

diemtrungbinh.sql - DESKTOP-4T2VIN8.master (DESKTOP-4T2VIN8\Le Thanh Phu (51)) - Microsoft SQL Server Management Studio

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Object Explorer

- DESKTOP-4T2VIN8 (SQL Server 15.0.2000.5 - DESKTOP-4T2VIN8)
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- XEvent Profiler

```
-- Tạo cơ sở dữ liệu
CREATE DATABASE TenCoSoDuLieu;
GO
USE TenCoSoDuLieu;

-- Tạo bảng MônHoc
CREATE TABLE MônHoc (
    id INT PRIMARY KEY,
    name NVARCHAR(100),
    số_tín_chỉ INT
);

-- Tạo bảng Sinh viên
CREATE TABLE Sv (
    masv INT PRIMARY KEY,
    name NVARCHAR(100),
    giới_tính NVARCHAR(10),
    lopsv NVARCHAR(50)
);

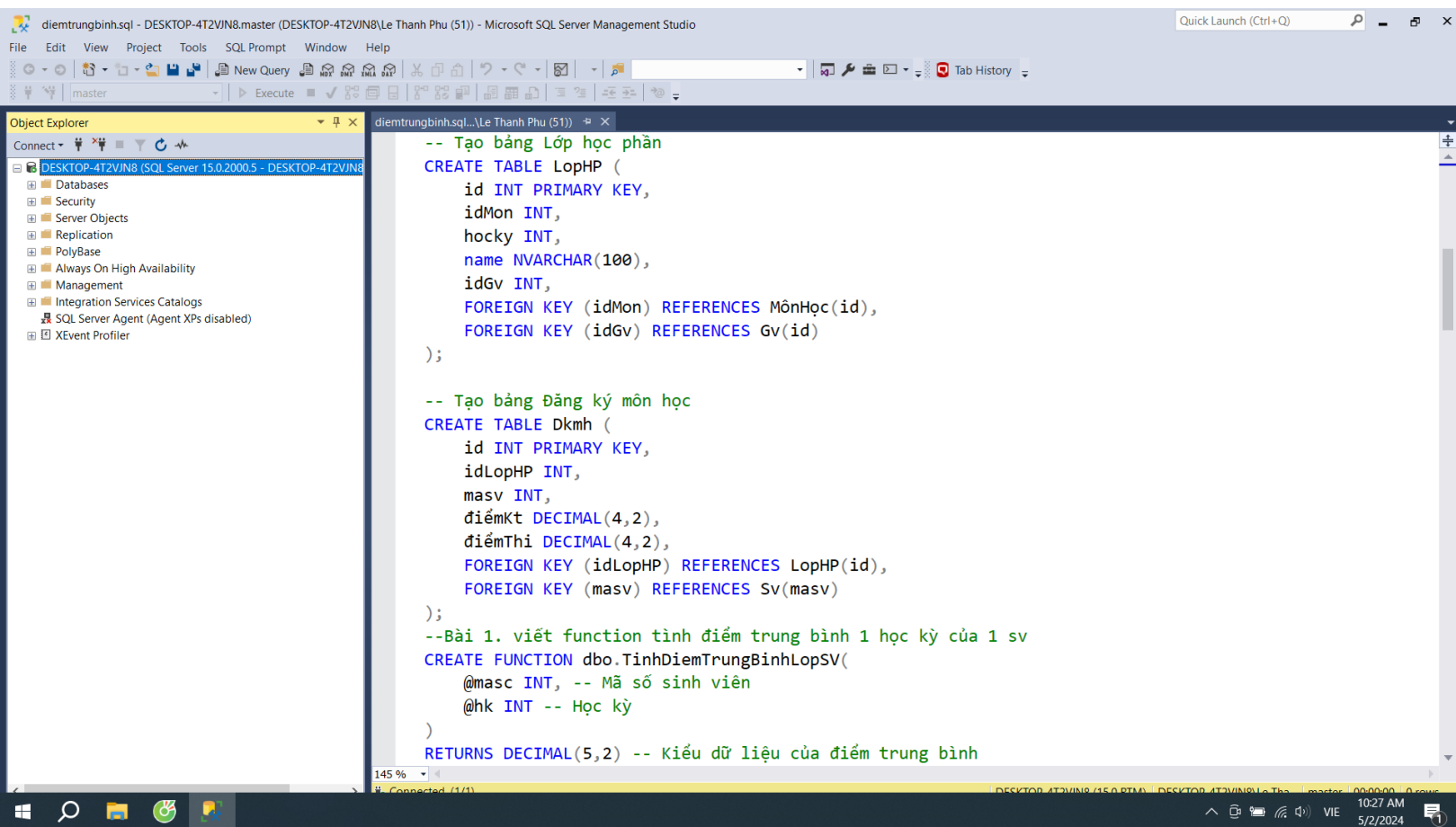
-- Tạo bảng Giáo viên
CREATE TABLE Gv (
    id INT PRIMARY KEY,
    name NVARCHAR(100),
    bộ_môn NVARCHAR(100)
);
```

