

<b>Report</b>
---------------

Yassin  
5/17/2024

**Table of Contents**

1	Introduction.....	4
1.1	Description.....	4
1.2	Card of model Project_PhysicalModel.....	4
2	.....	4
2.1	Project_PhysicalModel.....	4
2.1.1	Table Admin.....	4
2.1.2	Table Author.....	4
2.1.3	Table Book.....	4
2.1.4	Table Borrowed.....	4
2.1.5	Table Student.....	4
2.1.6	Table UserDetails.....	4
2.1.7	Table Wishlist.....	5
2.1.8	Table write_by.....	5
2.2	Project_PhysicalModel.....	5
2.2.1	List of tables.....	5
2.3	Project_PhysicalModel.....	5
2.3.1	Column FName of the table Project_PhysicalModel.....	5
2.3.2	Column Lname of the table Project_PhysicalModel.....	5
2.3.3	Column UserID of the table Project_PhysicalModel.....	5
2.3.4	Column UserType of the table Project_PhysicalModel.....	6
2.3.5	Column Email of the table Project_PhysicalModel.....	6
2.3.6	Column Password of the table Project_PhysicalModel.....	6
2.3.7	Column UserID of the table Project_PhysicalModel.....	6
2.3.8	Column FName of the table Project_PhysicalModel.....	6
2.3.9	Column Lname of the table Project_PhysicalModel.....	6
2.3.10	Column Email of the table Project_PhysicalModel.....	7
2.3.11	Column Password of the table Project_PhysicalModel.....	7
2.3.12	Column UserID of the table Project_PhysicalModel.....	7
2.3.13	Column Wis_UserID of the table Project_PhysicalModel.....	7
2.3.14	Column wishlistID of the table Project_PhysicalModel.....	7
2.3.15	Column FName of the table Project_PhysicalModel.....	8
2.3.16	Column Lname of the table Project_PhysicalModel.....	8
2.3.17	Column Email of the table Project_PhysicalModel.....	8
2.3.18	Column Password of the table Project_PhysicalModel.....	8
2.3.19	Column ISBN of the table Project_PhysicalModel.....	8
2.3.20	Column UserID of the table Project_PhysicalModel.....	8
2.3.21	Column BorrowDate of the table Project_PhysicalModel.....	9
2.3.22	Column ReturnDate of the table Project_PhysicalModel.....	9
2.3.23	Column ISBN of the table Project_PhysicalModel.....	9
2.3.24	Column Title of the table Project_PhysicalModel.....	9
2.3.25	Column PublicationYear of the table Project_PhysicalModel.....	9
2.3.26	Column Category of the table Project_PhysicalModel.....	9
2.3.27	Column UserID of the table Project_PhysicalModel.....	10
2.3.28	Column wishlistID of the table Project_PhysicalModel.....	10
2.3.29	Column ISBN of the table Project_PhysicalModel.....	10
2.3.30	Column AuthorID of the table Project_PhysicalModel.....	10
2.3.31	Column Name of the table Project_PhysicalModel.....	10
2.3.32	Column ISBN of the table Project_PhysicalModel.....	10
2.3.33	Column AuthorID of the table Project_PhysicalModel.....	11
2.4	Project_PhysicalModel.....	11
2.4.1	List of columns of the table Project_PhysicalModel.....	11
2.5	Project_PhysicalModel.....	12
2.5.1	Index USER_PK of the table Project_PhysicalModel.....	12
2.5.2	Index ADMIN_PK of the table Project_PhysicalModel.....	12
2.5.3	Index STUDENT_PK of the table Project_PhysicalModel.....	12
2.5.4	Index PUT_BOOK_FK of the table Project_PhysicalModel.....	12
2.5.5	Index BORROWS_FK of the table Project_PhysicalModel.....	13

Physical Data Model	Project_PhysicalModel.
2.5.6 Index HAS_FK of the table Project_PhysicalModel.....	13
2.5.7 Index BOOK_PK of the table Project_PhysicalModel.....	13
2.5.8 Index CONTAIN_FK of the table Project_PhysicalModel.....	13
2.5.9 Index WISHLIST_PK of the table Project_PhysicalModel.....	14
2.5.10 Index AUTHOR_PK of the table Project_PhysicalModel.....	14
2.5.11 Index WRITE_BY_PK of the table Project_PhysicalModel.....	14
2.5.12 Index WRITE_BY_FK of the table Project_PhysicalModel.....	15
2.5.13 Index WRITE_BY2_FK of the table Project_PhysicalModel.....	15
2.6 Project_PhysicalModel.....	15
2.6.1 List of indexes of the table Project_PhysicalModel.....	15
2.7 Project_PhysicalModel.....	16
2.7.1 Key UserID of the table Project_PhysicalModel.....	16
2.7.2 Key UserID of the table Project_PhysicalModel.....	16
2.7.3 Key UserID of the table Project_PhysicalModel.....	16
2.7.4 Key ISBN of the table Project_PhysicalModel.....	16
2.7.5 Key UserID of the table Project_PhysicalModel.....	16
2.7.6 Key AuthorID of the table Project_PhysicalModel.....	16
2.7.7 Key AuthorID of the table Project_PhysicalModel.....	17
2.8 Project_PhysicalModel.....	17
2.8.1 List of keys of the table Project_PhysicalModel.....	17
2.9 Project_PhysicalModel.....	17
2.9.1 Reference borrows.....	17
2.9.2 Reference contain.....	17
2.9.3 Reference has.....	17
2.9.4 Reference Inheritance.....	18
2.9.5 Reference Inheritance.....	18
2.9.6 Reference put_book.....	18
2.9.7 Reference put_book.....	18
2.9.8 Reference write_by.....	19
2.9.9 Reference write_by.....	19
2.10 Project_PhysicalModel.....	19
2.10.1 List of references.....	19
3 Short model description.....	20
3.1 List of diagrams.....	20
3.2 Diagram ConceptualDataModel_1.....	20
3.3 List of tables.....	20
3.4 List of references.....	20
4 Full model description.....	22
4.1 List of diagrams.....	22
4.2 Diagram ConceptualDataModel_1.....	22
4.3 List of tables.....	22
4.3.1 Table Admin.....	22
4.3.2 Table Author.....	23
4.3.3 Table Book.....	24
4.3.4 Table Borrowed.....	25
4.3.5 Table Student.....	26
4.3.6 Table UserDetails.....	27
4.3.7 Table Wishlist.....	28
4.3.8 Table write_by.....	29
4.4 List of references.....	29
4.4.1 Reference borrows.....	30
4.4.2 Reference contain.....	30
4.4.3 Reference has.....	31
4.4.4 Reference Inheritance.....	31
4.4.5 Reference Inheritance.....	31
4.4.6 Reference put_book.....	32
4.4.7 Reference put_book.....	32
4.4.8 Reference write_by.....	32
4.4.9 Reference write_by.....	33

