**CONFIGS \_LOCAL&SERVER\_DATABASE**

**SETUP PROCESS LOCAL**

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**08/12/2024**

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**Revision History**

|  |  |  |  |
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| **Revision Date** | **Version No.** | **Detailed Description of Revision** | **Document Authors** |
| 08/12/2024 | 1.0 | Cấu hình local database và cài đặt để chạy tự động lấy dữ liệu | Nam |
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|  |  |  |  |
|  |  |  |  |

# Local database configurations

## 1.1 Introduction

## 1.2 Preparation

* MySQL version 10.4.32-MariaDB



* Xampp version 8.2.12-0



## 1.3 Local database configurations

Connect database vào application.properties với database name lần lượt có như phía dưới:

app.datasource.control.url=jdbc:mysql://localho

st:3306/control?createDatabaseIfNotExist=true

app.datasource.control.username=root

app.datasource.control.password=

app.datasource.control.driverClassName=com.mysql.cj.jdbc.Driver

app.datasource.staging.url=jdbc:mysql://localhost:3306/staging?createDatabaseIfNotExist=true

app.datasource.staging.username=root

app.datasource.staging.password=

app.datasource.staging.driverClassName=com.mysql.cj.jdbc.Driver

### 1.3.1 Control

**Khởi tạo các bản trong database:**

* **Bảng config:**

DROP TABLE IF EXISTS `config`;

CREATE TABLE `config` (

`id` int NOT NULL AUTO\_INCREMENT,

`keyword` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`saveFolder` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`scrapeTimes` int NULL DEFAULT NULL,

`website` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

PRIMARY KEY (`id`) USING BTREE

) ENGINE = InnoDB AUTO\_INCREMENT = 5 CHARACTER SET = utf8mb4 COLLATE = utf8mb4\_general\_ci ROW\_FORMAT = Dynamic;

* **Bảng datedim:**

DROP TABLE IF EXISTS `datedim`;

CREATE TABLE `datedim` (

`dateSk` int NOT NULL,

`DayOfYear` int NULL DEFAULT NULL,

`calendarMonth` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`calendarYear` int NULL DEFAULT NULL,

`calendarYearMonth` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`dayOfMonth` int NULL DEFAULT NULL,

`dayOfWeek` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`daySince2005` int NULL DEFAULT NULL,

`dayType` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`fullDate` date NULL DEFAULT NULL,

`holiday` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`quarterOfYear` int NULL DEFAULT NULL,

`quarterSince2005` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`weekMondayStart` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`weekOfYearMonday` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`weekOfYearSunday` int NULL DEFAULT NULL,

`weekSundayStart` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`yearWeekSunday` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`monthSince2005` int NULL DEFAULT NULL,

PRIMARY KEY (`dateSk`) USING BTREE,

INDEX `FKmjrv6v895m97jp33bji2c89xi`(`monthSince2005`) USING BTREE,

CONSTRAINT `FKmjrv6v895m97jp33bji2c89xi` FOREIGN KEY (`monthSince2005`) REFERENCES `monthdim` (`monthSk`) ON DELETE RESTRICT ON UPDATE RESTRICT

) ENGINE = InnoDB CHARACTER SET = utf8mb4 COLLATE = utf8mb4\_general\_ci ROW\_FORMAT = Dynamic;

* **Bảng logs:**

CREATE TABLE `logs` (

`id` int NOT NULL AUTO\_INCREMENT,

`message` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`quantity` int NULL DEFAULT NULL,

`timeEnd` date(6) NULL DEFAULT NULL,

`timeStart` date(6) NULL DEFAULT NULL,

`dateSk` int NULL DEFAULT NULL,

`statusId` int NULL DEFAULT NULL,

`websiteId` int NULL DEFAULT NULL,

PRIMARY KEY (`id`) USING BTREE,

INDEX `FK9714p8exryruau3vv4pw926fx`(`dateSk`) USING BTREE,

INDEX `FK3d5jkj33k7m98tttikpva61fh`(`statusId`) USING BTREE,

INDEX `FKnk8xfl5b2iffccafv3c10t5pa`(`websiteId`) USING BTREE,

CONSTRAINT `FK3d5jkj33k7m98tttikpva61fh` FOREIGN KEY (`statusId`) REFERENCES `status` (`id`) ON DELETE RESTRICT ON UPDATE RESTRICT,

CONSTRAINT `FK9714p8exryruau3vv4pw926fx` FOREIGN KEY (`dateSk`) REFERENCES `datedim` (`dateSk`) ON DELETE RESTRICT ON UPDATE RESTRICT,

CONSTRAINT `FKnk8xfl5b2iffccafv3c10t5pa` FOREIGN KEY (`websiteId`) REFERENCES `config` (`id`) ON DELETE RESTRICT ON UPDATE RESTRICT

) ENGINE = InnoDB AUTO\_INCREMENT = 110 CHARACTER SET = utf8mb4 COLLATE = utf8mb4\_general\_ci ROW\_FORMAT = Dynamic;

