# Waterfall PROJECT MANAGEMENT

The term "waterfall" might make you think you're headed for a quick rush down a river and over a cliff, but Waterfall project management isn't that extreme. It's more like a log flume ride with multiple, small drops. You start at point A, finish that step, move on to step B, and continue that way until your project's complete. The whole process is super-straightforward, linear, and well-defined.

**THE Art & Science OF LEADING PROJECTS**

**teamgantt**

The Empire State Building, huge websites, and some of the most successful marketing campaigns have been built on this tried-and-true process where you essentially create a visual timeline of your project. You can see how long every task should take, who should be working on it, and what order it should be done in.

It's a widely used process that has been used for many years.

**Key points:**
- In this instance, "Waterfall" refers to a workflow where predefined project phases happen one at a time in sequential order.
- Defined and documented requirements are important in Waterfall, as everything must be determined before you start the first step.
- Scopes are strict in Waterfall. If any change occurs during the project, it will impact the overall timeline and likely the project budget.
- Team members are not always 100% focused on the project with a Waterfall process, as it relies on focused work that leads to a hand-off.
- The stages of strict Waterfall methodology are self-contained and typically include collecting and analyzing requirements, design, implementation, verification, and maintenance.
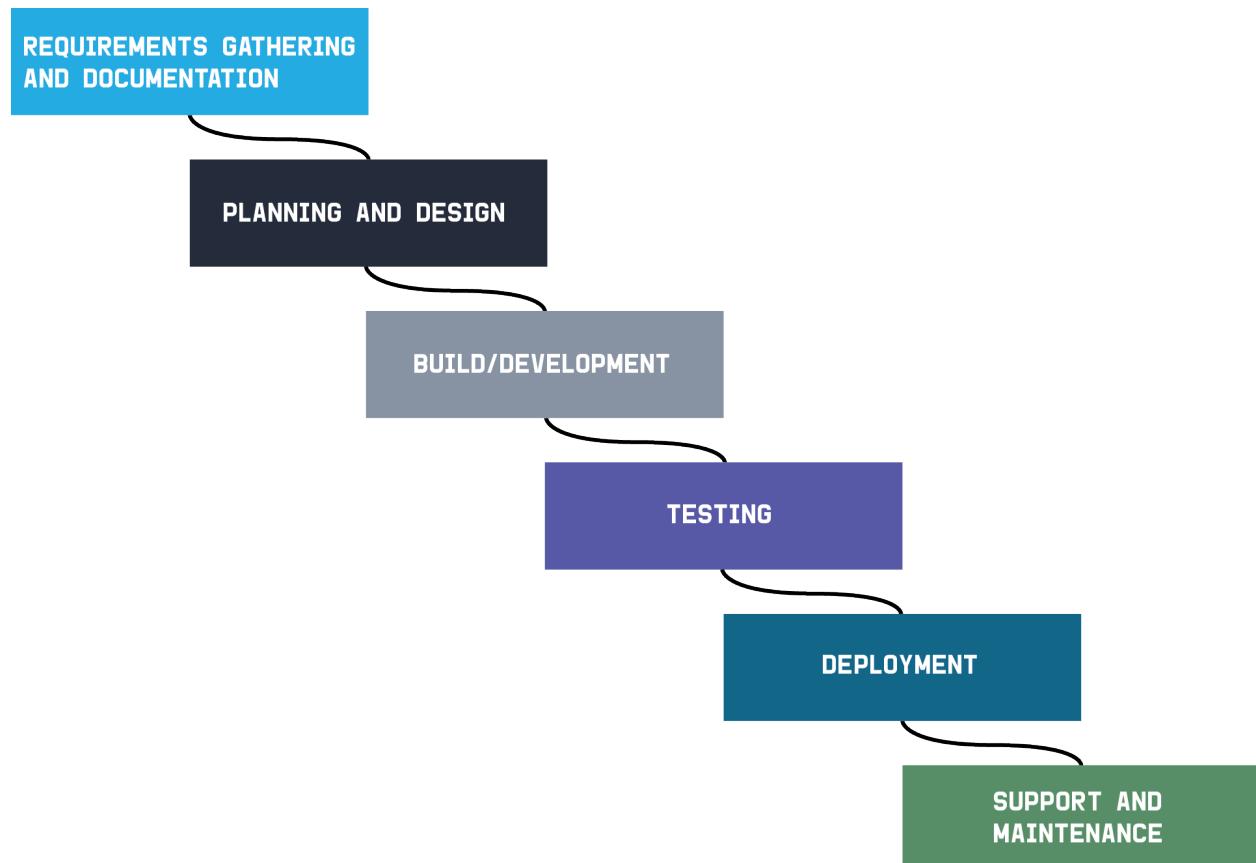
# HOW TO USE THE WATERFALL PROCESS

