
Chapter 7. STL Containers

Continuing the discussion begun in Chapter 6, this chapter discusses STL containers in detail. The chapter starts with an overview of the general abilities and operations of all container classes, with each container class explained in detail. The explanation includes a description of their internal data structures, their operations, and their performance. It also shows how to use the various operations and gives examples if the usage is not trivial. Examples are given showing the typical use of each container. The chapter then discusses the interesting question of when to use which container. By comparing the general abilities, advantages, and disadvantages of all container types, the chapter shows you how to find the best container to meet your needs.

The chapter is supplemented by Chapter 8, which explains all container members, types, and operations in detail.

The C++ standard library provides some special container classes, the so-called *container adapters* (stack, queue, priority queue). In addition, a few classes provide a container-like interface (for example, strings, bitsets, and valarrays). All these classes are covered separately.[1] Container adapters and bitsets are covered in Chapter 12. The STL interface of strings is covered in Section 13.2.14, page 684. Valarrays are described in Section 17.4, page 943.

[1] Historically, container adapters are part of the STL. However, from a conceptual perspective, they are not part of the STL framework but rather “only” use the STL.