

Common Coding Defects

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Agenda

- Baby defects
- Web Applications Common Defects

Baby Defects (1)

Do not string concatenated in loop, use StringBuffer instead

//Wrong example:

```
String stNumber = "";
for(int i=0; i<100; i++) {
    stNumber = stNumber + i;
}
// Correct one
StringBuffer stBuf = new StringBuffer();
for(int i=0; i<100; i++) {
    stNumber.append(i);
}
String stNumber = stBuf.toString();
```



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Baby Defects (2)

Do not get size of array in for statements condition

// Wrong example:

```
for(i=0; i<arrTemp.size(); i++) {  
    // do smt here  
}
```



// Correct answer:

```
int intSize = arrTemp.size();  
for(i=0; i<intSize; i++) {  
    // do smt here  
}
```

Baby Defects (3)

Compare a string with a constant, always call equals function from constant to avoid null pointer exception error.

// Wrong example :
if(stVariable.equals("...")){
 // do smt here
}



// Correct answer:
int intSize = arrTemp.size();
if("...".equals(stVariable)){
 // do smt here
}

Baby Defects (4)

Avoid select from database to check for existing of values in a loop, this will increase system performance.

// Wrong :

```
for(i=0; i<intSize; i++){
    // select database to check here
}
```



// Select database, put to a HastTable object or List object.
Remember Hastable object do not allow duplicate value :

```
for(i=0; i<intSize; i++){
    // select the HastTable to check here
}
```

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Sử dụng Set thay cho HastTable

Baby Defects (5)

Do not create object in loop.

// Wrong :

```
for(i=0; i<intSize; i++){
    TableRow objTable = (TableRow) vtResult.getElementAt(i);
    // do smt here
}
```



// Correct:

```
TableRow objTable = null;
for(i=0; i<intSize; i++){
    objTable = (TableRow) vtResult.getElementAt(i);
    // do smt here
}
```

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Baby Defects (6)

Use typecast instead of `toString()` function.

// Wrong:

```
String stTemp = x==y ? "" : objABC.toString();
```



// Correct:

```
String stTemp = (x==y)? "" : (String) objABC;
```

Baby Defects (7)

Redundant typecast

// Wrong:

```
String stTemp = Integer.toString(i);
```



// Correct:

```
String stTemp = "" + i;
```

Không rõ lầm

Baby Defects (7)

Check for null before use objects to avoid null pointer exception

// Wrong:

```
String stAction = request.getAttribute("stAction").toString();
```



// Correct:

```
String stAction = (request.getAttribute("stAction")==null) ? ""  
                :request.getAttribute("stAction");
```

Baby defects (8)

```
public bool IsValidLogin(string userName, string password) {  
    SqlConnection con = null;  
    SqlCommand cmd = null;  
    bool result = false;  
    try {  
        con = new SqlConnection(DB_CONNECTION);  
        con.Open();  
        string cmdtext = string.Format("SELECT * FROM [Users] WHERE [Account]={0} AND  
[Password]={1}", userName, password);  
        cmd = new SqlCommand(cmdtext);  
        cmd.Connection = con;  
        cmd.CommandType = CommandType.Text;  
        result = cmd.ExecuteReader().HasRows;  
        cmd.Dispose();  
        con.Dispose();  
        return result;  
    }  
    catch (SqlException)  
    {  
        return false;  
    }  
}
```

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Ví dụ của .Net

Baby Defects(9)

Combine function calling and passing parameters as the same time

Assign value of the called function to a temp variable instead of pass it directly to the calling function, for example, instead of:

```
a = func1(func2(func3, func4));  
you can use three temp variables:  
b=func(3);  
c=func(4);  
d=fun2(b,c);  
a=fun1(d);
```

When you use the temp variable, the code are clearly, and you can avoid the long line same as:

```
strReturn =  
objDoc.SelectNodes(objNode.Attributes(objAttr.ChildNodes.Item  
(0).ToString()));
```

Baby defects (10)

Hardcode constant

-Give a fixed value when you format data, for example:
dgrView.PageSize = 10;
-Fixed error message in code
strErr = "Error message here";
-The problem occurs when you should change these values. If you put them in the constant file, you need change only one time, if you fixed them, you'll be find and change anywhere you have the fix value

Baby defects (11)

Method can not be tested

```
public void aMethod( object arg)      {  
try {  
    // CODE BLOCK HERE  
}  
    catch (Exception)  
    {  
        // DO NOTHING  
    }  
}
```



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