Waterfall is a simple and somewhat rigid project management methodology that takes a well-defined project idea to completion through a series of steps, tasks, and hand-offs. It's well-defined in nature because project requirements are identified and practically written in stone through early planning and estimation prior to executing on the work.

The Waterfall life cycle doesn't allow for a ton of iteration unless it's planned. So, if you're working with a client, you'll want to be very clear about how much time is scoped for feedback and iteration on your deliverables. Those are steps that will be built directly into your project plan.

The same goes for change! If a client wants to change the direction of your Waterfall project midstream, you'll face challenges with your scope, budget, and deadline. That's because this method is grouped by phases and tasks that are wholly dependent on its previous tasks and decisions. The minute you go off track with the plan, things start to fall apart.

## WATERFALL METHOD PHASES

```
REQUIREMENTS GATHERING
AND DOCUMENTATION

        PLANNING AND DESIGN

                BUILD/DEVELOPMENT

                        TESTING

                                DEPLOYMENT

                                        SUPPORT AND
                                        MAINTENANCE
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1. **Requirements gathering and documentation**
   The first step of any Waterfall project is to question and analyze business needs and understand project goals so you can document what your project requires. This documentation is critical to project success, as it fully explains what's needed—in detail—to complete the project, both at a high level and as it relates to each requirement, which will be tracked throughout the project.

2. **Planning and design**
   Once you understand your project requirements, expand on that by creating an overall plan for what's being built before any design work begins. This might come together through a sitemap and wireframes, an architecture plan, user flows, or a detailed brief depending on the type of project you're working on. The goal is to create a foundational design document everyone agrees on that can then be handed to a designer or developer to bring to life. Remember to keep an eye on your project requirements and documentation so the design work can be handed over to begin the next phase.

3. **Build/development**
   In the next step of the Waterfall process, you physically build or code a product. This is where the documentation you've created is critical, as it's used in conjunction with design work to make the product come alive. Hold your team accountable for checking project requirements, as well as their work, to ease the pain of rework or fixes in the next step.

4. **Testing**
   Now it's time to try to break your product. Go through all the project requirements to ensure they've been met with the utmost quality and precision. You're nearing completion, so do everything you can to perfect the project before it goes live.

5. **Deployment**
   At this point, requirements have been met, the product's been fully tested, approvals have been acquired, and everyone's been assured your product is 100% ready to release. Depending on the type of product, you'll have a plan to ensure your deployment is smooth and drama-free. It may feel like time to celebrate, but you're not done yet!

6. **Support and maintenance**
