# Assignment:

# Create a WBS

## Creating the Work Breakdown Structure

A work breakdown structure (WBS) is a decomposition of the project scope into smaller deliverables. The smallest item in the WBS is called the work package. The process of creating the WBS takes the project scope and breaks it into smaller, more manageable components that can help with planning, execution, and project control. In order to create the WBS, however, the project manager needs four inputs:

▶ Project management plan – the scope management plan

▶ Project documents – the project scope statement and requirements documentation

▶ Enterprise environmental factors

▶ Organizational process assets

The WBS often relies on similar projects from organizational process assets, specifically historical information, to help create the current WBS. If this is a new project that's never been attempted in the organization, extra care and attention is required to ensure that the scope is fully decomposed into manageable components and work packages. The project manager and project team need to break down the project scope into work packages that are neither too large nor too small. A heuristic that goes with the WBS process is called the 8/80 Rule. This rule states that the work packages should take no more than 80 hours of labor to create and no less than 8 hours of labor to create. This general guideline is ideal for most projects, as it helps keep the work packages from getting too granular or leaving assumptions about the project work.

A project's WBS can take on many different shapes and approaches, such as using phases of the projects, key deliverables, or even subprojects as the first level of the WBS. It's possible to represent the WBS in the common organizational chart, a fishbone chart, or even a simple outline. Here is an example of a simple WBS for a construction project in an organizational chart. Whatever approach is selected for the project still requires that the project scope be decomposed to a level where time and cost estimates can be accurately created.
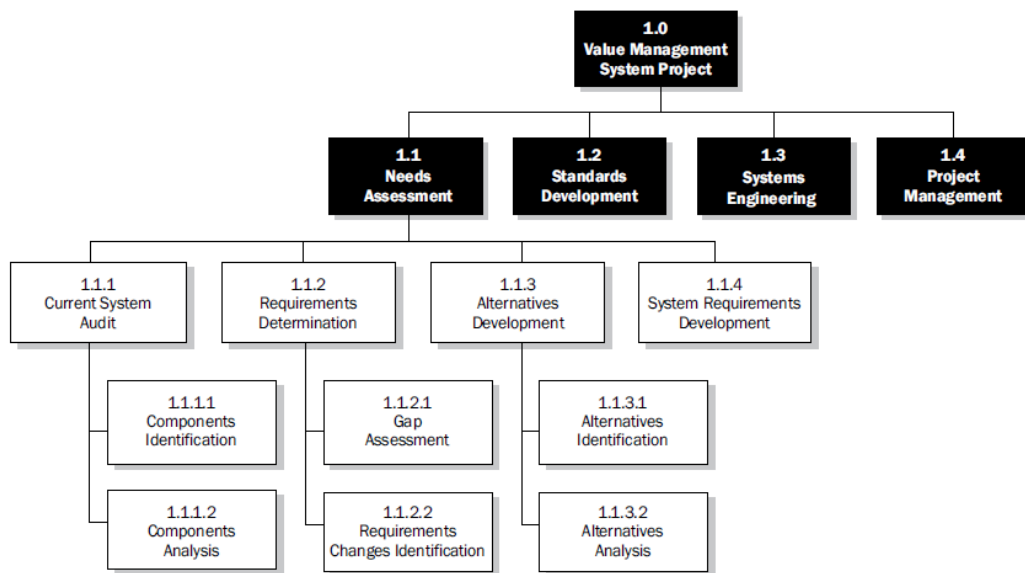


The WBS is illustrative only. It is not intended to represent the full project scope of any specific project, nor to imply that this is the only way to organize a WBS on this type of project.

Figure attribution: Project Management Institute, A Guide to the Project Management Body of Knowledge, (PMBOK® Guide) – Sixth Edition, Project Management Institute Inc., 2017, Page 158.  - Instructing.com, PMI Registered Education Provider.

Notice in the figure that each level of the WBS has a number sequence attached to the deliverable. This number sequence is called the code of accounts, and it helps clearly identify and track each component of the WBS. As the WBS is expanded through decomposition, each new level is assigned a unique identifier that's only used for this component in this specific project. This help with communication, tracking, and completion of the project work.

Once the WBS has been decomposed, the organization may elect to use control accounts for the work packages. Control accounts are markers in the WBS that serve as a point of reconciliation for the project's costs, schedule, and scope achievement in the project. For example, a control account could be established in a home construction project for the kitchen component of the WBS.

The elements of the WBS that compose the kitchen are assigned a budget amount and an associated schedule. If the kitchen deliverables aren't installed as planned, there are cost overruns, or the work is running late, performance can be measured just on the kitchen control account.