* **Bảng monthdim:**

DROP TABLE IF EXISTS `monthdim`;

CREATE TABLE `monthdim` (

`monthSk` int NOT NULL,

`calendarYearMonth` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`dateSkEnd` int NULL DEFAULT NULL,

`dateSkStart` int NULL DEFAULT NULL,

`monthSince2005` int NULL DEFAULT NULL,

PRIMARY KEY (`monthSk`) USING BTREE

) ENGINE = InnoDB CHARACTER SET = utf8mb4 COLLATE = utf8mb4\_general\_ci ROW\_FORMAT = Dynamic;

* **Bảng status:**

DROP TABLE IF EXISTS `status`;

CREATE TABLE `status` (

`id` int NOT NULL AUTO\_INCREMENT,

`name` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

PRIMARY KEY (`id`) USING BTREE,

UNIQUE INDEX `UKreccgx9nr0a8dwv201t44l6pd`(`name`) USING BTREE

) ENGINE = InnoDB AUTO\_INCREMENT = 5 CHARACTER SET = utf8mb4 COLLATE = utf8mb4\_general\_ci ROW\_FORMAT = Dynamic;

### 1.3.2 Staging

**Khởi tạo các bản trong database:**

* **Bảng bikes:**

DROP TABLE IF EXISTS `bikes`;

CREATE TABLE `bikes` (

`naturalId` int NOT NULL AUTO\_INCREMENT,

`id` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`name` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`price` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`priceSale` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`brand` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`color` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`size` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`status` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`description\_part1` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`description\_part2` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`description\_part3` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`timeStartScrape` datetime(6) NULL DEFAULT NULL,

`timeEndScrape` datetime(6) NULL DEFAULT NULL,

`timeStartInsert` datetime(6) NULL DEFAULT NULL,

PRIMARY KEY (`naturalId`) USING BTREE,

INDEX `idx\_id`(`id`) USING BTREE

) ENGINE = InnoDB AUTO\_INCREMENT = 16362 CHARACTER SET = utf8mb4 COLLATE = utf8mb4\_general\_ci ROW\_FORMAT = Dynamic;

* **Tạo các procedure:**

DROP PROCEDURE IF EXISTS `LoadDataFromStagingToDW`;

delimiter ;;

CREATE PROCEDURE `LoadDataFromStagingToDW`()

BEGIN

START TRANSACTION;

-- Tạo bảng tạm lưu product (check trùng)

CREATE TEMPORARY TABLE temp\_product AS

SELECT \*,

TRIM(REPLACE(color, ':', '')) AS processed\_color,

CAST(

IFNULL(

NULLIF(

REPLACE(REPLACE(REPLACE(price, '₫', ''), '.', ''), ' ', ''),

''

),

'0'

) AS DECIMAL(15,2)

) AS processed\_price,

CAST(

IFNULL(

NULLIF(

REPLACE(REPLACE(REPLACE(priceSale, '₫', ''), '.', ''), ' ', ''),

''

),

'0'

) AS DECIMAL(15,2)

) AS processed\_priceSale

FROM staging.bikes;

ALTER TABLE temp\_product

CONVERT TO CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci;

-- Chèn các sản phẩm mới vào productdim nếu chưa có (xử lý null -> N/A)

INSERT INTO datawarehouse.productdim (

id, name, price, priceSale, brand, color, size, status,

description\_part1, description\_part2, description\_part3,

created\_at, isDelete, date\_insert, expired\_date, date\_sk

)

SELECT

COALESCE(tp.id, 'N/A'),

COALESCE(tp.name, 'N/A'),

COALESCE(tp.processed\_price, 0), -- Dùng giá trị đã xử lý

COALESCE(tp.processed\_priceSale, 0), -- Dùng giá trị đã xử lý

COALESCE(tp.brand, 'N/A'),

COALESCE(tp.processed\_color, 'N/A'), -- Sử dụng giá trị đã xử lý

COALESCE(tp.size, 'N/A'),

COALESCE(tp.status, 'N/A'),

COALESCE(tp.description\_part1, 'N/A'),

COALESCE(tp.description\_part2, 'N/A'),

COALESCE(tp.description\_part3, 'N/A'),

CURRENT\_TIMESTAMP,

FALSE,

CURRENT\_TIMESTAMP,

'9999-12-31',

dd.dateSk -- Lấy date\_sk từ bảng date

FROM temp\_product tp

JOIN control.datedim dd ON dd.fullDate = CURRENT\_DATE

WHERE NOT EXISTS (

SELECT 1

FROM datawarehouse.productdim pd

WHERE

pd.name = tp.name

AND pd.id = tp.id

AND pd.color = tp.processed\_color

AND pd.size = tp.size

AND pd.isDelete = FALSE

AND pd.expired\_date = '9999-12-31'

);