   You might not need this step, but many products require a team to hang on for updates. So while you might have a product out in the wild, there's a chance you might need to continue to support it after launch.

## THE HISTORY OF THE

## Waterfall

## METHOD

*The Waterfall model was first presented in 1970 by American computer scientist Winston W. Royce in "Managing the Development of Large Software Systems." This article contained his personal views on software development and presents Waterfall (though he did not actually use that word) as an example of a flawed, non-working model for software development—a critical view that persists today.*

# WHEN TO USE THE WATERFALL METHODOLOGY

Only you can be sure when your project management methodology is working for you. But if you're looking to test the Waterfall waters, you'll need to consider the project, people, and other factors.

Here are a few scenarios when Waterfall works well:
- The stakeholder knows exactly what they want and has specific goals, detailed specs, use cases, tech stack, etc.
- You're building or developing a corporate product or something for internal use that doesn't require frequent updates and won't become outdated during development because it has a long shelf-life. You'll just have to maintain it.
- You've got thorough, thoughtful team members to write and review documentation so the project can pass to other team members with ease.
- You and your stakeholders know and accept major changes during development are not possible without significantly impacting the project.
- Your project scope is fixed, and work has been accurately estimated.
- Your deadline is fixed, and you understand the project phases and tasks and can create a detailed project plan or gantt chart.

## INDUSTRIES THAT USE WATERFALL
- Construction
- Manufacturing
- Print design and production
- IT
- Software development
- Agencies
- Marketing
- Content development
- And many more!
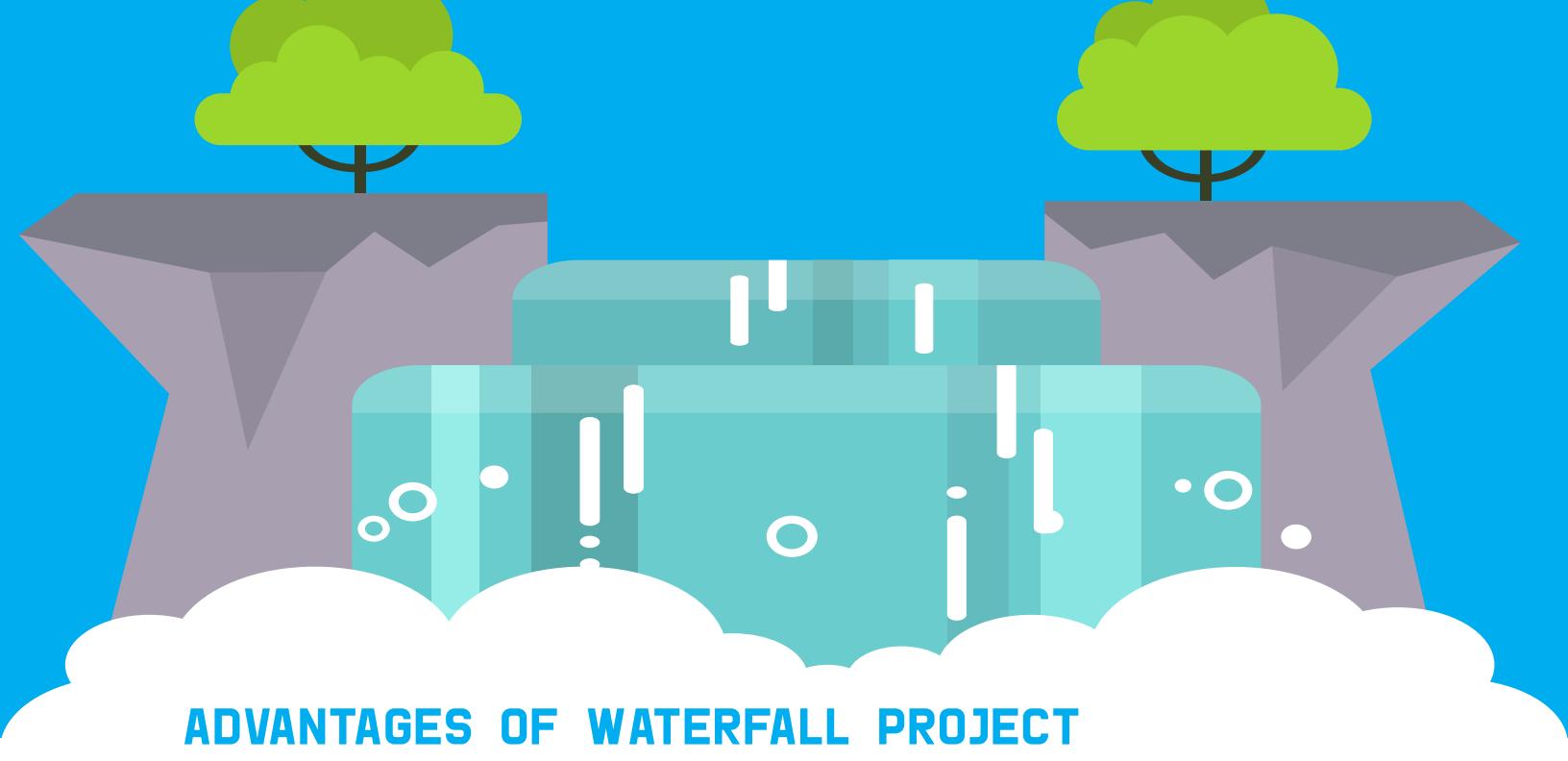
## WATERFALL WORKS BEST FOR TEAMS WITH:
- A strength in creating documentation
- Team members who can work on their own and be accountable for tasks
- Subject matter experts who can be brought in to complete tasks/phases
- A project manager who controls the scope, timeline, and communications
- A client or boss who wants to view a timeline and know what to expect at any given time

## YOU SHOULD AVOID WATERFALL WHEN:
- The project has an unknown solution.
- You don't need resourcing (i.e., everyone is on the same dedicated team working on the same project).
- You're part of a startup software team who's trying to learn and iterate as you go. (This is where Agile or Hybrid comes in.)

# ADVANTAGES OF WATERFALL PROJECT MANAGEMENT:

- **Clear and complete documentation paves the way for straightforward feedback and decisions.** The fact that Waterfall produces detailed project requirements means every piece of your project will be well-defined and documented. If someone wants to change a requirement, discuss it head-on because scope and budget will always be affected.
- **Solid estimates set clear expectations.** Creating an estimate for a Waterfall project is simple. Most practitioners will create a Work Breakdown Structure of all tasks and subtasks. That detailed estimate can then translate to a firm project scope that correlates to a detailed project plan, creating very clear expectations about timing and scope.
