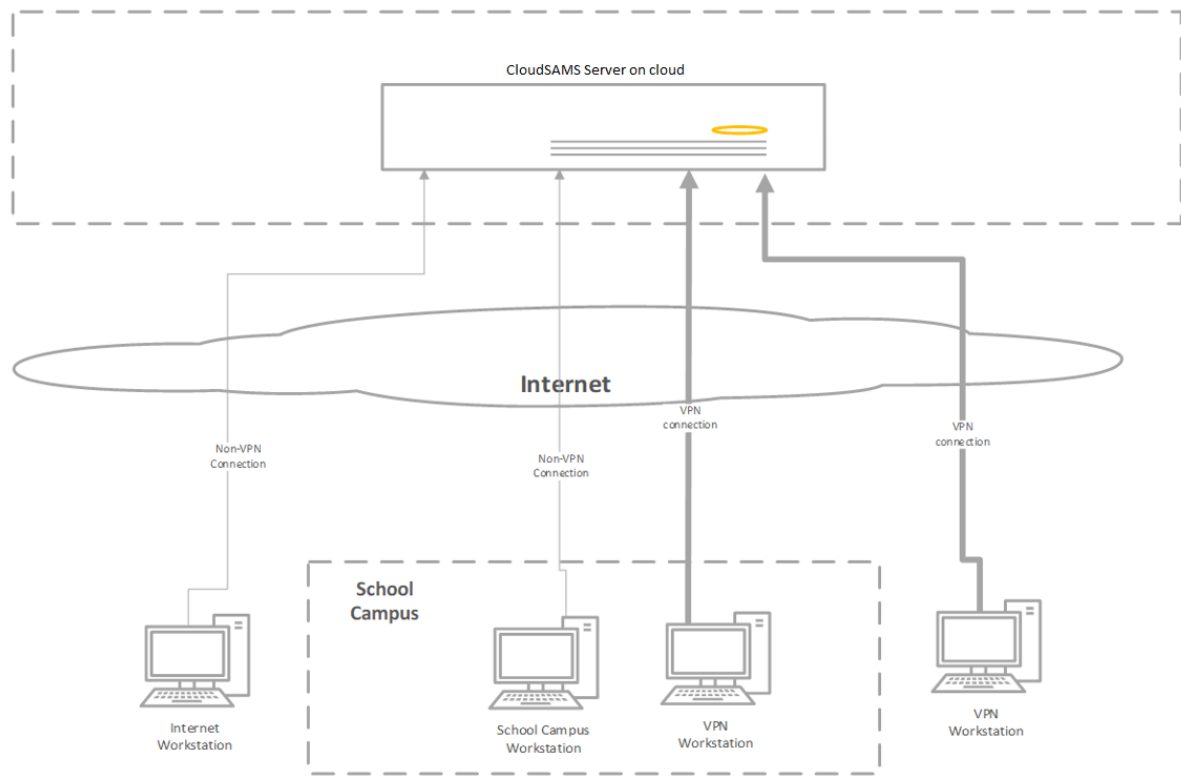
Operation hours: 0600 to 0100

Important Note

The **Cloud Service Helpdesk** is only responsible for the cloud service-related requests. For enquiry or support request of the functions in CloudSAMS, please contact **CloudSAMS Helpdesk**:

<https://cdrcloudsams.edb.gov.hk/聯絡我們/>

6. COMMUNICATION NETWORK CONFIGURATION



School staff can access CloudSAMS by 3 types of workstations.

VPN Workstation

A VPN workstation refers to any PC that has established a Virtual Private Network (VPN) connection with the cloud. VPN login username, password and token will be required for the connection. This type of workstation is equivalent to **WebSAMS workstation** in original WebSAMS architecture at school campus. It has full access right to CloudSAMS, and is the only type of workstation that can,

- Access the **Cloud Service Management** page in CloudSAMS

School Campus Workstation

A school campus workstation refers to any PC that is located inside the school campus. To identify the school campus workstation, Internet IP addresses of the school campus need to be configured in CloudSAMS. It is equivalent to the **ITED workstation** in original WebSAMS architecture at school campus.