-- Tạo bảng tạm để lưu các sản phẩm cần cập nhật

CREATE TEMPORARY TABLE temp\_update\_products AS

SELECT

tp.\*,

ROW\_NUMBER() OVER (PARTITION BY tp.name, tp.id, tp.color, tp.size ORDER BY tp.timeStartInsert DESC) AS row\_num

FROM staging.bikes tp

WHERE EXISTS (

SELECT 1

FROM datawarehouse.productdim pd2

WHERE

pd2.id = tp.id

AND pd2.name = tp.name

AND pd2.color = tp.color

AND pd2.size = tp.size

AND pd2.isDelete = FALSE

AND pd2.expired\_date = '9999-12-31'

AND (

CAST(

IFNULL(

NULLIF(

REPLACE(REPLACE(REPLACE(tp.price, '₫', ''), '.', ''), ' ', ''),

''

),

'0'

) AS DECIMAL(15,2)

) <> pd2.price OR

CAST(

IFNULL(

NULLIF(

REPLACE(REPLACE(REPLACE(tp.priceSale, '₫', ''), '.', ''), ' ', ''),

''

),

'0'

) AS DECIMAL(15,2)

) <> pd2.priceSale OR

pd2.description\_part1 <> tp.description\_part1 OR

pd2.description\_part2 <> tp.description\_part2 OR

pd2.description\_part3 <> tp.description\_part3 OR

pd2.status <> tp.status

)

);

-- Bảng tạm chứa các ID sản phẩm cũ cần cập nhật

CREATE TEMPORARY TABLE temp\_ids AS

SELECT pd2.product\_sk

FROM datawarehouse.productdim pd2

JOIN temp\_update\_products tup

ON tup.id = pd2.id

AND tup.name = pd2.name

AND tup.color = pd2.color

AND tup.size = pd2.size

WHERE pd2.isDelete = FALSE

AND pd2.expired\_date = '9999-12-31';

-- Cập nhật trạng thái "đã xóa" đối với các sản phẩm cũ

UPDATE datawarehouse.productdim pd

SET

pd.isDelete = TRUE,

pd.expired\_date = CURRENT\_DATE,

pd.date\_delete = CURRENT\_DATE

WHERE pd.product\_sk IN (SELECT product\_sk FROM temp\_ids);

-- Chèn các sản phẩm mới vào productdim

INSERT INTO datawarehouse.productdim (

id, name, price, priceSale, brand, color, size, status,

description\_part1, description\_part2, description\_part3,

created\_at, isDelete, date\_insert, expired\_date, date\_sk

)

SELECT

tp.id,

tp.name,

tp.price,

tp.priceSale,

tp.brand,

tp.color,

tp.size,

tp.status,

tp.description\_part1,

tp.description\_part2,

tp.description\_part3,

CURRENT\_TIMESTAMP,

FALSE,

CURRENT\_TIMESTAMP,

'9999-12-31',

dd.dateSk -- Lấy date\_sk từ bảng date

FROM temp\_update\_products tp

JOIN control.datedim dd ON dd.fullDate = CURRENT\_DATE

WHERE tp.row\_num = 1; -- Chỉ lấy bản ghi mới nhất

COMMIT;

END

;;

delimiter ;

SET FOREIGN\_KEY\_CHECKS = 1;

### 1.3.3 Warehouse

**Khởi tạo các bản trong database:**

* **Bảng datedim:**

DROP TABLE IF EXISTS `datedim`;

CREATE TABLE `datedim` (

`date\_sk` int NOT NULL,

`calendar\_month` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`calendar\_year` int NULL DEFAULT NULL,

`calendar\_year\_month` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`day\_of\_month` int NULL DEFAULT NULL,

`day\_of\_week` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`day\_of\_year` int NULL DEFAULT NULL,

`day\_since\_2005` int NULL DEFAULT NULL,

`day\_type` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`full\_date` date NULL DEFAULT NULL,

`holiday` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`quarter\_of\_year` int NULL DEFAULT NULL,

`quarter\_since\_2005` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`week\_monday\_start` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`week\_of\_year\_monday` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`week\_of\_year\_sunday` int NULL DEFAULT NULL,

`week\_sunday\_start` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`year\_week\_sunday` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

PRIMARY KEY (`date\_sk`) USING BTREE

) ENGINE = InnoDB CHARACTER SET = utf8mb4 COLLATE = utf8mb4\_general\_ci ROW\_FORMAT = Dynamic;

* **Bảng productdim:**

DROP TABLE IF EXISTS `productdim`;

CREATE TABLE `productdim` (

`product\_sk` int NOT NULL AUTO\_INCREMENT,

`id` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`name` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`price` decimal(15, 2) NULL DEFAULT NULL,

`priceSale` decimal(15, 2) NULL DEFAULT NULL,

`brand` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`color` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`size` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`status` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`description\_part1` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`description\_part2` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`description\_part3` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`created\_at` datetime NULL DEFAULT current\_timestamp,

