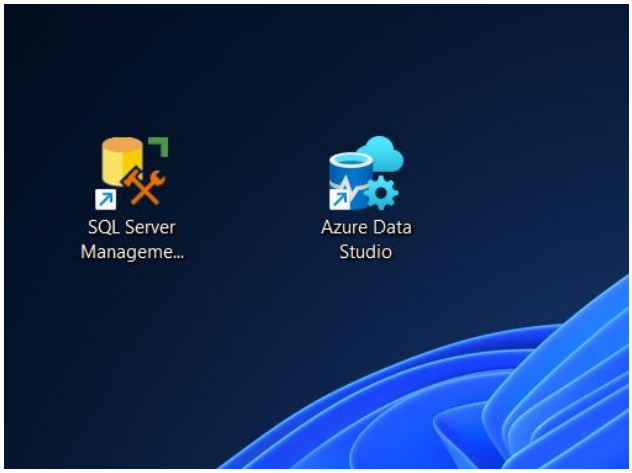
LAB 1

PART 1

TASK 1

MS SQL Server 2019 (Developer Edition has been installed)

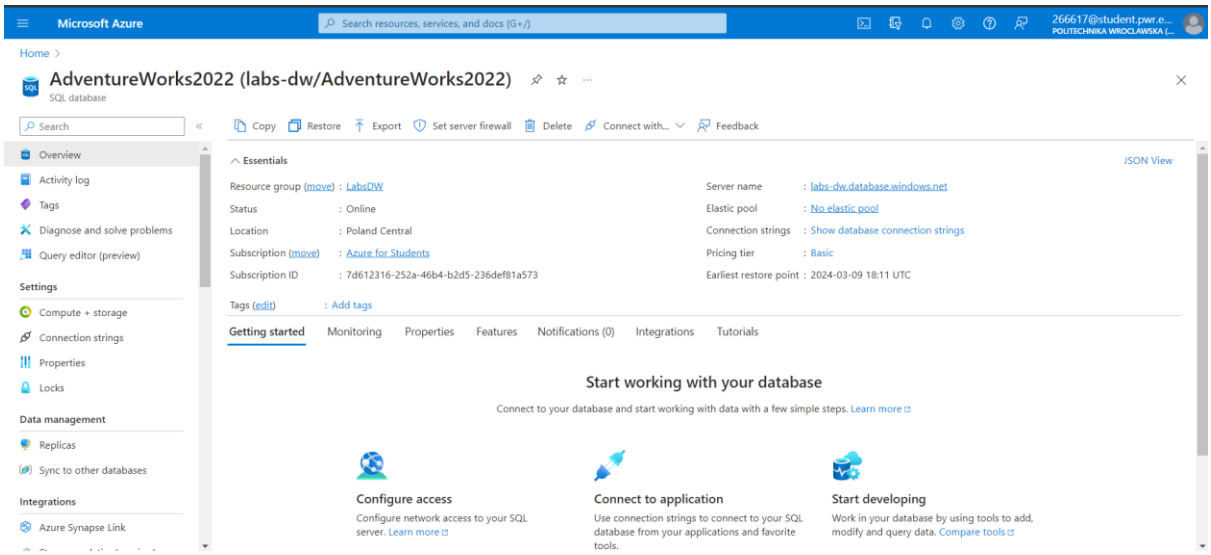
TASK 2



Azure Data Studio and SSMS have been installed

TASK 3

AdventureWorks2022 has been deployed to Microsoft Azure



TASK 4

```
-- TASK 4
-- List all tables in the AdventureWorks2022 database
USE AdventureWorks2022;
GO

SELECT TABLE_NAME
FROM INFORMATION_SCHEMA.TABLES
WHERE TABLE_TYPE = 'BASE TABLE';

-- GET ALL SCHEMAS
/*
    MAIN SCHEMAS
        HumanResources
        Person
        Production
        Purchasing
        Sales
*/
SELECT schema_name
FROM information_schema.schemata;

-- GET SCHEMA NAME FOR PARTICULAR TABLE
SELECT TABLE_SCHEMA
FROM INFORMATION_SCHEMA.TABLES
WHERE TABLE_NAME = 'Product';

-- GET COLUMN NAMES IN SELECTED TABLE
SELECT COLUMN_NAME, DATA_TYPE
FROM INFORMATION_SCHEMA.COLUMNS
WHERE TABLE_NAME = 'Product';

-- SELECT SAMPLE DATA FROM SELECTED TABLE
SELECT TOP 10 *
FROM Production.Product;
```

TASK 5

```
-- TASK 5
-- a,b
SELECT Name,ListPrice FROM Production.Product
WHERE ListPrice > 2500;

-- c to save it as csv : write the query and in the right column of icons click the top one
```