Internet Workstation

An Internet workstation refers to any PC that does not belong to the above 2 types of workstation. It is equivalent to the **Internet Workstation** in original WebSAMS architecture at school campus.

7. ACCOUNT/PASSWORD/KEY/EQUIPMENT FOR CLOUD

Some user accounts/passwords/keys and related equipment (e.g. VPN token) are set up by the school itself or assigned to each school by EDB or the Cloud Contractor to support the operation of the cloud service. The items are summarized as follows:

Service Area	Account / Password / Key / Equipment	Required when
VPN Connection	VPN user name	The VPN login process requires all 3 information: VPN user name, password and the VPN token.
	VPN password	
	VPN token to generate a unique one-time passcode for VPN login	
Helpdesk Service provided by the Cloud Contractor	Helpdesk identity verification system user name	These 3 information: user name, password, and PIN are required for Helpdesk operator to verify the identity of the requester under different situations.
	Helpdesk identity verification system password	PIN is required during phone call to the Cloud Service Helpdesk.
	Helpdesk phone PIN	User name and password are required for specific service requests such as server reboot/backup. Helpdesk operator will send an email to the requester, with an URL to a login system. School staff need to login the system to identify him/herself.

CloudSAMS function	Data Encryption Password	<p>School's data on the cloud is protected by this password.</p> <p>When school downloads CloudSAMS data backup from the Cloud Service Management page in CloudSAMS, this password is used to protect these downloaded files. After downloading, school staff need to key-in this password to extract the files from protected file archive.</p>
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8. COMPUTER SYSTEM INFORMATION (CLOUDSAMS SERVER ON THE CLOUD)

8.1 IMPORTANT SYSTEM INFO

8.1.1 URL to access the CloudSAMS

<https://xxxxx.sams.edu.hk>

Note: xxxxx is the part of CloudSAMS URL determined by different schools.

8.1.2 Software configuration

The software used by CloudSAMS on the cloud is listed as follows:

- SAP Sybase SQL Anywhere
- SAP Crystal Server
- Java Application Server
- Dyna Font

8.1.3 System files

CloudSAMS database backup file

School staff can download the encrypted CloudSAMS database via the Cloud Service Management page at **Security > Cloud Service Management > CloudSAMS Management > Download Database Backup**.

System log files

If requested by the CloudSAMS helpdesk, school staff can download and submit the CloudSAMS log files for troubleshooting via the Cloud Service Management page at **Security > Cloud Service Management > CloudSAMS Management > CloudSAMS Log**.

8.1.4 The 7-zip software

Some downloaded files (e.g. CloudSAMS data backup) are encrypted in the 7-zip file format (.7z). The 7-zip software will be required to decrypt them.

7-zip software can be downloaded from:

<https://www.7-zip.org/>

8.2 COMPUTER SYSTEM OPERATING - NORMAL

8.2.1 Power ON/OFF the CloudSAMS server on the cloud

School staff cannot directly power ON/OFF the CloudSAMS server on the cloud. Please contact the **Cloud Service Helpdesk** to make a service request.

8.2.2 Reboot the CloudSAMS server on the cloud

School staff can contact the **Cloud Service Helpdesk** to make a service request.

Alternatively, school staff can reboot by themselves as follows,

1. Connect VPN and login CloudSAMS by a SCHOOL_HEAD, CS_ADMIN or CS_SUPP group user account.
2. Go to **Security > Cloud Service Management > Reboot CloudSAMS**.

8.2.3 Data encryption password change

If school staff have the existing password

1. Connect VPN and login CloudSAMS by a SCHOOL_HEAD or CS_ADMIN group user account.
2. Go to **Security > Cloud Service Management > OS Administration > Change Data Encryption Password**.