## **1 Introduction**

### **1.1 Description**

#### **1.2 Card of model Project\_PhysicalModel.**

<i>Name</i>	Project_PhysicalModel.
<i>Code</i>	PROJECT_PHYSICALMODEL_
<i>DBMS</i>	Microsoft SQL Server 2012 (Copy)
<i>Comment</i>	
<i>Database</i>	<None>

## **2**

### **2.1 Project\_PhysicalModel.**

#### **2.1.1 Table Admin**

##### **2.1.1.1 Card of table Admin**

<i>Name</i>	Admin
<i>Code</i>	ADMIN

#### **2.1.2 Table Author**

##### **2.1.2.1 Card of table Author**

<i>Name</i>	Author
<i>Code</i>	AUTHOR

#### **2.1.3 Table Book**

##### **2.1.3.1 Card of table Book**

<i>Name</i>	Book
<i>Code</i>	BOOK

#### **2.1.4 Table Borrowed**

##### **2.1.4.1 Card of table Borrowed**

<i>Name</i>	Borrowed
<i>Code</i>	BORROWED

#### **2.1.5 Table Student**

##### **2.1.5.1 Card of table Student**

<i>Name</i>	Student
<i>Code</i>	STUDENT

#### **2.1.6 Table UserDetails**

##### **2.1.6.1 Card of table UserDetails**

<i>Name</i>	UserDetails
-------------	-------------

<i>Code</i>	USERDETAILS
-------------	-------------

### **2.1.7 Table Wishlist**

#### **2.1.7.1 Card of table Wishlist**

<i>Name</i>	Wishlist
<i>Code</i>	WISHLIST

### **2.1.8 Table write\_by**

#### **2.1.8.1 Card of table write\_by**

<i>Name</i>	write_by
<i>Code</i>	WRITE_BY

## **2.2 Project PhysicalModel.**

### **2.2.1 List of tables**

<i>Name</i>	<i>Code</i>
Admin	ADMIN
Author	AUTHOR
Book	BOOK
Borrowed	BORROWED
Student	STUDENT
UserDetails	USERDETAILS
Wishlist	WISHLIST
write_by	WRITE_BY

## **2.3 Project PhysicalModel.**

### **2.3.1 Column Fname of the table Project PhysicalModel.**

#### **2.3.1.1 Card of the column Fname of the table Project PhysicalModel.**

<i>Name</i>	Fname
<i>Code</i>	FNAME
<i>Data Type</i>	varchar(50)
<i>Mandatory</i>	Yes

### **2.3.2 Column Lname of the table Project PhysicalModel.**

#### **2.3.2.1 Card of the column Lname of the table Project PhysicalModel.**

<i>Name</i>	Lname
<i>Code</i>	LNAME
<i>Data Type</i>	varchar(50)
<i>Mandatory</i>	Yes

### **2.3.3 Column UserID of the table Project PhysicalModel.**

<i>Name</i>	UserID
<i>Code</i>	USERID
<i>Data Type</i>	int
<i>Mandatory</i>	Yes

#### **2.3.4 Column UserType of the table Project\_PhysicalModel.**

##### **2.3.4.1 Card of the column UserType of the table Project\_PhysicalModel.**

<i>Name</i>	UserType
<i>Code</i>	USERTYPE
<i>Data Type</i>	varchar(50)
<i>Mandatory</i>	Yes

#### **2.3.5 Column Email of the table Project\_PhysicalModel.**

##### **2.3.5.1 Card of the column Email of the table Project\_PhysicalModel.**

<i>Name</i>	Email
<i>Code</i>	EMAIL
<i>Data Type</i>	varchar(150)
<i>Mandatory</i>	No

#### **2.3.6 Column Password of the table Project\_PhysicalModel.**

##### **2.3.6.1 Card of the column Password of the table Project\_PhysicalModel.**

<i>Name</i>	Password
<i>Code</i>	PASSWORD
<i>Data Type</i>	varchar(150)
<i>Mandatory</i>	No

#### **2.3.7 Column UserID of the table Project\_PhysicalModel.**

##### **2.3.7.1 Card of the column UserID of the table Project\_PhysicalModel.**

<i>Name</i>	UserID
<i>Code</i>	USERID
<i>Data Type</i>	int
<i>Mandatory</i>	Yes

#### **2.3.8 Column Fname of the table Project\_PhysicalModel.**

##### **2.3.8.1 Card of the column Fname of the table Project\_PhysicalModel.**

<i>Name</i>	Fname
<i>Code</i>	FNAME
<i>Data Type</i>	varchar(50)
<i>Mandatory</i>	Yes

#### **2.3.9 Column Lname of the table Project\_PhysicalModel.**

**2.3.9.1 Card of the column Lname of the table Project PhysicalModel.**

<i>Name</i>	Lname
<i>Code</i>	LNAME
<i>Data Type</i>	varchar(50)
<i>Mandatory</i>	Yes

**2.3.10 Column Email of the table Project PhysicalModel.****2.3.10.1 Card of the column Email of the table Project PhysicalModel.**

<i>Name</i>	Email
<i>Code</i>	EMAIL
<i>Data Type</i>	varchar(150)
<i>Mandatory</i>	No

**2.3.11 Column Password of the table Project PhysicalModel.****2.3.11.1 Card of the column Password of the table Project PhysicalModel.**

<i>Name</i>	Password
<i>Code</i>	PASSWORD
<i>Data Type</i>	varchar(150)
<i>Mandatory</i>	No

**2.3.12 Column UserID of the table Project PhysicalModel.****2.3.12.1 Card of the column UserID of the table Project PhysicalModel.**

<i>Name</i>	UserID
<i>Code</i>	USERID
<i>Data Type</i>	int
<i>Mandatory</i>	Yes

**2.3.13 Column Wis UserID of the table Project PhysicalModel.****2.3.13.1 Card of the column Wis UserID of the table Project PhysicalModel.**

<i>Name</i>	Wis_UserID
<i>Code</i>	WIS_USERID
<i>Data Type</i>	int
<i>Mandatory</i>	No

**2.3.14 Column wishlistID of the table Project PhysicalModel.****2.3.14.1 Card of the column wishlistID of the table Project PhysicalModel.**

<i>Name</i>	wishlistID
<i>Code</i>	WISHLISTID
<i>Data Type</i>	int
<i>Mandatory</i>	No

**2.3.15 Column Fname of the table Project PhysicalModel.****2.3.15.1 Card of the column Fname of the table Project PhysicalModel.**

