PlanViz Hana

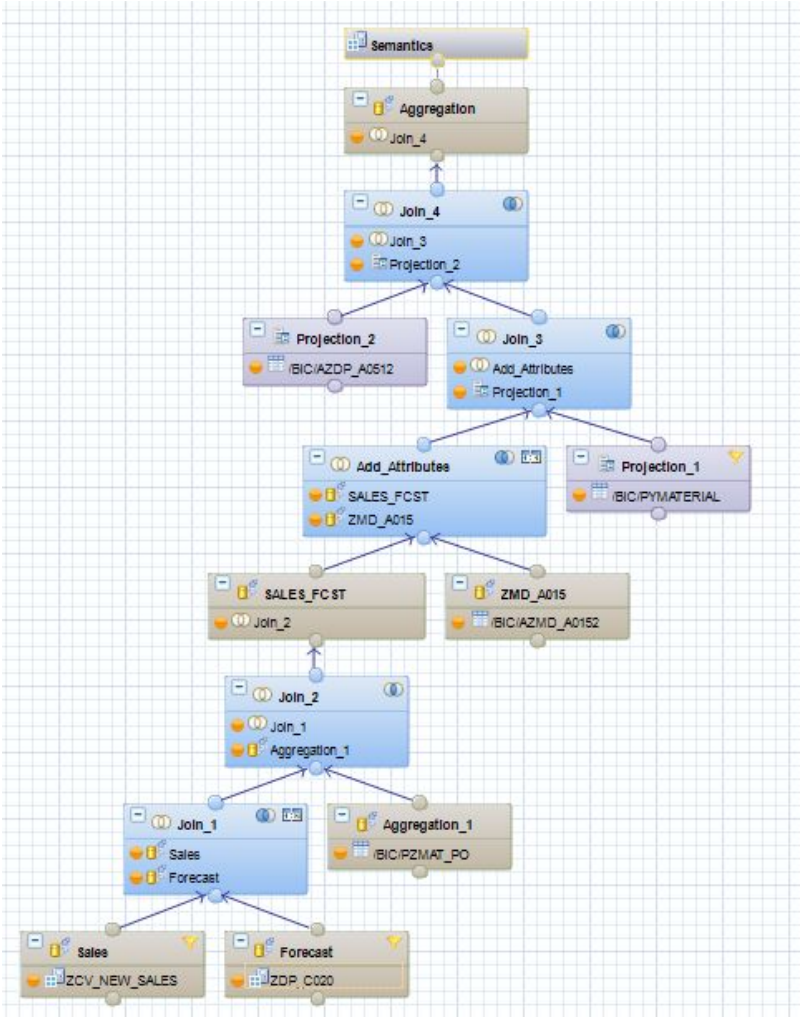
What is PlanVisualizer?

- PlanVisualizer is a performance tool for executing queries inside the HANA database. (CV or SQL statement)
- It traces database execution and should not be confused with database explain plans.
- Useful for both simple SELECT statements and more complex ones involving code pushdown.

Example CV ZDP_CV024

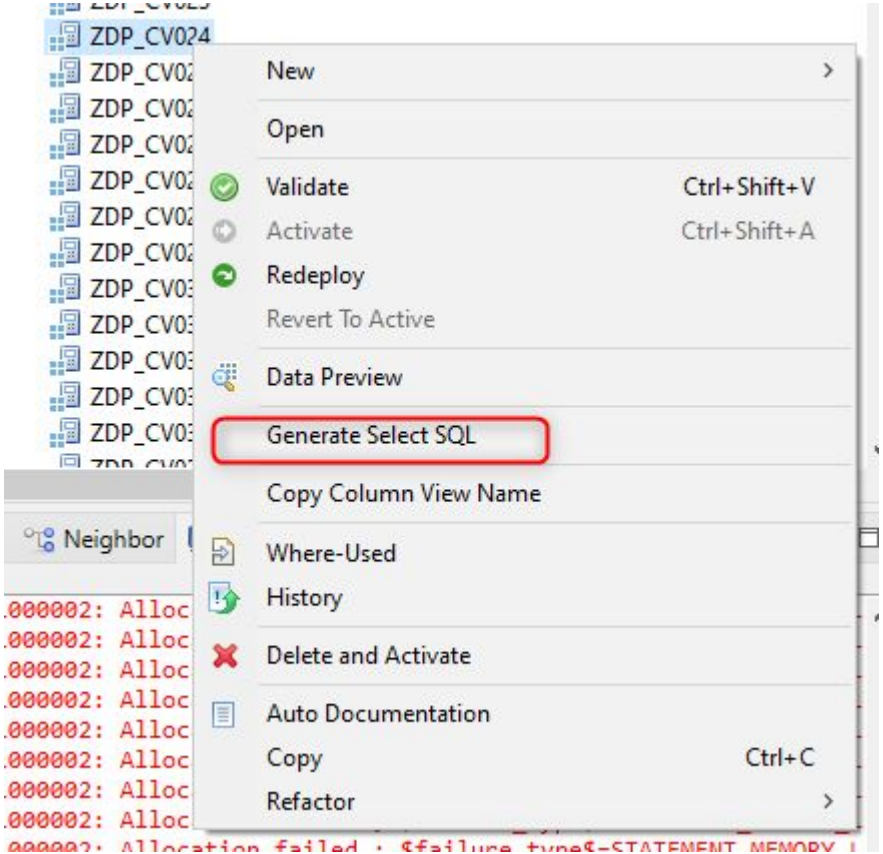
Situation:
You need to analyze a calculation view because there are 2 major problems in the query:

- The query takes a long time to execute
- The query has only one line as output when it should have many more



How to Create a Plan in HANA Studio (1st Method)

Right click on your CV and select “ Generate Select SQL”



How to Create a Plan in HANA Studio (1st Method)

the sql statement for the calculation view will be generated

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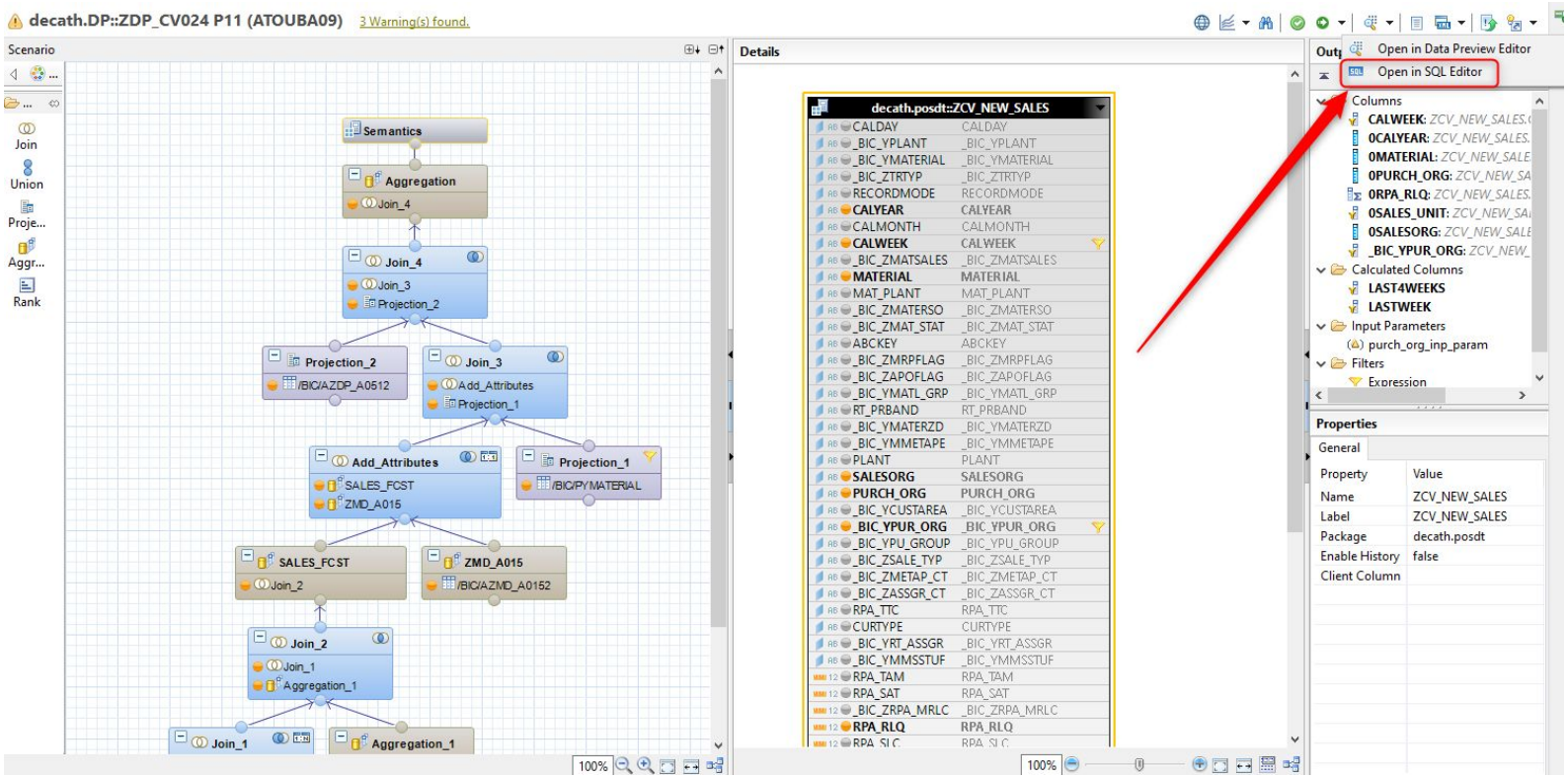
SQL

```
SELECT
      "0SALESORG",
      "PUR_GROUP",
      "ZDP_WKSP",
      "0BASE_UOM",
      "0SALES_UNIT",
      "0PURCH_ORG",
      "0MATERIAL",
      "0CALYEAR",
      "0CALWEEK",
      "ABCKEY",
      "_BIC_ZMRPFLAG",
      "_BIC_ZMAT_STAT",
      "_BIC_YMMETAPE",
      "_BIC_ZAPOFLAG",
      "YPURCHORG",
      "YPU_GROUP",
      "ZDP_SFCM",
      "ZCALYEAR",
      sum("GAP") AS "GAP",
      sum("ZDP_SFCS") AS "ZDP_SFCS",
      sum("0RPA_RLQ") AS "0RPA_RLQ"
FROM "_SYS_BIC"."decath.DP/ZDP_CV024"('PLACEHOLDER' = ('$$purch_org_inp_param$$',
      '''<Enter Value>'''))
GROUP BY "0SALESORG",
      "PUR_GROUP",
      "ZDP_WKSP",
      "0BASE_UOM",
      "0SALES_UNIT",
      "0PURCH_ORG",
      "0MATERIAL",
      "0CALYEAR",
      "0CALWEEK",
      "ABCKEY",
      "_BIC_ZMRPFLAG",
      "_BIC_ZMAT_STAT",
      "_BIC_YMMETAPE",
      "_BIC_ZAPOFLAG",
      "YPURCHORG",
      "YPU_GROUP",
      "ZDP_SFCM",
      "ZCALYEAR"
```