If school staff have forgotten/lost the existing password

1. Contact CloudSAMS School Liaison Officer (SLO). Fill in a request form for resetting password and submit it to the EDB.
2. The EDB will enable the password reset function in the CloudSAMS by a CDS message. The function will only be enabled for 12 hours for school to reset the password once.
3. Connect VPN and login CloudSAMS by a SCHOOL_HEAD or CS_ADMIN group user account.

4. Go to **Security > Cloud Service Management > OS Administration > Reset Data Encryption Password.**

8.2.4 Database password reset

School staff can reset the password for the 3 CloudSAMS database accounts - genuser, stfuser and fmpuser by:

1. Connect VPN and login CloudSAMS by a SCHOOL_HEAD, CS_ADMIN or CS_SUPP group user account.
2. Go to **Security > Cloud Service Management > Reset Database Password**

8.2.5 Update malware signature of anti-malware software

The Cloud Contractor will regularly update the signature. School staff do not need to perform this task for the servers on the cloud.

8.2.6 Software Updates

The Cloud Contractor will regularly update the software on the cloud. School staff do not need to perform this task for the software on the cloud.

But school staff should regularly update the cloud service-related software installed in school campus or school device. E.g. VPN client software, VPN token software.

8.2.7 CloudSAMS Upgrade

New CloudSAMS build will be automatically installed in the Cloud Server on date determined by the EDB.

If school prefers to install the build on a later date, which is also determined by the EDB, school staff can choose so by:

1. Connect VPN and login CloudSAMS by a SCHOOL_HEAD, CS_ADMIN or CS_SUPP group user account.
2. Go to **Security > Cloud Service Management > CloudSAMS Management > CloudSAMS Upgrade.**

As always, if error occurs during build installation, CloudSAMS will automatically rollback to the original build.

8.2.8 School campus Internet IP address change

In order for CloudSAMS to correctly identify School Campus Workstation, school staff should input their school campus Internet IP address into CloudSAMS by:

1. Connect VPN and login CloudSAMS by a SCHOOL_HEAD or SYSTEM_ADMIN group user account.
2. Go to **Security > Configuration > IP Config**.

Important Note

School staff should clarify with their Internet Service Provider (ISP) what Internet IP address(es) can uniquely identify their school campus.

Not related to the cloud service or Cloud Contractor, but for access to some other CloudSAMS-related resources, School staff should also inform CloudSAMS School Liaison Officer (SLO) for the change of these Internet IP address(es).

8.2.9 Password management

Schools are required to change any simple password in use as soon as possible to reduce security risk. The new password should meet the minimum complexity requirements. For the details of password minimum complexity requirement, please refer to CloudSAMS Central Document Repository (CDR) website [主頁 > 系統保安及系統事宜 > 系統保安 > CloudSAMS Security Guide and Recommended Practice] :

