# Project Management

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# Get started

## What is a project?

- Is temporary with an identifiable beginning and end
- Is unique and organized
- Has constraints, such as time, cost, and resources
- Accomplishes the objective to produce a product, service, or agreed deliverable that has value for the end user

### What is Portfolio & Program?

A **portfolio** is a **collection** of projects, programs, subsidiary portfolios, and operations managed as a group to achieve strategic objectives. The programs or projects of the portfolio may not necessarily be interdependent 62or directly related.

A **program** is a **group of related projects**, subsidiary programs, and program activities that are managed in a coordinated manner to obtain benefits not available from managing them individually. A program has a scope that encompasses the scope of its program components.

## What is project management?

**Project management** is accomplished by applying proven methodologies and techniques with the goal of ensuring the consistent delivery of high-quality services, solutions, or deliverables that meet or exceed client requirements and expectations.

### Project management is:

- The planning, executing, and monitoring of project activities to meet project objectives

- Achieved by effectively controlling and balancing the constraints of time, cost, and scope
- Performed through processes and across multiple phases in what is called the project's "lifecycle"

Large organizations develop **custom** project management methodologies and tools to manage different types of projects consistently and repeatedly.

## What is the value of project management?

Effective project management adds value to organizations in many ways. It can:

- Provide focus and control for the greater likelihood of achieving project goals
- Result in delivering quality results consistently
- Potentially reduce costs and risks
- Manage changes and conflicts
- Ensure the efficient use of resources

Project management is a specialization and profession that includes best practices, tools, methods, and certification schemes that can be applied as standards that are also reusable.

Overall, a strong, organization-wide commitment to project management leads to long-term business value and even a competitive advantage.

## Do projects fail?

Yes, they do! It's valuable for you to know that the typical reasons that projects fail are because they are over budget, run over schedule, or do not deliver the required quality.

The causes of why projects fail can be a range of issues, including basic ones such as a lack of understanding of the project goals or strategic alignment. Other common issues are:

- Lack of stakeholder involvement
- Lack of leadership
- Poor team organization
- Insufficient competencies of the people involved in the implementation of the project
- Poor processes

For this reason, it's important to promote good practices and follow a project management approach to ensure project **success.**

## Approaches to project management

There are many approaches to project management. Choosing a project management approach can depend on the organization's standards, the type of project, or the team make-up. It's an important decision because it impacts how the team works together. Different project management methodologies have their own pros and cons for different project types. Some approaches are traditional or sequential, while others are more flexible.

Let's explore three widely used approaches: **Waterfall**, **Agile**, and **Hybrid**.

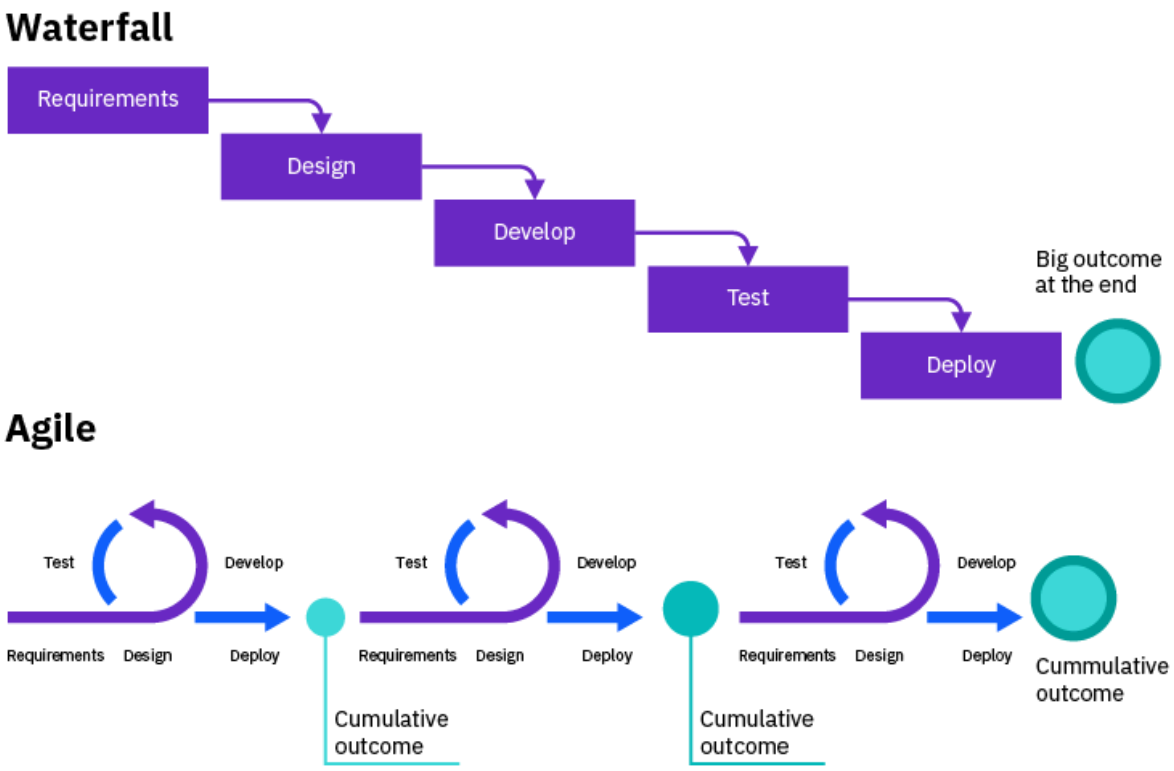
### Waterfall

- Perhaps the most common type, the Waterfall model is a traditional and sequential approach.

- There are usually several project phases that follow in a linear order.
- Teams complete one task before the next task begins in a connected sequence that adds up to the final deliverable.
- They collect and analyze requirements from the client, design the solution, implement the solution, and fix any issues.
- This approach is easy to implement, and every task is planned out; however, the team must begin with a clear scope of work because changes can be challenging and disrupt the series of tasks.

## Agile

- Essentially, an Agile approach is the opposite of a Waterfall approach to a project.
- Agile is a very flexible approach in which teams break up their work into smaller chunks and they work iteratively to deliver an outcome incrementally.
- Work phases are short in duration and are typically called “sprints” or “iterations.”
- One of the main benefits of this approach is it allows the team to respond to new requirements or changes more easily.




Waterfall versus Agile: How are they different?

**Waterfall**

- Has a fixed, linear plan in which the scope and deliverable are known.
- Tasks are mapped out at the start of the project.
- There is a final deliverable at the end of the project.
- Client feedback is considered at the start with requirements and at the conclusion of the project.

## Agile

- Has an iterative and flexible process that could evolve into a different deliverable than was originally envisioned.
- New priorities and requirements are considered in each sprint.
- There are incremental deliverables throughout the project and a cumulative deliverable.
- Client feedback is a focus and considered in each sprint or iteration.

## Hybrid

As the name implies, a Hybrid approach is a combination of the Waterfall and Agile approaches to get “the best of both worlds” to provide a flexible yet structured approach.

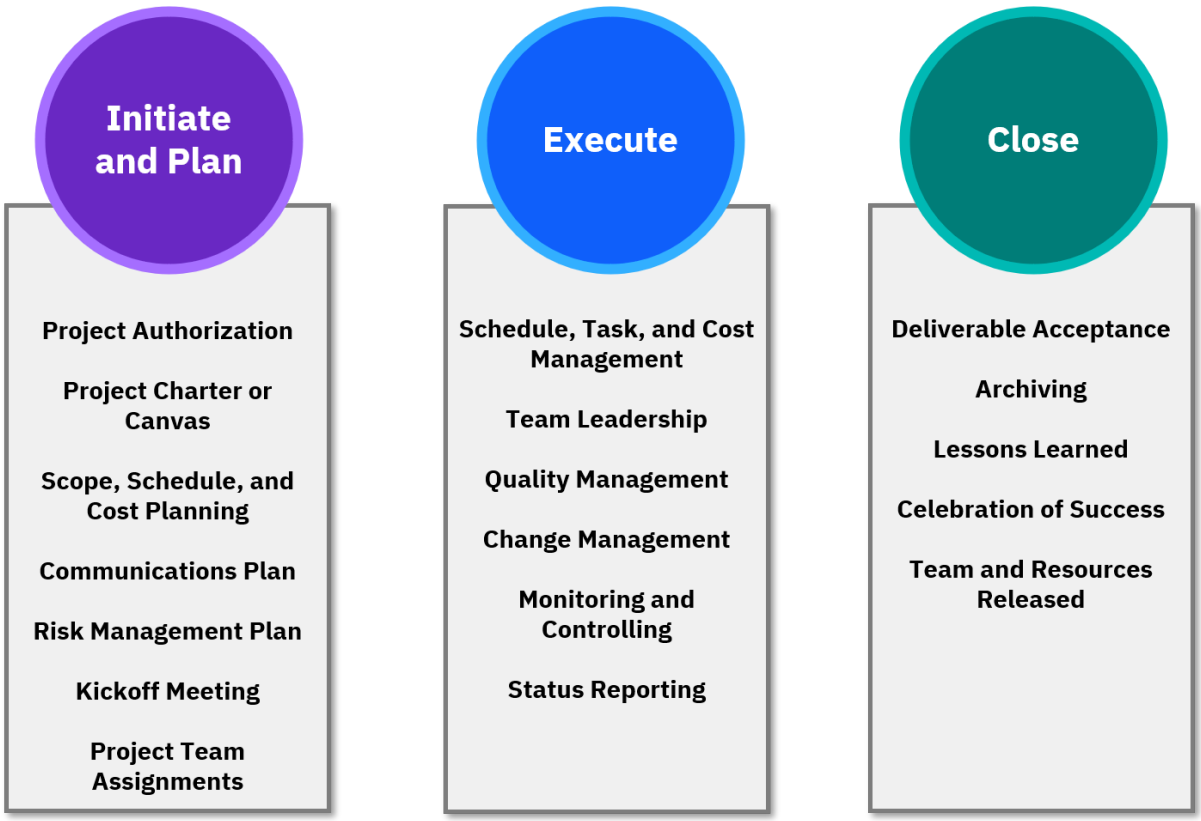
- Some common examples of using a Hybrid approach are:
- Using Agile when there is uncertainty, complexity, and risk in the development phase of the project, such as for a new IT solution, and then using a traditional approach in the rollout phase
- Using a combination of Agile and traditional approaches throughout the project, such as upfront planning and estimation and work assignment, together with short iterations and daily meetings
- Using an Agile approach for a small element with uncertainty, complexity, or opportunity for scope creep within a mostly traditional project approach, such as when part of the product is produced using new materials that haven’t been used or tested before
- Using an Agile approach with a component produced in a traditional way, such as when the production of the component is externalized, and the external provider uses the traditional approach to produce it

## Key points

In a traditional project management approach, the names and number of project management phases will vary. The five traditional phases you'll commonly see are:

- Initiate
- Plan
- Execute
- Monitor and Control
- Close

In this course, the focus is on a combination of these three traditional phases of project management: **Initiate** and **Plan**, **Execute**, and **Close**. This will give you the foundational base you need and you can build on this knowledge in future courses. Here is a diagram that illustrates the three project phases and the key activities the course covers:



Project management processes are not necessarily linear or sequential. Some activities are ongoing and reoccur throughout the project lifecycle, while others are recommended for specific points in time during the project lifecycle.

## The project manager

The project manager (PM) leads a project team to deliver a solution or deliverable to the client according to the project charter, agreement, or contract, and uses the appropriate project management processes and tools.
PMs have the overall responsibility of managing the project's scope, cost, and schedule as well as the quality of the deliverables, which includes applying techniques for planning, tracking, change control, and risk management.
They provide day-to-day direction to the project team and report project status to the client.
Overall, PMs are accountable for the success of a project. This includes meeting deadlines, maintaining quality standards, and staying within budget.

