

# **AGENDA**

- Rating & Primary Risk Components
- Rating Flow
- **❖** Section: Rating in Dev-Studio
- What is Rating?
- Policy hierarchy
- Different coverage tables(transactional and IEL) and views
- Rating algorithm
- Rating steps



# **Rating**

Rating is the process used to determine the premium of a policy.
 The premium is calculated using an algorithm.

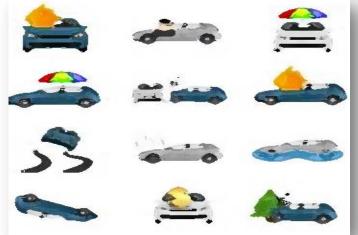
\$	1.60	83%	74.99% 75.45%
\$	1.59	85% 95%	75.96% 76.17%
\$ \$	1.51	79% 73%	76.19% 10%
\$	1.69	68% 81%	
\$	1.64 1.35	78%	
\$ \$	1.52	88% 78%	

- The Rating of a policy can be broken down into the following steps.
  - Determine risk elements
  - Determine premium of the risk
  - Apply surcharges and discounts

# **Primary Risk Components**

 The components play an important part of deciding the risk and determining the premium.

- Risks in Auto Line of Business:
  - Vehicles
    - The vehicle attributes such as year, make, and model play an important role in vehicle rating.
    - Vehicle coverage(specific to vehicle)
  - Drivers
    - The driver attributes like driver age, gender, and marital status play an important role in a driver rating.
    - The Class Code is the numeric representation of a set of driver attributes used to rate the drivers.
    - The Driver's license is also an important attribute to rate the driver(MVR, CLUE)

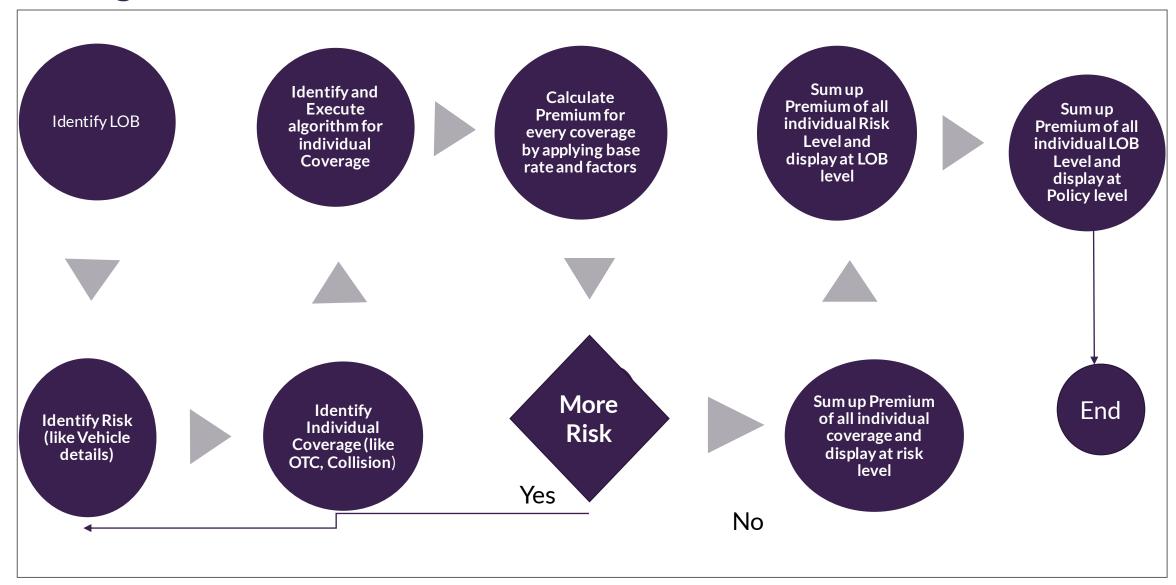


# **Primary Risk Components**

- The following plays an important role in the location rating. The Homeowners line of business depends on:
  - Location
  - Type of Building
  - Structure
  - House
  - Number of families residing at the location
  - Number of fire units present



# **Rating Flow**





Rating in Dev-Studio



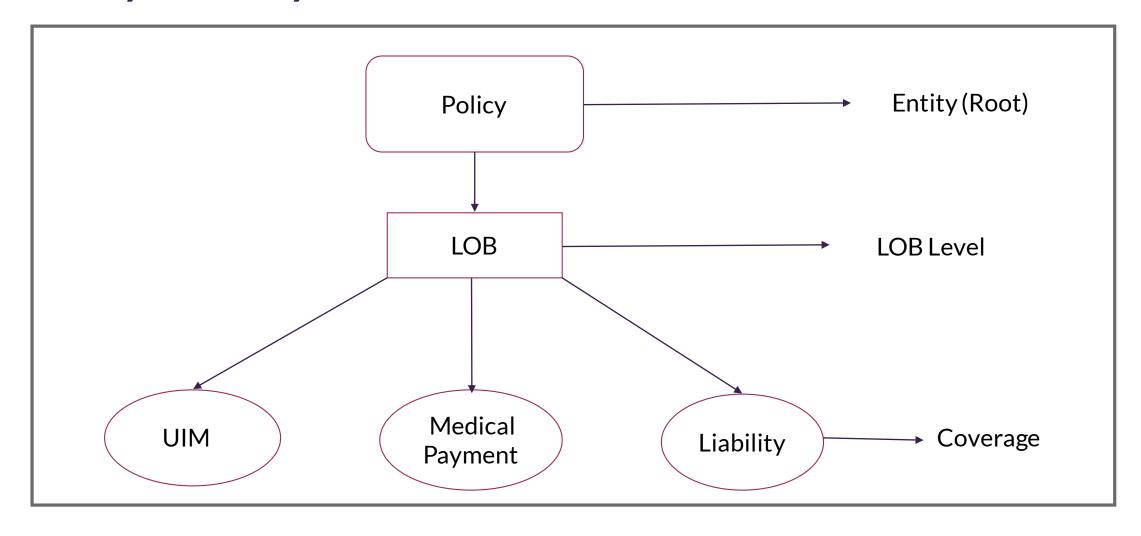
# What is Rating?

