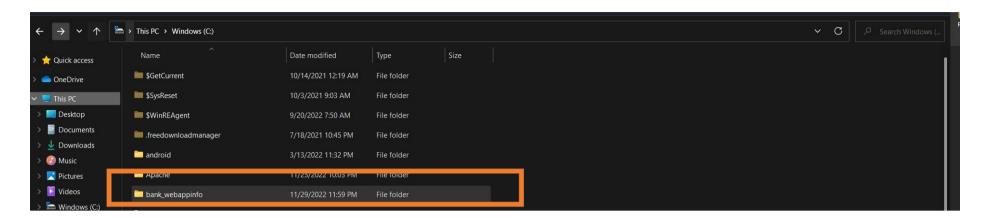
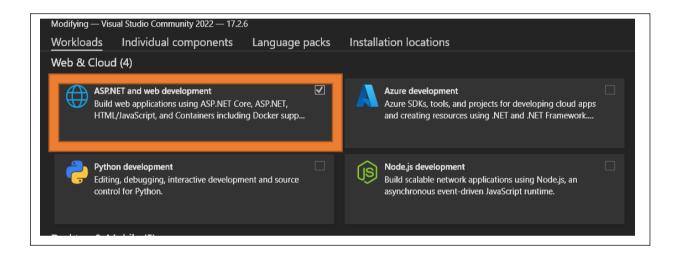
01.

I use C# to built Saop base web service and web application

- Extract the zip file
- After unzip the zip file ,there is a folder (name -> bank_webappinfo). Put this folder c partition



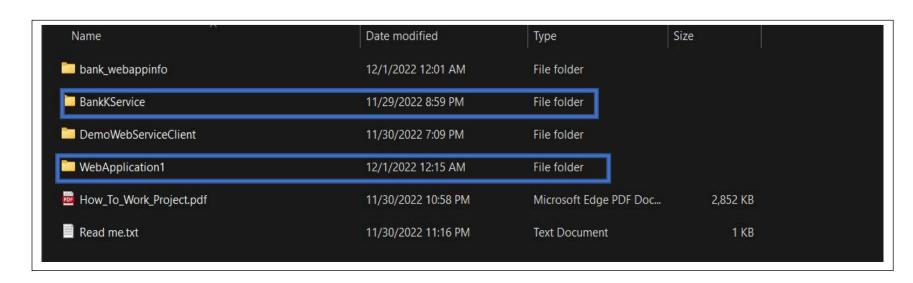
- Requirement of run this project
 - 1. Need to install visual studio
 - 2. Need to install ASP.NET and web development web framework



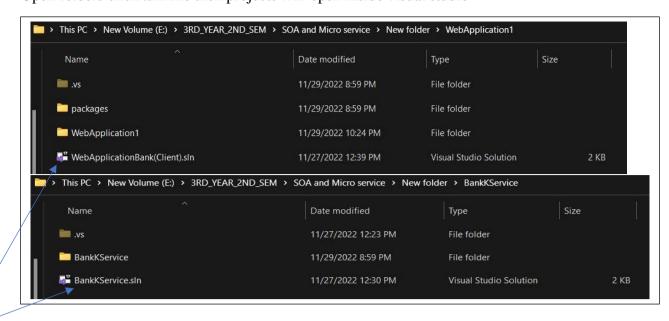
- 3. Need to install following individual component
 - .NET Framework 4.8 targeting pack
 - .NET Framework 4.7.2 targeting pack
 - Windows Communication Foundation



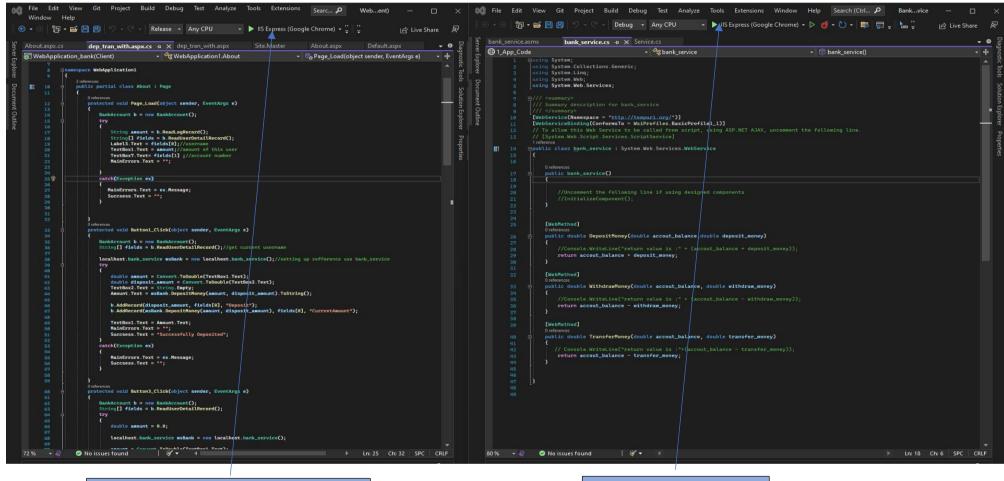
• Extract folder there are two folders as a following name