### PM Responsibilities

Here is a summary of typical PM responsibilities:

- Oversee all aspects of a project
- Understand the project's requirements, goal, and scope
- Set deadlines, assign responsibilities, and monitor and report on progress
- Ensure projects are delivered on time, within scope, and within budget
- Develop a project plan and maintain comprehensive project documentation, such as a communications plan and risk management plan
- Manage changes to the project scope, schedule, and costs using appropriate tools and techniques

- Measure project performance using appropriate tools and techniques
- Manage the relationship with the client and all stakeholders
- Lead the team and coordinate with other teams
- Perform risk management to minimize project risks
- Track project performance

Project managers **understand** project requirements, **determine** strategies for projects, **bring** needed professionals with the right competencies on board, and **monitor** the progress of the work.

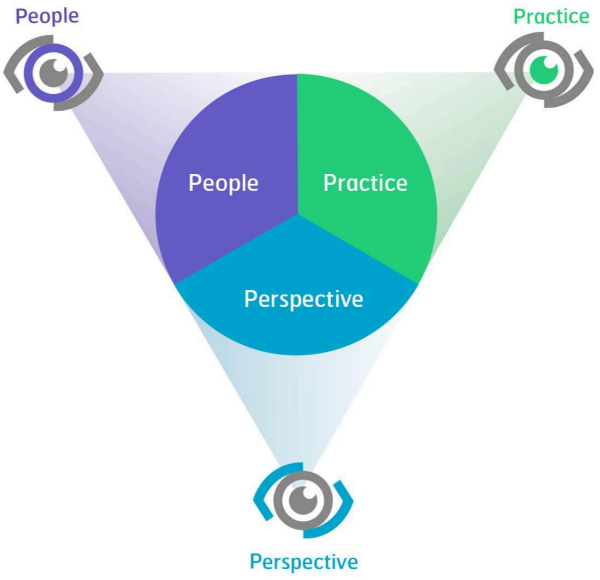
## Competencies

Competence is defined as the application of the following:

- **Knowledge** is the collection of information and experience that an individual possesses, such as understanding the concept of a project schedule.
- **Skills** are specific technical capabilities that enable an individual to perform a task, such as being able to build a project schedule.
- **Ability** is the effective delivery of knowledge and skills in a given context, such as being able to lead and successfully manage

The Eye of Competence can help you understand the competencies that a balanced individual needs to have or develop to successfully manage a project. There are **29 competence elements**, which are divided into three domains:

- People
- Pratice
- Perspective



## Perspective

The Perspective domain includes the methods, tools, and techniques through which PMs interact with the environment, as well as the rationale that leads people, organizations, and societies to start and support projects. There are 5 competencies associated with the context of a project.

## People

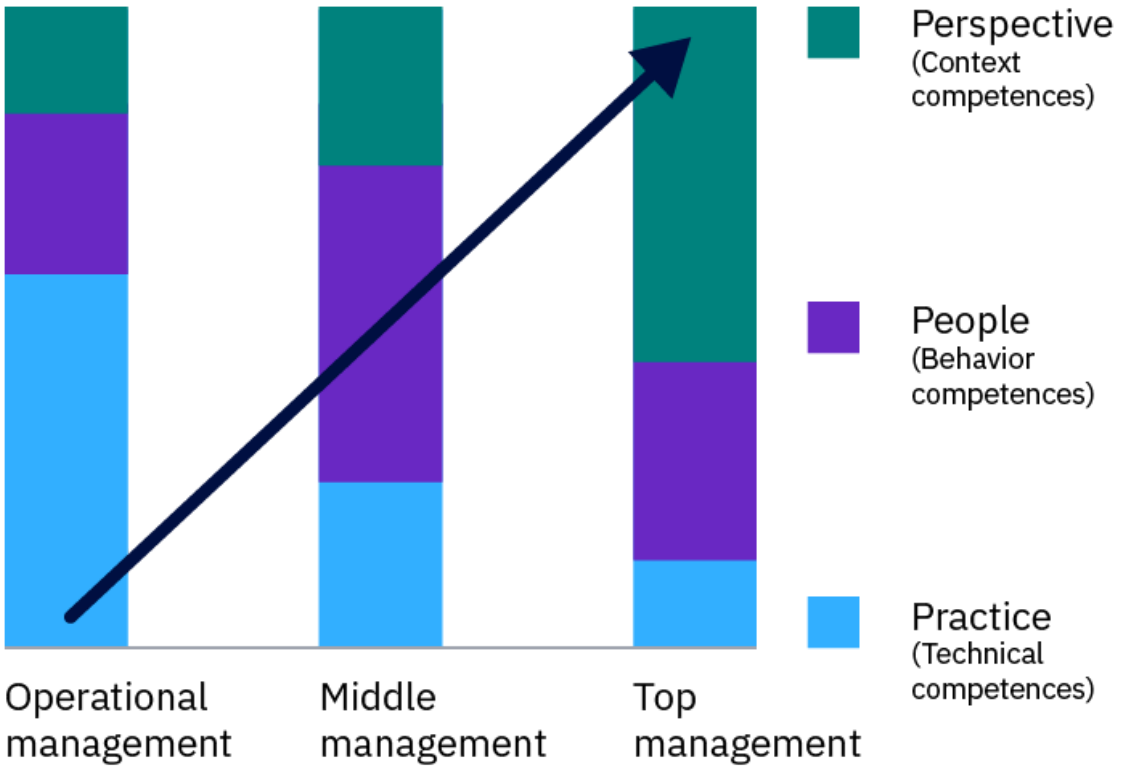
The People domain includes the personal and interpersonal competencies required to successfully participate in or lead a project. There are 10 competencies associated with the personal and social context of an individual.

## Practice

The Practice domain includes the specific methods, tools, and techniques used in projects to realize their success. There are 14 competencies associated with the technical part of the project.

All project management competencies, independent of the domain they belong to, are equally important.

However, emphasis on a particular domain may vary depending on the hierarchical level on which the individuals are and change as individuals are progressing and moving from one level to the next during their careers.




In this figure, you can see:

- At the operational management level, the focus is on the technical or Practice competencies
- At the middle management level, the focus is on the behavioral or People competencies
- At the top management level, the focus is on the context or Perspective competencies

In addition, during the project implementation, different competencies are needed and demonstrated across each project phase. Let's look at some examples of this.

## The stakeholders

Stakeholders are those with an interest in the project's outcome.

A stakeholder is any individual or organization that is actively involved in the project or whose interests might be affected, either positively or negatively, as a result of project execution or successful project completion.

Stakeholders can be **internal** to the organization, such as the sponsor or client for the project, top management, and all of the project team members.

Stakeholders can also be **external** to the organization, such as an external customer and a contractor or supplier that provides services or a product needed by the project.

**Important to know**

- Identifying and communicating with the stakeholders is an important responsibility of the project manager.
- Most projects have a number of stakeholders, and they each have their own objectives for the project. The project manager must understand these stakeholders and their respective objectives. Using this information, the project manager must ensure that what is done on the project is consistent first with the project requirements and then with the stakeholders' objectives. Ideally, the objectives of the different stakeholders are closely aligned. If not, a series of negotiations might be required to align the objectives.

- Stakeholders can make or break the success of a project. One of the reasons for project failure is that stakeholders lose their commitment to the project. It's important to keep stakeholders involved in the project.

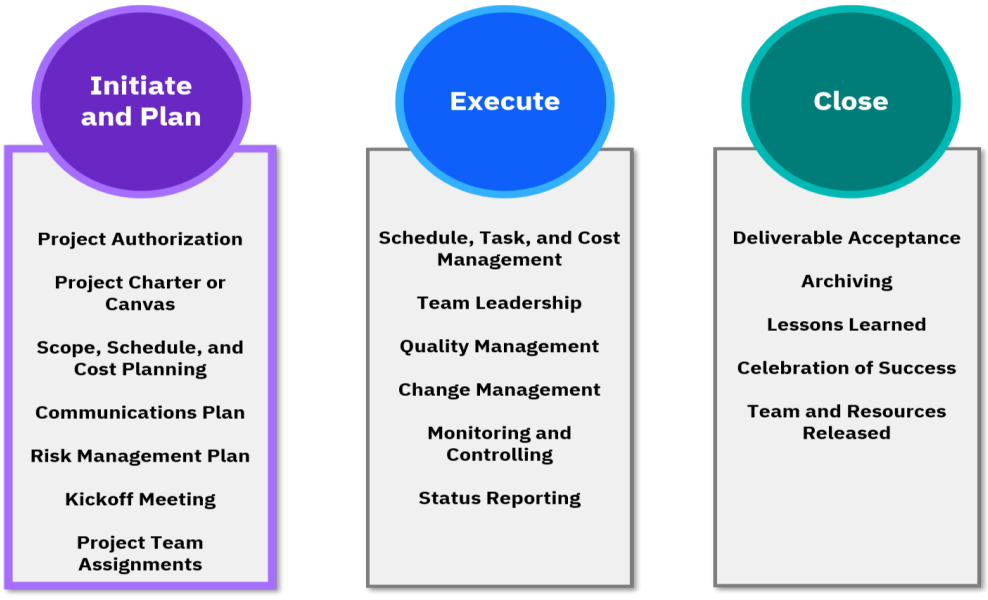
# Initiate and plan a project

## Purpose

Every project has a definite start and finish. Projects are divided into phases and these phases comprise the lifecycle of the project. Remember, there are many different models for the phases a project goes through during its lifecycle. In this course, the focus is on three traditional phases of project management:

- Initiate and Plan
- Execute
- Close

You'll learn about some of the project management activities and best practices that are recommended for each project management phase. If you can grasp these phases, then you'll have a good grip on what project management is all about!



**Purpose:** Once the organization authorizes the project, the project manager ensures that requirements are understood and the goals or objectives are agreed upon, establishes scope, defines the initial plans, and assigns tasks to the project team.

In this phase, the project manager is determining and documenting:

- What must be done?
- How will it be done?
- When will it be done?
- Who will do the work?
- What will it cost?

## Initiate the project

It's understandable that projects often begin with great ideas or concepts, and participants are eager to get started on the work to develop the great ideas or concepts. But, with this "ready-fire-aim" mentality, teams might start working without ensuring that there is a proper understanding or definition or even the same mission and vision for the effort.

Let's begin here, with how to initiate a project right and make sure everyone knows where they're going!

### Project charter

It's critical for the PM and project team to begin with a clear idea of the desired outcomes, so the project starts well, keeps momentum, and stays on track.

A project is often initiated and authorized through a project charter. It is issued by the project sponsor or client. The project charter may contain various levels of detail depending on the organization or project. Typically, it's a short document that explains the project in clear, concise wording. It answers the question, "What will the project deliver?"

The project charter lays out the project and may have some of the following elements:

- Project title
- Goal or objectives of the project
- Business objectives
- Requirements, at a high level
- Short description of the project
- Scope
- Key deliverables
- Major events in the project, called milestones, that have a start and end date
- Known risks at a high level
- Assumptions
- Budget
- Key stakeholders
- Approval process

This list is by no means exhaustive. Organizations can expand or shrink the project charter based on their needs and standards.

The **project charter** gives the project manager authority. The important activity for the project manager is to make sure the key stakeholders all agree that the project is approved or authorized to begin and that they support the project charter. It can be tempting to skip the project charter step. However, this one simple, low-effort, chartering activity ensures that everyone is on the same page going forward.