- Rating is the process used to determine the premium of a policy.
- The premium is calculated using an rating algorithm in which actual functions and steps are defined to calculate premium.
- Rating formulae and other details are provided by customer.
   Depending upon which rating algorithm is implemented by development team.

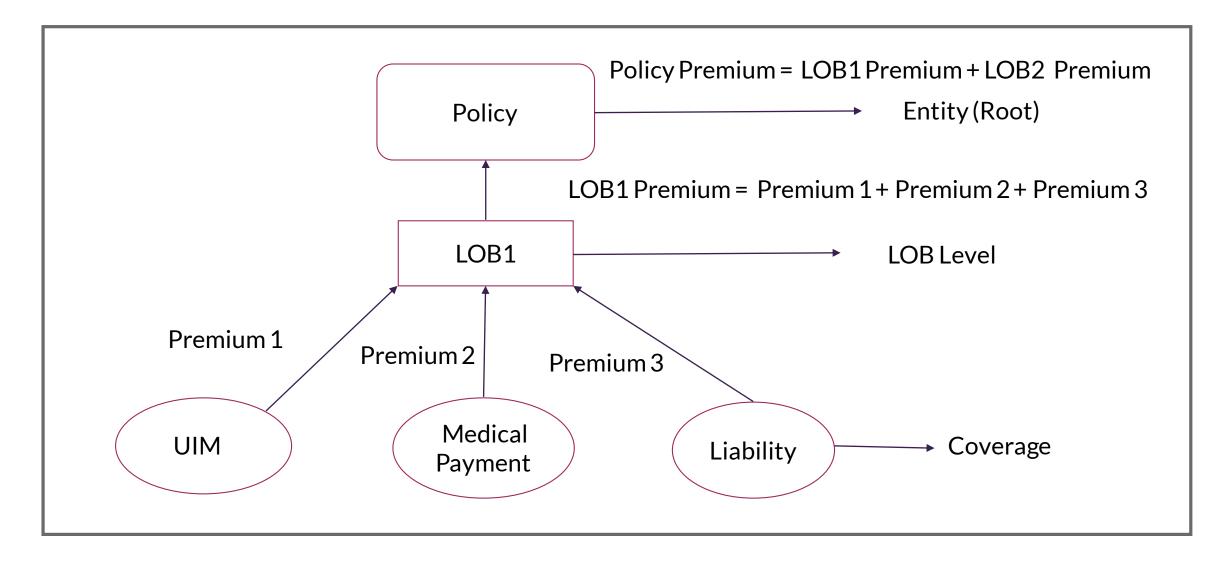
### What is Rating?

- To explain rating configuration here we will take a reference of Commercial Auto (CA) LOB
- Basically, the steps followed while configuring rating is same across LOB only the table names will be different and some kind of logic will be different.

# **Policy hierarchy**



## **Policy hierarchy**



# Rating Configurations in Dev Studio

- While creating new object set:
  - Ratable='y'
  - Ratable\_type=types> eg. Coverage
- Please Make Sure to add below fields while creating an Object which is Ratable and of Coverage type. Follow fields are compulsory fields for rating object.

SI Num	Field Description	DB Column Name	Primitive Type
1	Coverage	C_COVERAGE	COVERAGE
2	DES	C_DES	Long Description
3	Rating Function	C_RATING_FUNCTION	Short Description
4	Order	C_SEQ	Surrogate Key
5	Rating Formula	C_RATING_FORMULA	Long Description
6	Coverage Code	C_COVERAGE_CODE	Coverage Code

## Rating Configurations in Dev Studio

- Define rating function:
  - Dummy function for all objects, configured using "Rating Method"
  - F\_get\_rating\_function will return rating function used for particular coverage.
  - In DEV DB, dummy function is stored in PCT\_RATING\_METHODS

#### • ETL Method:

- ETL method is used for XML generation. It stores data in MIS\_COVERAGES and MIS\_COVERAGE\_<LOB> eg. MIS\_COVERAGE\_CA
- This XML is used for exporting/importing across environments. For eg. For particular
  policy processing, if QA reports some issue, then in order to reproduce issue, QA can
  export policy from QA environment and developer can check the same by importing
  into DEV environment.
- In DEV DB, ETL method is stored into PCT\_IPD\_METHODS table
- ETL Method will insert data in particular tables which will be retrieved by Policy 2015 application.

