

# **Data backup strategies for CampusWatch system**

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Since CampusWatch is a security platform that manages vast amount constantly updated data(incident logs and analytics), data is the most crucial part of the system. Therefore, backing up data of the system is an important technique of disaster preparation. There exist several strategies that ensure the quality and quantity of the backup process occurring. A simple backup strategy describing what to back up, how often to backup, where to backup and how to recover using the backup is described below:

## **What to back up**

The most important data of the system is located in Postgres database including the surveillance footages, user informations, data analytics and incident logs. Hence , the database must be backed up regularly.

## **How often to back up**

A complete backup of the entire database will be taken every 24 hours during the non-peak hours which ensures that the data backup wont affect the performance of the system.

To allow more granular and in-point recovery, an hourly backup of the database transaction logs seems good. This allows to recover database from the backup created a few minutes ago rather than using the last full backup.

## **Where to back up**

Backup should be done both in physical and software medias. The physical storage includes backup in data stores or discs which can be on-site or off-site. The software medias include backup in cloud storage service(Google Cloud Storage, AWS S3,etc.). This prevents the data being lost from major disaster like data center failure.

## How to recover

A detailed document including step by step restoration techniques based on the severity of the backup required should be maintained which can be referenced in case of necessity.

The restoration process should be tested beforehand to ensure that it works well. Moreover, after the backup has completed , it should be thoroughly checked if the data restoration has completed properly and consistently or not.

## References

IBM. (n.d.). *Incremental forever backup strategy*. In *IBM Tivoli Storage Manager for Virtual Environments: Data Protection for Microsoft Hyper-V* (version 7.1.8). IBM.

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[https://www.splunk.com/en\\_us/blog/learn/data-backup-strategies.html](https://www.splunk.com/en_us/blog/learn/data-backup-strategies.html)