<i>Name</i>	Fname
<i>Code</i>	FNAME
<i>Data Type</i>	varchar(50)
<i>Mandatory</i>	Yes

**2.3.16 Column Lname of the table Project PhysicalModel.****2.3.16.1 Card of the column Lname of the table Project PhysicalModel.**

<i>Name</i>	Lname
<i>Code</i>	LNAME
<i>Data Type</i>	varchar(50)
<i>Mandatory</i>	Yes

**2.3.17 Column Email of the table Project PhysicalModel.****2.3.17.1 Card of the column Email of the table Project PhysicalModel.**

<i>Name</i>	Email
<i>Code</i>	EMAIL
<i>Data Type</i>	varchar(150)
<i>Mandatory</i>	No

**2.3.18 Column Password of the table Project PhysicalModel.****2.3.18.1 Card of the column Password of the table Project PhysicalModel.**

<i>Name</i>	Password
<i>Code</i>	PASSWORD
<i>Data Type</i>	varchar(150)
<i>Mandatory</i>	No

**2.3.19 Column ISBN of the table Project PhysicalModel.****2.3.19.1 Card of the column ISBN of the table Project PhysicalModel.**

<i>Name</i>	ISBN
<i>Code</i>	ISBN
<i>Data Type</i>	int
<i>Mandatory</i>	Yes

**2.3.20 Column UserID of the table Project PhysicalModel.****2.3.20.1 Card of the column UserID of the table Project PhysicalModel.**

<i>Name</i>	UserID
<i>Code</i>	USERID
<i>Data Type</i>	int
<i>Mandatory</i>	Yes



**2.3.21 Column BorrowDate of the table Project PhysicalModel.****2.3.21.1 Card of the column BorrowDate of the table Project PhysicalModel.**

<i>Name</i>	BorrowDate
<i>Code</i>	BORROWDATE
<i>Data Type</i>	datetime
<i>Mandatory</i>	Yes

**2.3.22 Column ReturnDate of the table Project PhysicalModel.****2.3.22.1 Card of the column ReturnDate of the table Project PhysicalModel.**

<i>Name</i>	ReturnDate
<i>Code</i>	RETURNDATE
<i>Data Type</i>	datetime
<i>Mandatory</i>	Yes

**2.3.23 Column ISBN of the table Project PhysicalModel.****2.3.23.1 Card of the column ISBN of the table Project PhysicalModel.**

<i>Name</i>	ISBN
<i>Code</i>	ISBN
<i>Data Type</i>	int
<i>Mandatory</i>	Yes

**2.3.24 Column Title of the table Project PhysicalModel.****2.3.24.1 Card of the column Title of the table Project PhysicalModel.**

<i>Name</i>	Title
<i>Code</i>	TITLE
<i>Data Type</i>	varchar(50)
<i>Mandatory</i>	Yes

**2.3.25 Column PublicationYear of the table Project PhysicalModel.****2.3.25.1 Card of the column PublicationYear of the table Project PhysicalModel.**

<i>Name</i>	PublicationYear
<i>Code</i>	PUBLICATIONYEAR
<i>Data Type</i>	datetime
<i>Mandatory</i>	Yes

**2.3.26 Column Category of the table Project PhysicalModel.****2.3.26.1 Card of the column Category of the table Project PhysicalModel.**

<i>Name</i>	Category
<i>Code</i>	CATEGORY
<i>Data Type</i>	varchar(50)
<i>Mandatory</i>	Yes

**2.3.27 Column UserID of the table Project PhysicalModel.****2.3.27.1 Card of the column UserID of the table Project PhysicalModel.**

<i>Name</i>	UserID
<i>Code</i>	USERID
<i>Data Type</i>	int
<i>Mandatory</i>	Yes

**2.3.28 Column wishlistID of the table Project PhysicalModel.****2.3.28.1 Card of the column wishlistID of the table Project PhysicalModel.**

<i>Name</i>	wishlistID
<i>Code</i>	WISHLISTID
<i>Data Type</i>	int
<i>Mandatory</i>	Yes

**2.3.29 Column ISBN of the table Project PhysicalModel.****2.3.29.1 Card of the column ISBN of the table Project PhysicalModel.**

<i>Name</i>	ISBN
<i>Code</i>	ISBN
<i>Data Type</i>	int
<i>Mandatory</i>	No

**2.3.30 Column AuthorID of the table Project PhysicalModel.****2.3.30.1 Card of the column AuthorID of the table Project PhysicalModel.**

<i>Name</i>	AuthorID
<i>Code</i>	AUTHORID
<i>Data Type</i>	int
<i>Mandatory</i>	Yes

**2.3.31 Column Name of the table Project PhysicalModel.****2.3.31.1 Card of the column Name of the table Project PhysicalModel.**

<i>Name</i>	Name
<i>Code</i>	NAME
<i>Data Type</i>	varchar(50)
<i>Mandatory</i>	Yes

**2.3.32 Column ISBN of the table Project PhysicalModel.****2.3.32.1 Card of the column ISBN of the table Project PhysicalModel.**

<i>Name</i>	ISBN
<i>Code</i>	ISBN
<i>Data Type</i>	int
<i>Mandatory</i>	Yes

**2.3.33 Column AuthorID of the table Project\_PhysicalModel.****2.3.33.1 Card of the column AuthorID of the table Project\_PhysicalModel.**

<i>Name</i>	AuthorID
<i>Code</i>	AUTHORID
<i>Data Type</i>	int
<i>Mandatory</i>	Yes

**2.4 Project\_PhysicalModel.****2.4.1 List of columns of the table Project\_PhysicalModel.**

<i>Name</i>	<i>Code</i>
Fname	FNAME
Lname	LNAME
UserID	USERID
UserType	USERTYPE
Email	EMAIL
Password	PASSWORD
UserID	USERID
Fname	FNAME
Lname	LNAME
Email	EMAIL
Password	PASSWORD
UserID	USERID
Wis_UserID	WIS_USERID
wishlistID	WISHLISTID
Fname	FNAME
Lname	LNAME
Email	EMAIL
Password	PASSWORD
ISBN	ISBN
UserID	USERID
BorrowDate	BORROWDATE
ReturnDate	RETURNDATE
ISBN	ISBN
Title	TITLE
PublicationYear	PUBLICATIONYEAR
Category	CATEGORY
UserID	USERID
wishlistID	WISHLISTID
ISBN	ISBN
AuthorID	AUTHORID
Name	NAME
ISBN	ISBN

<i>Name</i>	<i>Code</i>
AuthorID	AUTHORID

## **2.5 Project PhysicalModel.**

### **2.5.1 Index USER PK of the table Project PhysicalModel.**

#### **2.5.1.1 Card of the index USER PK of the table Project PhysicalModel.**

<i>Name</i>	USER_PK
<i>Code</i>	USER_PK
<i>Unique</i>	Yes
<i>Cluster</i>	Yes
<i>Primary</i>	Yes
<i>Foreign Key</i>	No
<i>Alternate Key</i>	No
<i>Table</i>	UserDetails