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Connected (1/1)

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Tạo database+tabe cùng các dữ liệu ↑

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diemtrungbinh.sql\Le Thanh Phu (51)

```
--Bài 1. viết function tính điểm trung bình 1 học kỳ của 1 sv
CREATE FUNCTION dbo.TinhDiemTrungBinhLopSV(
    @masc INT, -- Mã số sinh viên
    @hk INT -- Học kỳ
)
RETURNS DECIMAL(5,2) -- Kiểu dữ liệu của điểm trung bình
AS
BEGIN
    DECLARE @diemTB DECIMAL(5,2);

    -- Tính điểm trung bình của lớp sinh viên trong học kỳ
    SELECT @diemTB = AVG((dm.điểmKt * 0.4 + dm.điểmThi * 0.6))
    FROM Dkmh dm
    INNER JOIN LopHP hp ON dm.idLopHP = hp.id
    INNER JOIN Sv sv ON dm.masv = sv.masv
    WHERE sv.masv = @masc AND hp.hocky = @hk;

    RETURN @diemTB;
END;
```

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diemtrungbinh.sql...Le Thanh Phu (51)

```
-- Bài 2. viết function tính điểm trung bình 1 học kỳ của 1 lớp
CREATE FUNCTION dbo.TinhDiemTrungBinhLopSV(
    @lopsz NVARCHAR(50), -- Lớp sinh viên
    @hk INT -- Học kỳ
)
RETURNS DECIMAL(5,2) -- Kiểu dữ liệu của điểm trung bình
AS
BEGIN
    DECLARE @diemTB DECIMAL(5,2);

    -- Tính điểm trung bình của lớp sinh viên trong học kỳ
    SELECT @diemTB = AVG((dm.điểmKt * 0.4 + dm.điểmThi * 0.6))
    FROM Dkmh dm
    INNER JOIN LopHP hp ON dm.idLopHP = hp.id
    INNER JOIN Sv sv ON dm.masv = sv.masv
    WHERE sv.lopsz = @lopsz AND hp.hocky = @hk;

    RETURN @diemTB;
END;
```

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```
--Bài 3. viết store procedure trả về json có thành phần MônHoc
CREATE PROCEDURE dbo.GetInfoBySemester
    @hk INT -- Học kỳ
AS
BEGIN
    DECLARE @json NVARCHAR(MAX);

    -- Tạo JSON
    SET @json = (
        SELECT
            (
                SELECT id, name, số_tín_chi
                FROM MônHoc
                FOR JSON AUTO
            ) AS MonHoc,
            (
                SELECT id, name
                FROM LopHP
                WHERE hocky = @hk
                FOR JSON AUTO
            ) AS LopHP
        FOR JSON AUTO
    )
```

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```
WHERE hocky = @hk
FOR JSON AUTO
) AS LopHP,
(
    SELECT id, name, bộ_môn
    FROM Gv
    WHERE id IN (
        SELECT DISTINCT idGv
        FROM LopHP
        WHERE hocky = @hk
    )
    FOR JSON AUTO
) AS GiaoVien
FOR JSON PATH, WITHOUT_ARRAY_WRAPPER
);

-- Trả về JSON
SELECT @json AS JsonOutput;
END;
```

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```
--Bài 4. viết storge procedure trả về json là danh sách sinh viên đăng ký 1
CREATE PROCEDURE dbo.GetStudentsInClass
    @idLopHP INT -- ID của lớp học phần
AS
BEGIN
    DECLARE @json NVARCHAR(MAX);

    -- Tạo JSON
    SET @json = (
        SELECT
            (
                SELECT masv, name, giới tính, lopsv
                FROM Sv
                WHERE masv IN (
                    SELECT masv
                    FROM Dkmh
                    WHERE idLopHP = @idLopHP
                )
            )
        FOR JSON AUTO
    ) AS Students
```

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```
SELECT
(
    SELECT masv, name, giới tính, lopsv
    FROM Sv
    WHERE masv IN (
        SELECT masv
        FROM Dkmh
        WHERE idLopHP = @idLopHP
    )
    FOR JSON AUTO
) AS Students
FOR JSON PATH, WITHOUT_ARRAY_WRAPPER
);

-- Trả về JSON
SELECT @json AS JsonOutput;
END;
```

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