# Income Tax Calculation

## Schema:

Application has a State table which has a list of State and Tax rate associated for the state.

FilingSingle and FilingMarriedTogether table has tax rates based on income slab (Based on tax slab for 2019/2020).

## Design:

As an admin, we can save or update a state and tax value to database. we can delete a state record or retrieve a specific state record.

Admin can list all state values in database using rest webservice hosted.

As Demo User I can calculate approximate tax for a specific income, filing status and state.

Based on the state details we can retrieve the tax rate and based on the income and filing status we can retrieve the income tax range the user is categorized in. We sum up state tax and federal tax to respond as one consolidated value.

## Rest URL and sample input:

**Credentials:**

1. Admin User -> username : adminuser, password: adminadmin
2. Demo User -> username: demouser, password: password

**Get All State Record – Admin User**

<http://localhost:8080/v1.0/employment/states>

Method: GET

**Create a new State Record – Admin User**

<http://localhost:8080/v1.0/employment/state/create>

Method: POST

Input sample:

{

"stateName": "Tennesse",

"taxMax": "19"

}

**Update State Record – Admin User**

<http://localhost:8080/v1.0/employment/state/update>

Method: PUT

Input Sample:

{

"stateName": "Tennesse",

"taxMax": "7.98",

"id": 36

}

**Delete State Record – Admin User**

[http://localhost:8080/v1.0/employment/state/{ID}](http://localhost:8080/v1.0/employment/state/%7bID%7d)

Method: DELETE

**Calculate Tax Amount – Demo User**

http://localhost:8080/v1.0/employment/calculateIncomeTax

Method: POST

Input Sample 1:

{

"stateName": "Alabama",

"filingStatus": "Married Filing Jointly",

"annualSalary": "100000"

}

Input Sample 2:

{

"stateName": "Alabama",

"filingStatus": "single",

"annualSalary": "100000"

}

## Enhancements and Work in Progress:

Add all state records to database.

Calculate state tax rate based on the income slab like that of federal.

Hook up to front end angular application to make it more user friendly.

Remove redundant code for getting tax rate based on filing status.

Add test scenarios

Refactor the package structure to make it more meaningful.

Add new repository methods to retrieve tax records for state using state name and in filing tables using min and max range dynamically instead of iterating through the record.

Create response object and meaningful error handling.