### **2.5.2 Index ADMIN PK of the table Project PhysicalModel.**

#### **2.5.2.1 Card of the index ADMIN PK of the table Project PhysicalModel.**

<i>Name</i>	ADMIN_PK
<i>Code</i>	ADMIN_PK
<i>Unique</i>	Yes
<i>Cluster</i>	Yes
<i>Primary</i>	Yes
<i>Foreign Key</i>	No
<i>Alternate Key</i>	No
<i>Table</i>	Admin

### **2.5.3 Index STUDENT PK of the table Project PhysicalModel.**

#### **2.5.3.1 Card of the index STUDENT PK of the table Project PhysicalModel.**

<i>Name</i>	STUDENT_PK
<i>Code</i>	STUDENT_PK
<i>Unique</i>	Yes
<i>Cluster</i>	Yes
<i>Primary</i>	Yes
<i>Foreign Key</i>	No
<i>Alternate Key</i>	No
<i>Table</i>	Student

### **2.5.4 Index PUT BOOK FK of the table Project PhysicalModel.**

#### **2.5.4.1 Card of the index PUT BOOK FK of the table Project PhysicalModel.**

<i>Name</i>	PUT_BOOK_FK
<i>Code</i>	PUT_BOOK_FK

<i>Unique</i>	No
<i>Cluster</i>	No
<i>Primary</i>	No
<i>Foreign Key</i>	Yes
<i>Alternate Key</i>	No
<i>Table</i>	Student

### **2.5.5 Index BORROWS FK of the table Project PhysicalModel.**

#### **2.5.5.1 Card of the index BORROWS FK of the table Project PhysicalModel.**

<i>Name</i>	BORROWS_FK
<i>Code</i>	BORROWS_FK
<i>Unique</i>	No
<i>Cluster</i>	No
<i>Primary</i>	No
<i>Foreign Key</i>	Yes
<i>Alternate Key</i>	No
<i>Table</i>	Borrowed

### **2.5.6 Index HAS FK of the table Project PhysicalModel.**

#### **2.5.6.1 Card of the index HAS FK of the table Project PhysicalModel.**

<i>Name</i>	HAS_FK
<i>Code</i>	HAS_FK
<i>Unique</i>	No
<i>Cluster</i>	No
<i>Primary</i>	No
<i>Foreign Key</i>	Yes
<i>Alternate Key</i>	No
<i>Table</i>	Borrowed

### **2.5.7 Index BOOK PK of the table Project PhysicalModel.**

#### **2.5.7.1 Card of the index BOOK PK of the table Project PhysicalModel.**

<i>Name</i>	BOOK_PK
<i>Code</i>	BOOK_PK
<i>Unique</i>	Yes
<i>Cluster</i>	Yes
<i>Primary</i>	Yes
<i>Foreign Key</i>	No
<i>Alternate Key</i>	No
<i>Table</i>	Book

### **2.5.8 Index CONTAIN FK of the table Project PhysicalModel.**

<i>Name</i>	CONTAIN_FK
<i>Code</i>	CONTAIN_FK
<i>Unique</i>	No
<i>Cluster</i>	No
<i>Primary</i>	No
<i>Foreign Key</i>	Yes
<i>Alternate Key</i>	No
<i>Table</i>	Book

### **2.5.9 Index WISHLIST PK of the table Project\_PhysicalModel.**

#### **2.5.9.1 Card of the index WISHLIST PK of the table Project\_PhysicalModel.**

<i>Name</i>	WISHLIST_PK
<i>Code</i>	WISHLIST_PK
<i>Unique</i>	Yes
<i>Cluster</i>	Yes
<i>Primary</i>	Yes
<i>Foreign Key</i>	No
<i>Alternate Key</i>	No
<i>Table</i>	Wishlist

### **2.5.10 Index AUTHOR PK of the table Project\_PhysicalModel.**

#### **2.5.10.1 Card of the index AUTHOR PK of the table Project\_PhysicalModel.**

<i>Name</i>	AUTHOR_PK
<i>Code</i>	AUTHOR_PK
<i>Unique</i>	Yes
<i>Cluster</i>	Yes
<i>Primary</i>	Yes
<i>Foreign Key</i>	No
<i>Alternate Key</i>	No
<i>Table</i>	Author

### **2.5.11 Index WRITE\_BY PK of the table Project\_PhysicalModel.**

#### **2.5.11.1 Card of the index WRITE\_BY PK of the table Project\_PhysicalModel.**

<i>Name</i>	WRITE_BY_PK
<i>Code</i>	WRITE_BY_PK
<i>Unique</i>	Yes
<i>Cluster</i>	Yes
<i>Primary</i>	Yes
<i>Foreign Key</i>	No
<i>Alternate Key</i>	No
<i>Table</i>	write_by

**2.5.12 Index WRITE\_BY FK of the table Project\_PhysicalModel.****2.5.12.1 Card of the index WRITE\_BY FK of the table Project\_PhysicalModel.**

<i>Name</i>	WRITE_BY_FK
<i>Code</i>	WRITE_BY_FK
<i>Unique</i>	No
<i>Cluster</i>	No
<i>Primary</i>	No
<i>Foreign Key</i>	Yes
<i>Alternate Key</i>	No
<i>Table</i>	write_by

**2.5.13 Index WRITE\_BY2 FK of the table Project\_PhysicalModel.****2.5.13.1 Card of the index WRITE\_BY2 FK of the table Project\_PhysicalModel.**

<i>Name</i>	WRITE_BY2_FK
<i>Code</i>	WRITE_BY2_FK
<i>Unique</i>	No
<i>Cluster</i>	No
<i>Primary</i>	No
<i>Foreign Key</i>	Yes
<i>Alternate Key</i>	No
<i>Table</i>	write_by

**2.6 Project\_PhysicalModel.****2.6.1 List of indexes of the table Project\_PhysicalModel.**

<i>Name</i>	<i>Code</i>	<i>Unique</i>	<i>Cluster</i>	<i>Primary</i>	<i>Foreign Key</i>	<i>Alternate Key</i>	<i>Table</i>
USER_PK	USER_PK	X	X	X			UserDetails
ADMIN_PK	ADMIN_PK	X	X	X			Admin
STUDENT_PK	STUDENT_PK	X	X	X			Student
PUT_BOOK_FK	PUT_BOOK_FK				X		Student
BORROWS_FK	BORROWS_FK				X		Borrowed
HAS_FK	HAS_FK				X		Borrowed
BOOK_PK	BOOK_PK	X	X	X			Book
CONTAIN_FK	CONTAIN_FK				X		Book
WISHLIST_PK	WISHLIST_PK	X	X	X			Wishlist
AUTHOR_PK	AUTHOR_PK	X	X	X			Author
WRITE_BY_PK	WRITE_BY_PK	X	X	X			write_by
WRITE_BY_FK	WRITE_BY_FK				X		write_by