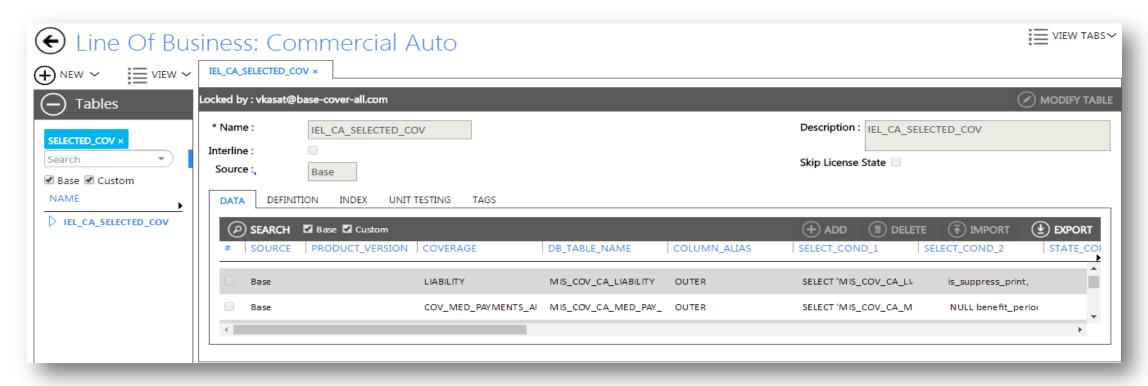
# Different coverage tables(transactional and IEL) and views

### Coverage and respective tables:

- Every LOB can have multiple coverage object within it. And data for every Coverage object goes into respective coverage table.
- For e.g. Commercial Auto LOB can have multiple coverage(object) for e.g. Uninsured Motorist, Liability, Medical Payment
- While creating data for policy, all information related to coverage goes into respective MIS tables.
- For e.g. Information of Uninsured Motorist coverage goes into MIS\_COV\_CA\_UIM. In the same way data for Liability coverage goes into MIS\_COV\_CA\_LIABILITY.
- Data from all these coverage table goes into view VW\_MIS\_CA\_ALL\_COVERAGES

#### Different coverage tables(transactional and IEL) and views

- Configuration in IEL\_CA\_SELECTED\_COV table:
  - This table is responsible for fetching records from all coverage table for e.g. MIS\_COV\_CA\_UIM, MIS\_COV\_CA\_LIABILITY and insert it under view VW\_MIS\_CA\_ALL\_COVERAGES.



### How the premium is calculated –

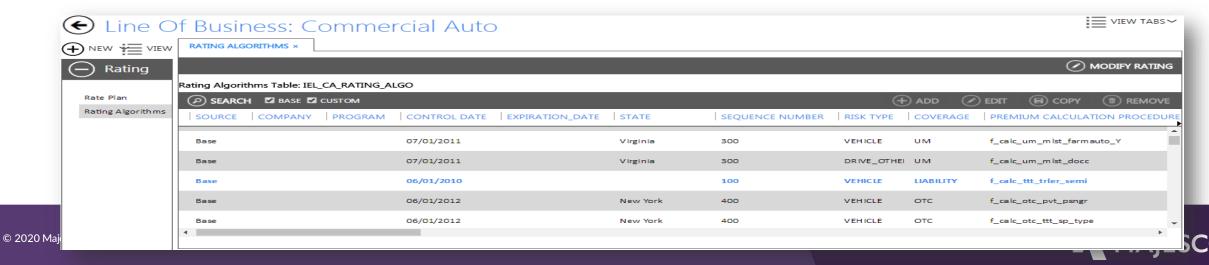
- First we insert data in IEL\_CA\_SELECTED\_COV table which inserts data in VW\_MIS\_CA\_ALL\_COVERAGES table for each of the coverage.
- Then rating algorithm is configured. (It will calculate premium for individual Premium)
- Rating step will fetch one by one coverage record from VW\_MIS\_CA\_ALL\_COVERAGES. Then apply Rating Algorithm for every coverage.
- In the package, it will take the calculation function internally from F\_GET\_RATING\_FUNCTION and then it will execute the function and calculate the premium.
- Then finally a sum of all coverage Premium will be calculated.

# **Rating Plugin in Dev Studio**

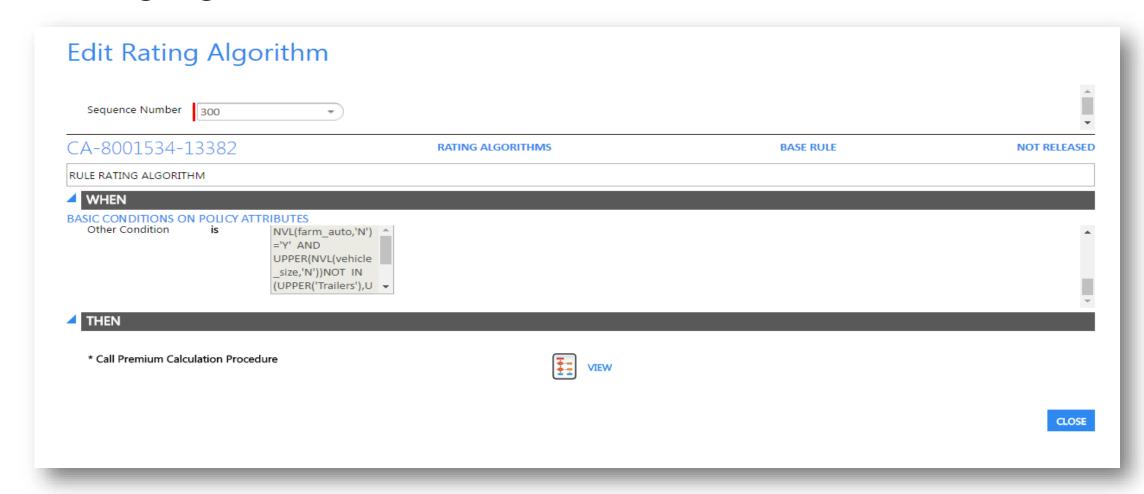
- It displays
  - Rate Plan
  - Rating Algorithm

- Rating plugin in Dev Studio is used to create Rating Algorithm.
- For every coverage there would be a corresponding Rating Algorithm.
   Rating algorithm would result into calculation of premium for individual coverage.
- Hence individual premium for every coverage would be calculated by using individual Rating Algorithm and finally premium of all coverage would sum up into total premium of all coverage.
- Rating algorithm data is store in IEL\_CA\_RATING\_ALGO table.
- For e.g. There is a Rating Algorithm configured for Liability coverage.

