

Data Management

☰ Chapter No.	27
▼ Status	Completed

▼ Methods to Protect Data

▼ Backups

- Prevents data loss that can occur either due to [user error](#) or [technical malfunction](#)
- Backups should be [regularly made](#) and [updated](#)
- [Cloud backups](#) or [offsite backups](#) could be employed to reduce the risk of a natural disaster causing data to be lost

▼ Updates

- [Regularly](#) installing software updates ensures that there is the lowest chance that data can be accessed through [security breaches](#)

▼ Encryption

- [Encrypted](#) information is [useless to attackers](#) as they are [unable to recover the unencrypted data](#) easily, if at all

▼ Access Controls

- Only the [necessary trustworthy individuals](#) should be given access to [sensitive data](#)

▼ Destruction

- Destroying data protects the data against [unauthorised recovery and access](#)

▼ Multi-Factor Authentication



- Reduces the chance for an attacker to access a user's sensitive data, as [additional information other than the user's login details](#) are required to log into the user's account

▼ Good Passwords

- Using a **long** password with a **mix of alphanumeric characters and symbols** reduces the chances of your account and sensitive data from being compromised due to your password being **cracked**

▼ Difference Between Backup & Archive

Backup VS Archive

 Backup	 Archive
<u>Enables rapid recovery of live, changing data</u>	Stores unchanging data no longer in use but must still be retained
<u>One of multiple copies of data</u>	Usually the only remaining copy of data
<u>Access to data must be quick to allow for speedy data restoration</u>	The speed of access to data is not crucial
<u>Short term retention of data only for the period when the data is in use</u>	Long term retention of data for the required period or indefinitely
<u>Duplicate copies are periodically overwritten</u>	Data cannot be altered or deleted

▼ Version Control

- **Version control** is a class of systems responsible for managing changes to computer programs, documents or other collections of information
- Version control software **keeps track of every modification** to the code

▼ Reasons for Implementing Version Control

- If a mistake is made, developers can **revert to an earlier version** and compare the code with the current version to help **fix the mistake** while **minimizing disruption** to other team members
- **Prevents concurrent changes made by separate developers** from **conflicting and causing errors**

▼ Naming Convention

- A **naming convention** is a set of rules for choosing the character sequence to be used for identifiers which denote variables, types,

functions, and other entities in source code and documentation

▼ Reasons for Using Naming Conventions

- To [reduce the effort needed to read and understand source code](#)
- To enable [code reviews](#) to [focus on more important issues](#), such as the functionality of the code, rather than [arguing over syntax and naming standards](#)
- To enable [code quality review tools](#) to [focus their reporting mainly on significant issues other than syntax and style preferences](#)

▼ Personal Data Protection Act (PDPA)

- The [Personal Data Protection Act \(PDPA\)](#) in Singapore covers the collection, use, disclosure and care of personal data

▼ Consent

- Organisations must [obtain an individual's knowledge and consent](#) to collect, use or disclose his/her personal data (with some exceptions)

▼ Notification

- Organisations must [inform individuals of the purposes](#) for collecting, using or disclosing their personal data

▼ Appropriateness

- Organisations may collect, use or disclose personal data [only for purposes that would be considered appropriate](#) to a [reasonable person under the given circumstances](#)

▼ Accountability

- Organisations must make [information about their personal data protection policies](#) available on request
- They should also make available the [business contact information of the representatives responsible](#) for answering questions relating to the organisations' collection, use or disclosure of personal data