<i>Name</i>	<i>Code</i>	<i>Unique</i>	<i>Cluster</i>	<i>Primary</i>	<i>Foreign Key</i>	<i>Alternate Key</i>	<i>Table</i>
WRITE_BY2_FK	WRITE_BY2_FK				X		write_by

## **2.7 Project\_PhysicalModel.**

### **2.7.1 Key UserID of the table Project\_PhysicalModel.**

#### **2.7.1.1 Card of the key UserID of the table Project\_PhysicalModel.**

<i>Name</i>	UserID
<i>Code</i>	USERID
<i>Primary</i>	Yes

### **2.7.2 Key UserID of the table Project\_PhysicalModel.**

#### **2.7.2.1 Card of the key UserID of the table Project\_PhysicalModel.**

<i>Name</i>	UserID
<i>Code</i>	USERID
<i>Primary</i>	Yes

### **2.7.3 Key UserID of the table Project\_PhysicalModel.**

#### **2.7.3.1 Card of the key UserID of the table Project\_PhysicalModel.**

<i>Name</i>	UserID
<i>Code</i>	USERID
<i>Primary</i>	Yes

### **2.7.4 Key ISBN of the table Project\_PhysicalModel.**

#### **2.7.4.1 Card of the key ISBN of the table Project\_PhysicalModel.**

<i>Name</i>	ISBN
<i>Code</i>	ISBN
<i>Primary</i>	Yes

### **2.7.5 Key UserID of the table Project\_PhysicalModel.**

#### **2.7.5.1 Card of the key UserID of the table Project\_PhysicalModel.**

<i>Name</i>	UserID
<i>Code</i>	USERID
<i>Primary</i>	Yes

### **2.7.6 Key AuthorID of the table Project\_PhysicalModel.**

#### **2.7.6.1 Card of the key AuthorID of the table Project\_PhysicalModel.**

<i>Name</i>	AuthorID
<i>Code</i>	AUTHORID
<i>Primary</i>	Yes



**2.7.7 Key AuthorID of the table Project\_PhysicalModel.****2.7.7.1 Card of the key AuthorID of the table Project\_PhysicalModel.**

<i>Name</i>	AuthorID
<i>Code</i>	AUTHORID
<i>Primary</i>	Yes

**2.8 Project\_PhysicalModel.****2.8.1 List of keys of the table Project\_PhysicalModel.**

<i>Name</i>	<i>Code</i>	<i>Primary</i>
UserID	USERID	X
UserID	USERID	X
UserID	USERID	X
ISBN	ISBN	X
UserID	USERID	X
AuthorID	AUTHORID	X
AuthorID	AUTHORID	X

**2.9 Project\_PhysicalModel.****2.9.1 Reference borrows****2.9.1.1 Card of reference borrows**

<i>Name</i>	borrows
<i>Code</i>	BORROWS
<i>Child Table</i>	Borrowed
<i>Parent Table</i>	Student
<i>Foreign Key Columns</i>	UserID
<i>Parent Role</i>	
<i>Child Role</i>	

**2.9.2 Reference contain****2.9.2.1 Card of reference contain**

<i>Name</i>	contain
<i>Code</i>	CONTAIN
<i>Child Table</i>	Book
<i>Parent Table</i>	Wishlist
<i>Foreign Key Columns</i>	UserID
<i>Parent Role</i>	
<i>Child Role</i>	

**2.9.3 Reference has**

<i>Name</i>	has
<i>Code</i>	HAS
<i>Child Table</i>	Borrowed
<i>Parent Table</i>	Book
<i>Foreign Key Columns</i>	ISBN
<i>Parent Role</i>	
<i>Child Role</i>	

## **2.9.4 Reference Inheritance**

### **2.9.4.1 Card of reference Inheritance**

<i>Name</i>	Inheritance
<i>Code</i>	INHERITANCE
<i>Child Table</i>	Admin
<i>Parent Table</i>	UserDetails
<i>Foreign Key Columns</i>	UserID
<i>Parent Role</i>	
<i>Child Role</i>	__INHERITED__

## **2.9.5 Reference Inheritance**

### **2.9.5.1 Card of reference Inheritance**

<i>Name</i>	Inheritance
<i>Code</i>	INHERITANCE2
<i>Child Table</i>	Student
<i>Parent Table</i>	UserDetails
<i>Foreign Key Columns</i>	UserID
<i>Parent Role</i>	
<i>Child Role</i>	__INHERITED__

## **2.9.6 Reference put book**

### **2.9.6.1 Card of reference put book**

<i>Name</i>	put_book
<i>Code</i>	PUT_BOOK2
<i>Child Table</i>	Wishlist
<i>Parent Table</i>	Student
<i>Foreign Key Columns</i>	UserID
<i>Parent Role</i>	
<i>Child Role</i>	

## **2.9.7 Reference put book**

### **2.9.7.1 Card of reference put book**

<i>Name</i>	put_book
<i>Code</i>	PUT_BOOK

<i>Child Table</i>	Student
<i>Parent Table</i>	Wishlist
<i>Foreign Key Columns</i>	Wis_UserID
<i>Parent Role</i>	
<i>Child Role</i>	

## **2.9.8 Reference write by**

### **2.9.8.1 Card of reference write by**

<i>Name</i>	write_by
<i>Code</i>	WRITE_BY
<i>Child Table</i>	write_by
<i>Parent Table</i>	Book
<i>Foreign Key Columns</i>	ISBN
<i>Parent Role</i>	
<i>Child Role</i>	

## **2.9.9 Reference write by**

### **2.9.9.1 Card of reference write by**

<i>Name</i>	write_by
<i>Code</i>	WRITE_BY2
<i>Child Table</i>	write_by
<i>Parent Table</i>	Author
<i>Foreign Key Columns</i>	AuthorID
<i>Parent Role</i>	
<i>Child Role</i>	