`isDelete` tinyint(1) NULL DEFAULT 0,

`date\_delete` date NULL DEFAULT NULL,

`date\_insert` timestamp NOT NULL DEFAULT current\_timestamp,

`expired\_date` date NULL DEFAULT '9999-12-31',

`date\_sk` int NULL DEFAULT NULL,

PRIMARY KEY (`product\_sk`) USING BTREE,

INDEX `date\_sk`(`date\_sk`) USING BTREE,

CONSTRAINT `productdim\_ibfk\_1` FOREIGN KEY (`date\_sk`) REFERENCES `control`.`datedim` (`dateSk`) ON DELETE RESTRICT ON UPDATE RESTRICT

) ENGINE = InnoDB AUTO\_INCREMENT = 4103 CHARACTER SET = utf8mb4 COLLATE = utf8mb4\_general\_ci ROW\_FORMAT = Dynamic;

SET FOREIGN\_KEY\_CHECKS = 1;

### 1.3.4 Datamart

**Khởi tạo các bản trong database:**

* **Bảng product:**

DROP TABLE IF EXISTS `product`;

CREATE TABLE `product` (

`id` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`name` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`price` decimal(15, 2) NULL DEFAULT NULL,

`priceSale` decimal(15, 2) NULL DEFAULT NULL,

`brand` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`color` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`size` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`status` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`description\_part1` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`description\_part2` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`description\_part3` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`created\_at` datetime NULL DEFAULT current\_timestamp,

`isDelete` tinyint(1) NULL DEFAULT 0,

`date\_delete` date NULL DEFAULT NULL,

`date\_insert` datetime NOT NULL,

`expired\_date` date NULL DEFAULT '9999-12-31',

`date\_sk` int NULL DEFAULT NULL,

INDEX `fk\_product\_date`(`date\_sk`) USING BTREE,

CONSTRAINT `fk\_product\_date` FOREIGN KEY (`date\_sk`) REFERENCES `date` (`date\_sk`) ON DELETE CASCADE ON UPDATE CASCADE

) ENGINE = InnoDB CHARACTER SET = utf8mb4 COLLATE = utf8mb4\_general\_ci ROW\_FORMAT = Dynamic;

* **Bảng date:**

DROP TABLE IF EXISTS `date`;

CREATE TABLE `date` (

`date\_sk` int NOT NULL,

`calendar\_month` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`calendar\_year` int NULL DEFAULT NULL,

`calendar\_year\_month` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`day\_of\_month` int NULL DEFAULT NULL,

`day\_of\_week` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`day\_of\_year` int NULL DEFAULT NULL,

`day\_since\_2005` int NULL DEFAULT NULL,

`day\_type` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`full\_date` date NULL DEFAULT NULL,

`holiday` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`quarter\_of\_year` int NULL DEFAULT NULL,

`quarter\_since\_2005` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`week\_monday\_start` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`week\_of\_year\_monday` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`week\_of\_year\_sunday` int NULL DEFAULT NULL,

`week\_sunday\_start` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

`year\_week\_sunday` varchar(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NULL DEFAULT NULL,

INDEX `idx\_date\_sk`(`date\_sk`) USING BTREE

) ENGINE = InnoDB CHARACTER SET = utf8mb4 COLLATE = utf8mb4\_general\_ci ROW\_FORMAT = Dynamic;

* **Tạo các procedure:**

DROP PROCEDURE IF EXISTS `LoadDataFromDWToDM`;

delimiter ;;

CREATE PROCEDURE `LoadDataFromDWToDM`()

BEGIN

START TRANSACTION;

-- Xóa các bảng tạm nếu tồn tại

DROP TABLE IF EXISTS datamart.product\_temp;

DROP TABLE IF EXISTS datamart.date\_temp;

-- Tạm thời vô hiệu hóa ràng buộc khóa ngoại

SET foreign\_key\_checks = 0;

-- 10,11. Tạo bảng tạm để lưu dữ liệu từ product\_dim

CREATE TABLE datamart.product\_temp AS

SELECT

p.id,

p.name,

p.price,

p.priceSale,

p.brand,

p.color,

p.size,

p.status,

p.description\_part1,

p.description\_part2,

p.description\_part3,

p.created\_at,

p.isDelete,

p.date\_delete,

CURRENT\_TIMESTAMP AS date\_insert, -- Thời gian insert vào Data Mart

p.expired\_date,

p.date\_sk

FROM datawarehouse.productdim p;

-- 8,9 Tạo bảng tạm để lưu dữ liệu từ date\_dim

CREATE TABLE datamart.date\_temp AS

SELECT \*

FROM datawarehouse.datedim;

-- 12, 14. Đổi tên bảng chính trong DM thành old

RENAME TABLE datamart.product TO datamart.product\_old;

RENAME TABLE datamart.date TO datamart.date\_old;

-- 13,15. Đổi tên bảng tạm thành bảng chính trong DM

RENAME TABLE datamart.product\_temp TO datamart.product;

