



Follow the data life cycle

✓ **Video:** Learning about data phases and tools
2 min

✓ **Data Analysis Phases**
10 min

✓ **Video:** Stages of the data life cycle
4 min

📖 **Reading:** Variations of the data life cycle
10 min

📖 **Practice Quiz:** Self-Reflection: Collecting data
1 question

📖 **Practice Quiz:** Test your knowledge on the data life cycle
5 questions

Outlining the data analysis process

The data analysis toolbox

Weekly challenge 3

Variations of the data life cycle

You learned that there are six stages to the data life cycle. Here is a recap:

1. **Plan:** Decide what kind of data is needed, how it will be managed, and who will be responsible for it.
2. **Capture:** Collect or bring in data from a variety of different sources.
3. **Manage:** Care for and maintain the data. This includes determining how and where it is stored and the tools used to do so.
4. **Analyze:** Use the data to solve problems, make decisions, and support business goals.
5. **Archive:** Keep relevant data stored for long-term and future reference.
6. **Destroy:** Remove data from storage and delete any shared copies of the data.

Warning: Be careful not to mix up or confuse the six stages of the data life cycle (Plan, Capture, Manage, Analyze, Archive, and Destroy) with the six phases of the data analysis life cycle (Ask, Prepare, Process, Analyze, Share, and Act). They shouldn't be used or referred to interchangeably.

The data life cycle provides a generic or common framework for how data is managed. You may recall that variations of the data analysis life cycle were described in [Origins of the data analysis process](#). The same can be done for the data life cycle. The rest of this reading provides a glimpse of how government, finance, and education institutions can view data life cycles a little differently.

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service uses the following data life cycle:

1. Plan
2. Acquire
3. Maintain
4. Access
5. Evaluate
6. Archive

For more information, refer to [U.S. Fish and Wildlife's Data Management Life Cycle](#) page.

The U.S. Geological Survey (USGS)

The USGS uses the data life cycle below:

1. Plan
2. Acquire
3. Process
4. Analyze
5. Preserve
6. Publish/Share

Several cross-cutting or overarching activities are also performed during each stage of their life cycle:

- Describe (metadata and documentation)
- Manage Quality
- Backup and Secure

For more information, refer to the [USGS Data Lifecycle](#) page.

Financial institutions

Financial institutions may take a slightly different approach to the data life cycle as described in [The Data Life Cycle](#), an article in Strategic Finance magazine:

1. Capture
2. Qualify
3. Transform
4. Utilize
5. Report
6. Archive
7. Purge

Harvard Business School (HBS)

One final data life cycle informed by Harvard University research has eight stages:

One initial data life cycle informed by Harvard University research has eight stages.

1. Generation
2. Collection
3. Processing
4. Storage
5. Management
6. Analysis
7. Visualization
8. Interpretation

For more information, refer to [8 Steps in the Data Life Cycle](#).

Key takeaway

Understanding the importance of the data life cycle will set you up for success as a data analyst. Individual stages in the data life cycle will vary from company to company or by industry or sector. Historical data is important to both the U.S. Fish and Wildlife Service and the USGS, so their data life cycle focuses on archiving and backing up data. Harvard's interests are in research and teaching, so its data life cycle includes visualization and interpretation even though these are more often associated with a data analysis life cycle. The HBS data life cycle also doesn't call out a stage for purging or destroying data. In contrast, the data life cycle for finance clearly identifies archive and purge stages. To sum it up, although data life cycles vary, one data management principle is universal. Govern how data is handled so that it is accurate, secure, and available to meet your organization's needs.

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