- **Visual project plans are easy to understand.** Creating a Waterfall project plan is fairly straightforward because projects run in a linear manner with defined dependencies and responsibilities. Plus, the division of steps and tasks is simple to interpret. This makes planning your team's time easier (and expected) and leads to a clear hand-off or end date.
- **It's easy to measure the impact of project changes.** While it's difficult to make up for changes or missed deadlines, it's easy to determine the impact of a change and quickly make adjustments (though that does usually mean your deadline will be affected).
- **Communicating progress is simple.** It's easy to measure the completeness of your project because all tasks and milestones are mapped out with dependencies.
- **Accountability is clear.** Each person can see when they're expected to do their part and what happens if there's a delay.
- **Communications are easier.** When everyone can visualize the project, you're able to easily communicate with bosses, clients, and team members. Everyone can review the project plan together when it's drafted and spot potential issues or areas that might require special attention.

# THINGS TO CONSIDER WITH WATERFALL PROJECT MANAGEMENT:

- **Silos and lack of collaboration:** Because team members work on specific tasks in phases and hand work off to someone else, it leaves little room for collaboration. Instead, it's all about getting work done to documentation and ensuring the next person in line can use what was previously created or documented.
- **Speed to launch:** When you build one thing at a time, it means you take a considerable amount of time to get just one thing done—even if you could be working on other things at the same time.
- **Ideation:** If you don't know what you want to build, Waterfall is not for you. The idea here is to receive or create project requirements and act on them—not iterate on them throughout the process.
- **Change and documentation:** Things change in business, and when documentation is built at the beginning of a project, the project can't always change with the business without serious impact. (Sometimes that impact might be to start over.) So, while the documentation is strong, it can serve as a risk on longer projects.

# TAKE WATERFALL TO THE NEXT LEVEL WITH TEAMGANTT

We know that Waterfall doesn't necessarily mean gantt charts, but the best project managers use gantt charts to manage projects.

Here are just a few ways TeamGantt can make managing projects a breeze for you:

- **Plan faster.** Get up and running quickly, and share online plan drafts with your team for quick buy-in and longer-term accountability.
- **Untangle project complexity.** With TeamGantt, you can view and share gantt charts with ease and ensure everyone has a full-picture view of your projects.
- **Make change easy.** Update your gantt chart in real time by simply dragging and dropping tasks that need to be rescheduled.
- **Easy team collaboration.** TeamGantt is your one-stop project hub for your team and stakeholders. You can schedule and track tasks, share documents, post notes and comments, plan and review team availability, and even estimate and track time all in one place.
- **Review progress in one click.** Check in on the task level to make sure things are moving along or to let someone know a task is coming due. Or generate overall project health and time reports to keep a constant finger on the pulse of your projects.