## **2.10 Project PhysicalModel.**

### **2.10.1 List of references**

<i>Name</i>	<i>Code</i>	<i>Parent Table</i>	<i>Child Table</i>	<i>Foreign Key Columns</i>	<i>Parent Role</i>	<i>Child Role</i>
borrows	BORROWS	Student	Borrowed	UserID		
contain	CONTAIN	Wishlist	Book	UserID		
has	HAS	Book	Borrowed	ISBN		
Inheritance	INHERITANCE	UserDetails	Admin	UserID		__INHERITED__
Inheritance	INHERITANCE2	UserDetails	Student	UserID		__INHERITED__
put_book	PUT_BOOK2	Student	Wishlist	UserID		
put_book	PUT_BOOK	Wishlist	Student	Wis_UserID		
write_by	WRITE_BY	Book	write_by	ISBN		
write_by	WRITE_BY2	Author	write_by	AuthorID		



<i>Name</i>	<i>Code</i>	<i>Parent Table</i>	<i>Child Table</i>	<i>Foreign Key Columns</i>	<i>Parent Role</i>	<i>Child Role</i>
Inheritance	INHERITANCE	UserDetails	Admin	UserID		__INHERITED__
Inheritance	INHERITANCE2	UserDetails	Student	UserID		__INHERITED__
put_book	PUT_BOOK2	Student	Wishlist	UserID		
put_book	PUT_BOOK	Wishlist	Student	Wis_UserID		
write_by	WRITE_BY	Book	write_by	ISBN		
write_by	WRITE_BY2	Author	write_by	AuthorID		



**4.3.1.2 Server validation rule of the table Admin**

%RULES%

**4.3.1.3 Check constraint name of the table Admin**

CKT\_ADMIN

**4.3.1.4 List of outgoing references of the table Admin**

<i>Name</i>	<i>Code</i>	<i>Parent Table</i>	<i>Foreign Key Columns</i>	<i>Parent Role</i>	<i>Child Role</i>
Inheritance	INHERITANCE	UserDetails	UserID		__INHERITED

**4.3.1.5 List of diagrams containing the table Admin**

<i>Name</i>	<i>Code</i>
ConceptualDataModel_1	CONCEPTUALDATAMODEL_1

**4.3.1.6 List of columns of the table Admin**

<i>Name</i>	<i>Code</i>
UserID	USERID
Fname	FNAME
Lname	LNAME
Email	EMAIL
Password	PASSWORD

**4.3.1.7 List of indexes of the table Admin**

<i>Name</i>	<i>Code</i>	<i>Unique</i>	<i>Cluster</i>	<i>Primary</i>	<i>Foreign Key</i>	<i>Alternate Key</i>	<i>Table</i>
ADMIN_PK	ADMIN_PK	X	X	X			Admin

**4.3.1.8 List of keys of the table Admin**

<i>Name</i>	<i>Code</i>	<i>Primary</i>
UserID	USERID	X

**4.3.2 Table Author****4.3.2.1 Card of table Author**

<i>Name</i>	Author
<i>Code</i>	AUTHOR

**4.3.2.2 Server validation rule of the table Author**

%RULES%

**4.3.2.3 Check constraint name of the table Author**

CKT\_AUTHOR

**4.3.2.4 List of incoming references of the table Author**

<i>Name</i>	<i>Code</i>	<i>Child Table</i>	<i>Foreign Key Columns</i>	<i>Parent Role</i>	<i>Child Role</i>
write_by	WRITE_BY2	write_by	AuthorID		

**4.3.2.5 List of diagrams containing the table Author**

<i>Name</i>	<i>Code</i>
ConceptualDataModel_1	CONCEPTUALDATAMODEL_1

**4.3.2.6 List of columns of the table Author**

<i>Name</i>	<i>Code</i>
AuthorID	AUTHORID
Name	NAME

**4.3.2.7 List of indexes of the table Author**

<i>Name</i>	<i>Code</i>	<i>Unique</i>	<i>Cluster</i>	<i>Primary</i>	<i>Foreign Key</i>	<i>Alternate Key</i>	<i>Table</i>
AUTHOR_PK	AUTHOR_PK	X	X	X			Author

**4.3.2.8 List of keys of the table Author**

<i>Name</i>	<i>Code</i>	<i>Primary</i>
AuthorID	AUTHORID	X

**4.3.3 Table Book****4.3.3.1 Card of table Book**

<i>Name</i>	Book
<i>Code</i>	BOOK

**4.3.3.2 Server validation rule of the table Book**

%RULES%

**4.3.3.3 Check constraint name of the table Book**

CKT\_BOOK

**4.3.3.4 List of incoming references of the table Book**

<i>Name</i>	<i>Code</i>	<i>Child Table</i>	<i>Foreign Key Columns</i>	<i>Parent Role</i>	<i>Child Role</i>
has write_by	HAS WRITE_BY	Borrowed write_by	ISBN ISBN		

**4.3.3.5 List of outgoing references of the table Book**

<i>Name</i>	<i>Code</i>	<i>Parent Table</i>	<i>Foreign Key Columns</i>	<i>Parent Role</i>	<i>Child Role</i>
contain	CONTAIN	Wishlist	UserID		

**4.3.3.6 List of diagrams containing the table Book**

<i>Name</i>	<i>Code</i>
ConceptualDataModel_1	CONCEPTUALDATAMODEL_1

**4.3.3.7 List of columns of the table Book**

<i>Name</i>	<i>Code</i>
-------------	-------------



<i>Name</i>	<i>Code</i>
ISBN Title PublicationYear Category	ISBN TITLE PUBLICATIONYEAR CATEGORY

**4.3.3.8 List of indexes of the table Book**

<i>Name</i>	<i>Code</i>	<i>Unique</i>	<i>Cluster</i>	<i>Primary</i>	<i>Foreign Key</i>	<i>Alternate Key</i>	<i>Table</i>
BOOK_PK	BOOK_PK	X	X	X			Book
CONTAIN_FK	CONTAIN_FK				X		Book

**4.3.3.9 List of keys of the table Book**

<i>Name</i>	<i>Code</i>	<i>Primary</i>
ISBN	ISBN	X

**4.3.4 Table Borrowed****4.3.4.1 Card of table Borrowed**

<i>Name</i>	Borrowed
<i>Code</i>	BORROWED

**4.3.4.2 Server validation rule of the table Borrowed**

%RULES%

**4.3.4.3 Check constraint name of the table Borrowed**

CKT\_BORROWED

**4.3.4.4 List of outgoing references of the table Borrowed**

<i>Name</i>	<i>Code</i>	<i>Parent Table</i>	<i>Foreign Key Columns</i>	<i>Parent Role</i>	<i>Child Role</i>
borrow has	BORROWS HAS	Student Book	UserID ISBN		

**4.3.4.5 List of diagrams containing the table Borrowed**

<i>Name</i>	<i>Code</i>
ConceptualDataModel_1	CONCEPTUALDATAMODEL_1

**4.3.4.6 List of columns of the table Borrowed**

<i>Name</i>	<i>Code</i>
ISBN UserID BorrowDate ReturnDate	ISBN USERID BORROWDATE RETURNDATE