Along with the WBS, the project manager and team will need to create a WBS Dictionary. As its name implies, it's a dictionary that defines all of the elements within the WBS. It lists the work packages and control accounts and provides a description of what the WBS provides. The WBS Dictionary should provide these things for each work package:

▶ A code of account identifier

▶ A description of what the element is

▶ Who is responsible for the WBS element

▶ Associated activities for the WBS element

▶ Required resources (such as people, equipment, and materials)

▶ The cost for the WBS element

▶ Quality and acceptance criteria

▶ Technical information when needed

▶ Vendors and associated contract information

The WBS Dictionary provides a common lexicon, includes details for the project work, and is part of the overall scope baseline. The scope baseline, to be clear, consists of the project scope statement, the WBS, and the WBS Dictionary.

## Learning Objectives

In this assignment, you'll decompose a sample project into a small WBS. This exercise will help you experience the process of creating a WBS. By the end of the assignment you'll be able to

▶ Define the components of a WBS

▶ Decompose the project scope into a WBS

▶ Create a code of accounts for a WBS

▶ Explain the importance of creating a WBS for a project

## Creating a Work Breakdown Structure

You are the project manager of the HYU Project. This project's mission is to educate your company's employees about new software that will be implemented in the organization. The new software, called FACE, addresses the needs of the organization's facility management. As your company has grown, competition for meeting rooms, equipment, and other facilities has become more cumbersome to manage. The FACE software will address these concerns and will help employees submit, track, and organize requests for meeting rooms, facilities, and equipment that your company uses. Your project is to train and create a level of support for FACE.

Henry, your project sponsor, and John, the sponsor of the HYU project, have identified several requirements for your HYU Project and have recently approved your project scope. You and Henry have worked together to capture the needs of the FACE users and have created a robust training and education project. These are the key deliverables of your HYU Project scope:

▶ Train the entire organization how to use the FACE software through one-hour classes in groups of twenty users at a time. This class will also include a user guide that must be created.

▶ Provide ten-minute training sessions on the key features of FACE via the company's internal web education initiative.

▶ Create a help system for the FACE software.

▶ Create FACE quick guide cards that users can keep next to their computers as they continue to learn about FACE activities.

▶ Coordinate ongoing training efforts with the FACE project team to ensure consistency between the FACE software and the organizational development approach in the HYU Project.

1. Given the key deliverables of the HYU Project, what approach would you take to create the WBS for this project?

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2.	As the project manager of the HYU Project, you need to create a code of accounts as a number system for the project. What is a code of account, and what are its benefits for the project?

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3.  In the space provided next create a high-level WBS for the HYU Project. You should be able to decompose the WBS to at least three levels.

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4. Now that you've created your WBS, you present it to Henry. Henry would like for you to add a code of accounts to your WBS. Complete Henry's request now using the project code 457 on your WBS drawing you've created.

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## Creating the Work Breakdown Structure

This assignment required you to create a high-level WBS for the components of the HYU project. Your solution may look slightly different than what is presented here, but it should be somewhat similar.

1.   Given the key deliverables of the HYU Project, what approach would you take to create the WBS for this project?

     As the project manager, you could first identify the major components of the FACE software. These major components of the FACE software could serve as the first-tier deliverables of the WBS. Armed with this information, you could subdivide these components into smaller deliverables. You'd continue this approach until you arrived at the work packages. Recall that the project work packages are the deliverables in the WBS that can be accurately estimated for time and costs and generally map to the 8/80 Rule.

2.   As the project manager of the HYU Project, you need to create a code of accounts as a number system for the project. What is a code of account, and what are its benefits for the project?

     The code of accounts is a numbering system to identify the project and its components. In this example you could create any numbering system you like, such as 706. Each layer of the WBS would append to the numbering system; for example, tier two would use 706.1.2, 706.1.3, and so on. The code of accounts assigns each deliverable its unique code that is not used anywhere else in the project.

3.   In the space provided next create a high-level WBS for the HYU Project. You should be able to decompose the WBS to at least three levels.

     Here is a sample solution with the code of accounts provided for Henry.

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                              │   HYU Project   │
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│ 457.1 FACE    │ │ 457.2 Web    │ │ 457.3 Help  │ │ 457.4 Guide │ │ 457.5 Training│
│ Training      │ │ Training     │ │ System      │ │ Cards       │ │               │
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| 457.1 FACE Training | 457.2 Web Training | 457.3 Help System | 457.4 Guide Cards | 457.5 Training |
|---|---|---|---|---|
| 457.1.1 Course Objectives | 457.2.1 Web site Structure | 457.3.1 Structure | 457.4.1 Topics | 457.5.1 Ongoing Training |
| 457.1.2 FACE Course exercises | 457.2.2 FACE Online exercises | 457.3.2 FACE Software | 457.4.2 FACE Writing | 457.5.2 FACE New users |
| 457.1.3 FACE Course book | 457.2.3 FACE Security | 457.3.3 FACE Links to Web training | 457.4.3 FACE Design | 457.5.3 FACE Syllabus |
| 457.1.4 FACE User guide | 457.2.4 FACE FAQs | | 457.4.4 FACE Printed Cards | |