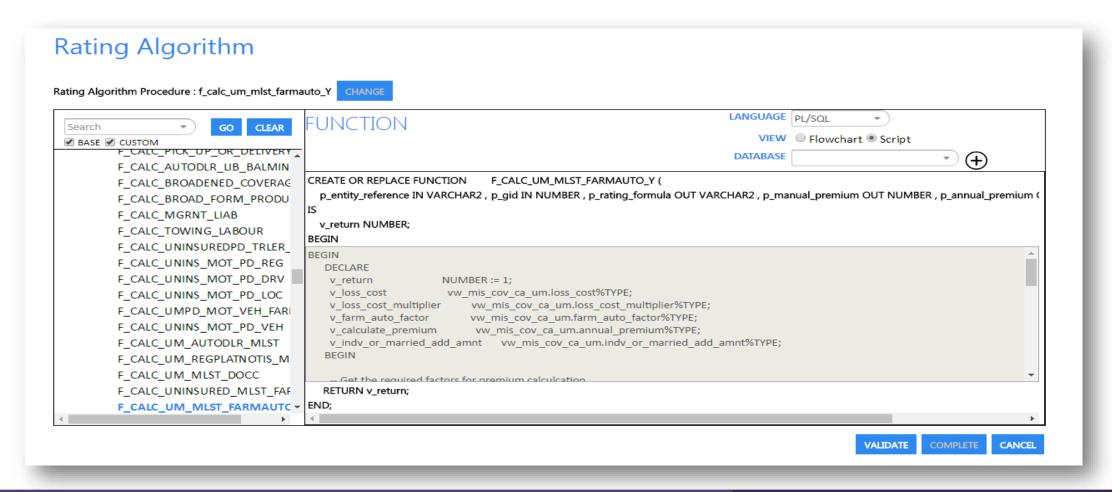
- Important Rating Algorithm attributes:
  - Source Base/Custom
  - Control Date The effective date of Rating Algorithm
  - Coverage Coverage for which Rating Algorithm is configured
  - Premium Calculation Procedure Function/Procedure written for Rating Algorithm
  - Other Condition Condition to be satisfied before executing rating Algorithm.
  - More Info will open editor for existing Algorithm.



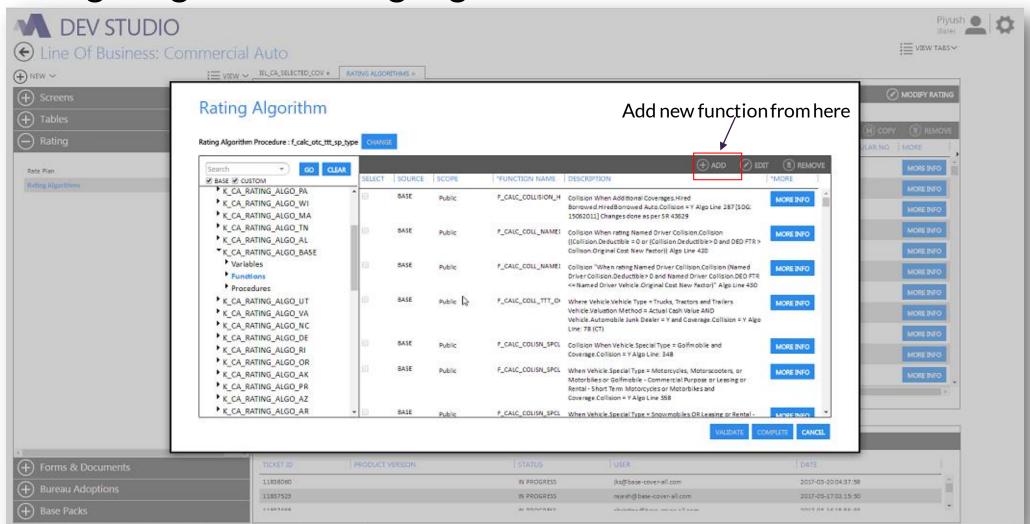
Rating Algorithm Editor



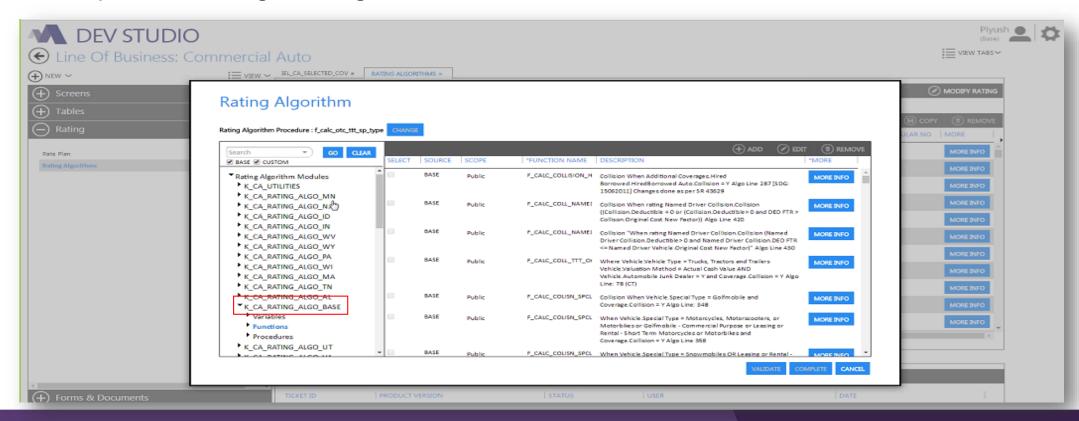
- Rating Algorithm location
- Then -> Call Premium Calculation Procedure ->



