

Generalized PODs '11

Chapter 2 Conditionally Safe Features

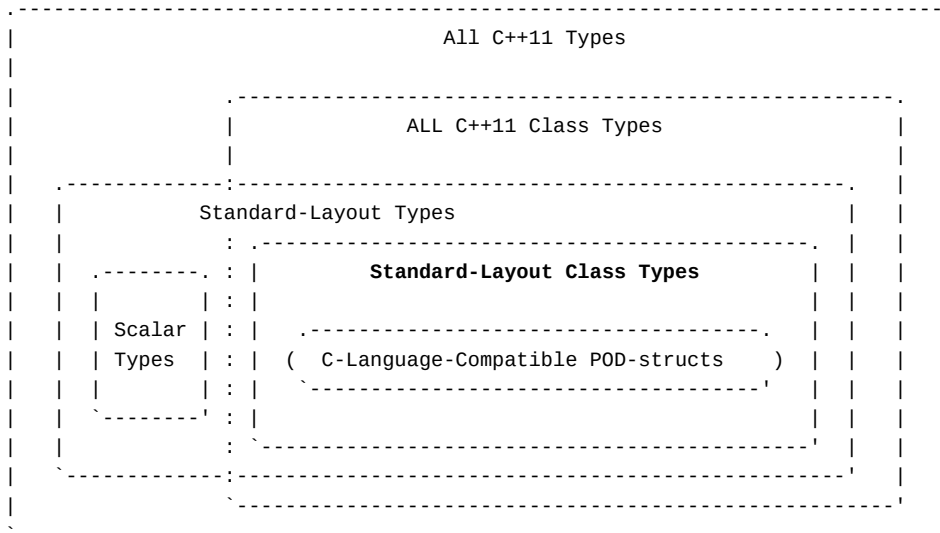
- The type has no **nonstatic data members** or direct base classes that are not themselves of standard-layout type:

```

// Type                                     Is standard layout?
struct Y7 { int i; public: int j; }; // yes, same access control
struct N7 { int i; private: int j; }; // no, not same access control
struct S7a { Y7 d; }; // yes, standard-layout member
struct S7b { N7 d; }; // no, non-standard-layout member
struct S7c : Y7 { }; // yes, standard-layout base class
struct S7d : N7 { }; // no, non-standard-layout base class
    
```

Standard-layout class special properties

Although standard-layout types can be classes or scalars, the C++ type category known as **standard-layout class types** identifies an important category that is a subset of other important categories — each affording its own specific set of supported properties:



Importantly, for a class type to be considered **standard layout**, it does not need to be trivial or look like a C type in any way:

```

#include <cstddef> // std::size_t
class String // non-trivial standard-layout class type
{
    char* d_array_p; // scalar (standard layout)
    std::size_t d_length; // " " "
    std::size_t d_capacity; // " " "
}
    
```