• Open folders click .sin file then projects will open inside visual studio



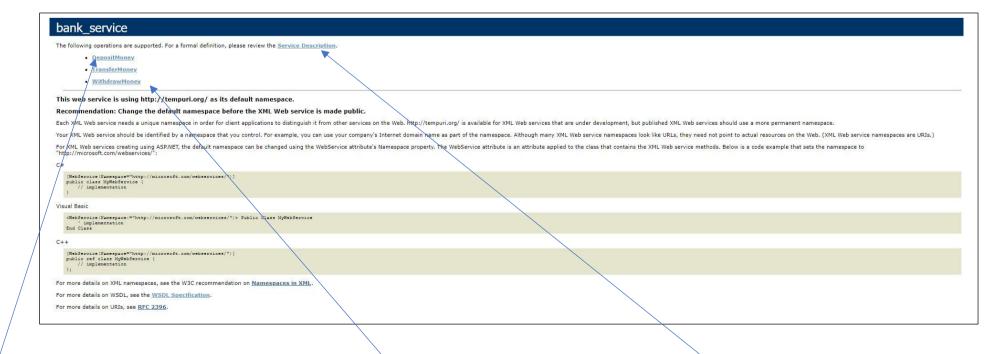
Click these file individually then open 2 visual studio windows

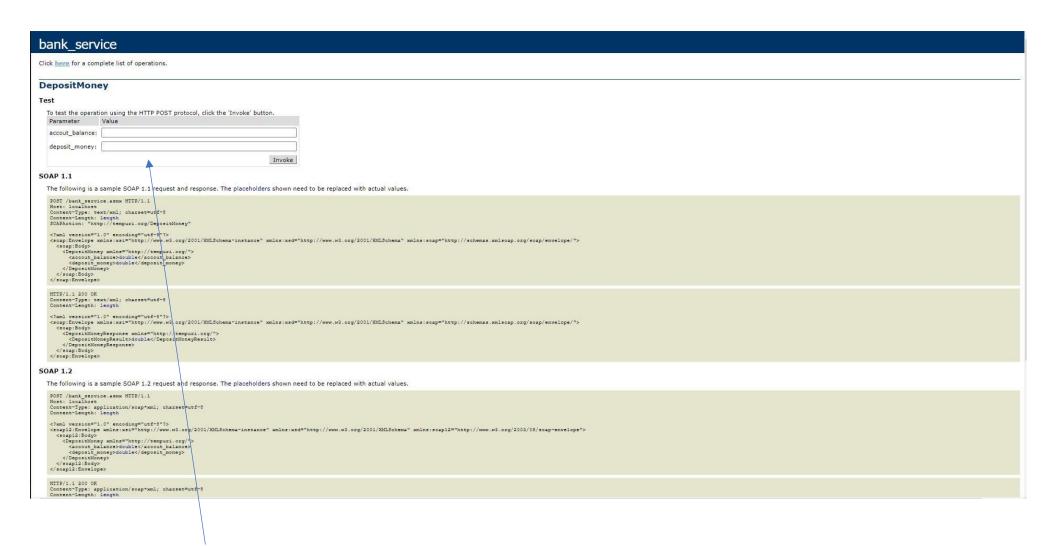


First run Bank web Client (Web application)

First run Bank web Service

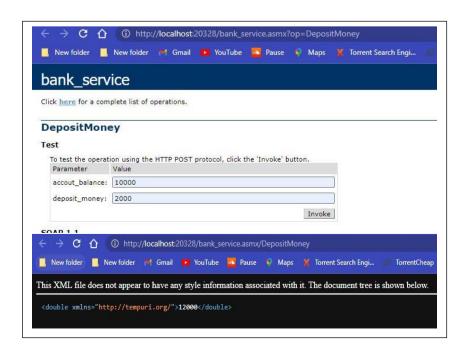
First run bank_service then service will open default web browser