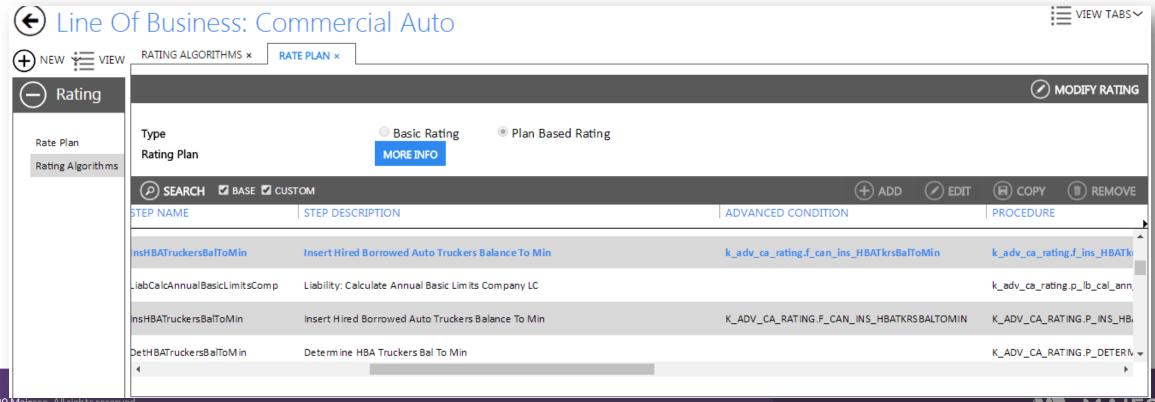
Configuring a new Rating Algorithm



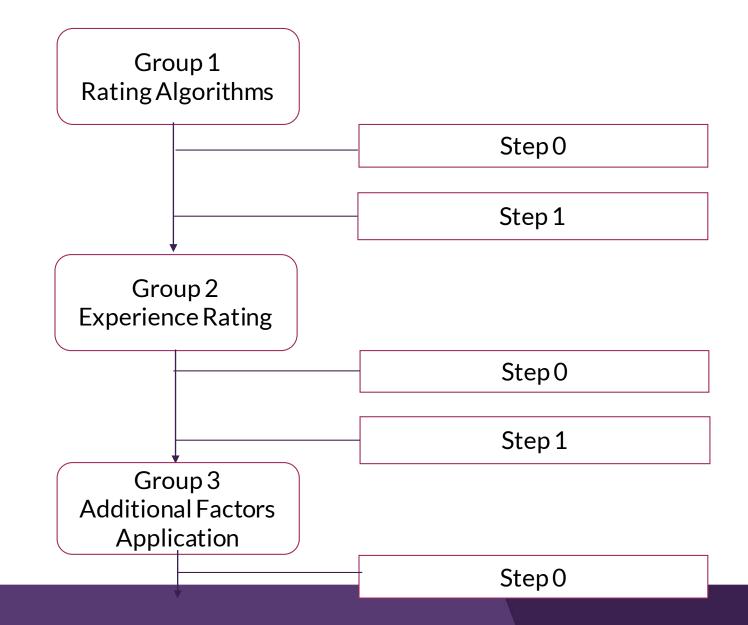
- Depending upon "Basic Conditions on Policy Attributes" the Rating Algorithm is placed under different packages.
- For e.g. If an Algorithm is configured for specific state(Virginia) then the Rating Algorithm
  would be created under state specific package(K\_CA\_RATING\_ALGO\_VA)
- For By default all algorithm goes in base K\_CA\_RATING\_ALGO\_BASE.



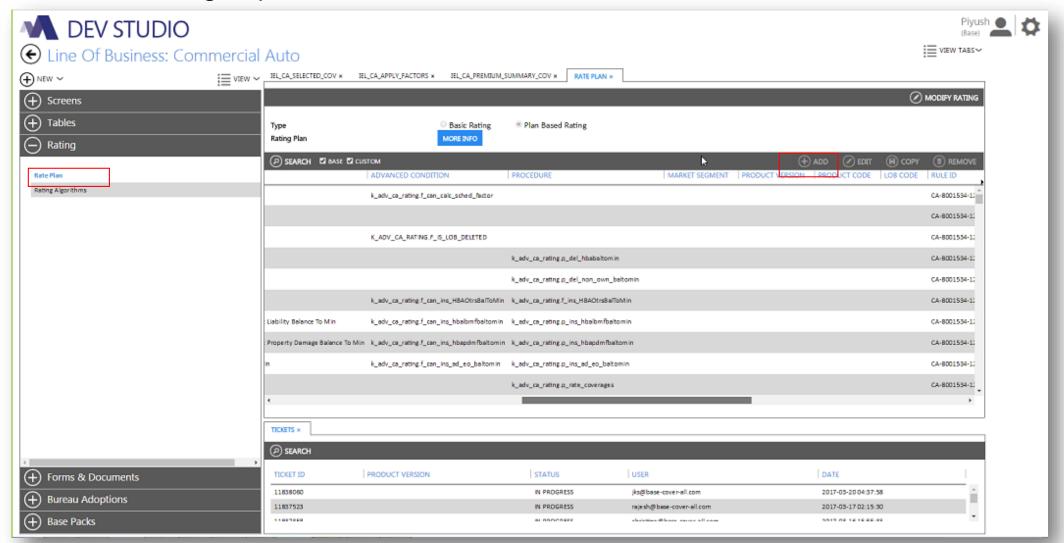
- Rating is a step by step process. For e.g. after calculating total premium of all coverage, there might be experience rating, manual rating and then additional factors to be applied on Premium of all coverage.
- "Rate Plan" section is used to configure the ordering of execution.
- Rating plan data is store in IEL\_CA\_ADV\_RATING\_STEPS table.