**4.3.4.7 List of indexes of the table Borrowed**

Name	Code	Unique	Cluster	Primary	Foreign Key	Alternate Key	Table
BORROWS_FK	BORROWS_FK				X		Borrowed
HAS_FK	HAS_FK				X		Borrowed

**4.3.5 Table Student****4.3.5.1 Card of table Student**

Name	Student
Code	STUDENT

**4.3.5.2 Server validation rule of the table Student**

%RULES%

**4.3.5.3 Check constraint name of the table Student**

CKT\_STUDENT

**4.3.5.4 List of incoming references of the table Student**

Name	Code	Child Table	Foreign Key Columns	Parent Role	Child Role
borrows	BORROWS	Borrowed	UserID		
put_book	PUT_BOOK2	Wishlist	UserID		

**4.3.5.5 List of outgoing references of the table Student**

Name	Code	Parent Table	Foreign Key Columns	Parent Role	Child Role
Inheritance	INHERITANCE2	UserDetails	UserID		__INHERITED
put_book	PUT_BOOK	Wishlist	Wis_UserID		—

**4.3.5.6 List of diagrams containing the table Student**

Name	Code
ConceptualDataModel_1	CONCEPTUALDATAMODEL_1

**4.3.5.7 List of columns of the table Student**

Name	Code
UserID	USERID
Wis_UserID	WIS_USERID
wishlistID	WISHLISTID
Fname	FNAME
Lname	LNAME
Email	EMAIL
Password	PASSWORD

**4.3.5.8 List of indexes of the table Student**

Name	Code	Unique	Cluster	Primary	Foreign Key	Alternate Key	Table
------	------	--------	---------	---------	-------------	---------------	-------

Name	Code	Unique	Cluster	Primary	Foreign Key	Alternate Key	Table
STUDENT_PK	STUDENT_PK	X	X	X			Student
PUT_BOOK_FK	PUT_BOOK_FK				X		Student

**4.3.5.9 List of keys of the table Student**

Name	Code	Primary
UserID	USERID	X

**4.3.6 Table UserDetails****4.3.6.1 Card of table UserDetails**

Name	UserDetails
Code	USERDETAILS

**4.3.6.2 Server validation rule of the table UserDetails**

%RULES%

**4.3.6.3 Check constraint name of the table UserDetails**

CKT\_USERDETAILS

**4.3.6.4 List of incoming references of the table UserDetails**

Name	Code	Child Table	Foreign Key Columns	Parent Role	Child Role
Inheritance	INHERITANCE	Admin	UserID		__INHERITED
Inheritance	INHERITANCE2	Student	UserID		__INHERITED

**4.3.6.5 List of diagrams containing the table UserDetails**

Name	Code
ConceptualDataModel_1	CONCEPTUALDATAMODEL_1

**4.3.6.6 List of columns of the table UserDetails**

Name	Code
Fname	FNAME
Lname	LNAME
UserID	USERID
UserType	USERTYPE
Email	EMAIL
Password	PASSWORD

**4.3.6.7 List of indexes of the table UserDetails**

Name	Code	Unique	Cluster	Primary	Foreign Key	Alternate Key	Table
USER_PK	USER_PK	X	X	X			UserDetails

**4.3.6.8 List of keys of the table UserDetails**

<i>Name</i>	<i>Code</i>	<i>Primary</i>
UserID	USERID	X

**4.3.7 Table Wishlist****4.3.7.1 Card of table Wishlist**

<i>Name</i>	Wishlist
<i>Code</i>	WISHLIST

**4.3.7.2 Server validation rule of the table Wishlist**

%RULES%

**4.3.7.3 Check constraint name of the table Wishlist**

CKT\_WISHLIST

**4.3.7.4 List of incoming references of the table Wishlist**

<i>Name</i>	<i>Code</i>	<i>Child Table</i>	<i>Foreign Key Columns</i>	<i>Parent Role</i>	<i>Child Role</i>
contain	CONTAIN	Book	UserID		
put_book	PUT_BOOK	Student	Wis_UserID		

**4.3.7.5 List of outgoing references of the table Wishlist**

<i>Name</i>	<i>Code</i>	<i>Parent Table</i>	<i>Foreign Key Columns</i>	<i>Parent Role</i>	<i>Child Role</i>
put_book	PUT_BOOK2	Student	UserID		

**4.3.7.6 List of diagrams containing the table Wishlist**

<i>Name</i>	<i>Code</i>
ConceptualDataModel_1	CONCEPTUALDATAMODEL_1

**4.3.7.7 List of columns of the table Wishlist**

<i>Name</i>	<i>Code</i>
UserID	USERID
wishlistID	WISHLISTID
ISBN	ISBN

**4.3.7.8 List of indexes of the table Wishlist**

<i>Name</i>	<i>Code</i>	<i>Unique</i>	<i>Cluster</i>	<i>Primary</i>	<i>Foreign Key</i>	<i>Alternate Key</i>	<i>Table</i>
WISHLIST_PK	WISHLIST_PK	X	X	X			Wishlist

**4.3.7.9 List of keys of the table Wishlist**

<i>Name</i>	<i>Code</i>	<i>Primary</i>
UserID	USERID	X

**4.3.8 Table write\_by****4.3.8.1 Card of table write\_by**

<i>Name</i>	write_by
<i>Code</i>	WRITE_BY

**4.3.8.2 Server validation rule of the table write\_by**

%RULES%

**4.3.8.3 Check constraint name of the table write\_by**

CKT\_WRITE\_BY

**4.3.8.4 List of outgoing references of the table write\_by**

<i>Name</i>	<i>Code</i>	<i>Parent Table</i>	<i>Foreign Key Columns</i>	<i>Parent Role</i>	<i>Child Role</i>
write_by	WRITE_BY	Book	ISBN		
write_by	WRITE_BY2	Author	AuthorID		

**4.3.8.5 List of columns of the table write\_by**

<i>Name</i>	<i>Code</i>
ISBN	ISBN
AuthorID	AUTHORID

**4.3.8.6 List of indexes of the table write\_by**

<i>Name</i>	<i>Code</i>	<i>Unique</i>	<i>Cluster</i>	<i>Primary</i>	<i>Foreign Key</i>	<i>Alternate Key</i>	<i>Table</i>
WRITE_BY_PK	WRITE_BY_PK	X	X	X			write_by
WRITE_BY_FK	WRITE_BY_FK				X		write_by
WRITE_BY2_FK	WRITE_BY2_FK				X		write_by