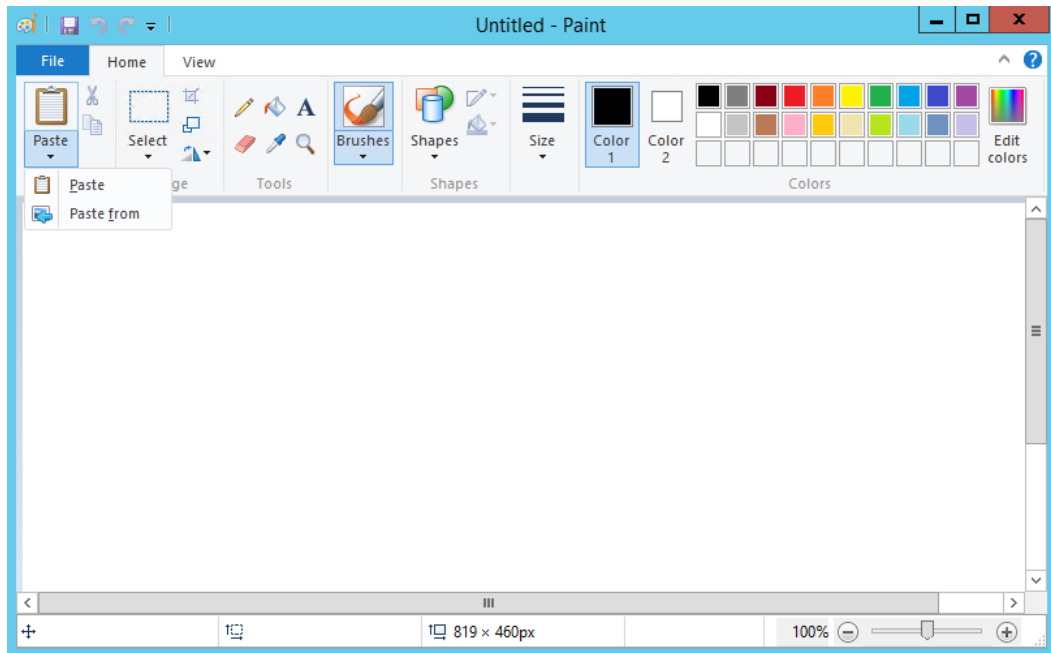
https://cdrcloudsams.edb.gov.hk/Files/Sys_sec/Security/security.pdf

8.3 COMPUTER SYSTEM OPERATING – ABNORMAL

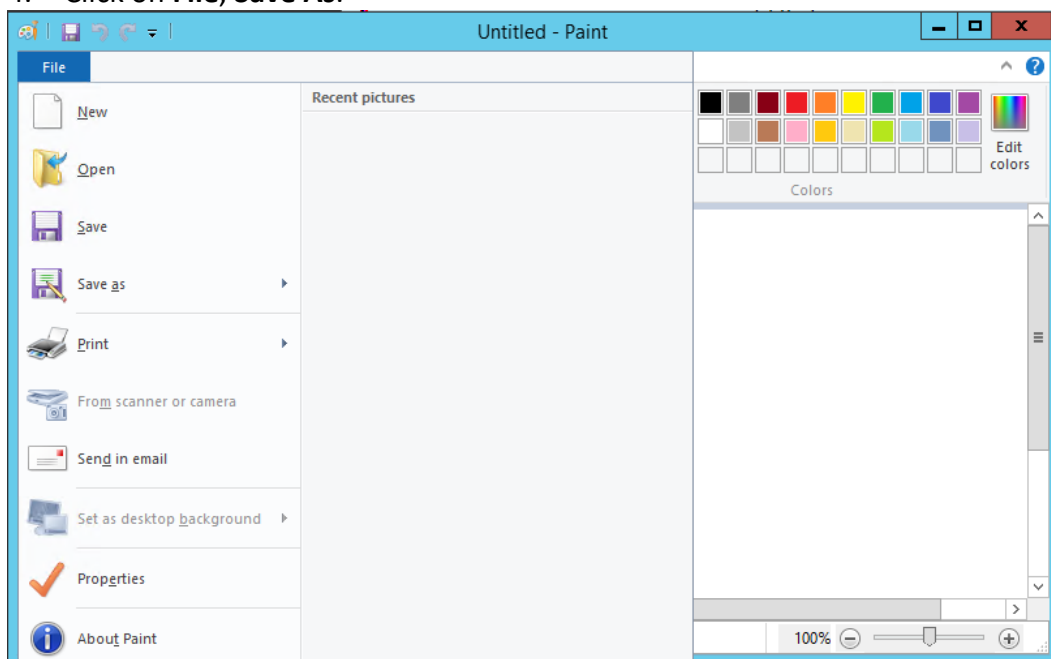
8.3.1 Taking screen dumps

Once there is an error occurred, system may display an error message. Capturing the screen dumps can help troubleshooting. The procedures are as follow:

1. Press **Prnt Scrn** on keyboard.
2. Open the Windows **Paint (小畫家)** software: Windows Start menu > **Search** > input 'paint' in the search field. The **Paint** software will be shown on the right side.
3. In the **Paint** software, click on **Paste**, then choose **Paste**.



