

Data Access Objects (DAO)



pm jat @ daiict

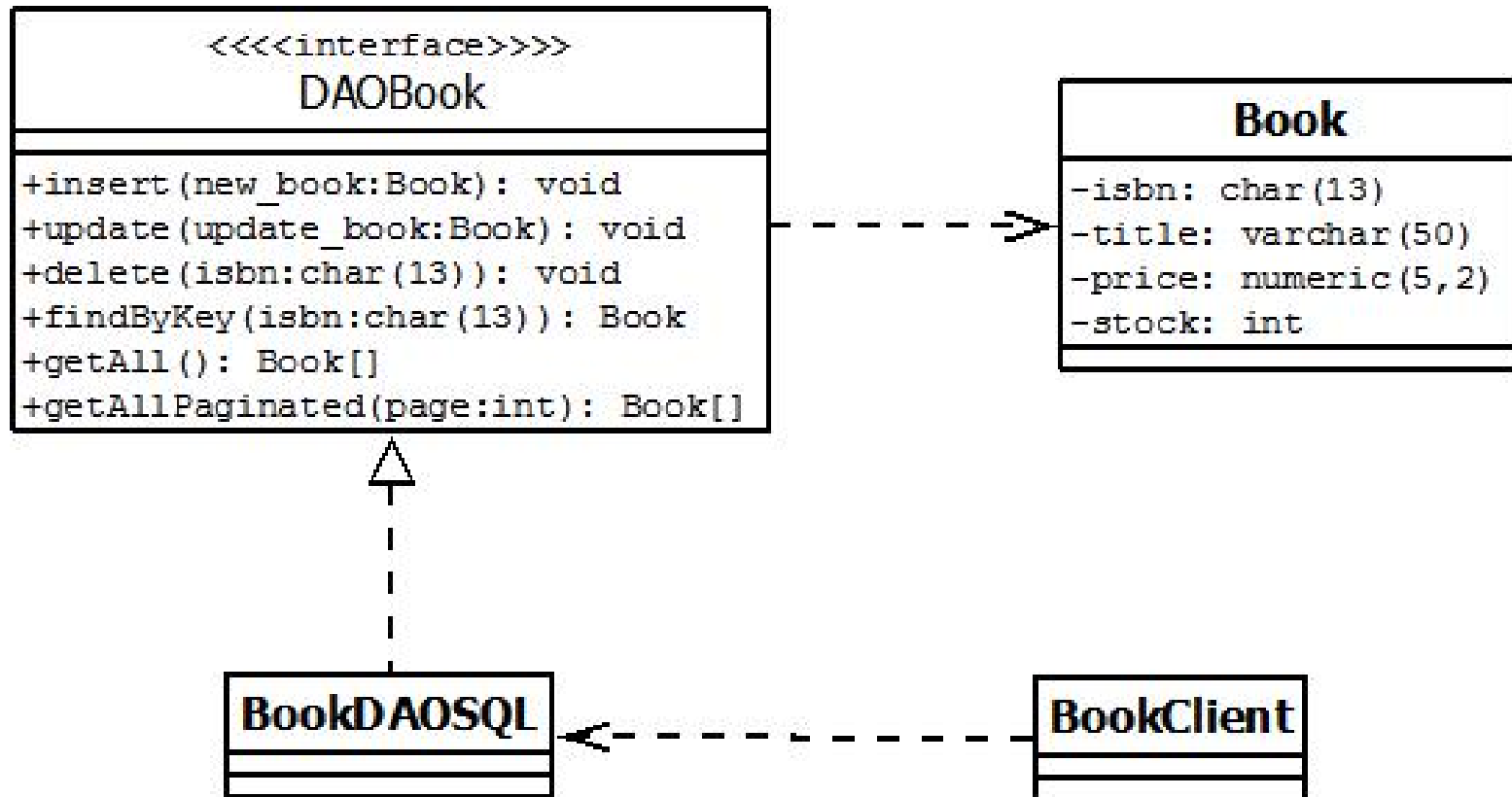


Data Access Objects (DAO)

- Like, views, program code also greatly vary from one Persistent technology to another.
- Therefore it is recommend practice to encapsulate all data access logic under a interface, and
- Data Access Objects is a strategy that enables this.