**A project charter is the guiding light for the project as it progresses. If the vision is lost, the PM can use the project charter to reset the course and remind everyone what the desired outcome is, if needed.**

## Project canvas

A project canvas is a simple one-page overview that everyone involved can use to understand and communicate about the project.

- It is a visual tool of the project charter components, such as the project's purpose, desired results, team resources, and milestones (the major events in the project).
- Organizations may have a particular template for the PM to use to create one.
- The project team refers to it throughout the project to keep the vision in mind, monitor the project, stay motivated, and to orient new team members.
- The project canvas is also a helpful resource at the end of a project for the purposes of review and considering lessons learned.

## Scenario: Wired Letters – Project Canvas

Remember, Natasha Verma is the Project Manager from City Star Training Solutions (CSTS) who is leading up the new course development project for her client, Wired Letters. The project is authorized to begin. Natasha created a project canvas to capture the vision for the project for herself and the team.

**Project Canvas: Wired Letters Virtual Teaming Tools course**

**Goals**
*What is the purpose or objectives of the project?*

- To increase employee adoption of the virtual teaming tools across all business units to be 90% or greater.
- 100% employee course completion rate.

**Users**
*Who is in the target audience who will benefit from the product or service?*

- 1,320 Wired Letters employees, across all geographies, including all leadership roles.

**User Benefits**
*What benefits can users expect when the project is finished?*

- New skills development in virtual teaming tools to work more collaboratively with each other and more productively for clients.

**Team**
*Who are the participants? What is their role?*

CORE TEAM
- Natasha Verma, Project Manager
- Anya Valeeva, Instructional Designer
- Sunit Chandra, Graphic Designer
- Peter Singer, Course Programmer
- Maria Cortez, Quality Assurance (QA) Tester

**Stakeholders**
*Who affects the success of the project? What is their role?*

INTERNAL – CSTS
- Vivienne Chen, Program Manager
- Dilip Karnam, Marketing Director

EXTERNAL – WIRED LETTERS
- Sam Green, Learning Director
- Teresa Novak, IT Tooling Lead

**Scope**
*What is covered under the project?*

- One-hour digital course
- Includes text, graphics, and realistic scenarios that simulate using the virtual teaming tools to bring the business situations to life
- Cover three virtual teaming tools

**Deliverables**
*What are the outcomes, documents, and products that will be delivered to the client?*

- Course storyboard files
- Course published files
- Hosting of the course on the CSTS learning management system (LMS)
- Weekly course completion reports
- Course maintenance plan

**Activities**
*What activities does the team need to execute to deliver the product or service?*

DESIGN
- Create a mock-up of the course
- Conclude the course outline

DEVELOP
- Draft storyboards of course content and interactions
- Program course

TEST
- Review course in test environment
- Incorporate edits

RELEASE
- Host course on server

**Milestones**
*What are the key events and dates that frame the schedule?*

- 17 May: Kickoff meeting
- 24 May: Conclude course design with mock-up
- 2 July: Test start date
- 12 July: Launch course
- 13 July: Close project

**Risks**
*What are possible future events to consider now that could have a negative impact on the project?*

- Subject matter expertise: Teresa Novak, IT Tooling Lead, is the appointed SME from Wired Letters who is knowledgeable about how to use the virtual teaming tools, however, she has limited availability to support the course development.
- Scheduling consideration: The course must launch in advance of Wired Letters' *Summer Series* corporate event that takes place 21 July through 23 July; it will be announced to all employees and the call to action is to take the course.

# Plan the project

Project management is not just scheduling. Projects have many plans! Projects have resource management plans, project schedules, communication plans, financial management plans, risk management plans, stakeholder management plans, and so on. It is good practice to think about all types of plans that should be included to make a project successful.

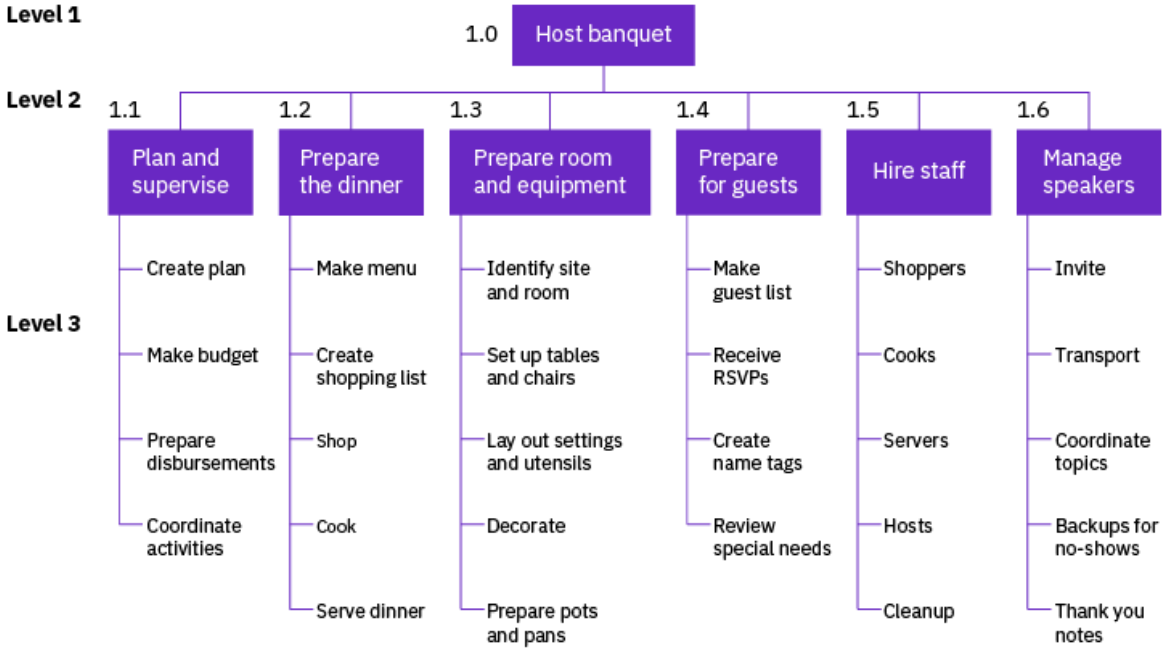
During the Initiate and Plan phase, a PM will draft the plans that are needed for the project lifecycle. In this course, you will learn about the project planning process to arrive at the project scope, schedule, and cost. And you will get an overview of a risk management plan and a communications plan.

The project planning process involves six steps that result in several deliverables for the PM to guide the project.

## Step 1: Define all activities

The first step in the planning process is to identify and define all activities and tasks that are required to create and deliver the project deliverables. The PM accomplishes this by using a work breakdown structure, often simply referred to as a WBS. The purpose of the WBS is to organize and define the project scope. A WBS is a hierarchical grouping of activities. Creating a WBS is simply a technique to “break down” the project into smaller units so that the work can be estimated, assigned, and tracked. It is important for PMs to start the planning process by creating a WBS to identify all project activities and tasks.

**Scope refers to all the work necessary to complete a project. It is identified during project planning using a WBS. If the scope is not properly defined early in the project, it can expand during the Execute phase because of unplanned activities. This is known as scope creep, and might cause projects to fail.**




The diagram is just one way to represent the project WBS. It could also be represented in an outline format as follows. When planning a project, a PM typically uses a numbered list like this with an indented numbering system.

**1. Host Banquet**
- **1.1 Plan and supervise**
  - 1.1.1 Create plan
  - 1.1.2 Make budget
  - 1.1.3 Prepare disbursements
  - 1.1.4 Coordinate activities
- **1.2 Prepare the dinner**
  - 1.2.1 Make menu
  - 1.2.2 Create shopping list
  - 1.2.3 Shop
  - 1.2.4 Cook
  - 1.2.5 Serve dinner
- **1.3 Prepare room and equipment**
  - 1.3.1 Identify site and room
  - 1.3.2 Set up tables and chairs
  - 1.3.3 Lay out settings and utensils
  - 1.3.4 Decorate
  - 1.3.5 Prepare pots and pans
- **1.4 Prepare for guests**
  - 1.4.1 Make guest list
  - 1.4.2 Receive RSVPs
  - 1.4.3 Create name tags
  - 1.4.4 Review special needs
- **1.5 Hire staff**
  - 1.5.1 Shoppers
  - 1.5.2 Cooks
  - 1.5.3 Servers
  - 1.5.4 Hosts
  - 1.5.5 Cleanup
- **1.6 Manage speakers**
  - 1.6.1 Invite
  - 1.6.2 Transport
  - 1.6.3 Coordinate topics
  - 1.6.4 Backups for no-shows
  - 1.6.5 Thank you notes

**Take note**

- You can see there are three levels in the WBS example.
- Some of the level 3 activities could be broken down even further to level 4 and level 5.
- At this time, notice that the WBS activities are not organized into any kind of order. They are only categorized by activity.

PMs can conduct a team brainstorming session to identify the activities that will need to be done to complete the project. A brainstorming session, where there are no right or wrong answers, allows everyone involved to list the activities that they think will be needed for the project. Gathering this input helps to ensure that vital tasks are not overlooked. The PM can sort and organize the brainstormed list of activities into a WBS.

## Step 2: Estimate the effort

The second step in the planning process is to estimate the amount of work, or effort, that it will take to complete each of the activities and tasks that were defined in **Step 1.**

Effort refers to the amount of work required to complete a task. It is usually expressed in terms of person days or person hours. For example, “12 hours of effort” means if 1 person worked on this task non-stop that that individual can complete the task in 12 hours.

Projects create unique deliverables and estimating can be difficult for PMs and the team when working with the unknown. The most common approaches are to:

- Gather input from experts
- Look to previous project experience and estimates
- Use tables and formulas

Important note: Effort is very different from duration. They are not interchangeable terms. Duration refers to the time required to complete the task. It is the difference between one point in time and another. It's important for PMs and teams to understand the difference and communicate clearly. To further illustrate the distinction, if 2 equally skilled people work on the 12-hour task, it can be completed in 6 hours, but the amount of work is still 12 hours of effort.

## Step 3: Sequence the activities

The third step in the planning process is to identify dependencies between the activities that were identified in Step 1, and then organize them into their correct order based on which tasks must start or complete before other tasks can start or complete. Simply said, with activity sequencing the PM is putting the project activities into a logical order.

In projects there are tasks that cannot begin until other tasks are complete. The terms **predecessor** and **successor** are used to describe these task relationships.
An activity to install hardware cannot start until the hardware is delivered, and the hardware cannot be delivered until it is ordered. Now, let's use the terms predecessor and successor. Hardware delivery is a predecessor to hardware installation. Likewise, hardware installation is a successor to hardware delivery.
There are other kinds of activity relationships in projects, such as:

- Sometimes activities must start and end at the same time.
- Sometimes activities must finish at the same time, but they can start at different times as long as they finish together.
- Other activities might have to begin at the same point in time, but they can finish at other times, and so on.

These relationships between project activities and tasks are often referred to as task constraints. PMs sequence activities by identifying these task constraints so the project activities can be put into their logical order.

## Step 4: Estimate duration

The fourth step in the planning process is to estimate how long each activity will take, or its duration. Task durations are very dependent on how resources are assigned to each task. This can be a challenging part of the planning process for PMs.

PMs estimate durations by assigning team members to each individual task based on their availability. PMs consider non-working days such as weekends, holidays, and vacations. There are several ways to make resource assignments.