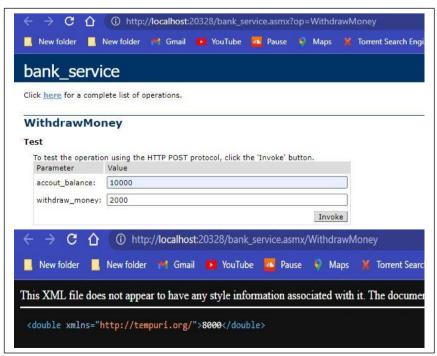




You can check the web methods using this sectiom

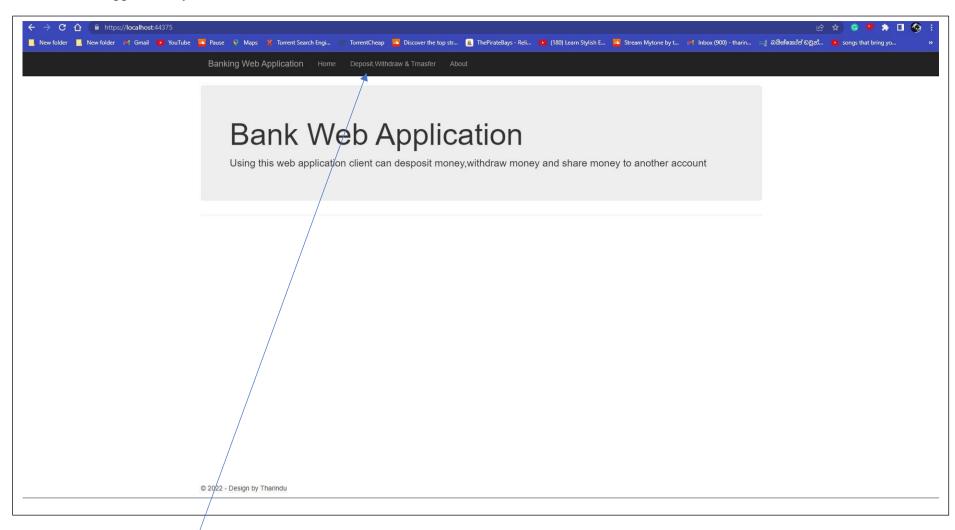
bank_service	
Click here for a complete list of operations.	
WithdrawMoney	
Test	
To test the operation using the HTTP POST protocol, click the 'Invoke' button. Parameter Value	
accout_balance:	
withdraw_money:	
Invoke	
SOAP 1.1	
The following is a sample SOAP 1.1 request and response. The placeholders shown need to	be replaced with actual values.
POST /bank_servion.ammkNTTP/1.1 Moss: localhest Consencingpi: length SOAPhosion: "http://sempuri.org/WithdaxaMoney" <pre> </pre> <pre> </pre> <pre> </pre> <pre> <pre> </pre> <pre> </pre> <pre> <pre> <pre> </pre> <pre> <pre> </pre> <pre> <pre> </pre> <pre> <pre> <pre> </pre> <pre> <pre> <pre> <pre> </pre> <pre> <pre< td=""><th>//www.w3.org/2001/XMLSchema* xmlns:soap**http://schemas.xmlsoap.org/soap/envelope/"></th></pre<></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre>	//www.w3.org/2001/XMLSchema* xmlns:soap**http://schemas.xmlsoap.org/soap/envelope/">
American money-country of the country of the countr	
nist/illustrations of the content of	//www.w3.org/2001/XMLSchema" xmlns:soap="http://schemas.kmlsoap.org/soap/envelope/">
SOAP 1.2	
The following is a sample SOAP 1.2 request and response. The placeholders shown need to	be replaced with actual values.
PODT /bank_service.asmx NTTP/1.1 Mose: localhost Contenn="Ignet application/soap+xml; charset=utf=8 Contenn="Ignet length xml version="1.0" encoding="utf=8"? <noap12:envelope xmlns:xsd="http://wny.wl.org/" xmlns:xsts="http://wnw.wl.org/2001/XMLSchema=instance"> <noap12:envelope xmlns="http://tempusi.org/"> <noap12:envelope #ithdicaedconey="" xmlns="http://tempusi.org/"> <noap12:envelope #ithdicaedconey="" xmlns="http://tempusi.org/"> <noap12:envelope> /#soap12:Envelope></noap12:envelope></noap12:envelope></noap12:envelope></noap12:envelope></noap12:envelope>	p://www.w3.org/2001/XXLSchema" xmlms:soapl2="http://www.w3.org/2003/05/soap=envelope">
MTTP/1.1 200 OK Content-Type: application/scap+xml; charset=utf-8	