RENAME TABLE datamart.date\_temp TO datamart.date;

-- 16,17. Xóa các bảng cũ trong DM nếu có

DROP TABLE IF EXISTS datamart.product\_old;

DROP TABLE IF EXISTS datamart.date\_old;

-- Đảm bảo các giá trị date\_sk trong datamart.product phải tồn tại trong datamart.date

-- Tạo chỉ mục cho date\_sk trong bảng date nếu chưa có

CREATE INDEX idx\_date\_sk ON datamart.date(date\_sk);

-- Thêm khóa ngoại vào bảng product

ALTER TABLE datamart.product

ADD CONSTRAINT fk\_product\_date FOREIGN KEY (date\_sk) REFERENCES datamart.date(date\_sk)

ON DELETE CASCADE ON UPDATE CASCADE;

-- Bật lại ràng buộc khóa ngoại

SET foreign\_key\_checks = 1;

COMMIT;

END

;;

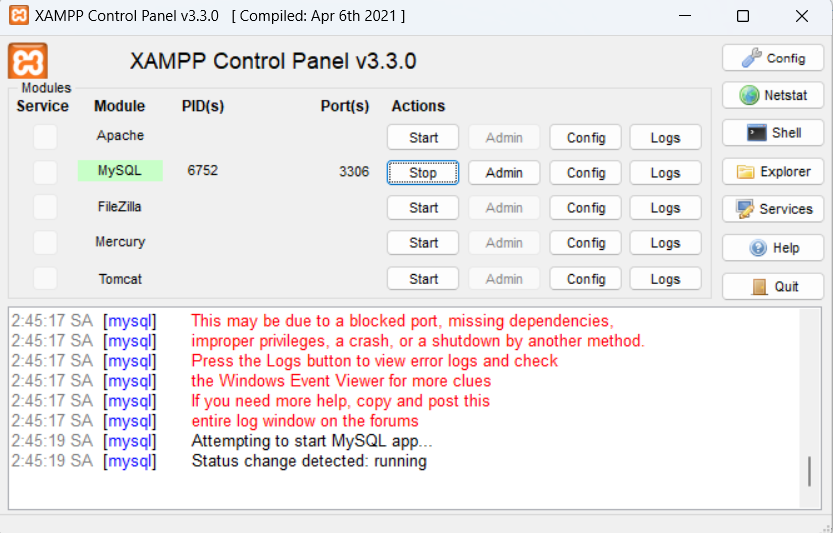
delimiter ;

SET FOREIGN\_KEY\_CHECKS = 1;

