

Provides a single instance of a class, and global point of access to it.

You need to have these conditions fulfilled:

1. **Presence of a static member variable** – as a placeholder for the instance of that class
2. Locked down the **constructor** of that class – simply by making it's visibility **private**
3. Prevent any object or instance of that class to be **cloned**, that is to prevent any entity within the system to make copy of this object – make it **private**.
4. Have a single globally accessible **static method** to access/retrieve the **instance of that class** – a public static method

Common Uses:

1. Logging, Caching, Configuration, Registry, Filesystem and Database Access, Shared resource (such as an event queue).
2. The Abstract Factory, Builder, and Prototype patterns can **use Singletons in their implementation**.
3. Facade objects are often singletons because only **one Facade object** is required.
4. **State objects** are often singletons.
5. Singletons are often preferred to global variables because:
 1. They **do not pollute the global namespace** (or, in languages with namespaces, their containing namespace) with unnecessary variables.
 2. They **permit lazy allocation and initialization**, whereas global variables in many languages will always consume resources.
- 6.

Cons :

1. Consider it to be an **anti-pattern** breaks the Single Responsibility Principle.
 - Singleton objects are responsible of both their purpose and controlling the number of instances the produces.
2. **Introduces global state** into your application.
3. Might be a problem for Unit Testing; since it tests individual objects. Hidden dependencies
 - Visible dependencies - Any parameters accepted by a function
 - Hidden dependencies - Without taking a look at the actual function implementation
4. Performance issues.