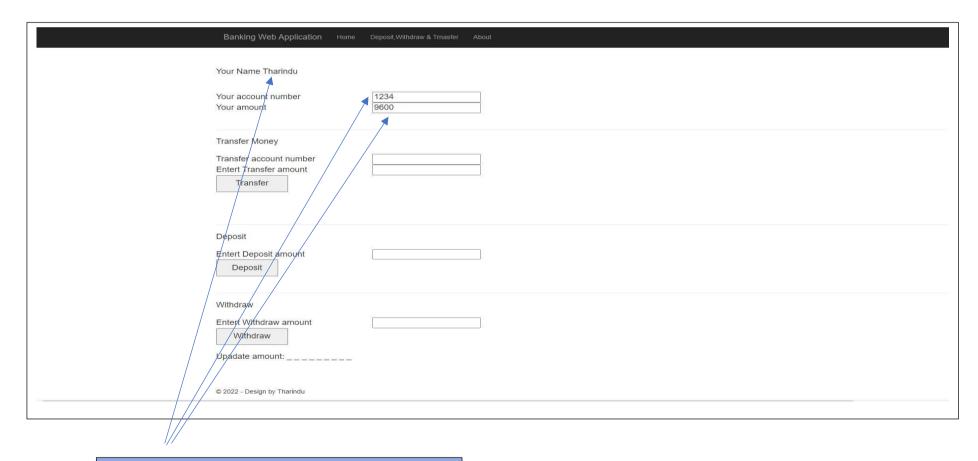


```
(vsdl:definitions xmlns:s="http://www.w3.org/2001/XMLSchema" xmlns:soap12="http://schemas.xml
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:tm="http://microsoft.com/wsdl/mime/t
xwlsdl:types)
v(ssichement name="DepositMoney">
v(ssichement name="DepositMoney">
v(ssichement name="DepositMoney">
v(ssichement name="DepositMoney">
v(ssichement name="DepositMoney">
v(ssichement name="DepositMoney">
v(ssichement minOccurs="1" maxOccurs="1" name="accout_balance" type="s:double"/>
v(ssichement minOccurs="1" maxOccurs="1" name="deposit_money" type="s:double"/>
v(ssichement minOccurs="1" maxOccurs="1" name="deposit_money" type="s:double"/>
v(ssichement name="DepositMoneyResponse">
v(ssichement name="DepositMoneyResponse">
v(ssichement name="DepositMoneyResponse">
v(ssichement name="DepositMoneyResponse">
v(ssichement name="WithdramMoney">
v
This XML file does not appear to have any style information associated with it. The document tree is shown below.
     cusdl:definitions xmlns:s="http://www.w3.org/2001/XMLSchema" xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/" xmlns:http="http://schemas.xmlsoap.org/wsdl/http/" xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/" xmlns:tns="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:tms="http://schemas.xmlsoap.org/wsdl/" targetNamespace="http://tempuri.org/" xmlns:soapenc="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/" targetNamespace="http://tempuri.org/" xmlns:soapenc="http://schemas.xmlsoap.org/wsdl/" targetNamespace="http://schemas.xmlsoap.org/wsdl/" targetNamespace="http://schem
                      </wsd::output>
     <soap:body use="literal"/>
     </wsdl:output>
```

• After web application you can above interface



Click this you can go to withdraw, deposit and money transfer



These details get from computer local storage txt file

Page load

```
protected void Page_Load(object sender, EventArgs e)
{
    BankAccount b = new BankAccount();
    try
    {
        String amount = b.ReadLogRecord();//read the current user log file and get his current amount
        String[] fields = b.ReadUserDetailRecord();//read the user deatails file and get the first user [we assume first user is current user and 2nd user is another user
        Label3.Text = fields[0];//username
        TextBox7.Text = amount;//amount of this user
        TextBox7.Text = fields[1];//account number

        MainErrors.Text = "";//remove error msges

}
catch(Exception ex)
{
    MainErrors.Text = ex.Message;//handle error
        Succsess.Text = "";//remove error msges//handle error
```

Deposit money

Banking Web Application Home	Deposit,Withdraw & Trnasfer About		
Your Name Tharindu			
Your account number Your amount	1234 10000		
Transfer Money Transfer account number Entert Transfer amount Transfer			
Deposit Entert Deposit amount Deposit	200		
Withdraw Entert Withdraw amount Withdraw Upadate amount:			
© 2022 - Design by Tharindu			
Banking Web Application Home	Deposit,Withdraw & Trnasfer About		
Successfully Deposited Your Name Tharindu			
Your account number Your amount	1234		
Transfer Money Transfer account number Entert Transfer amount Transfer			
Deposit Entert Deposit amount Deposit			
Withdraw Entert Withdraw amount Withdraw			
Upadate amount: 10200			
© 2022 - Design by Tharindu			
Deposit web method		Log file(Cllient)	User Details File
[WebMethod] 0 references public double DepositMoney(double accout_balance,doub)	le deposit_monev)	200, Tharindu, Deposit 10200, Tharindu, Current Amount	Tharindu,1234 Sumith,1235
{ //Console.WriteLine("return value is :" + (accout return accout_balance + deposit_money;			There are two users in this