- A single person can be assigned to work on a task full time. An individual assigned to a 12-hour task can complete the task in 12 hours. Assuming an 8-hour workday, this task will be complete 1 and 1/2 days from its start.
- Multiple people can be assigned full time to work on the same task. If two individuals can work on the same 12-hour task at the same time, they should be able to complete the work in 6 hours, or less elapsed time than one 8-hour workday.
- People can be assigned to work on a task for part of their time. A person who is assigned to work on a 12-hour task for half their time will work on the task 4 hours each workday. The task will take 3 calendar workdays to complete.
- Combinations of full-time and part-time resources can work on a task. A full-time person and a half-time person can complete the task in 8 hours. In theory, if the full-time person works on the task for 8 hours

and the half time person works on the task for 4 hours, they can complete it within one 8-hour workday.

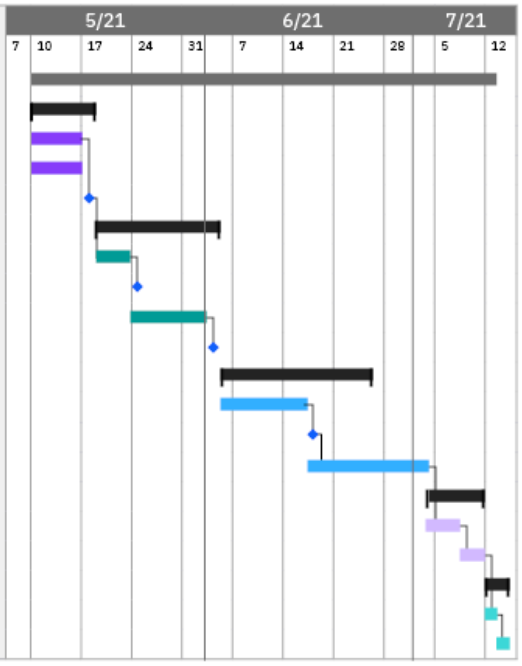
The art of the planning is to figure out how to best use resources to change task durations and dependencies so that the project can complete as soon as possible and to determine if desired project completion dates are feasible.

This is where project management software and tools are very useful for project managers. Such tools can help PMs create a Gantt chart. This is a popular method that PMs use to develop a project schedule. Schedules are one type of plan that organizes the work of a project along a time scale. Gantt charts help visualize the project. They are structured like a spreadsheet on the left and a timeline on the right. They show all project tasks in order and how they are interdependent, with a horizontal status bar for each task that has a start and finish date. This provides PMs with an interactive roadmap they can monitor and update throughout the project lifecycle for accomplished tasks, changes, and so on.

**Scenario: Wired Letters – Project Schedule**

Natasha Verma followed the previous steps to define the project activities, estimate effort, sequence the activities, and estimate duration. She used an online tool to develop the project schedule using a Gantt chart.
Notice there are phases of work and tasks on the left with planned dates across the timeline on the right. This schedule shows the project will meet its milestones from the project canvas, such as starting testing on July 2. The schedule also shows the project is planned to complete on time on July 12.

| Wired Letters Virtual Teaming Course | Start | End | Duration (hours) | % Complete |
|---|---|---|---|---|
| **Project Initiation** | **10/05/21** | **17/05/21** | **14h** | **91 %** |
| Confirm charter and create canvas | 10/05 | 14/05 | 10 | 100% |
| Define project scope | 10/05 | 14/05 | 2 | 100% |
| Team kickoff meeting | 17/05 | 17/05 | 2 | 0% |
| **Design Phase** | **18/05/21** | **03/06/21** | **42h** | **0%** |
| Create mock-up of the course | 18/05 | 21/05 | 10 | 0% |
| Client approval of mock-up | 24/05 | 24/05 | 4 | 0% |
| Draft course outline | 24/05 | 02/06 | 24 | 0% |
| Client approval of course outline | 03/06 | 03/06 | 4 | 0% |
| **Development Phase** | **04/06/21** | **01/07/21** | **148h** | **0%** |
| Draft storyboards | 04/06 | 16/06 | 60 | 0% |
| Client approval of storyboards | 17/06 | 17/06 | 4 | 0% |
| Program course | 18/06 | 01/07 | 84 | 0% |
| **Test Phase** | **02/07/21** | **09/07/21** | **22h** | **0%** |
| QA and test course | 02/07 | 07/07 | 12 | 0% |
| Make final updates | 08/07 | 09/07 | 10 | 0% |
| **Release Phase** | **12/07/21** | **09/07/21** | **8h** | **0%** |
| Host course and official launch | 12/07 | 12/07 | 2 | 0% |
| Close project | 13/07 | 13/07 | 6 | 0% |




## Step 5: Estimate cost

The fifth step in the planning process is to produce an estimate for the overall project cost. PMs do this by estimating the cost of each WBS activity identified in Step 1 and then summing the individual costs to derive the overall project cost.

PMs calculate the cost for a project task by multiplying a resource's billing rate by the estimated task durations for all resources assigned to the task.

### Scenario: Wired Letters – Estimating Task Costs

Let's see how the PM Natasha estimates the costs of some tasks. In the Wired Letters course development project, Natasha knows who the assigned CSTS team members are:

- Anya Valeeva, Instructional Designer
- Sunit Chandra, Graphic Designer
- Peter Singer, Course Programmer
- Maria Cortez, Quality Assurance (QA) Tester

Looking at her Gantt chart for the schedule, the task “Draft course outline” is assigned to Anya and the estimated duration is 24 hours. Natasha multiples Anya’s hourly billing rate of USD 65 by 24 hours to estimate the total cost for the task to be USD 1,560.

Then, there are some other tasks that need to be performed by multiple team members at the same time. So, when Natasha estimates the “QA and test course” task that is a total of 12 hours, she considers that Anya, Peter, and Maria will divide the work equally and she calculates their hourly billing rates, as follows:

- Anya will work for 4 hours and her hourly rate is USD 65, totaling USD 260.
- Peter will work for 4 hours and his hourly rate is USD 71, totaling USD 284.
- Maria will work for 4 hours and her hourly rate is USD 76, totaling USD 304.

This task to ensure the quality of the course is estimated to cost a total of USD 848.

In addition to resource costs, the PM must estimate all other costs related to the project. This could include materials, software, tools, travel expenses, and so on.

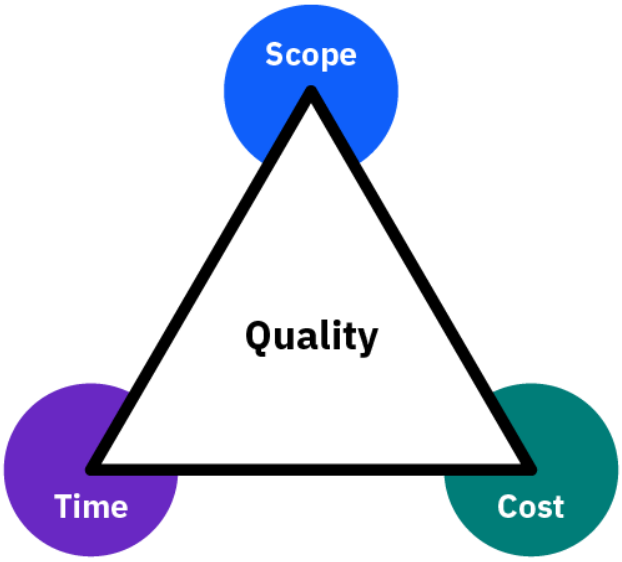
Project managers are responsible for estimating costs upfront here and then budgeting and controlling costs so that the project can be completed within the approved budget. The PM can monitor and control costs by entering them in a Gantt chart using the organization's software or online project management tools.

## Step 6: Try for fit

The sixth step in the planning process is to put it all together. The PM determines if the scope, time, and costs included as part of this project planning align with the project objectives that were shared in the project charter. The PM might need to adjust and iterate until the scope, time, and costs are acceptable.

- **Scope**: The work necessary to complete the project
- **Time**: The schedule that covers the duration of all project tasks
- **Cost**: All costs associated with the project
-

The plan must adjust to the **triple constraint**, or project management triangle, which refers to the scope, time, and cost limitations that apply to every project.




This concept is a **cornerstone of project management.** The success of a project rests on these three pillars.

However, there are certainly other internal and external factors that might affect a project. Other constraints must be balanced, such as sustainability, impact, relevance, and customer satisfaction.

At the end of the six steps in the planning process, the PM will have what is called a “baseline” for the project from which to manage, using a work breakdown structure (WBS), a Gantt chart or project schedule, and any other plans.
The PM creates and maintains many plans, depending on the project and organization’s requirements and the project management methodology. Next, you’ll learn about two more plans that are common and valuable to projects:

- Communications management plan
- Risk management plan

## Communications management plan

The PM is responsible for building and maintaining communication links during a project. This is critical for project success. Communications between the project manager, team, and stakeholders is crucial. Getting client feedback on a deliverable, asking a teammate where a file is saved, conducting a review and approval process, hosting a status meeting, and other daily project tasks all involve communication.
Communications management is the effective handling of communications for a project. It ensures that the appropriate communication channels exist with the appropriate people for the exchange of essential information so the project functions smoothly.
During the Initiate and Plan phase, a PM develops the communications management plan to define how information will be organized and shared to effectively manage communications for the project.
It documents:

- The type of communication
- The target audience for the communication
- The purpose of the communication
- The date or frequency that the communication will occur
- The method or format to use
- The person responsible for the communication

The two primary types of communications that a PM documents in a communications management plan are **meetings** and **reports**.

**Virtual teams affect the types of meetings to plan and the communications media the PM needs to arrange.**

Communications management plans are unique to every project. The plan ensures effective communications across the team, sets expectations for the team, keeps the team updated, and contributes to good stakeholder management. Communication is critical to keeping a good relationship with the client, and this plan helps the PM maintain a shared understanding of **what is happening** and **what should be happening** throughout the project.

When communicating with the client and stakeholders, it is important to check that the right people are receiving the right messages. Different messages are often directed at different levels within organizations. The PM should review and update the communications management plan as necessary during the life of the project.

## Scenario: Wired Letters – Communications Management Plan

Natasha is using her organization's template for the project's communications plan.

**Communications Management Plan**

| **Communication** | **Target audience** *Who will you communicate to?* | **Purpose** *What is the topic of the message?* | **Schedule** *What is the date or frequency?* | **Delivery method** *How will it be delivered?* | **Owner** *Who will the communication be from?* | **Status** *Not yet started, in progress, or completed?* |
|---|---|---|---|---|---|---|
| Kick-off Meeting | Stakeholders, Project team | Orient everyone involved to project, share project charter, set expectations, share plans | 17 May | Agenda, Virtual meeting, Meeting notes | Project Manager | Completed |
| Course Design Review Meeting | Stakeholders, Project team | Review and edit course mock-up | 24 May | Agenda, Virtual meeting, Meeting notes | Project Manager, Graphic Designer | Completed |
| Project Team Meeting | Project team | Report status, identify issues, develop solutions as a team | Biweekly: Tuesday and Thursday | Virtual meeting 30 min | Project Manager | In progress |
| Status Report | Stakeholders | Communicate current progress, issues, and risks | Weekly: Friday | Online report shared via email | Project Manager | In progress |
| Course Quality Meeting | Project team | Discuss and develop quality assurance and testing plan | 17 June | Virtual meeting, Quality criteria, Test plan | Project Manager, Quality Assurance Tester | Not yet starte |
| Course Announcement | Stakeholders, Project team | Announce completed course and share course details | 12 July | Email | Project Manager | Not yet starte |
| Stakeholder Showcase | Stakeholders, Project team | Present completed course and learning experience; confirm deliverable acceptance; close out the project | 13 July | Agenda, Virtual meeting, Close out documentation | Project Manager | Not yet starte |

# Risk management plan

Risks are inherent in any project. All projects have some degree of uncertainty because of the assumptions associated with them and the environment in which they are executed. PMs cannot eliminate project risks entirely, but PMs can anticipate, reduce, and mitigate many risks. What could be a risk to a project?

