# The Waterfall Model

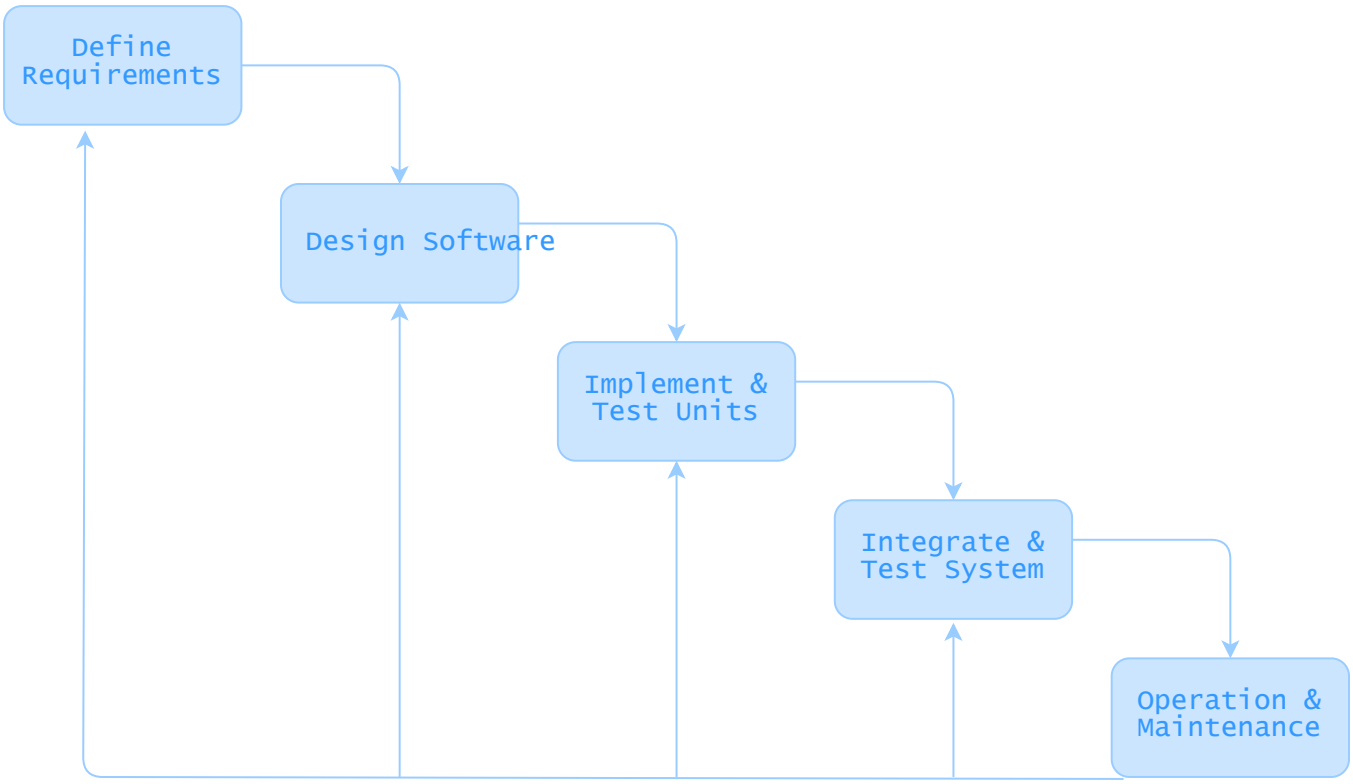
An overview of the waterfall method of developing software.

**We'll cover the following**


- Introduction
- Principle stages
  - Analyse and define requirements
  - Design software
  - Implement and test snits
  - Integrate units and test system
  - Operation and maintenance
- Conclusion


## Introduction #

The waterfall model is the first published model of the software development process, and it consists of representing the fundamental activities of specification, development, validation, and evolution as separate, sequential process phases.




The Waterfall Model

## Principle stages

There are multiple stages involved in the waterfall model, and theoretically, every stage must be completed before the next one can be “cascaded” on to, which is why the model is referred to as the waterfall model.

Each of the five stages depicted in the above diagram is described in more detail in the rest of the lesson.

### Analyse and define requirements

The system’s intended services, potential constraints, and goals are established and then defined in detail. These requirements then serve as a product specification, according to which the website is then developed.

### Design software

The design process entails allocating the requirements realized in the previous stage to different software components by establishing an overall system architecture. Software design involves identifying and describing the fundamental software system abstractions and the relationships amongst them that your website will require.

### Implement and test snits #

During this stage, the software design is translated to a set of programs or multiple program units. Unit testing involves verifying that each unit meets its specifications.

### Integrate units and test system #

The individual program units are integrated and tested as a complete system to ensure that the software requirements have been met. After testing, the software system is delivered to the customer. In the case of your own website, you would deploy it at this point.

### Operation and maintenance #

Normally (although not necessarily), this is the longest life cycle phase. The system is installed and put into practical use. Maintenance involves correcting errors that were not discovered in earlier stages of the life cycle, improving the implementation of system units and enhancing the system's services as new requirements are discovered.

## Conclusion #

The waterfall model is categorized as a plan-driven process since it requires a detailed plan to be in place before each stage can be executed. This model works best in large organizations that have several people working on large-scale projects which need detailed paperwork and records to coordinate with one another. However, in the case of personal websites or small projects, this approach may prove to be unnecessarily meticulous and extraneous since there is no need to keep elaborate records in that situation.

Test Your Understanding!

Q Which of the following web applications would be most suited to a waterfall model when being developed?

A) A personal blog

B) A static web page that displays facts

C) An online learning management system for a university

COMPLETED 0%

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Now that we have seen an example of how plan-driven processes work, we will move on to look into an example of an agile process in the next lesson and see if it is better suited to web developments on a smaller scale.