Deposit Related Client Side Codes

There are two users in this userdetails txt file. For Demonstrate purpose money transfer another account

```
BankAccount b = new BankAccount();//create reference user's bank account
String[] fields = b.ReadUserDetailRecord();//get current user username

localhost.bank_service wsBank = new localhost.bank_service();//setting up refference use bank_service
try

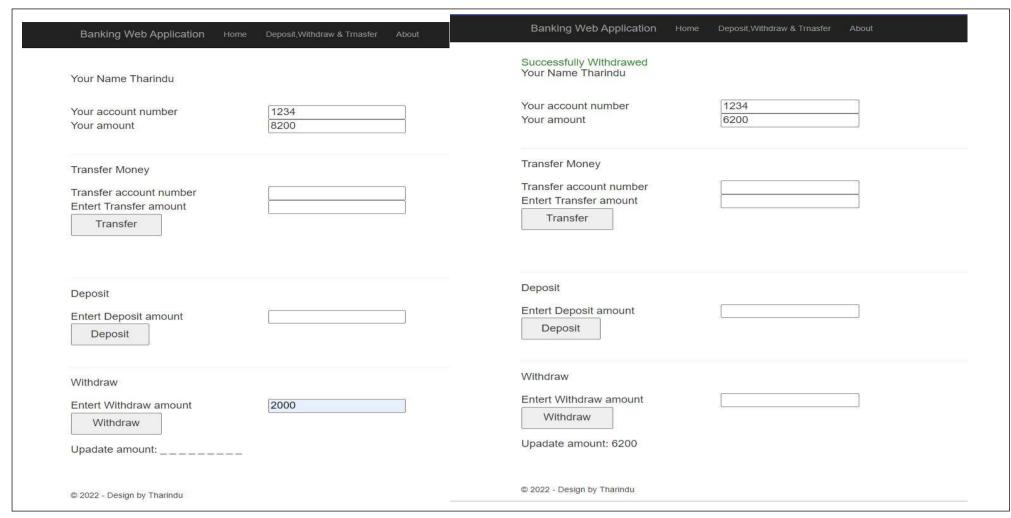
{
    double amount = Convert.ToDouble(TextBox1.Text);//get the Textbox value and convert to double
    double disposit_amount = Convert.ToDouble(TextBox2.Text)//get the user entered value and convert to double
    TextBox2.Text = String_Enpty;//clear the text filed
    Amount.Text = wsBank.DepositMoney(amount, disposit_amount).ToString();//pass the value web method and response conver to string and assign to Amount text filed
    b.AddRecord(disposit_amount, fields[0], "Deposit");//add record in user log file
    b.AddRecord(wsBank.DepositMoney(amount, disposit_amount), fields[0], "CurrentAmount");//add record in user log file
    TextBox1.Text = Amount.Text;
    HainErrort.Text = "";
    Successs.lext = "Successfully Deposited";//show the msg
    }
} catch(Exception ex)

{
    MainErrors. lext = ex.Message;//handle errors
    Successs.Text = "";//clear successtext because we need to only show error
}
```

Add record method

```
class BankAccount
{
    //client bank account
    6 references
    public void AddRecord(double amount,String name,String typeOfWork)//first user
    {
        using (System.IO.StreamWriter file = new System.IO.StreamWriter("C://bank_webappinfo//log.txt", true))//path of log file
        {
            file.WriteLine(amount+","+name+","+typeOfWork);//write the file using this format
        }
    }
}
```

Withdraw Money



Withdraw Web Method

```
[WebMethod]
0 references
public double WithdrawMoney(double accout_balance, double withdraw_money)
{
    //Console.WriteLine("return value is :" + (accout_balance - withdraw_money));
    return accout_balance - withdraw_money;
}
```