- The project purpose is not well-defined and causing confusion.
- There is a change in scope (scope creep).
- There is an error in estimating the cost of a resource or asset needed for the project.
- The client asks for additional work or a new deliverable because of a new direction.
- An unanticipated legal review is causing delay.
- Stakeholders require more review time than what was planned.

You can see risks can often lead to impacts to project scope, time, and cost.
**Risk management** is the process of anticipating future events that could negatively impact the project and then defining the activities to minimize the probability and impact of those events.
Risk management helps PMs prevent surprises and avoid “management by crisis.” Risk management is part of the planning endeavors during the **Initiate and Plan phase**. The PM should develop a **risk management plan.**

Shown here is a basic example of what a risk management plan could look like. It documents how the team will monitor and respond to risks that could impact the project. It can be simple or complex, depending on the project and the organization’s standards. At a minimum, the PM will answer:

- When and how will the risk be assessed?
- What is the responsibility of the “risk owner”?
- When does a project risk trigger an escalation?

**Risk Management Plan**
*How our team will manage risk*

| | |
|---|---|
| **Project** | |
| **Project goal** | |
| **Why should we manage risk?** | |
| **Risk management approach** | |
| **What to do if you own a risk?** | |
| **When does the risk trigger an escalation?** | |
| **Where is the risk log?** | |

Risk management is usually done on larger projects, but even for small teams, a short sync-up with the team to help identify potential problems in the plan helps guard against the unexpected and ensures that you have a plan of action in case the unexpected does occur.
Once the risk management plan is set up, the PM must track and control risks. The PM can do this by creating a risk log. A **risk log** documents the identified risk, estimated risk severity, planned response, and risk owner for all risks on a project. The PM should review and update the risk log at regular intervals during team meetings throughout the project lifecycle.

## Scenario: Wired Letters – Risk Log

Natasha is also using her organization's template for the project risk log. She identified a couple of risks at the start of the project when considering the project scope and providing the visual project canvas to the team. In her project risk log, Natasha is assessing and color-coding risks so there is a visual display of:

- The likelihood of the risk occurring
- The impact if the risk occurs
- The severity, based on the likelihood and impact

**Risk Log**

| ID | Date raised | Risk description | Likelihood of the risk occurring | Impact if the risk occurs | Severity *A rating based on likelihood and impact* | Owner *The person who will manage the risk* | Mitigating action *Actions to mitigate the risk to reduce the likelihood* |
|---|---|---|---|---|---|---|---|
| 1 | 17 May | **Subject matter expertise**: Teresa Novak, IT Tooling Lead, is the appointed SME from Wired Letters who is knowledgeable about how to use the virtual teaming tools, however, she has limited availability to support the course development. | Medium | High | High | Wired Letters<br>• Sam Green, Learning Director of Wired Letters<br>• Teresa Novak, IT Tooling Lead | Sam Green and Teresa Novak are meeting with Teresa's director to free up more of her time to support the course. |
| 2 | 17 May | **Scheduling consideration**: The course must launch in advance of Wired Letters' *Summer Series* corporate event that takes place 21 July through 23 July; it will be announced to all employees and the call to action is to take the course. | Low | High | Medium | CSTS<br>• Natasha Verma, Project Manager | Natasha will manage the project to stay on schedule to complete the course on 12 July. |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |

# Assemble the project team

Project managers cannot manage the project alone; they need a team of skilled people! A PM can build a successful project team by taking the following steps:

1. Select the right project team members with the right knowledge, skills, abilities, and experience that the project demands.
2. Organize the project team around a common set of values and ensure they are all introduced to the project charter.

3. Ensure open, easy, frequent communication across the project team and use the communications management plan.
4. Maintain the project team after it is formed and pay attention to consistently:
    - Motivate the team members
    - Recognize and reward team behavior and successes
    - Respond to changes in a timely way as team members are added or leave the project team

When a group of individuals truly becomes a project team, they are committed to the team's values and objectives. They learn to work well together, enjoy working together, and most importantly they produce the high-quality results that are key to a successful project.

## Project kickoff

What is the purpose of a project kickoff meeting? And, what do PMs need to cover and achieve to start a new project on the path to success?

The **Initiate and Plan phase** includes a **project kickoff meeting**. This is the first meeting with the project team, stakeholders, and the client. The purpose of the meeting is to ensure everyone understands the project, including the scope and schedule, and how the project team will work together.

The PM should set an agenda and facilitate the meeting to clearly communicate what the project team needs. The PM should cover topics such as the following.

- **Introductions**: Take some time to introduce or let everyone introduce themselves. This might be the first time some people are meeting each other. Especially in business, projects could involve people from various fields or organizations that do not typically work together.

- **Project background**: This is likely the first time most of the project team is learning about the project. Why are they getting together? Take some time to share and agree upon the project goals, business objectives, and purpose of the project.
- **Scope and deliverables**: Spend a good amount of time on this topic. Be sure that everyone understands what is in and out of scope for the project, and what deliverables the project team is expected to provide at the end. The project team needs to understand what success looks like for the project.
- **Roles and responsibilities**: Identify all the groups and individuals who are working on the project and share a short description of their roles across the project lifecycle. Make sure everyone understands what is expected of them here at the start of the project.
- **Schedule**: At a high level, it's important to communicate the high-level project schedule. What are the major milestones and key dates?
- **Ways of working:** How will the team work together? Share the communications plan for meetings and reports and encourage open communication.

Depending on the project, other topics can certainly be included.

**The project kickoff meeting is an opportunity for the PM to set the tone for the project, motivate the project team, and instill confidence in the client. Done successfully, a project kickoff meeting will help contribute to the success of the project.**

## Delegate tasks to the project team

Once the project team is assembled and the project is kicked off, the project manager must assign tasks to each team member based on their competencies. The PM has done all of the project planning so far and now the PM shares out the assignments. The PM should be specific, provide start and end dates for each task, and show the project team members

where they can find the project schedule. This is where various project management tools and software can be used, depending on the organization's standards.
The PM will support, monitor, motivate, and empower project team members, and track the completion of the tasks in the next phase, **Execute**.

### Scenario: Wired Letters – Project Kickoff

Natasha and the project team are ready! They successfully conducted a project kickoff in a virtual meeting on the date that Natasha planned. Here are some highlights about how it went.

- Most of the CSTS team members knew each other from previous projects, but Natasha made sure to conduct introductions because the external stakeholders needed to meet everyone. Teresa Novak, the Wired Letters IT Tooling Lead, is going to be the subject matter expert (SME) for the course. She was happy to meet the team, as was Sam Green, the Wired Letters Learning Director.
- When talking about the project scope and deliverables, Natasha took the team through the project canvas. The team understood and agreed on the deliverables.
- Natasha also showed them the Gantt chart, so she feels confident everyone knows the project schedule, including the ordering of the tasks.
- Natasha asked everyone to share planned vacation time so she can consider these requests as part of the schedule.
- And, the team discussed how they will work together. They plan to have a project team call every Tuesday and Thursday, and to stay in touch using email and the team's online board to share findings and ask questions so they can work as efficiently as possible.
- Everyone was excited for the new Wired Letters project and ready to begin the next day!

- Natasha felt like she got buy-in from her CSTS team and the client, Sam Green, and the SME, Teresa, from Wired Letters.

After the meeting, Natasha sent meeting notes, set up an online project folder on Wired Letters' shared platform to store all documentation, and gave everyone access.
Natasha also set up a one-on-one call with Anya (instructional designer), Sunit (graphic designer), Peter (course programmer), and Maria (QA tester) to go over their assigned tasks, make sure they have the resources they need, and answer any questions.

## Wrap-up

You should have a good understanding of the Initiate and Plan phase. Having a plan for how to get things done is the foundation to delivering any project well. Remember, the purpose of this phase is to ensure the goals or objectives are agreed upon, establish scope, define the initial plans, kick off the work, and assign tasks to the project team.

Keep these **PM best practices** and considerations in mind for the **Initiate and Plan phase:**

- Avoid tendencies to jump right into project execution activities. Schedule planning meetings with the project team, and include time for planning in project schedules and estimates.
- Get the team's buy-in and involvement early. The people who do the work should help plan the work. The people doing the work know best what is required to deliver the project.
- Also, get the clients and stakeholders involved early and often.
- Change is inevitable and constant. Be prepared to replan. Some things are within a PM's control and other things are outside of the PM's control. A risk management plan and continuous reviews of the risk log can help respond to risks quickly.

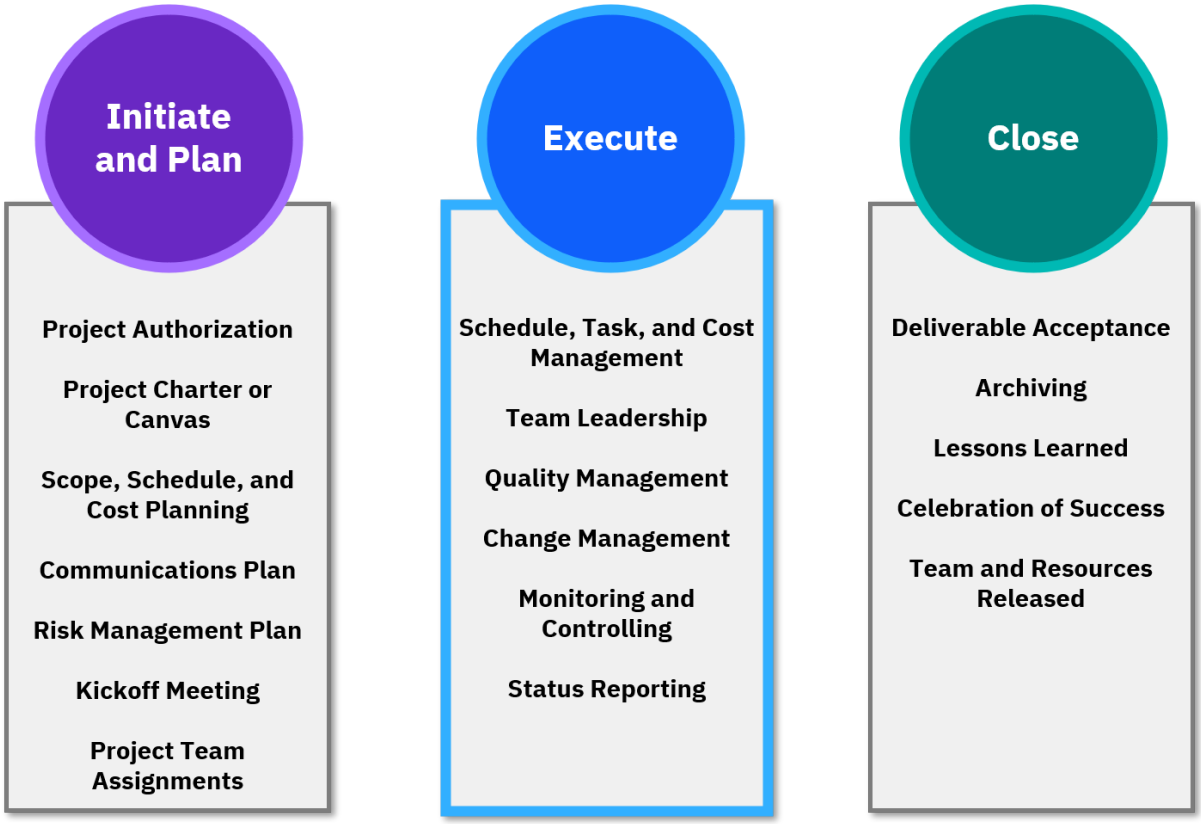
- If the communications management plan is well-defined and was successful, save it for reuse on similar projects.

