Singleton Design Pattern

Definition

- Define a class that has only one instance and provides a global point of access that instance.

Requirements

- One and only one instance
- Global access
- No ownership
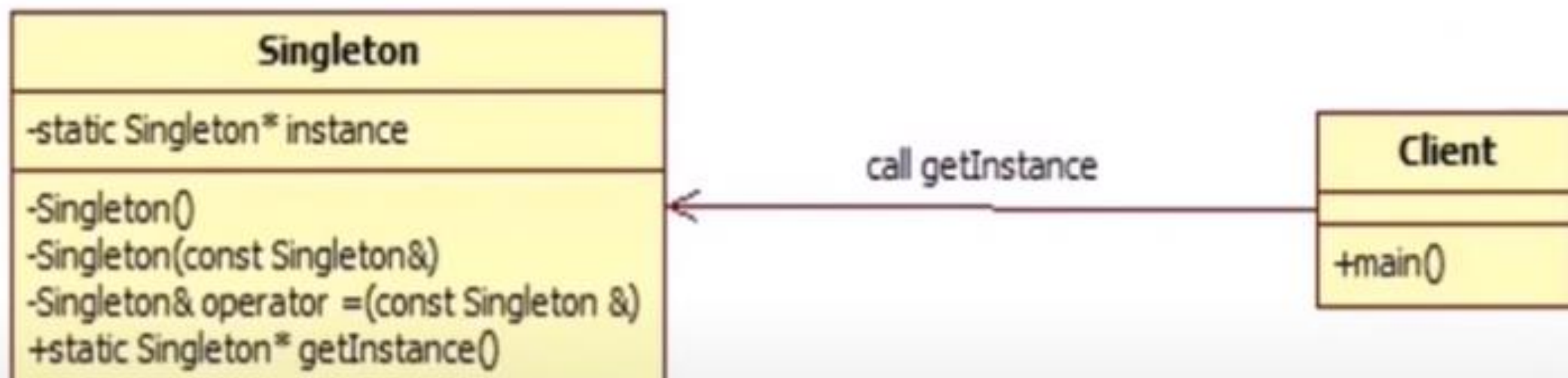- Lazy initialization

Advantages

- Save memory
  - Only one is required so why to create so many.

- Single access point
  - Logger, database connection.

- Flexibility
  - Change anytime you want to.

Usage

- Multithreaded
  - threadpool
- Database application
  - logging
- Configuration Settings
  - game setting, application setting, etc.

UML Diagram

How to create

- To create singleton class we must have
  - Static member
  - Private constructor
  - Static function