# Setup Processes

## *2.1 Preparation*

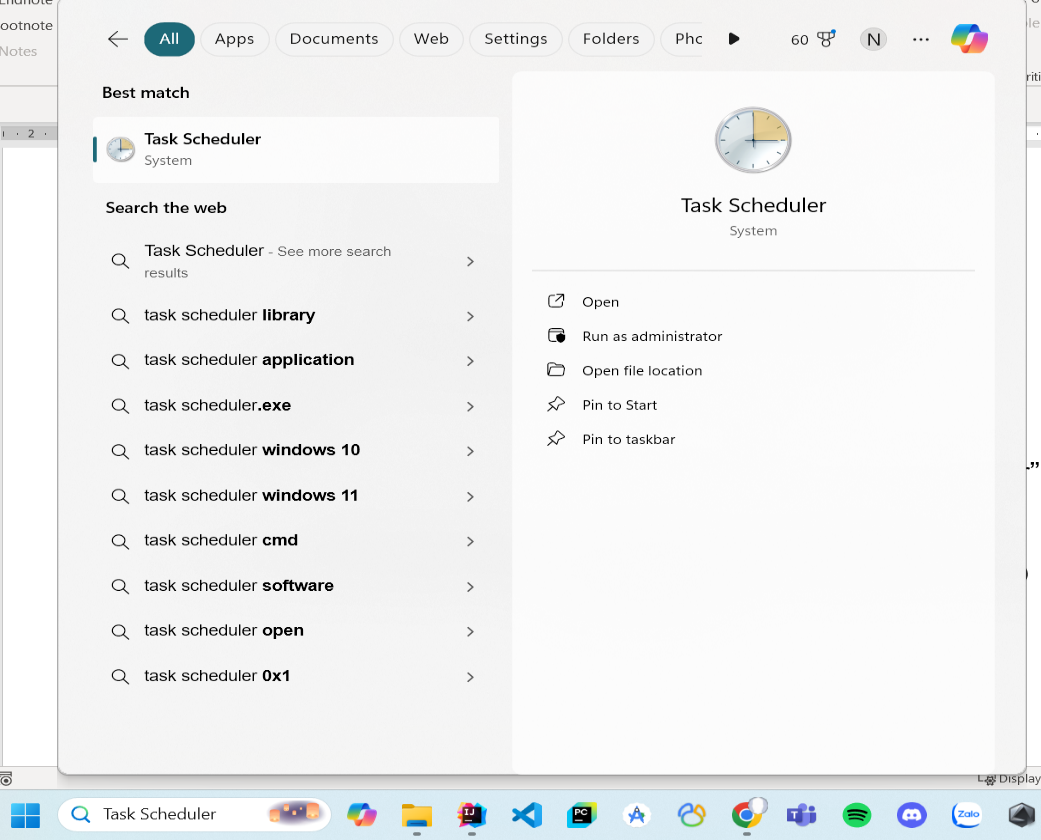
Khởi chạy xampp> start MySQL



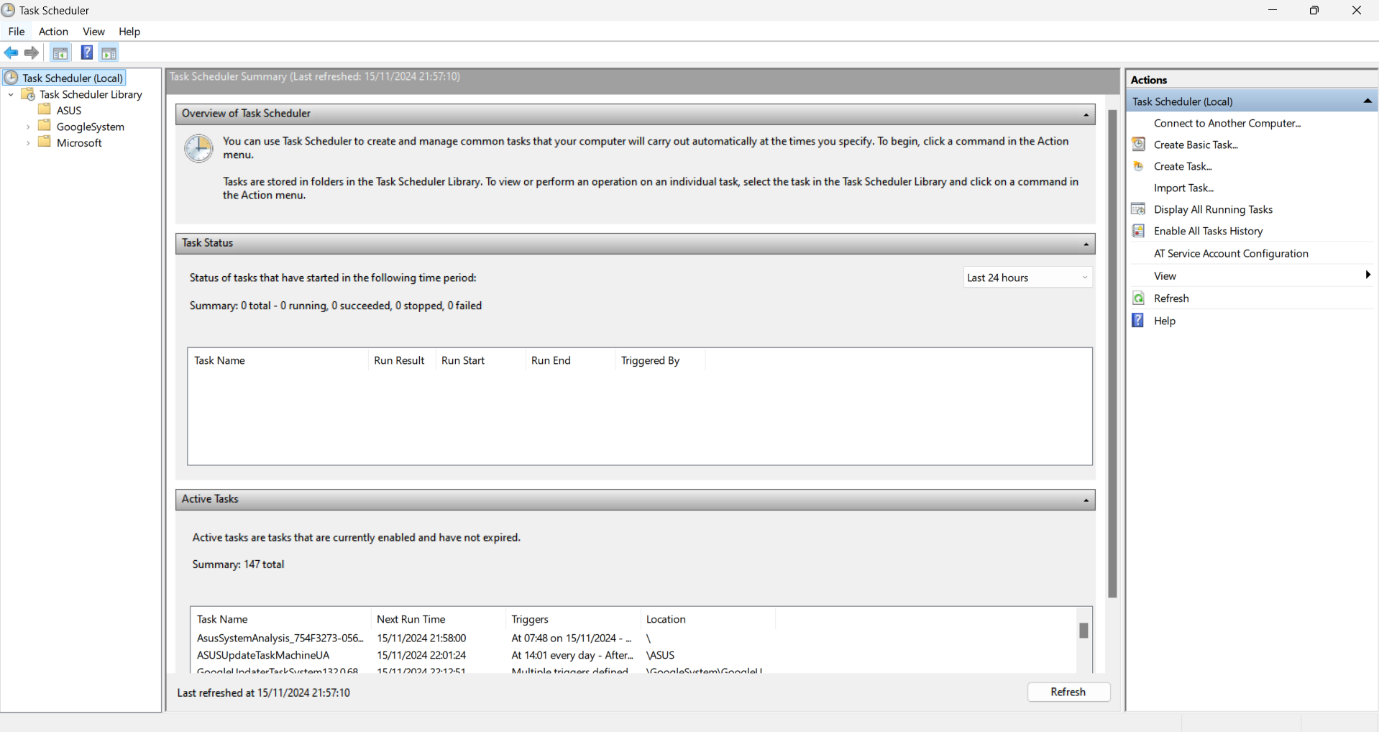
## *2.2 Setup process with task scheduler in Window*