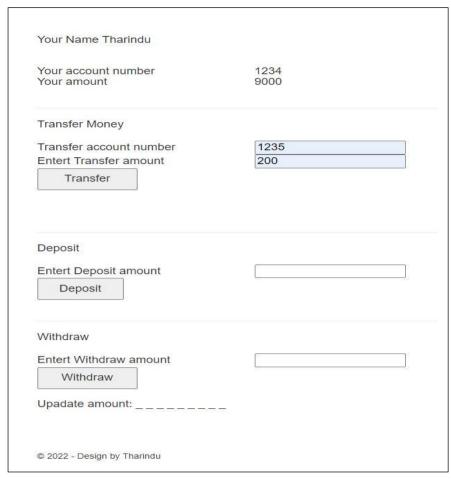
Withdraw Related Client Side Codes

```
protected void Button3_Click(object sender, EventArgs e)
   BankAccount b = new BankAccount();//create reference user's bank account
   String[] fields = b.ReadUserDetailRecord();//get current user username
       double amount = 0.0;
       localhost.bank_service wsBank = new localhost.bank_service();
       amount = Convert.ToDouble(TextBox1.Text);//get the Textbox value and convert to double
       double withdraw_amount = Convert.ToDouble(TextBox5.Text);//get the user entered value and convert to double
       TextBox5.Text = String.Empty;//clear the text filed
       Amount.Text = wsBank.WithdrawMoney(amount, withdraw_amount).ToString();//pass the value web method and response conver to string and assign to Amount text filed
       b.AddRecord(withdraw_amount, fields[0], "Withdraw");//add record in user log file
       b.AddRecord(wsBank.WithdrawMoney(amount, withdraw_amount), fields[0], "CurrentAmount");//add record in user log file
       TextBox1.Text = Amount.Text;
       MainErrors.Text = "";
       Succsess.Text = "Successfully Withdrawed";//show the msg
   catch (Exception ex)
       MainErrors.Text=ex.Message;//handle errors
       Succsess.Text = "";//clear successtext because we need to only show error
```

Log file(Cllient)

```
2000, Tharindu, Withdraw
6200, Tharindu, Current Amount
```

Transfer Method



Your account number	1234
Your amount	8800
Transfer Money	
Transfer account number	
Entert Transfer amount	
Transfer	
Deposit	
Entert Deposit amount	
Deposit	
Withdraw	
Entert Withdraw amount	
Withdraw	
Upadate amount: 8800	

Log file(Client)

200,Tharindu,Transfer 8800,Tharindu,CurrentAmount Transfer Account owner's log file(another user)

3224,Sumith,CurrentAmount 200,Sumith,Trasfer 3424,Sumith,CurrentAmount

Transfer method develop by using withdraw and deposit bank services

```
protected void Button4_Click(object sender, EventArgs e)
   BankAccount b = new BankAccount();//create reference user's bank account
   String[] fields = b.ReadUserDetailRecord();//get current user username
   double amount = Convert.ToDouble(Balance.Text);//get the current user account balance
   double transfer_amount = Convert.ToDouble(TextBox6.Text);//get the user entered transfer amount and conver to double
   String transfer_account = TextBox8.Text;//get the transfer account number [2nd user of userdetail txt]
   TextBox6.Text = String.Empty;//clear the text box
   TextBox8.Text = String.Empty;//clear the text box
   Amount.Text = Convert.ToString(b.MoneyTransfer(transfer_account, transfer_amount));//call the client method to transfer the money other user and the money transfer return double value
    if(Amount.Text == "1")//check the transfer account exist or not [1 = account not found]
       Error1.Text = "Enter valid Account Number";//show the error in user interface
       Succsess.Text = "";//clear other messages
   else
       b.AddRecord(transfer_amount, fields[0], "Transfer");//if transfer account exist then add record in current user's log file
       b.AddRecord(Convert.ToDouble(Amount.Text), fields[0], "CurrentAmount");//if transfer account exist then add record in current user's log file
       Balance.Text = Amount.Text;
       Error1.Text = ""
       Succsess.Text = "Successfully Transfered";
```

Transfer Method Client Side(using withdraw and deposit web service)

```
public double MoneyTransfer(String trasfer_account_number,double tranfer_amount )
     Boolean check = false;//for flag
    BankAccount b = new BankAccount();//first user
    BankAccount b2 = new BankAccount();//2nd user
     double user_current_amount = Convert.ToDouble( b.ReadLogRecord());//get user current amount
     localhost.bank_service wsBank = new localhost.bank_service();
    //checking usersDetailslist if there match acc number with trasfer acc number
String[] lines = System.IO.File.ReadAllLines("userDetails.txt");//get all line of userDetails.txt, there are 2 users in this file
     for(int i=0; i < lines.Length; i++)//check line by line
         String[] fields = lines[i].Split(',');//get one line and split data
         if(trasfer_account_number == fields[1])//check the transfer account is exisit or
              user_current_amount = wsBank.WithdrawMoney(user_current_amount, tranfer_amount);//16 2nd user exist then withdraw money from this user
double amount = Convert.ToDouble(b2.ReadLogRecord2());//this will return relavant user current balance ,but i am not use database therefore only one user log file is exist, therefore i create
              amount= wsBank.DepositMoney(amount, tranfer_amount);//deposit that transfer ammount 2nd dier
              b2.AddRecord2(tranfer_amount, fields[0], "Trasfer");//add record 2nd user log file log2.txt his trasfer amount
b2.AddRecord2(amount, fields[0], "CurrentAmount");//add record 2nd user log file log2.txt his current amount
              check = t
     if (check == false)
         return 1;
         // 1 ->account not fount
     return user_current_amount;
```

```
public void AddRecord2(double amount, String name, String typeOfWork)//2nd user
{
    using (System.IO.StreamWriter file = new System.IO.StreamWriter("C://bank_webappinfo//log2.txt", true))//path of log file
    file.WriteLine(amount + "," + name + "," + typeOfWork);
}
```

```
public String ReadLogRecord2()// this method for another one user because i am not using database for this
{
    String[] lines = System.IO.File.ReadAllLines("C://bank_webappinfo//log2.txt");
    int len = lines.Length;
    String[] fields = lines[len - 1].Split(',');
    return fields[0];//return user current balance
}
```