# Execute a project

## Purpose

The project manager and the project team worked through the planning of the project in the previous **Initiate and Plan phase** and now they have a solid strategy for the project!

Let's move forward in the lifecycle to the **Execute phase** of project management.




Purpose: The project team collaborates to complete assigned tasks and the project manager focuses on monitoring all activities to create the product or service, as detailed in the project plan.

The **Execute phase** is when the project team builds the deliverables, and it's when the project manager implements the plans to manage and monitor the team's activities.

This phase includes all of the tasks the project team will perform that directly lead to the development of project deliverables. This includes activities such as writing code, manufacturing hardware, providing services to implement an IT solution, writing marketing content, creating a learning program, testing software, and so on. In addition, the project manager performs critical tasks, including:

- Managing the schedule, tasks, and cost
- Leading the project team and resources
- Encouraging teamwork and facilitating meetings
- Resolving conflicts and crises
- Managing reviews, approvals, and the quality of the deliverables
- Managing changes
- Reporting on progress

The **Execute phase** takes the longest amount of time compared to the other phases. It's where most of the development work and cost of the project is expended.

## Manage schedule, tasks, and cost

**The goal of a project manager is to deliver the project on time and within budget**. PMs use their knowledge and skills and project management tools to do their best to control the process to maintain the schedule and budget. But, things do not always go according to plan. The PM must always monitor, day-to-day and week-to-week, to catch any issues quickly and determine solutions quickly to maintain control.

### Schedule management

*Are due dates being met that match the schedule and are in-scope?*

Effective schedule management means greater productivity. The PM created a "baseline" project **schedule** in the **Initiate and Plan phase**. The PM must now monitor the schedule to make sure the project stays on track. The PM will use this project schedule to:

- Track the progress of the project (what was planned versus actual progress)
- Report how the project is progressing to the team and sponsor or client
- Determine whether to revise the project to meet major milestones and completion dates
- Determine whether to accept or reject a change based on how it affects schedule, tasks, cost, and the project completion date

Overall, the PM monitors project progress and compares it against the plan to identify variances so the PM can take corrective actions, when necessary, to keep the project on track. When considering a course of action to take to address a variance, projects have fairly limited options. This is actually a good thing from a project management perspective. Remember the triple constraints: scope, time, and costs.

- If the PM can adjust the “baseline,” then the PM has these options:
    - Add resources, which increases cost
    - Add time, which impacts the schedule
    - Reduce the deliverables, which impacts scope
    - Implement some combination of the above that is acceptable to all involved

    If the PM cannot adjust the “baseline,” then the PM must identify more creative ways to stay within scope given the resources allocated to the project. Options might include:

    - Re-allocate resources
    - Re-prioritize work
    - Re-sequence work

## Task management

*Is the right work being performed at the right time?*

The project team is executing their tasks in this phase. To make sure a task is done correctly and within the project schedule, the team needs to know their tasks and the PM needs to manage every step along the way.

## Cost management

*Is the project on budget?*

Just as the PM planned a schedule, the PM also has a planned budget. But that does not mean the PM's job is done. The original, allocated budget is a "baseline" from which the PM can measure the actual spending during a project. The PM must always monitor cost expenditure and control the project costs to keep them within the agreed budget.

**Many projects require having to purchase, rent, or contract with outside resources or vendors. This process is called procurement. It's a part of the costs that a PM must manage.**

## Project tracking and control

*Tracking and control is an essential part of project management that contributes to project success.*

Tracking is the way the PM keeps a project moving. Unfortunately, projects often get delayed because the tracking part of the project is executed improperly. The scenario usually goes something like this:

"The PM has a conversation with a resource at a meeting, by phone or in a chat room. The resource tells the PM they have it under control and will have it done by an agreed time. The PM assumes the resource will do what he or she promised. Come status time, nothing has been done. Excuses range from "I'm waiting for somebody to finish a task" to "My computer got burned when my car caught on fire after entering Chilly Willies to buy a coffee." However, when the PM asks why the resource didn't say

something, the answer is usually “You didn’t ask!” The moral of the story is that the PM needs to follow up before the target date for a task. A simple email on how things are going with the task should suffice.”

A good project tracking discipline helps project teams understand as early as possible when corrective action is needed. As work proceeds, the PM will expand or refine the plans on a regular basis. PMs can use a variety of project tracking methods, such as using a template from their organization or approved project management software. For instance, you learned about the **Gantt chart.** The PM can perform all schedule, task, and cost management tasks in a Gantt chart to track the “baseline” and actuals.

The **project contro**l process, like many other project management activities, is an iterative process the PM repeats many times throughout the lifecycle of a project. Overall, the PM is responsible for executing these four project control steps.

### 1. Establish standards

The PM is responsible for establishing the standards by which the project will be measured and the plans that define how the project will be executed.

### 2. Observe performance

After a PM establishes the plans, procedures, and standards, the PM observes how the project is progressing. In this step, performance information is collected from several sources, including meetings, reports, briefings, letters, audits, and observations.

### 3. Compare planned with actual performance

When a PM has collected appropriate performance information, the PM then compares the project’s status with the standards and expectations. This step answers two questions:

1. How is the project doing?
2. And, if variances from the original project plan have occurred, what caused the variances?

### 4. Take corrective action

Finally, the PM decides what, if any, corrective action should be taken. This step involves activities such as revising plans, reallocating resources, and changing the way the project is organized or managed.

**Based on knowledge and experience, a PM will get better and better at detecting issues and finding solutions.**

## Scenario: Wired Letters – Project Tracking and Control

On a Tuesday project team call, the instructional designer, Anya, shared she planned to work on the course outline that day with the SME, Teresa, but their meeting was postponed. Teresa asked to reschedule it to Thursday.

Natasha was quick to review the project schedule and noticed this could present a delay. The plan is to complete the “Draft the course outline” task over 8 business days and within 24 hours of time for Anya. This would mean missing two possible business days for Anya and Teresa to draft the course outline. Remember, Natasha knew and had identified early on that Teresa’s lack of availability to support the course development effort was a risk.

Natasha does not want this task to slip. She made the decision to send an email to Teresa, copying Anya and the client. She shared that the team wants to avoid any delay working on the course outline so it can be completed on time and subsequent tasks stay on track. Natasha proposed meeting the next day, Wednesday, instead of Thursday. Teresa emailed everyone back that she understood and could be available for a one-hour virtual meeting on Wednesday. Natasha replied to all, “Wonderful and thank you!”

You can see how important it is for a project manager to always monitor the team's performance and listen to everyone's status to determine if there are any project impacts. In this case, Natasha took a simple and quick corrective action to ensure the task stayed on schedule. The one-day adjustment did not impact cost or the schedule.

## Lead the project team

Once the **Execute phase begins**, the PM's planning will lead the way, but project teams need guidance and leadership is a vital competence for the PM. PMs craft their own leadership style and methodology to build and lead a strong project team.

### High-performing project teams

The PM is responsible for leading and motivating people to ensure the project team is high performing. This means that the project team has high morale and is getting the job done. It's also about talent, trust, the physical environment, and recognition. A project team could be considered high performing if:
The breadth, depth, and caliber of project manager and project team knowledge, skills and abilities are appropriate for all phases.
Morale, motivation, energy, and collaboration across the project team is high.
Environment and facilities support productive and effective teamwork.
Roles and responsibilities are clear.

**Healthy signs of a team**

- Morale is good.
- There is open communication.
- The team is diverse.

## Unhealthy signs of a team

- Tension can be felt.
- Turnover of team members is high.
- Working conditions are poor.

Here is a list of some **project management techniques** that PMs use to successfully lead the project team.

- **Establish a clear project scope.** PMs must define and communicate the scope of the project.
- **Plan globally and think locally.** PMs must keep the entire scope of the project in mind while being ready to act decisively on a day-to-day basis. Essentially, keep the “big picture” in mind and be detail-oriented at the same time.
- **Promote teamwork and collaboration**. PMs must use their team-building skills and encourage collaboration.
- **Provide tools and resources.** PMs must provide the project team with the tools and resources they need to be productive and stay in close communication, whether the team is working at the same location or working remotely.
- **Anticipate and address conflict.** PMs must use their leadership and conflict management skills to proactively address potential issues among the project team members, client, or stakeholders.
- **Manage stakeholders.** PMs must identify the individuals who are the “influencers” who can affect the project. This also involves knowing the goals of the stakeholders and choosing the right approach to manage them and their expectations.
- **Engage in continual project management planning.** PMs should consider input and feedback from the project team as they manage the project daily.

## Project meetings

Every project requires regularly scheduled meetings to keep the team focused.

### Kickoff meeting

A project manager will host a kickoff meeting at the very start of the project, during the Initiate and Plan phase. You learned the purpose of this meeting is to introduce the team, understand the project background and goals, and lay out what needs to be done from start to finish by the team.

### Status meetings

Then, there are periodic status meetings for the project team during the Execute phase. Project status meetings keep the momentum going for the project. They serve to keep everyone informed and hold all team members accountable for completing their tasks.

**Note**: In an Agile approach to managing projects, the project team meets more often (in some cases even on a daily basis) either to check the status of the project (what is done and how it was done), and/or to plan what needs to be done in the next iteration of the project (and what impediments might arise).

### Stakeholder meetings

The project manager will also host stakeholder meetings to update stakeholders, perhaps monthly. These meetings are usually for the most influential stakeholders. A well-organized meeting in this case is critical for making a positive impression. It’s important for the PM to keep stakeholder attention and support throughout the project to ensure success.

**Scenario: Wired Letters – Stakeholder Meeting**

Since Wired Letters is a new client for CSTS, Natasha decided to add a monthly stakeholder meeting to her communications management plan. Natasha wants to ensure CSTS makes a positive impression, and she needs ongoing support from all stakeholders.
She hosted the first virtual meeting on the last Thursday of the month with the CSTS internal stakeholders and Wired Letters external stakeholders:

- Vivienne Chen, CSTS Program Manager
- Dilip Karnam, CSTS Marketing Director
- Sam Green, Wired Letters Learning Director (client)
- Teresa Novak, Wired Letters IT Tooling Lead

Everyone was engaged and interested in finding out about the progress of the virtual tooling course. Sam asked a couple of questions and Natasha provided informative answers. Natasha also asked Teresa if she anticipated being able to devote SME time to the upcoming tasks, and she confirmed she would.
This meeting and the upcoming stakeholder meetings will certainly help in the project's continued success!

## Running a successful meeting

In general, the project manager needs to do the following to host productive meetings:

- Have an objective and set an agenda in advance to plan for what the meeting will accomplish and to have a valuable conversation.
- Facilitate the meeting, which includes introducing the participants if they have not met yet, discussing topics and presenting documents based on the agenda, validating decisions being made, and gaining agreement on next steps to take.
- Share out meeting notes about what was concluded and update any project planning or reports, as necessary.

### Considerations for a multicultural team

When managing a multicultural team, PMs must consider variations in social customs, time zones, protocol practices, and language proficiency. Failure to recognize differences often leads to hurt feelings and misunderstandings that might affect the smooth functioning of the project team.

Here are some general, helpful guidelines for PMs and project teams:

- Conduct project meetings during times that are waking hours for all participants.
- Be considerate of holidays and work hours, both of which differ across cultures.
- Avoid using slang, colloquialisms, and nuances when communicating with people for whom the language in use is not a first language.
- Avoid humorous remarks because they are not always funny in other cultures.
- Be considerate of other cultures' protocols. These might include showing respect for management, avoiding public appraisals, and deferring to senior members.