**4.3.8.7 List of keys of the table write\_by**

<i>Name</i>	<i>Code</i>	<i>Primary</i>
AuthorID	AUTHORID	X

**4.4 List of references**

<i>Name</i>	<i>Code</i>	<i>Parent Table</i>	<i>Child Table</i>	<i>Foreign Key Columns</i>	<i>Parent Role</i>	<i>Child Role</i>
borrows	BORROWS	Student	Borrowed	UserID		
contain	CONTAIN	Wishlist	Book	UserID		
has	HAS	Book	Borrowed	ISBN		
Inheritance	INHERITANCE	UserDetails	Admin	UserID		__INHERITED__
Inheritance	INHERITANCE2	UserDetails	Student	UserID		__INHERITED__

<i>Name</i>	<i>Code</i>	<i>Parent Table</i>	<i>Child Table</i>	<i>Foreign Key Columns</i>	<i>Parent Role</i>	<i>Child Role</i>
put_book	PUT_BOOK 2	Student	Wishlist	UserID		
put_book	PUT_BOOK	Wishlist	Student	Wis_UserID		
write_by	WRITE_BY	Book	write_by	ISBN		
write_by	WRITE_BY 2	Author	write_by	AuthorID		

#### **4.4.1 Reference borrows**

##### **4.4.1.1 Card of reference borrows**

<i>Name</i>	borrows
<i>Code</i>	BORROWS
<i>Child Table</i>	Borrowed
<i>Parent Table</i>	Student
<i>Foreign Key Columns</i>	UserID
<i>Parent Role</i>	
<i>Child Role</i>	

##### **4.4.1.2 List of diagrams containing the reference borrows**

<i>Name</i>	<i>Code</i>
ConceptualDataModel_1	CONCEPTUALDATAMODEL_1

##### **4.4.1.3 List of reference joins of the reference borrows**

<i>Display Name</i>	<i>Parent Table Column</i>	<i>Child Table Column</i>
UserID = UserID	UserID	UserID

#### **4.4.2 Reference contain**

##### **4.4.2.1 Card of reference contain**

<i>Name</i>	contain
<i>Code</i>	CONTAIN
<i>Child Table</i>	Book
<i>Parent Table</i>	Wishlist
<i>Foreign Key Columns</i>	UserID
<i>Parent Role</i>	
<i>Child Role</i>	

##### **4.4.2.2 List of diagrams containing the reference contain**

<i>Name</i>	<i>Code</i>
ConceptualDataModel_1	CONCEPTUALDATAMODEL_1

##### **4.4.2.3 List of reference joins of the reference contain**

<i>Display Name</i>	<i>Parent Table Column</i>	<i>Child Table Column</i>
UserID = UserID	UserID	UserID

**4.4.3 Reference has****4.4.3.1 Card of reference has**

<i>Name</i>	has
<i>Code</i>	HAS
<i>Child Table</i>	Borrowed
<i>Parent Table</i>	Book
<i>Foreign Key Columns</i>	ISBN
<i>Parent Role</i>	
<i>Child Role</i>	

**4.4.3.2 List of diagrams containing the reference has**

<i>Name</i>	<i>Code</i>
ConceptualDataModel_1	CONCEPTUALDATAMODEL_1

**4.4.3.3 List of reference joins of the reference has**

<i>Display Name</i>	<i>Parent Table Column</i>	<i>Child Table Column</i>
ISBN = ISBN	ISBN	ISBN

**4.4.4 Reference Inheritance****4.4.4.1 Card of reference Inheritance**

<i>Name</i>	Inheritance
<i>Code</i>	INHERITANCE
<i>Child Table</i>	Admin
<i>Parent Table</i>	UserDetails
<i>Foreign Key Columns</i>	UserID
<i>Parent Role</i>	
<i>Child Role</i>	__INHERITED__

**4.4.4.2 List of diagrams containing the reference Inheritance**

<i>Name</i>	<i>Code</i>
ConceptualDataModel_1	CONCEPTUALDATAMODEL_1

**4.4.4.3 List of reference joins of the reference Inheritance**

<i>Display Name</i>	<i>Parent Table Column</i>	<i>Child Table Column</i>
UserID = UserID	UserID	UserID

**4.4.5 Reference Inheritance****4.4.5.1 Card of reference Inheritance**

<i>Name</i>	Inheritance
<i>Code</i>	INHERITANCE2
<i>Child Table</i>	Student
<i>Parent Table</i>	UserDetails
<i>Foreign Key Columns</i>	UserID
<i>Parent Role</i>	

<i>Child Role</i>	__INHERITED__
-------------------	---------------

**4.4.5.2 List of diagrams containing the reference Inheritance**

<i>Name</i>	<i>Code</i>
ConceptualDataModel_1	CONCEPTUALDATAMODEL_1

**4.4.5.3 List of reference joins of the reference Inheritance**

<i>Display Name</i>	<i>Parent Table Column</i>	<i>Child Table Column</i>
UserID = UserID	UserID	UserID

**4.4.6 Reference put book****4.4.6.1 Card of reference put book**

<i>Name</i>	put_book
<i>Code</i>	PUT_BOOK2
<i>Child Table</i>	Wishlist
<i>Parent Table</i>	Student
<i>Foreign Key Columns</i>	UserID
<i>Parent Role</i>	
<i>Child Role</i>	

**4.4.6.2 List of reference joins of the reference put book**

<i>Display Name</i>	<i>Parent Table Column</i>	<i>Child Table Column</i>
UserID = UserID	UserID	UserID

**4.4.7 Reference put book****4.4.7.1 Card of reference put book**

<i>Name</i>	put_book
<i>Code</i>	PUT_BOOK
<i>Child Table</i>	Student
<i>Parent Table</i>	Wishlist
<i>Foreign Key Columns</i>	Wis_UserID
<i>Parent Role</i>	
<i>Child Role</i>	

**4.4.7.2 List of reference joins of the reference put book**

<i>Display Name</i>	<i>Parent Table Column</i>	<i>Child Table Column</i>
UserID = Wis_UserID	UserID	Wis_UserID

**4.4.8 Reference write by****4.4.8.1 Card of reference write by**

<i>Name</i>	write_by
<i>Code</i>	WRITE_BY
<i>Child Table</i>	write_by
<i>Parent Table</i>	Book



Foreign Key Columns	ISBN
Parent Role	
Child Role	

4.4.8.2 List of reference joins of the reference write by

Display Name	Parent Table Column	Child Table Column
ISBN = ISBN	ISBN	ISBN

4.4.9 Reference write by

4.4.9.1 Card of reference write by

Name	write_by
Code	WRITE_BY2
Child Table	write_by
Parent Table	Author
Foreign Key Columns	AuthorID
Parent Role	
Child Role	

4.4.9.2 List of reference joins of the reference write by

Display Name	Parent Table Column	Child Table Column
AuthorID = AuthorID	AuthorID	AuthorID