DESIGN PATTERN ASSIGNMENT

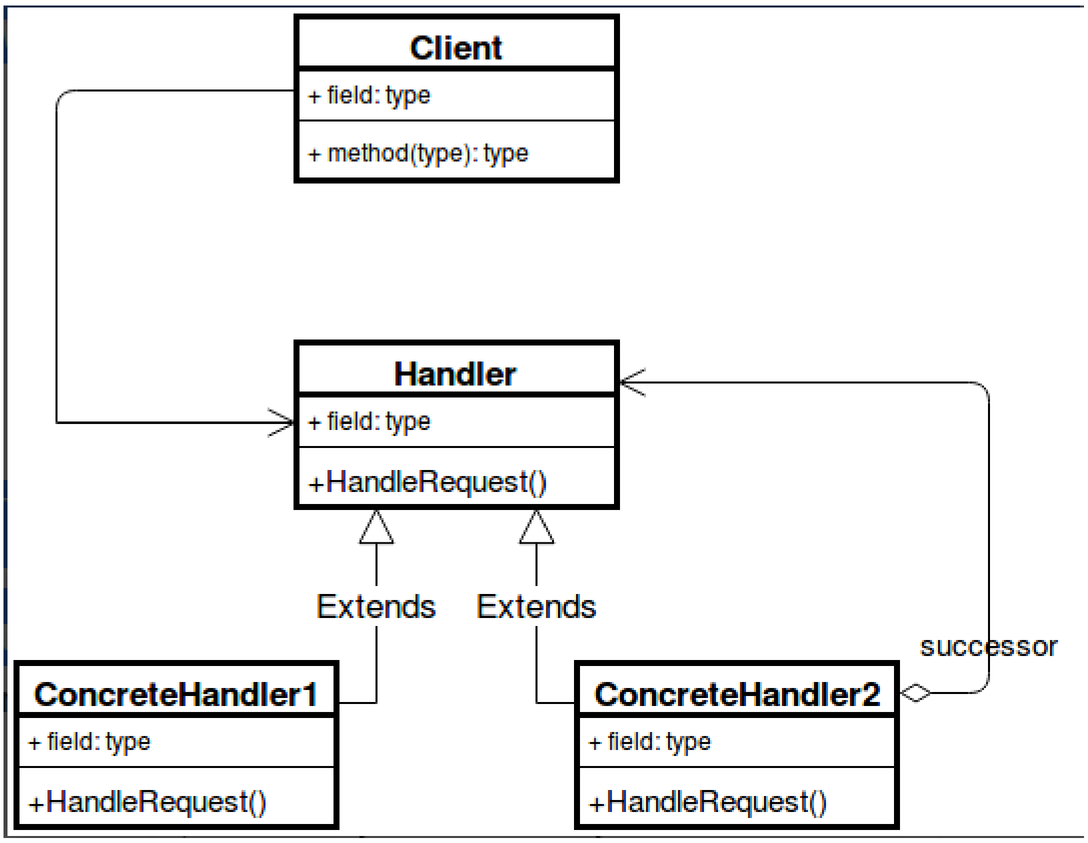
1. Chain of responsibility pattern

Chain of responsibility pattern is used to achieve loose coupling in software design where a request from the client is passed to a chain of objects to process them. Later, the object in the chain will decide themselves who will be processing the request and whether the request is required to be sent to the next object in the chain or not.

- When you want to decouple a request's sender and receiver this pattern can be used
- Multiple objects, determined at runtime, are candidates to handle a request this pattern can be used
- When you don't want to specify handlers explicitly in your code this pattern can be used

This pattern is recommended when multiple objects can handle a request and the handler doesn't have to be a specific object. Also, the handler is determined at runtime.