**Embrace all cultures! Culture exists in many forms and places, and in professions, organizations, and departments.**

## Manage quality

It does not matter if the PM delivers the project on time, meets every milestone, and completes the project on budget if the deliverable does not meet quality standards. That's why project quality management is so important. The final product or service must be of high quality. Remember the triple constraint? **Quality is at the center!**

The PM is responsible for ensuring that the overall project satisfies quality criteria. The PM does this by **establishing a plan for quality**, **performing quality assurance**, and **performing quality control.**

## Establish a quality plan

- The PM creates a quality plan as part of the project planning at the start of the project, and then maintains it throughout the project lifecycle.
- It identifies requirements for the quality of the deliverables and the team's process for meeting the requirements.
- It also includes metrics for measuring quality to meet stakeholder expectations.

## Perform quality assurance

- Quality assurance (QA) is simply the process of assuring that the quality plan is adequate for the project and that the project quality plan is followed.
- The PM uses quality assurance to make sure the project is working towards the deliverable to meet quality requirements.
- It helps drive client and stakeholder satisfaction and prevent troubled projects.
- The PM could use a process checklist or a Gantt chart to keep track of quality targets.

## Perform quality control

- The PM must monitor quality throughout the project lifecycle to ensure quality requirements are met.
- If the quality requirements are not met, the PM needs to adjust to get quality back on track.
- Some ways the PM can ensure that the quality of the deliverable is being achieved are through a coordinated review and approval cycle

and testing. For instance, there could be a QA lead on the project to perform testing to ensure quality deliverables.

**A key to effective project leadership is for the PM to instill in the project team the importance of focusing on the quality of their work and the quality of the products and services they are delivering.**

## Manage change

Projects seldom proceed according to plan. Changes are inevitable and cannot be ignored. When unplanned events or exceptions occur during the **Execute phase**, the PM will use a project controlling procedure called **change management**. Change management is a formal process to record and track changes to a final resolution, which can be **accepted and included, deferred, or rejected.**

The purpose of change management is to avoid unauthorized work, “slippage” in the project timeline, extra cost or “scope creep,” and communication problems. Some changes in projects impact the triple constraints (scope, time, and costs) and some changes do not.

The ability to manage change is a critical skill for PMs to have. The PM should define the steps for handling changes on every project in a **change management plan.** This procedure should be clearly stated and documented during the Initiate and Plan phase. Everyone must understand how project changes will be identified, documented, tracked, communicated, reviewed, approved, and implemented. PMs can use a change tracking tool or template from their organization.

PMs use the change management process to ensure all proposed changes are:

- From authorized people
- Assessed for impact to the project schedule and cost
- Approved by the right people
- Communicated properly to everyone

## Steps to manage change

When managing change on projects, PMs follow these overall steps:

1. First, identify the change. The PM will clarify the scope of the requested change and document it in a project change request (PCR) form. Who is requesting the change? Why is the change needed? What effort is needed to investigate the change? The PM decides whether to approve, reject, or defer the change request.
2. Second, investigate the change. The PM will analyze the change request to determine the impacts of the change to the project and its benefits. Is an alternative possible? Or, is the change needed for the project to succeed? The PM reviews all changes to determine if the scope, schedule, or budget are impacted, even for seemingly simple day-to-day changes. And the PM estimates the cost of the change request.
3. Third, implement the change. The PM will make sure the PCR is formally approved by the right stakeholder. The PM will update the project schedule, budget, and scope as required. The PM allocates team members to handle the change. The PM will document the change and communicate the impact and change details to stakeholders, including the person who requested the change. The team will implement the change to the project.

## Scenario: Wired Letters – Project Change Request

About midway through the project, Sam Green set up a virtual meeting with Natasha. He shared the purpose of the discussion was to go over a new development regarding the Virtual Tools for Collaboration course.
The experienced PM Natasha is anticipating a project change! What could it be?
*Expand each section to find out how Natasha will handle this project change request.*

### 1. Identify the change

When they met, Sam said his Learning and Development team realizes it's critical for Wired Letters to measure employees' learning. He wants to add a final assessment to measure the learning of the concepts presented in the course. Natasha understood and agreed this is a good instructional strategy and best practice. She gathered the requirements from Sam and offered the features that City Star Training Solutions can provide. She confirmed an online final assessment could be integrated in the course. Natasha shared this would impact the scope of the project, and Sam understood.

Natasha asked Sam to fill out the PCR template to formally capture the description of his change request.

### 2. Investigate the change

Once Natasha received his PCR, she did her investigation. She estimated the schedule and cost impacts due to this scope increase for a new deliverable: the final assessment. She consulted with her team, in particular the instructional designer Anya and course programmer Peter, to confirm her thinking and estimations since they would be performing the new work.

Natasha concluded the schedule will be impacted and need an additional 4 days. She also calculated that the change request would cost USD 1,218. She updated the PCR document and submitted it to Sam and her CSTS program manager to consider for approval.

### 3. Implement the change

*City Star Training Solutions (CSTS)*
**Project Change Request (PCR) Form**

| **Requested Change** | |
|---|---|
| **PCR Number** | **001** |
| **Client** | **Wired Letters** |
| **Project Name** | Virtual Tools for Collaboration course |
| **Delivery Type** | Digital course |
| **PCR Submitter** | Sam Green, Wired Letters Learning Director |
| **Project Manager** | Natasha Verma |
| **PCR Submission Date** | 15 June |

**Change Request Description:**
This PCR is to **add a new deliverable** to the Virtual Tooling for Team course. The Wired Letters Learning and Development team recognizes the critical need to include a **final assessment** to measure the learning of the concepts presented in the course. The final assessment should be:

- Online
- Integrated with the course
- 10 questions that can be true/false, multiple-choice single answer, or multiple-choice multiple answer
- 80% passing rate to obtain course completion
- Reset if learners do not pass and learners can have unlimited times to re-take

**Change Investigation**

**Impact to Scope:**
- This is an additional deliverable due to Wired Letters that increases the scope of the project.

**Impact to Schedule:**
- The CSTS team needs additional time to design, develop, program, and integrate a final assessment.
- Estimate the following:
  - The instructional designer will need **2 days** to draft the assessment and **½ day** to incorporate edits.
  - The SME will need **1 day** to review and provide edits.
  - The course programmer will need **1 day** to program and integrate the assessment into the course.
- The project schedule will need tasks added and 4 business days added.
- The course completion date was 12 July. It is now **15 July**.

**New Assumptions:**
- The final assessment will be a part of the planned "QA and test" task. No additional testing time is anticipated. The project can absorb this.
- The SME will review and provide edits concurrent with another task, so as not to add 1 day to the schedule.

**Impact to Cost:**
The following impact to cost is based on the changes to scope described above.

| Resource | Duration | Hours | Rate | Cost |
|---|---|---|---|---|
| Instructional Designer | 2 ½ days | 10 | USD 65 | USD 650 |
| Course Programmer | 1 day | 8 | USD 71 | USD 568 |
| | | | **Total** | **USD 1,218** |

**Decision**

| Approver | Accept or Reject | Date | Comments |
|---|---|---|---|
| **CSTS:** *Vivienne Chen, Program Manager* | Accept | 16 June | None |
| **Wired Letters:** *Sam Green, Learning Director* | Accept | 16 June | Thank you for accommodating what is right for our learners. |

### Project change request

Next, Natasha will update the project schedule (Gantt chart) and increase the budget to accommodate this change, and the team will perform the work to design, develop, and integrate a final assessment in the course. She will also post this documentation in the team's project folder.
You can see how Natasha followed the overall change management steps to identify the change, investigate the change, and implement the change.

## Report progress

The PM job requires many hats. Not only do PMs motivate and lead their teams to success and plan and monitor the project, they must also report on the project progress.

A **project status report** is a document that describes the progress of a project within a specific time period and compares it against the project plan. Project managers use status reports to keep stakeholders informed of progress and monitor costs, risks, time, and work. The status report for a project will generally include the following:

- The work that's been completed
- The plan for what will follow
- The summary of the project budget and schedule
- A list of action items
- Any issues and risks, and what's being done about them

The true value of a project status report lies beyond its use as a communication channel. It also provides a documented history of the project. This gives PMs historical data, so the next time they are planning a similar project, they can avoid any missteps or bottlenecks.

PMs can use an online reporting tool or template from their organization. It's common for the PM to write and share out a report on a weekly basis throughout the project. It's also common to use color-coding in a project status report to easily visualize status.

**Scenario: Wired Letters – Project Status Report**

Natasha is using her organization's template for the project status report.

*City Star Training Solutions (CSTS)*

**Project Status Report**

| **Overall Status** | |
|---|---|
| **Date** | **18 June** |
| **Client** | **Wired Letters** |
| **Project Name** | Virtual Tools for Collaboration course |
| **Delivery Type** | Digital course |
| **Project Manager** | Natasha Verma |
| **Budget** | USD 35,359 |

**Overall status**

- Project Initiation phase and Design phase are completed.
- Currently in the Development phase for the course.
- Project is on track.

**Key Accomplishments This Week**

- 16 June: PCR 001 approved for the project to add a final assessment. Project cost and schedule are updated.
- 16 June: Completed the drafts of all course storyboards and submitted files for review and approval.
- 17 June: Wired Letters completed the review and provided e-mail approval of all storyboards, with minor edits.
- 17 June: Project team met to discuss and develop the quality assurance (QA) and testing plan.
  - It is posted in the project folder.

**Activities Coming Up**

- 18 June – 1 July: Programming the course will begin and continue.
  - The instructional designer will walk-through the storyboards and consult with the course programmer.
- 24 June: Monthly stakeholder meeting

| Milestone | Due Date | Status |
|---|---|---|
| Kickoff meeting | 17 May | Completed |
| Conclude course design with mock-up | 24 May | Completed |
| Test start date | 2 July | On Track |
| Launch course | 15 July (adjusted from PCR 001) | On Track |
| Close project | 16 July (adjusted from PCR 001) | On Track |

| Risk or Issue Description | Mitigation or Resolution | Owner | Status |
|---|---|---|---|
| Teresa Novak, IT Tooling Lead, is the appointed SME from Wired Letters who is knowledgeable about how to use the virtual teaming tools, however, she has limited availability to support the course development | Teresa will not need to devote as much time since she approved storyboards this week. | Sam Green, Teresa Novak | *Monitoring*<br><br>Low level risk |
| The course must launch in advance of Wired Letters' Summer Series corporate event that takes place 21 July through 23 July; it will be announced to all employees and the call to action is to take the course. | The current planned course launch date is 15 July. | Natasha Verma | *Monitoring*<br><br>Low level risk |

Reporting project schedule slips and cost over-runs is never pleasant. But, ignoring them and hoping that things will somehow correct themselves is a recipe for disaster. It's never comfortable to report bad news, but in the end it's much better to inform stakeholders as early as possible. For instance, it's much better to report three months before a project due date that the delivery is in jeopardy than it is to report two weeks before the due date!