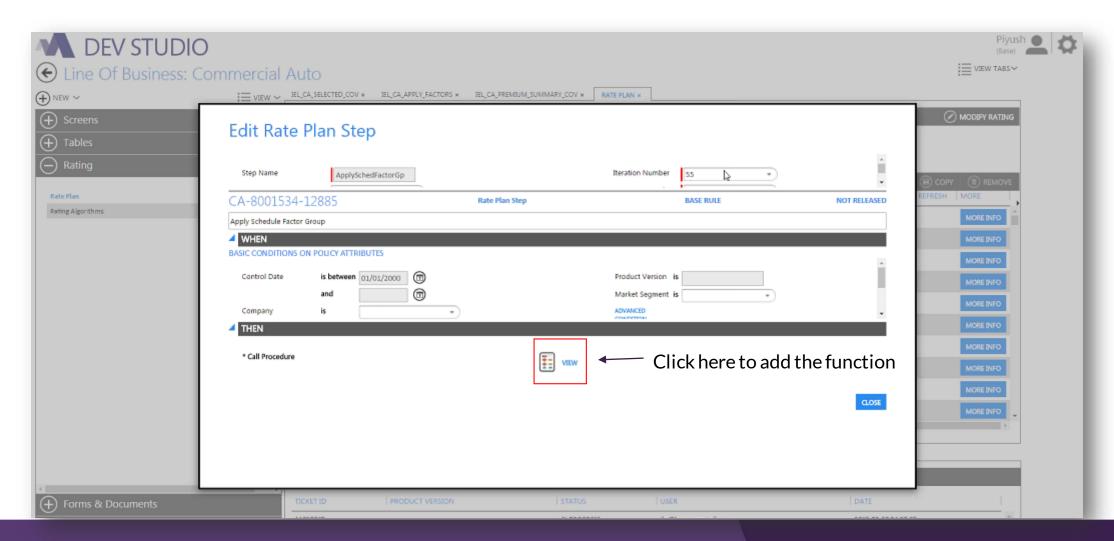
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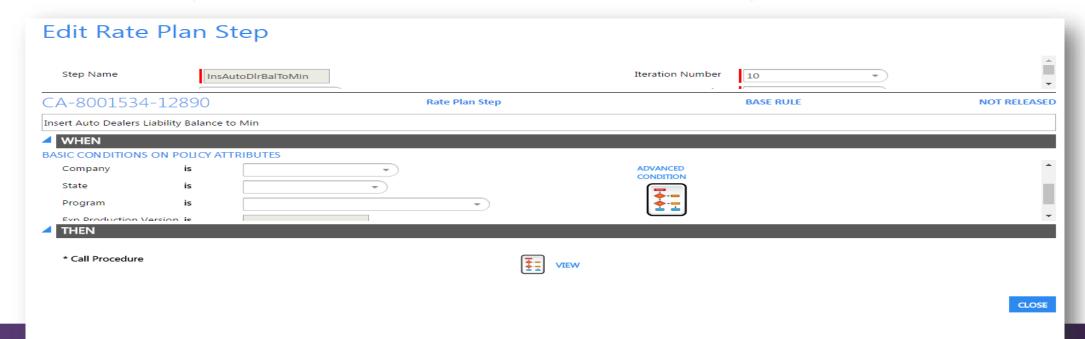
How to add rating step in Dev Studio –



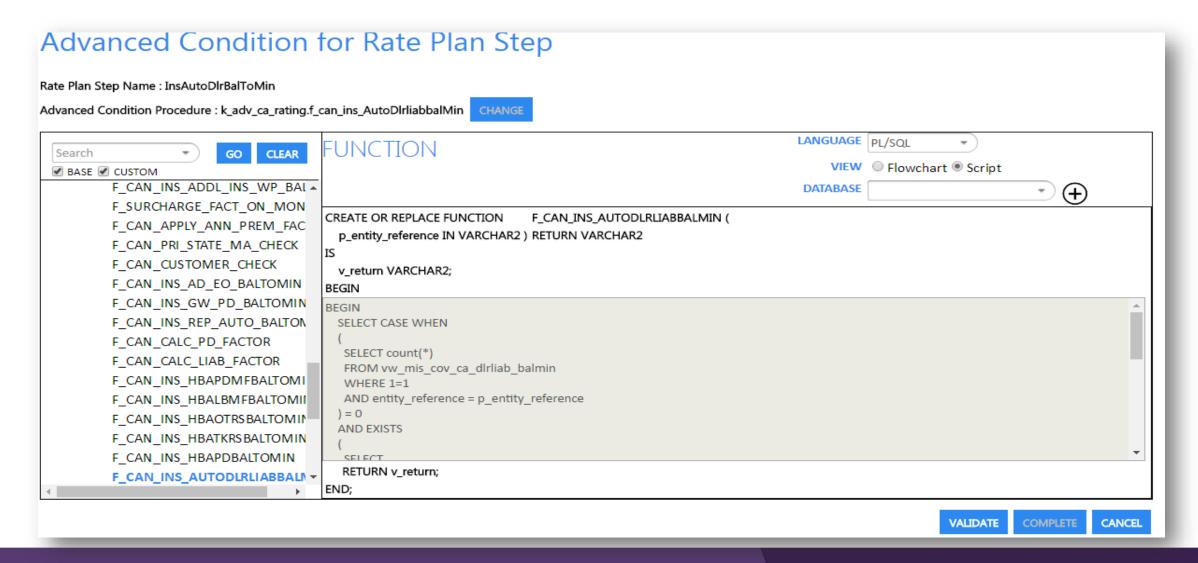
• Give the Step Name which is unique and then Group Id (iteration number), mention Step Id (sequence number) and other parameters like control date etc. similar to rating algorithm