**- Cài đặt task scheduler cho server của staging:**

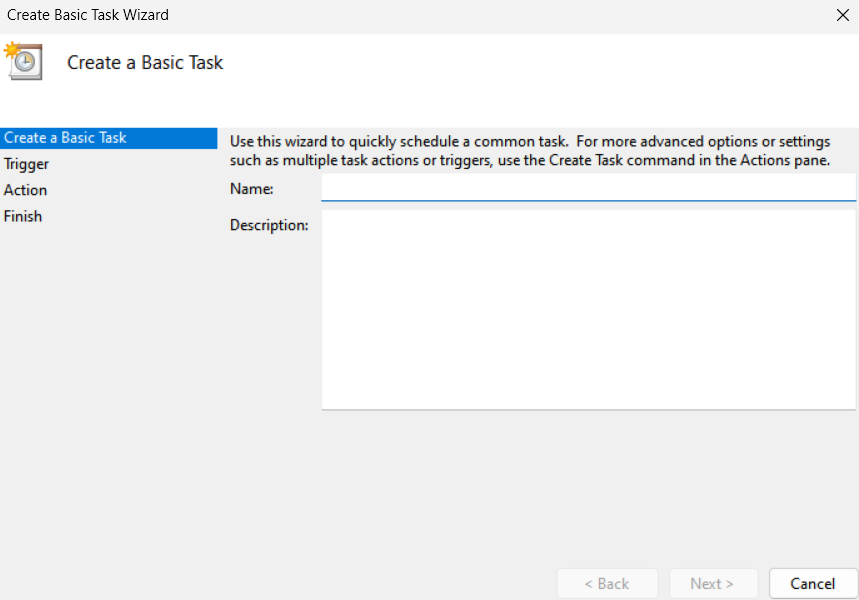
**B1:** Vào ô tìm kiếm của window nhập “Task Scheduler”