Class diagram for Chain of responsibility pattern

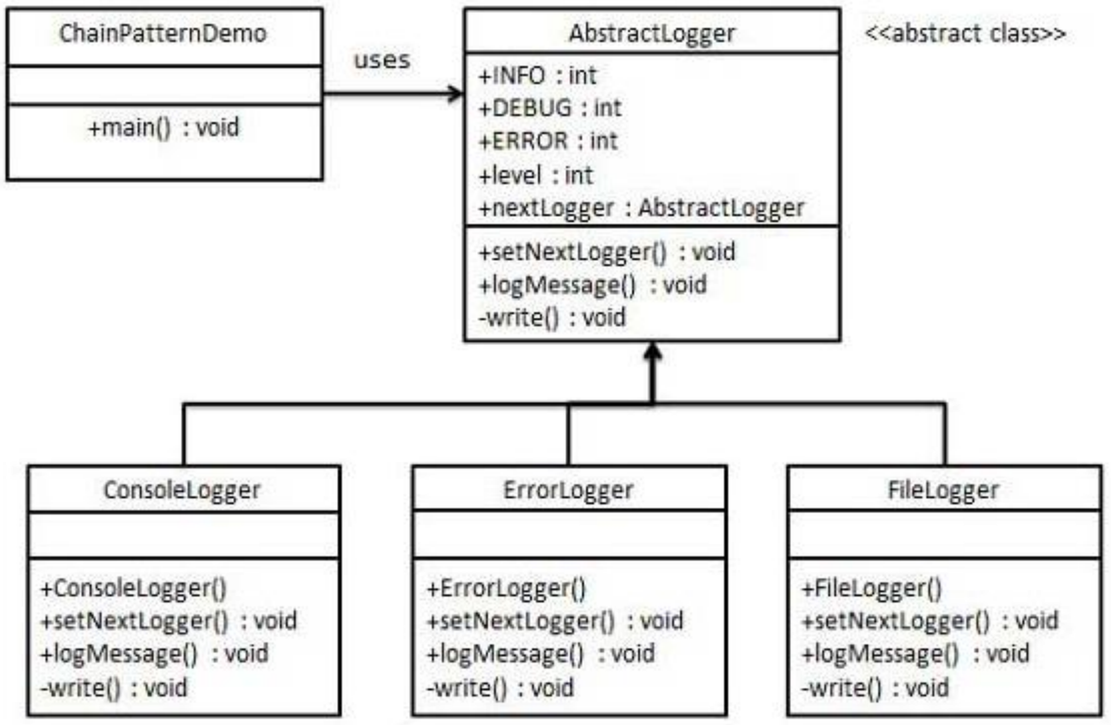


- **Handler :** This can be an interface which will primarily recieve the request and dispatches the request to chain of handlers. It has reference of only first handler in the chain and does not know anything about rest of the handlers.

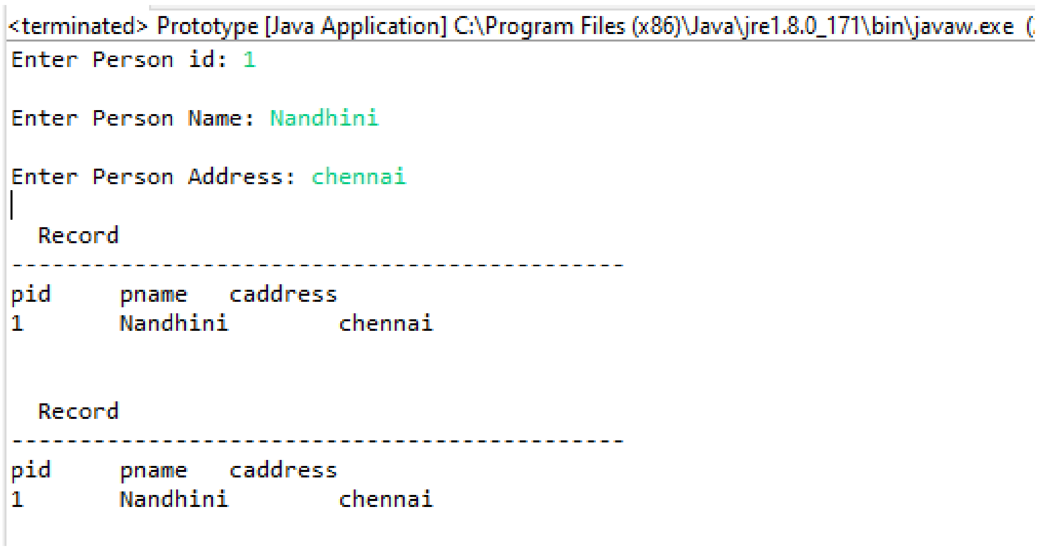
- **Concrete handlers :** These are actual handlers of the request chained in some sequential order.
- **Client :** Originator of request and this will access the handler to handle it.

Example:

We have created an abstract class *AbstractLogger* with a level of logging. Then we have created three types of loggers extending the *AbstractLogger*. Each logger checks the level of message to its level and print accordingly otherwise does not print and pass the message to its next logger.



2. Example for Prototype



```
<terminated> Prototype [Java Application] C:\Program Files (x86)\Java\jre1.8.0_171\bin\javaw.exe (
Enter Person id: 1

Enter Person Name: Nandhini

Enter Person Address: chennai

  Record
---------------------------------------------
pid     pname   caddress
1       Nandhini        chennai


  Record
---------------------------------------------
pid     pname   caddress
1       Nandhini        chennai
```