

Chapter 4 Windows Database Using Related Tables

Advanced Programming
Using Visual Basic.NET



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Quan hệ Relational databases

- Data stored in multiple “related” tables
- Bảng chính Primary table à **parent** or **master**
- Bảng con à **child** or **detail**
- The primary key (khóa chính) ?
- The **foreign key** (Khóa ngoại) ?

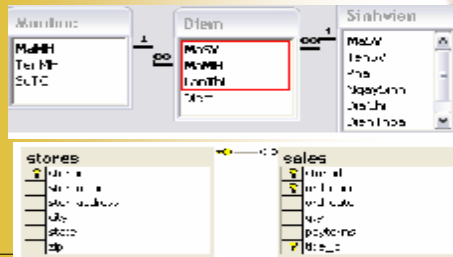


Data Relationships

4-2

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One-to-Many Relationships Quan hệ một nhiều



Data Relationships

4-3

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One-to-One Relationships Quan Hệ một to một

- Khi nào ta thiết kế dạng quan hệ 1-1?
- The **pub_info** table có field logo (picture) that slows access to the **publishers** table

publishers	
pub_id	
pub_name	
city	
state	
country	

pub_info	
pub_id	
logo	
price	

Data Relationships
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Constraints Gán Đặc Tính Ràng Buộc

- A **unique constraint?**
 - specifies that no duplicate entries are allowed in a column
- **Foreign-key constraints?**
 - ensure that parent and child tables remain synchronized when records are deleted or changed

The **referential integrity** concept is enforced by the DBMS using *foreign key constraints* to ensure that changes and deletions in one table are made to all affected tables.

Data Relationships
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Constraints Gán Đặc Tính Ràng Buộc

Presentation

DataSet

Data Adapter

Command

Connection

Data Source

```

Function GetRelation_dsLop_SV() As
Dim dcParent As New DataColumn
Dim dcChild As New DataColumn
.....
.....
dcParent = ds.Tables("Lop").Columns("MaLop")
dcChild = ds.Tables("SinhVien").Columns("MaLop")
ds.Relations.Add("Lop_SV_Relation", dcParent, dcChild)
con.Close()
Return ds
End Function
          
```

DataTier
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Code cho Presentation Giao Diện



```
Private Sub frmMasterCboGrid_Load(ByVal sender As System.Object,
    ByVal e As System.EventArgs) Handles MyBase.Load
    Dim ds As New DataSet
    ds = obj.GetRelation_dsLop_SV()
    With cboLop
        .DisplayMember = "TenLop"
        .ValueMember = "MaLop"
        .DataSource = ds.Tables(0)
    End With

    dgridSinhVien.DataSource = ds.Tables(0)
    dgridSinhVien.DataMember = "Lop_SV_Ralation"
End Sub
```

Related Tables in a Grid and Combobox

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Form Master Detail Qua DataRelationship



MaLop	MaSV	TenSV	Phai
001A	001	Lê Bá Hùng	<input checked="" type="checkbox"/>
001A	002	Phạm Thị Duyên	<input type="checkbox"/>
001A	004	Phạm Văn Nhân	<input checked="" type="checkbox"/>
001A	005	Nguyễn Thành	<input type="checkbox"/>

Related Tables in a Grid

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Áp Dụng Parent, Child, and Foreign Key



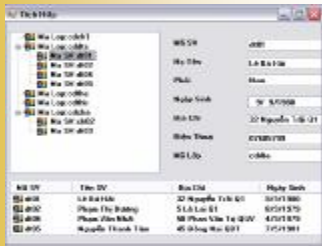
Ma SV	Ten SV	Đến Trường	Ngày Sinh
001	Lê Bá Hùng	22 Nguyễn Trãi	3/3/1990
002	Phạm Thị Duyên	5 Lê Lai Q1	8/3/1975
004	Phạm Văn Nhân	50 Phạm Văn T	4/3/1975
005	Nguyễn Thành	45 Đặng Mai Q	7/5/1981

Related Tables in a ListView

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Bài Toán Tích Hợp



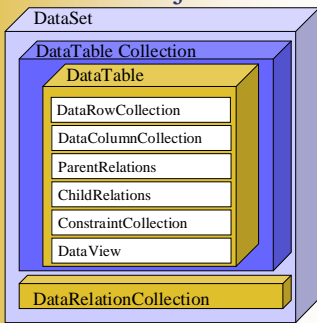
Related Tables in Tree & Listview

4-13

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Visual Basic and Database Applications

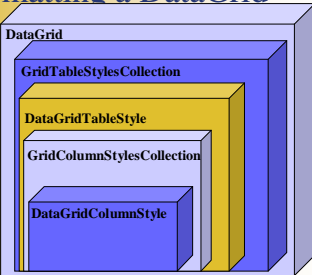
The DataSet Object Model



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Formatting a DataGrid



*Error in figure
In text p. 123*

Related Tables in a Grid

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Đối Tượng DataView (dv)

Presentation

DataView

↑

DataSet

↑

Data Adapter

↑

Command

↑

Connection

↑

Data Source

Function **Getdataview**(ByVal strTableName As String) As **DataView**
 Dim tbl As New **DataTable**
 Dim dv As New **DataView**

tbl = GetDataTable(strTableName)
dv.Table = tbl
dv.Sort = tbl.Columns(0).ColumnName
Return dv
 End Function

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Filtering DV qua RowFilter properties

```

Private Sub frmMasterDataView_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
    Dim tbl As New DataTable
    tbl = obj.GetDataTable("Lop")
    With cboLop
        .DisplayMember = "TenLop"
        .ValueMember = "MaLop"
    End With
    .DataSource = tbl
    dvsV = obj.GetDataView("SinhVien")
    dgv1dSinhVien.DataSource = dvsV
End Sub

Private Sub cboLop_SelectedIndexChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles cboLop.SelectedIndexChanged
    dvsV.RowFilter = "MaLop=" & cboLop.SelectedValue & ""
End Sub
        
```

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Comparison Operator Examples

Operator	Meaning	Examples
=	Equal to	"Subject = 'Business'" "Subject = '& txtSubject.Text &'"
>	Greater than	"Sales > 1000" "Sales > "& txtSales.Text
<	Less than	"Sales < 1000" "Sales < "& txtSales.Text
Like	Pattern match	"Subject Like ('B%') (SQL Server)" "Subject Like 'B*' (Access)"

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