**B2:** Chọn “Create Basic Task”

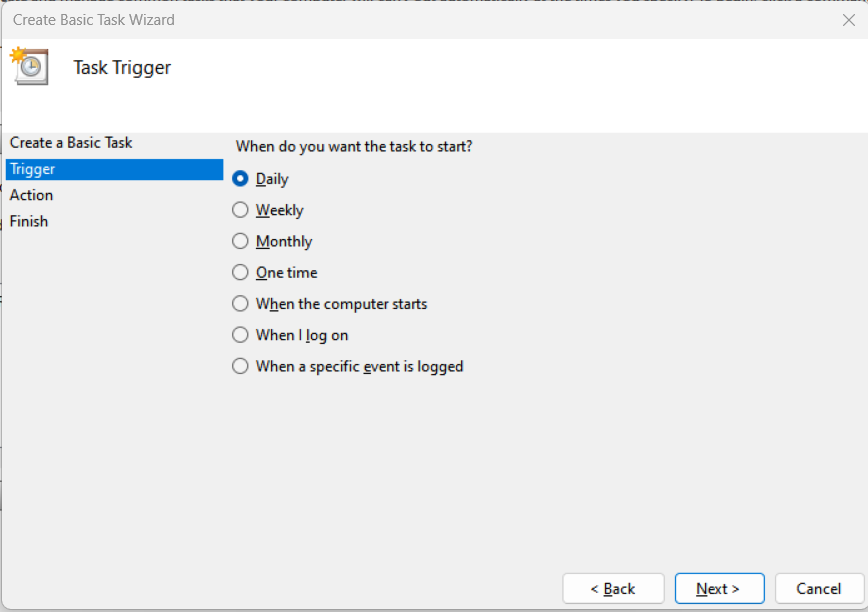


**B3:** Ở phần “Create a Basic Task”. Nhập “Name” và “Description” cho ứng dụng. Ấn “Next”

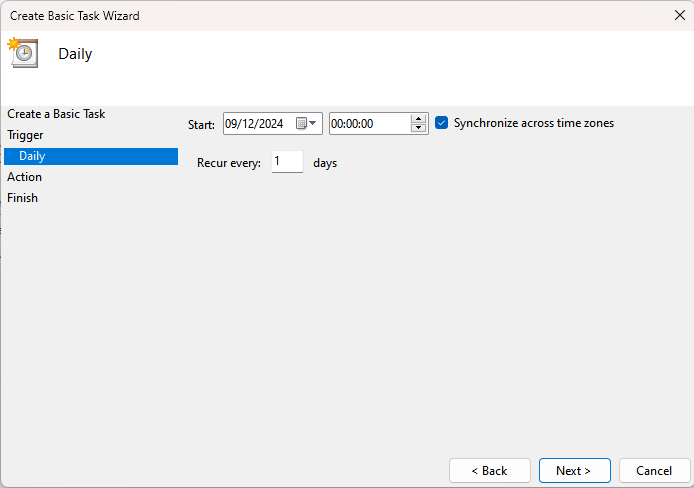


**B4:** Ở phần “Trigger”. Chọn chu kỳ lặp lại

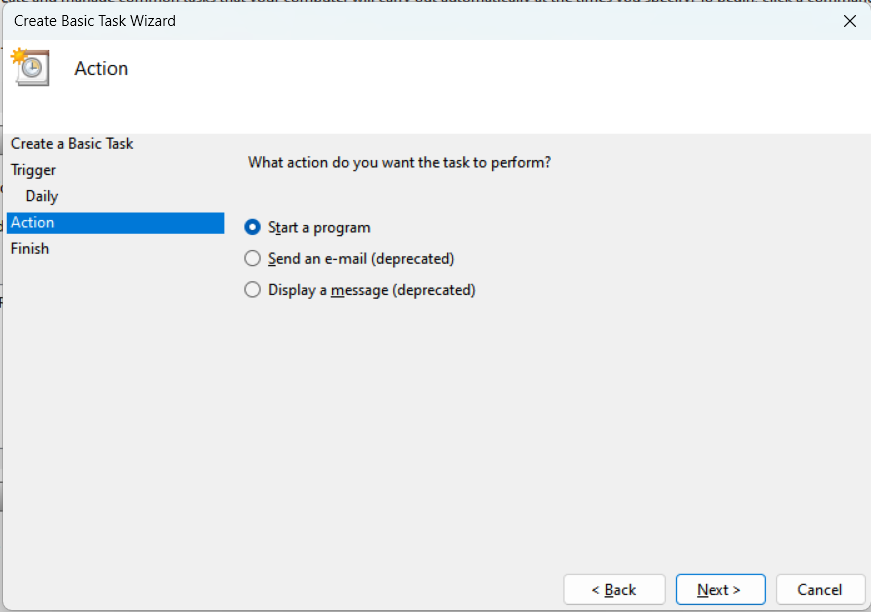
* + - “Daily”: hằng ngày
    - “Weekly”: hằng tuần
    - “Monthly”: Chạy vào các ngày cụ thể trong tháng, hoặc theo mẫu (ví dụ: ngày thứ N của tháng)
    - “One time”: Chạy một lần vào một thời điểm nhất định
* Ở đây chọn “Daily”. Ấn “Next”



**B5:** Ở phần “Trigger -> Daily”. Chọn ngày bắt đầu chạy, giờ bắt đầu và số lần lặp lại(Ví dụ chọn “Daily” thì mỗi 1 ngày 1 lần, …) và chạy lúc 00:00:00. Ấn “Next”

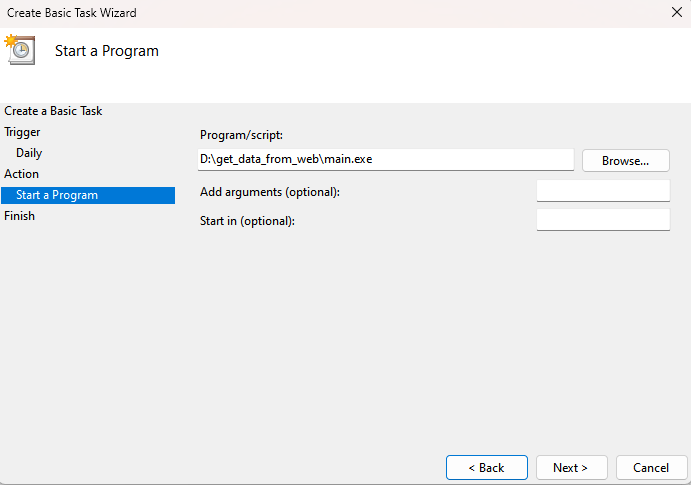


**B6:** Ở phần “Action”. Chọn “Start a program”. Ấn “Next”

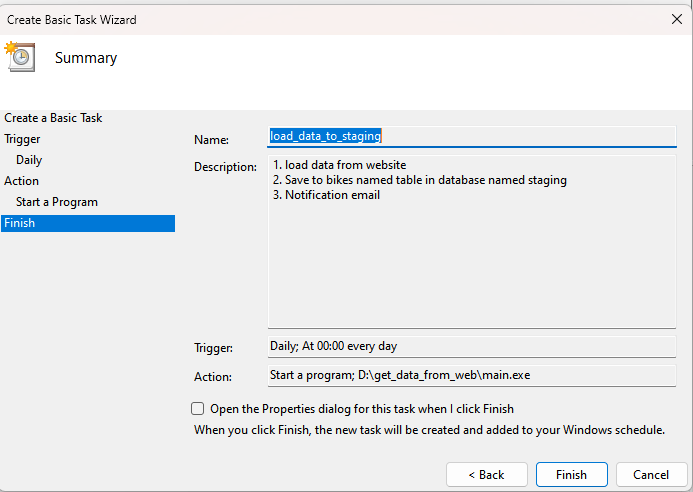
****

**B7:** Ở phần “Action -> Start a Program”

* Program/script: "D:\get\_data\_from\_web\main.exe". Ấn “Next”



**B8:** Ở phần “Finish”. Xem lại thông tin đã thiết lập. Ấn “Finish” để hoàn tất



**- Cài đặt task scheduler cho datawarehouse:**

Setup giống như ở trên chỉ thay đổi ở B7:

**B7:** Ở phần “Action -> Start a Program”

* Program/script: "C:\Program Files\Java\jdk-17\bin\java.exe"
* Add arguments(optional):
  + -jar "D:\loadToDatawarehouse.jar"

**- Cài đặt task scheduler cho datamart:**

Setup giống như ở trên chỉ thay đổi ở B7:

**B7:** Ở phần “Action -> Start a Program”

* Program/script: "C:\Program Files\Java\jdk-17\bin\java.exe"
* Add arguments(optional):
  + -jar "D:\loadToDatamart.jar"