Example: BookDAO





Example: BookDAO

[BookDAOTester.java]

```
try {  
  
    BookDAO book_db = new BookDAOImplSQL();  
  
    Book b1 = book_db.findById("1001");  
    System.out.println( b1.getIsbn() + "," + b1.getTitle());  
  
    Object x = book_db.getAll();  
    ArrayList<Book> stock = (ArrayList<Book>) x;  
    for(Book b : stock) {  
        System.out.println( b.getIsbn() + "," + b.getTitle());  
    }  
  
}  
  
catch(DAOException e) {  
    System.out.println("Error: " + e.getMessage() );  
}
```



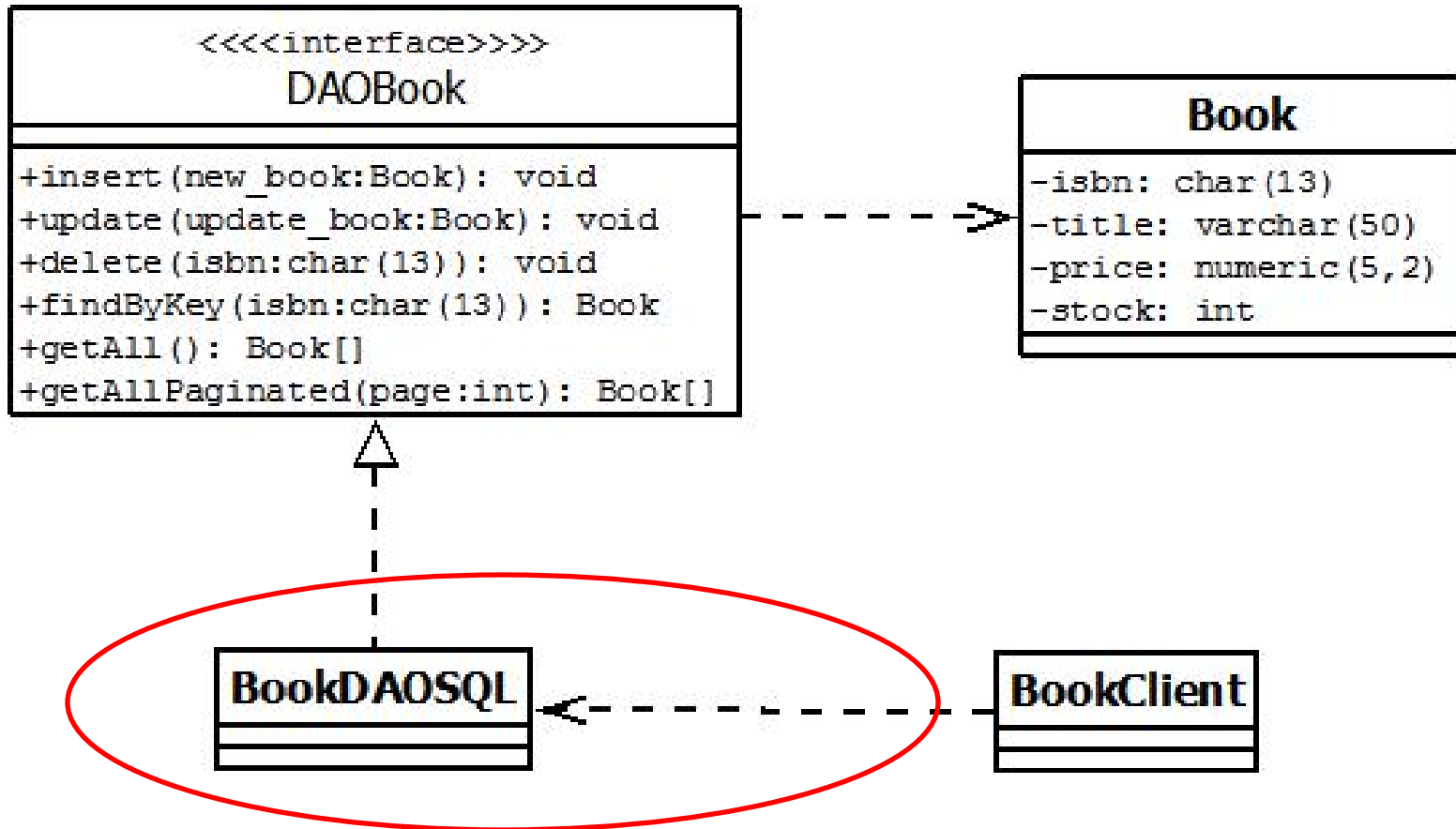
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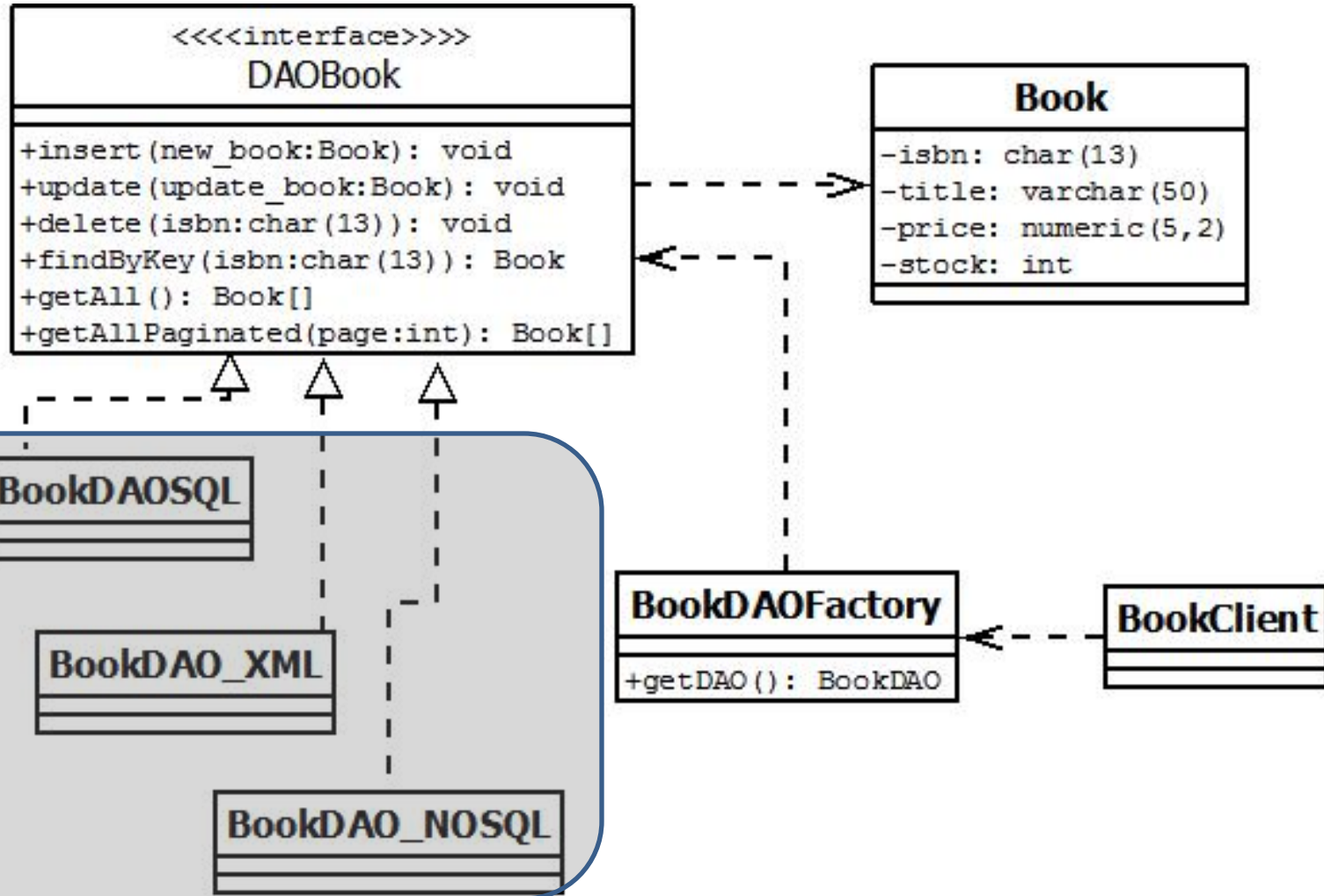


Example: BookDAO





Example: BookDAO (extended)





```
public class BookDAOFactory {  
    public static BookDAO newInstance() throws DAOException {  
        BookDAO dao = null;  
        //read persistence type from config file, and assign  
        //Let us say, it comes SQL  
        int persistenceType = BookDAOFactory.SQL;  
        switch (persistenceType) {  
            case BookDAOFactory.SQL:  
                try {  
                    dao = new BookDAOImplSQL();  
                }  
                catch (Exception e) {  
                    throw new DAOException( e.getMessage() );  
                }  
                break;  
            case BookDAOFactory.NOSQL:  
                //dao = new BookDAOImplNOSQL();  
        }  
        return dao;  
    }  
    private final static int SQL = 1;  
    private final static int NOSQL = 2;  
}
```




References/Readings

- <http://best-practice-software-engineering.ifs.tuwien.ac.at/patterns/dao.html>
- <http://www.corej2eepatterns.com/DataAccessObject.htm>