Error handling

If user enter not valid input

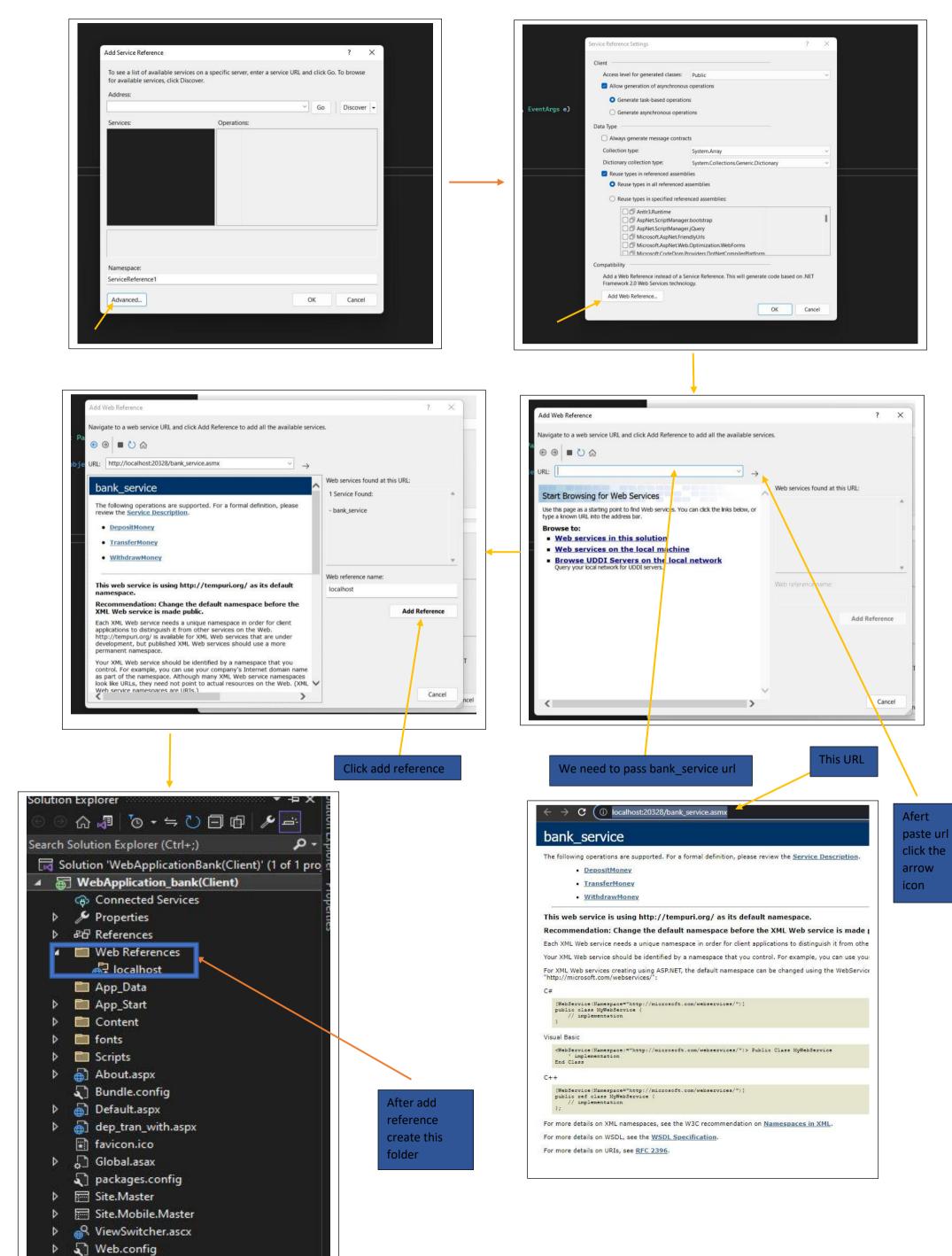
Your account number Your amount	1234 9000
Transfer Money	
Transfer account number	
Entert Transfer amount Transfer	
Deposit	
Entert Deposit amount	wrwer
Deposit	
Deposit	
Withdraw	