4. Click on **File, Save As.**



5. Click on the **Desktop** icon in the **Save As** window, and type in **Errormsg** in the field of **File name**.

8.3.2 Fault reporting procedures

If the error occurred within CloudSAMS (i.e. error message shown inside the webpage contents of the CloudSAMS), please follow the existing reporting procedures by contacting the **existing CloudSAMS Helpdesk** (<https://cdrcloudsams.edb.gov.hk/聯絡我們/>).

Otherwise, if the error is cloud service-related, such as

- VPN cannot be connected;
- CloudSAMS cannot be opened on web browsers at all; or
- CloudSAMS server is suspected to be out of service;

please follow the procedures below,

1. Contact **Cloud Service Helpdesk** (<https://cdrcloudsams.edb.gov.hk/聯絡我們/>).
2. Report any error.
3. If there is any screen dump, send them to the **Cloud Service Helpdesk** through email.
4. The **Cloud Service Helpdesk** will assist to troubleshoot the error, or refer the case to the appropriate CloudSAMS support team if necessary.

8.4 OPERATION HOUSEKEEPING JOBS

8.4.1 Server Log checking

School staff can retrieve the server logs by:

1. Connect VPN and login CloudSAMS by a SCHOOL_HEAD, CS_ADMIN or CS_SUPP group user account.
2. Go to **Security > Cloud Service Management > CloudSAMS Management > CloudSAMS Log**.

8.4.2 Server reboot

The CloudSAMS server on the cloud will be regularly rebooted by the Cloud Contractor. However, school staff can also perform ad-hoc reboot when needed.

Please refer to Section 8.2.2 **Reboot the CloudSAMS server on the Cloud**.

8.4.3 CloudSAMS data backup

By the Cloud Contractor

The CloudSAMS server and data on the cloud will be regularly backed up by the Cloud Contractor.

Backup plan of the cloud platform:

Type of backup	backup time	Retention Period (i.e. how long will the backup be kept before expiration)
Daily	During the cloud platform daily maintenance hours (0100 – 0600), before installing any new CloudSAMS build and system patch	1 month
Monthly (performed on the last calendar day of each month)	During the cloud platform daily maintenance hours (0100 – 0600), before installing any new CloudSAMS build and system patch	1 year

School staff can contact the **Cloud Service Helpdesk** to make the following service requests:

Ad hoc immediate backup

Produce an ad hoc backup image of the CloudSAMS (including data inside) immediately. Only 1 copy of such ad hoc backup will be kept by the Cloud Contractor.

Recovery

To restore the CloudSAMS to the backup image of a particular day, school staff please contact CloudSAMS School Liaison Officer (SLO) and fill in a request form.

By School

School staff can retrieve CloudSAMS data by:

1. Connect VPN to the cloud and login CloudSAMS by a SCHOOL_HEAD, CS_ADMIN or CS_SUPP group user account.
2. Go to **Security > Cloud Service Management > CloudSAMS Management > Download Database Backup**.
3. The downloaded backup file will be a 7-zip archive of school's data. It is encrypted by the **Data Encryption password**. School staff must have the 7-zip software and **Data Encryption password** to extract the data.

Important Note

The data backup files in the drop-down list are produced during the cloud platform daily maintenance hours (0100 – 0600).

Instead, if school staff prefers to download the **latest data as at the moment you click download**, please click the **Download Current Database** button.

To retrieve 7-zip archive of older days not available in the above CloudSAMS page, school staff please contact the **Cloud Service Helpdesk**.