PART 2

TASK 1

POINT A

SUBPOINT I

```
-- I Where the detailed information about orders is stored? : in
SalesOrderDetail Table
```

```
Where the detailed information about orders is stored?
(SalesOrderDetail,SalesOrderHeader)
    SELECT table_name
    FROM information_schema.tables
    WHERE table_schema = 'Sales';

    -- Sales order detail table
    SELECT TOP 10 * FROM Sales.SalesOrderDetail;
```

SUBPOINT II

```
-- II Are there different types of orders ? YES : Work Order, Purchase Order, Sales
order
        SELECT table_name
        FROM information_schema.tables
        WHERE table_schema = 'Purchasing';

        SELECT TOP 10 * FROM Purchasing.PurchaseOrderDetail;

        SELECT table_name
        FROM information_schema.tables
        WHERE LOWER(table_name) LIKE '%order%';
```

SUBPOINT III

```
-- III Are there different statuses of orders? -- YES, there are : 1,3,4

        -- STATUSES
        SELECT TOP 10 *
        FROM Purchasing.PurchaseOrderHeader;
```

SUBPOINT IV

```
-- IV Which numerical data can be used to measure the performance of an order
(TotalDue),(Order Date, Due Date, and Ship Date)
        SELECT TOP 10 * FROM Sales.SalesOrderHeader;
```

POINT B

SUBPOINT I

```
-- I Information main tables about products
        SELECT table_name
        FROM information_schema.tables
        WHERE table_schema = 'Production';

        SELECT table_name
        FROM information_schema.tables
        WHERE LOWER(table_name) LIKE '%product%';
        -- product, Product category,Product Description etc.
```

SUBPOINT II

```
-- II Are product organized in some manner? YES (
bikes,components,clothing,accessories)
        SELECT TOP 10 * FROM Production.ProductCategory;
```

SUBPOINT III

```
-- III what additional information is available ( \product ProductCostHistory,
ProductPhoto, ProductInventory etc.)
        SELECT table_name
        FROM information_schema.tables
        WHERE LOWER(table_name) LIKE '%product%';
```

POINT C

```
-- I
            SELECT table_name
            FROM information_schema.tables
            WHERE LOWER(table_name) LIKE '%customer%';

            -- person types
            SELECT DISTINCT [PersonType] FROM Person.Person;

            SELECT TOP 10 * FROM Sales.vIndividualCustomer;

            SELECT TOP 10 * FROM Sales.vSalesPerson;
```

POINT D

```
-- D Employees handling orders
            SELECT
                TABLE_SCHEMA,
                TABLE_NAME,
                COLUMN_NAME,
                DATA_TYPE
            FROM
                INFORMATION_SCHEMA.COLUMNS
            WHERE
                LOWER(COLUMN_NAME) LIKE '%employee%';

            SELECT TOP 10 * FROM Purchasing.PurchaseOrderHeader;
```

POINT E

```
-- E sales location
             SELECT
                TABLE_SCHEMA,
                TABLE_NAME,
                COLUMN_NAME,
                DATA_TYPE
            FROM
                INFORMATION_SCHEMA.COLUMNS
            WHERE
                LOWER(COLUMN_NAME) LIKE '%location%';

            SELECT TOP 10 * FROM Sales.SalesOrderHeader -- TerritoryID

            SELECT TOP 10 * FROM Sales.SalesTerritory; -- Sales Territory
```

POINT F

```
-- F IN SALES SCHEMA. ALL RELATED INFORMATION RELATED TO SALES CAN BE FOUND HERE
```

TASK 2

POINT A

```
    SELECT TOP 10 * FROM Sales.SalesOrderHeader;
    SELECT SUM(TotalDue) 'GLOBAL SALES ORDER' FROM Sales.SalesOrderHeader;
```

POINT B

```
SELECT
    SUM(SubTotal) 'GLOBAL SALES AMOUNT'
FROM
    Sales.SalesOrderHeader;
```

POINT C

```
    SELECT
        SUM(SOD.LineTotal) AS GlobalSalesAmount,
        SUM(SOD.OrderQty) AS TotalItemsSold
    FROM
        Sales.SalesOrderHeader AS SOH
    JOIN
        Sales.SalesOrderDetail AS SOD ON SOH.SalesOrderID = SOD.SalesOrderID;
```

POINT D

```
    SELECT
        YEAR(OrderDate) AS SalesYear,
        SUM(TotalDue) AS AnnualSalesAmount
    FROM
        Sales.SalesOrderHeader
    GROUP BY
        YEAR(OrderDate)
    ORDER BY
        SalesYear;
```

POINT E

```
    SELECT
        SUM((SOD.UnitPrice - P.StandardCost) * SOD.OrderQty) AS GlobalProfit
    FROM
        Sales.SalesOrderHeader AS SOH
    JOIN
        Sales.SalesOrderDetail AS SOD ON SOH.SalesOrderID = SOD.SalesOrderID
    JOIN
        Production.Product AS P ON SOD.ProductID = P.ProductID;
```