If user not valid account number for money transfer

Your Name Tharindu		
Your account number Your amount	1234 9000	
Transfer Money		
Transfer account number Entert Transfer amount Transfer Enter valid Account Number		
Deposit		
Entert Deposit amount Deposit		
Withdraw		
Entert Withdraw amount Withdraw		
Upadate amount: 9000		

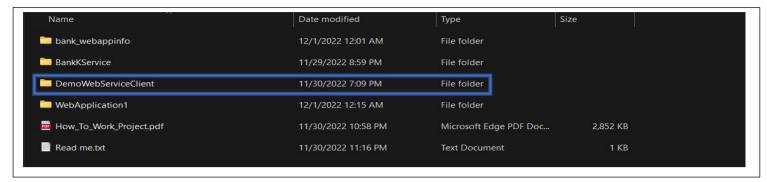
Additional detail

After create Bank web service we need to add reference in bank web app(client side)



Inside Unzip folder , there is folder name 'DemoWebServiceClient'

This part is java client(Create java) using bank web service(Create C#)



Intelija idea ->go open project ->set project location-> click open

Main Method

```
DemoWebServiceClient > src > com > sltc > soa > client > @ Main > @ withdraw_money
      ■ DemoWebServiceClient [BankWebServiceClien
      > lam out

▼ com.sltc.soa.client

             > 🖿 .idea
                                                                               public static void main(String[] args) {
                  client.iml
                  Main
            com.sltc.soa.client.stub
                                                                                    BankService bankService = new BankService();//create bank service object
BankServiceSoap bankServiceSoap = bankService.getBankServiceSoap();//access the bank service through the BankServiceSoap interface
Main m = new Main();//create object of client class
                  BankService
                  BankServiceSoap

    DepositMoney
    DepositMoney

                                                                                     System.out.println("press 1 for deposit money");
System.out.println("press 2 for withdraw money");
                  DepositMoneyResponseObjectFactory
                  ObjectFactory
                   package-info
                                                                                               System.out.println("Enter Your Bank Amount :");//get user account balance
amount = scanner.nextDouble();//assign value amount variable
                  TransferMoneyResponse
                                                                                                m.deposit_money(amount,deposit_amount);//call deposit method
                  WithdrawMoneyResponse
                                                                                                System.out.println("Enter Your Withdraw Amount :");//get user withdraw amount withdraw_amount= scanner.nextDouble();//assign to variable
       Scratches and Consoles
                                                                                                m.withdraw_money(amount,withdraw_amount);//call the withdraw method
                                                                                                System.out.println("Something went wrong!!!!");//if user enter invalid input then show this msg
```

Deposit method

```
public void deposit_money(double amount,double d_amount){// deposit method
    double current_amount;
    BankService bankService = new BankService();
    BankServiceSoap bankServiceSoap = bankService.getBankServiceSoap();
    current_amount = bankServiceSoap.depositMoney(amount,d_amount);//call the deposit web method
    System.out.println("Your Current amount is "+current_amount);
}
```

Withdraw method

```
public void withdraw_money(double amount,double w_amount){//withdraw method
    double current_amount;
    BankService bankService = new BankService();
    BankServiceSoap bankServiceSoap = bankService.getBankServiceSoap();
    current_amount = bankServiceSoap.withdrawMoney(amount,w_amount);//call the withdraw web method
    System.out.println("Your Current amount is "+current_amount);
}
```

Run the programme

```
Main ×

C:\Users\MSI User\.jdks\corretto-1.8.0_302\bin\java.exe" ...

Enter Your Choice
press 1 for deposit money
press 2 for withdraw money

Enter Your Bank Amount :
10000
Enter Your Deposit Amount :
200
Your Current amount is 10200.0

Process finished with exit code 0
```

```
Main

"C:\Users\MSI User\.jdks\corretto-1.8.8_382\bin\java.exe" ...

Enter Your Choice

press 1 for deposit money

press 2 for withdraw money

2

Enter Your Bank Amount :

18800

Enter Your Withdraw Amount :

1980

Your Current amount is 9888.8

Process finished with exit code 8
```