**Early understanding of variances and professional reports from the PM gives the client and stakeholders time to consider, react, and adjust. Over time, this begins to build credibility and trust.**

## Wrap-up

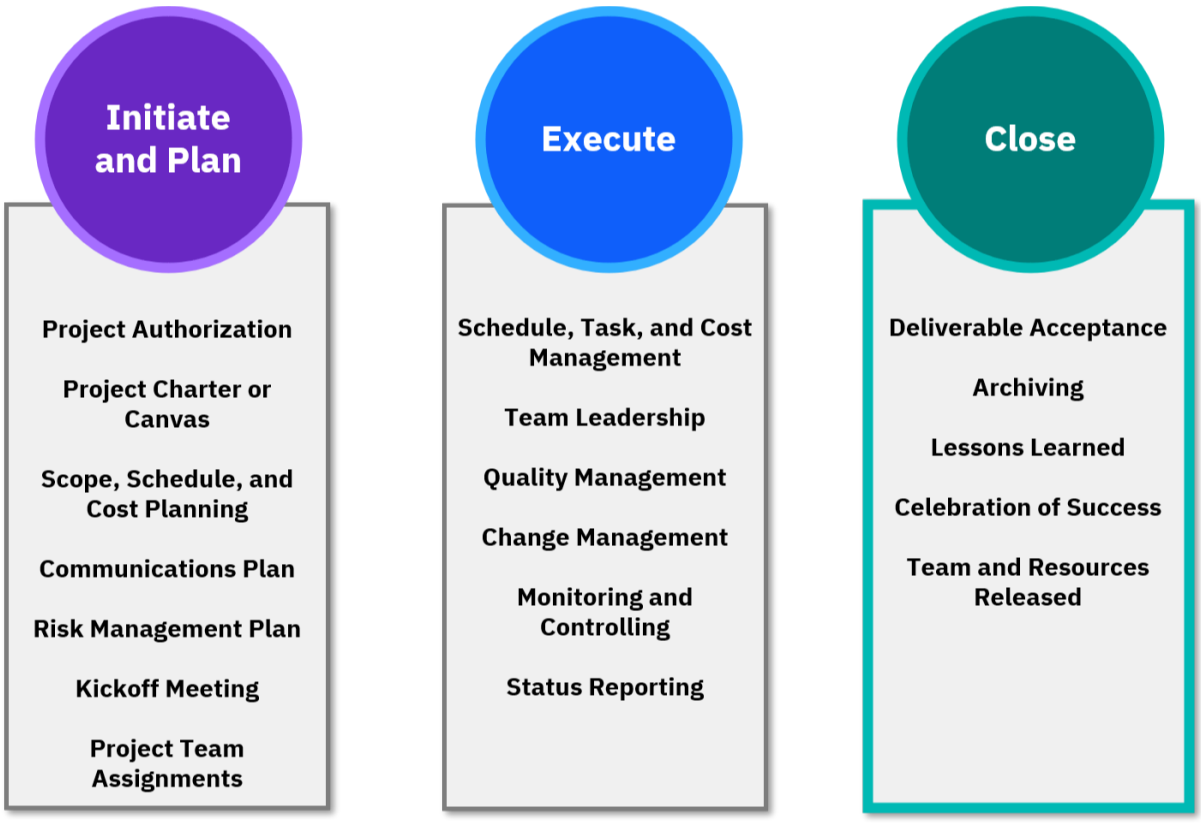
You should have a good understanding of the Execute phase. Remember this phase requires the most time, work, and cost. Its purpose is to implement, perform, manage, and control the work that is defined in the planning phase. While the team is executing their tasks to deliver the product or service, the PM is juggling many tasks at the same time, including:

- Managing the schedule, tasks, and cost
- Leading the project team and resources
- Encouraging teamwork and facilitating meetings
- Resolving conflicts and crises
- Managing reviews, approvals, and the quality of the deliverables
- Managing changes
- Reporting on progress

# Close a project

## Purpose

Anyone who has worked in a project environment has probably experienced the phenomenon where certain projects just do not seem to have clean endings! The project team does not quite know what to do next. Maybe some continue to try to work on the project deliverables after they have been deployed, while others continue finishing up things they didn't quite get to, like documentation.
And the team cannot simply fade away either!
Let's examine the **Close phase**, the final phase of the traditional phases of project management.




Purpose: Once the project manager and project team have delivered the product or service to the client, it's time to understand that the project is finished, complete documentation, spend time reflecting on the experience, and celebrate success.

Closing might seem like a less important phase compared to the project planning phases. However, there is a lot of work involved once a project is technically complete. Closing activities are important not just for the current project, but for subsequent projects, and closing activities are often overlooked.
Project managers must start thinking about closing the project when it starts. On day one of a project, PMs should establish an awareness of, a process for, and a commitment to a successful project closing among everyone involved in the project.

## The project is completed, now what?

It's important that the entire team understand that the project is finished. Project closing tasks must be a part of the project plan and budget, like other tasks. In the **Close phase**, the project manager conducts these final critical tasks.

### Complete documentation and archive files

Everything needs attention, must be signed for, and then archived for the organization.

The PM must review all the project documentation and agreements for the project, such as the project charter and any contracts, to ensure that they are complete. The PM makes sure:

- A project summary is presented to the client, the deliverable is accepted, and client feedback is collected.
- All project objectives and commitments have been met.
- Any documents that require sign off are approved by the client and stakeholders.
- The financials are completed for the organization internally, and any external vendors or resources who were contracted with and need payment.
- Everything is archived.

Completing these items is not simply "housekeeping," but a process that is critical to providing good documentation for use in future projects.

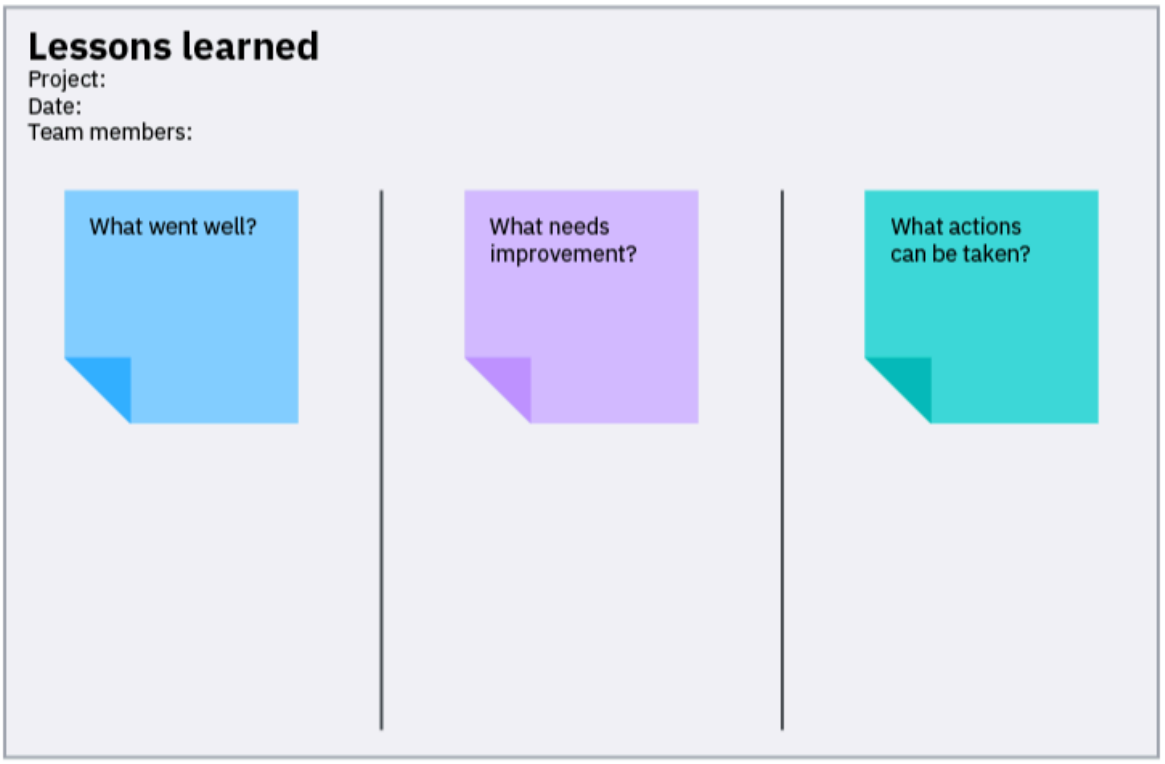
### Conduct a lessons learned session with the project team

*It's time to look back and reflect on the team's project experience.*

The PM must gather the core project team members and host a meeting to collect and document what are called "lessons learned" from them. The purpose is to reflect on what happened in the project and identify actions for improvement going forward. The simple act of discussing together the things that went well and things that could have been improved imprints on each project team member things that they can take into their next projects.

It can be beneficial to include internal stakeholders, such as the sponsor or client.
Here is a simple example of what an online lessons learned chart could be, showing the three categories for the team to individually contribute to:

- What went well?
- What needs improvement?
- What actions can be taken?




**Note**: On an Agile project, the project team meets regularly to reflect on events and consider opportunities for improvements. It's a facilitated meeting with a set format and typically called a "retrospective" or "sprint retrospective."

It's important for the PM to encourage honesty and create a positive meeting space so the project team members feel free to share what they think will help them to improve. Contributions to lessons learned should not be taken personally. Every project team member should listen with an open

mind because everyone's project experience is valid. Think of this as a continuous learning and improvement opportunity.

Here are some example questions that the PM can ask to help the team think about lessons learned:

- Did we do a good job of planning the project? How close were we with our baselines and estimates?
- Did we involve the right stakeholders at the right time? How did we do with managing their expectations?
- How did we do with communications? Within the project team? Within our organization? With our sponsor or client? With key stakeholders? Did we use the right media for communications and the right frequency?
- Were there a lot of unknowns that we did not account for? Why? Why not?
- How well did we manage issues and risks on the project? Did we have procedures to do this? Did they work? How could they be better?
- Were we able to stay within budget?
- How much "scope creep" did we have? How well did we manage it?
- How can we improve our project meetings?

The PM should document, share out, and archive the lessons learned to be considered on future projects.

## Celebrate success with the project team

*Congratulations team! We did it!*

Remember to acknowledge the team's success on the project! The PM should plan some time and cost to celebrate with the team. The PM should recognize the team's overall achievement and individual contributions. This celebration can be as formal or informal as feels right for the organization. It can even be virtual!

## Release the project team resources

*It's time to move on to the next project.*

The PM assembled the team for the project, and now the PM must release the project team. This is a crucial task because it frees up people to work on other projects.

**Note:** This might also include releasing a technical environment if it was needed for the project as well as releasing external suppliers or resources.

## Scenario: Wired Letters – Project Closing

Natasha and the team completed and launched the new Virtual Tools for Collaboration course! The client, Sam Green, is very pleased. The course is ready for Wired Letters to announce and invite all employees to take.

Sam and Natasha looked back on the goal of the project: To increase employee adoption of the agency's new virtual teaming tools across all business units to be 90% or greater for the 1,320 Wired Letters employees. Sam will monitor final assessment reports and course completion reports. He is confident the agency will achieve its goal.

And in the end, Natasha and the team delivered the course on time and within budget. **It's a project success!**

Natasha has "housekeeping" to do to close out the project, for instance:

- She makes sure the contract with Wired Letters is closed and archived.
- She saves her final planning documents, such as the project schedule, communications management plan, risk management plan, risk log, project status reports, and so on, so she and other project managers on her team have them for future reference.

Then, Natasha likes to facilitate a combination meeting in which her team and internal stakeholders first go over lessons learned with action items and then spend time celebrating the project together. The team had a virtual lunch party! Beforehand, Natasha collected a photograph of each person's hobby, favorite sports team, family, or pet to showcase in the online meeting so everyone could share a quick story about the photo. This made the virtual gathering much more personal and uplifting. The team was proud of their work!

**From the series of project scenarios presented, you can see how talented PMs like Natasha follow their organizations' project management process, use templates, lead the project team to success, handle issues along the way, and bring their unique point of view to their projects!**

## Wrap-up

In conclusion, it's important for the PM to plan ahead and carry out a series of activities to properly close a project and acknowledge the project team's success.