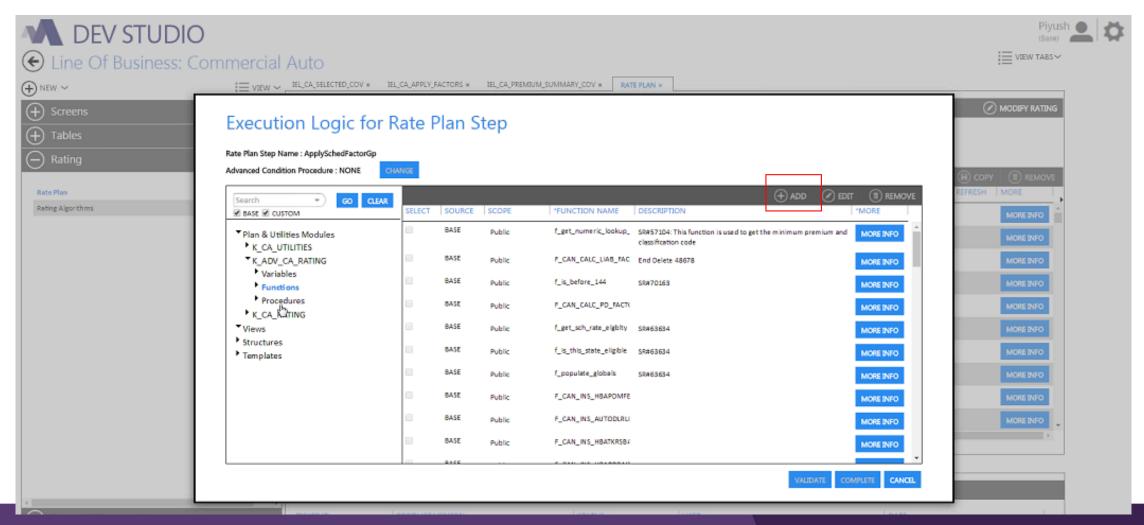
- System divides the whole rating into few groups. One group is to calculate minimum premium, one group is to calculate schedule rating, one to calculate experience rating etc.
- Every group has many steps, so system orders first by group id and then by step id.
- Two important functions Decision function is a conditional check function on any step. If decision function returns Yes then only it goes to step execution function of that step.
- These functions are stored in different package K\_ADV\_CA\_RATING
- It can be configured from Advanced Condition section of Rating Step.



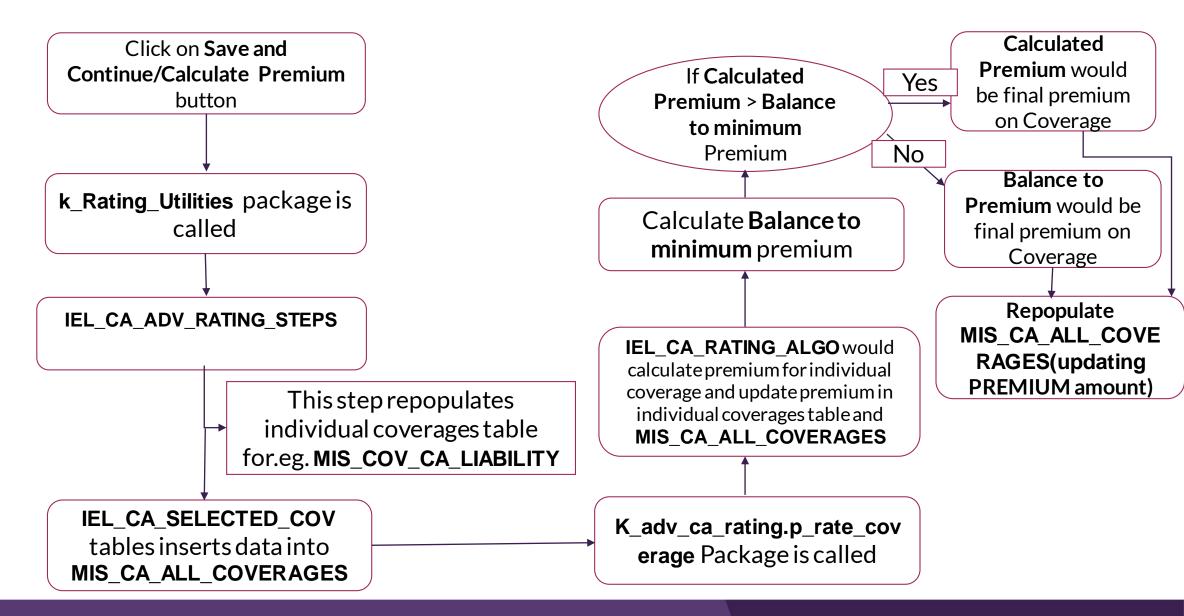
Decision Condition query to return Yes if execution function needs to be executed.



Add the function same steps to be followed as rating algorithm



# Flow of Rating steps



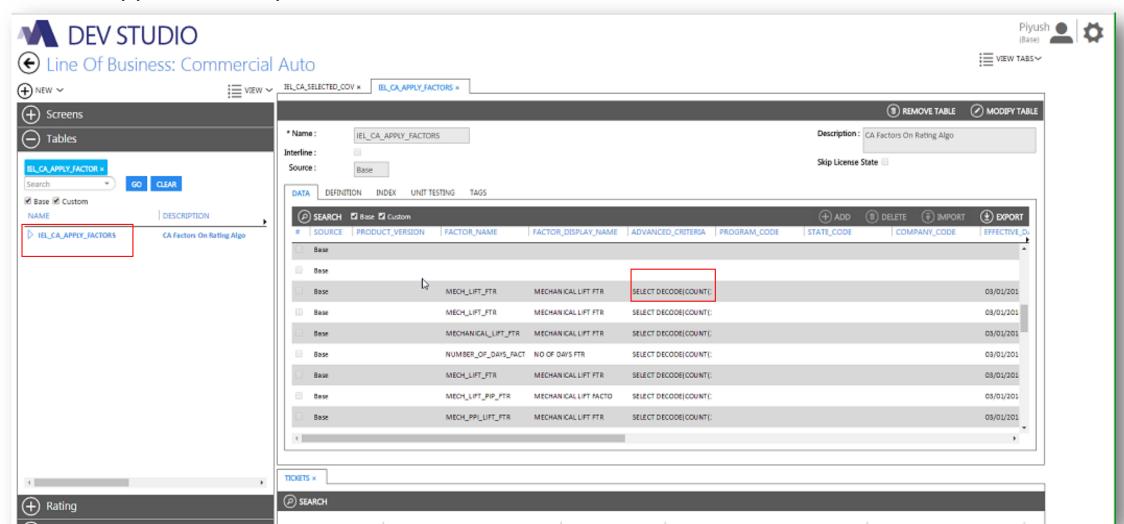
#### **Additional Factors**

#### Additional factor

- There might be a need to apply an additional factor on total premium of all coverage. In this case there is no need to configure any Rating Algorithm but additional factor can be configured in IEL\_CA\_APPLY\_FACTOR. From this additional factor would be taken and applied on premium.
- So it would be one of the **step in Rating plan**. This step should be executed only after Rating Algorithm is applied on all coverage.

#### **Additional Factors**

Factor application step in Dev Studio

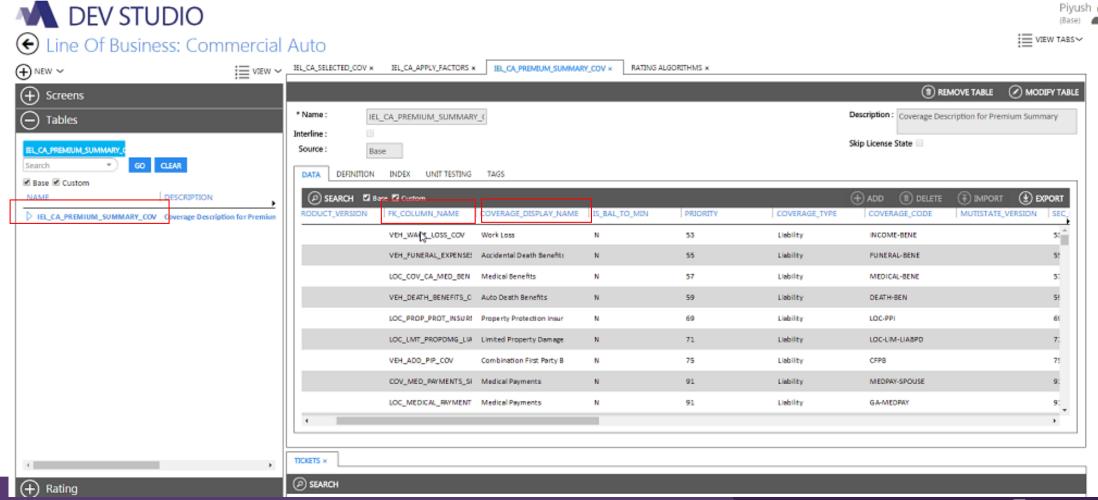


### **Premium Summary Screen Coverage**

- Once all the steps are completed the premium is calculated for all coverages and premiums are there in coverage tables.
- Whatever data is there in VW\_MIS\_CA\_ALL\_COVERAGES after execution of these steps, it will be used to display in Premium Summary Screen.
- To display data in Premium Summary Screen, an entry need to be made IEL\_CA\_PREMIUM\_SUMMARY\_COV table.

#### **Premium Summary Screen Coverage**

- FK\_COLUMN\_NAME is foreign key reference for composed Object.
- DISPLAY\_NAME will be displayed on Premium Summary Screen.



#### **Best Practices**

- If change is needed in existing IPD method which is written with NULL context path then it should be added on all applicable contexts.
- If creating a new coverage code, ensure its length does not exceed 15 characters.
- While testing any UI/Rating driven by checkbox, do ensure to test both scenarios one by checking the checkbox and other without checking the checkbox.
- Do make sure that newly added function does not exceed length of 30 characters.



**THANK YOU!** 