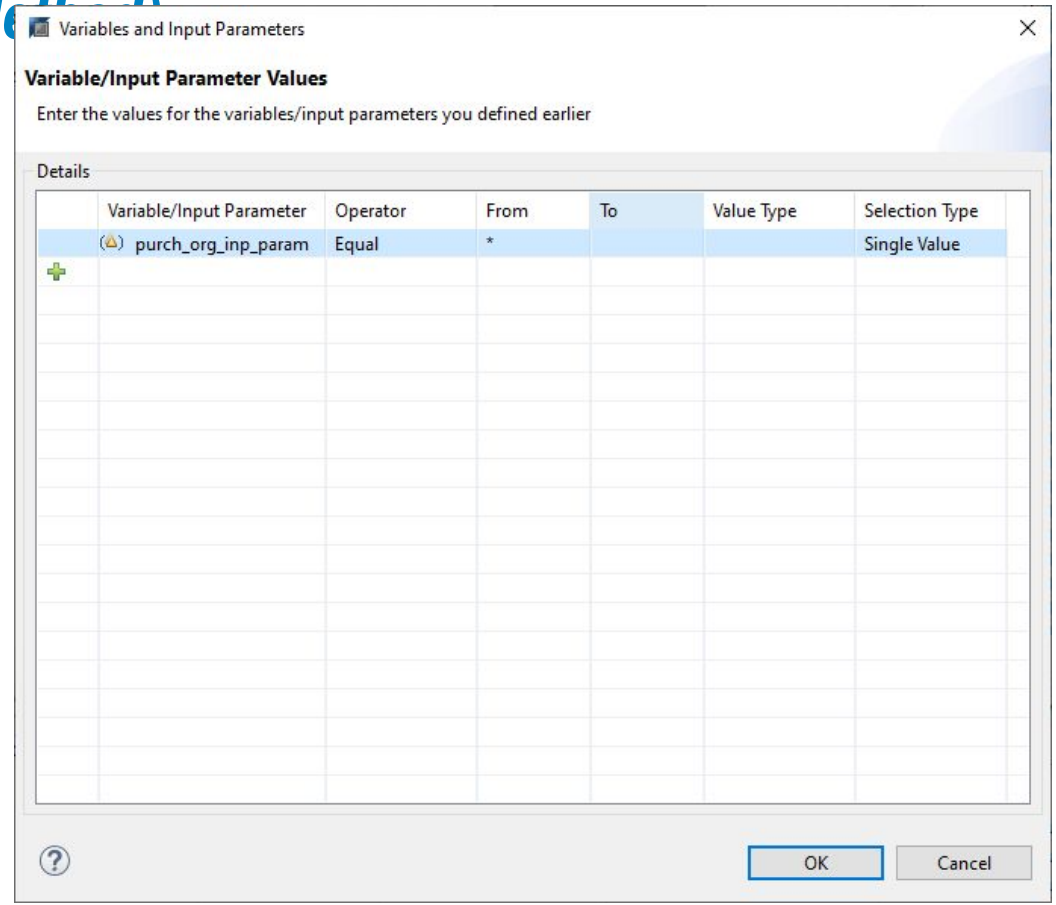
If your calculation view has input parameter don't hesitate to modify the sql here, we will put Z001

```
FROM "_SYS_BIC"."decath.DP/ZDP_CV024"('PLACEHOLDER' = ('$$purch_org_inp_param$$',
      '''Z001'''))
```

How to Create a Plan in HANA Studio (2nd Method)

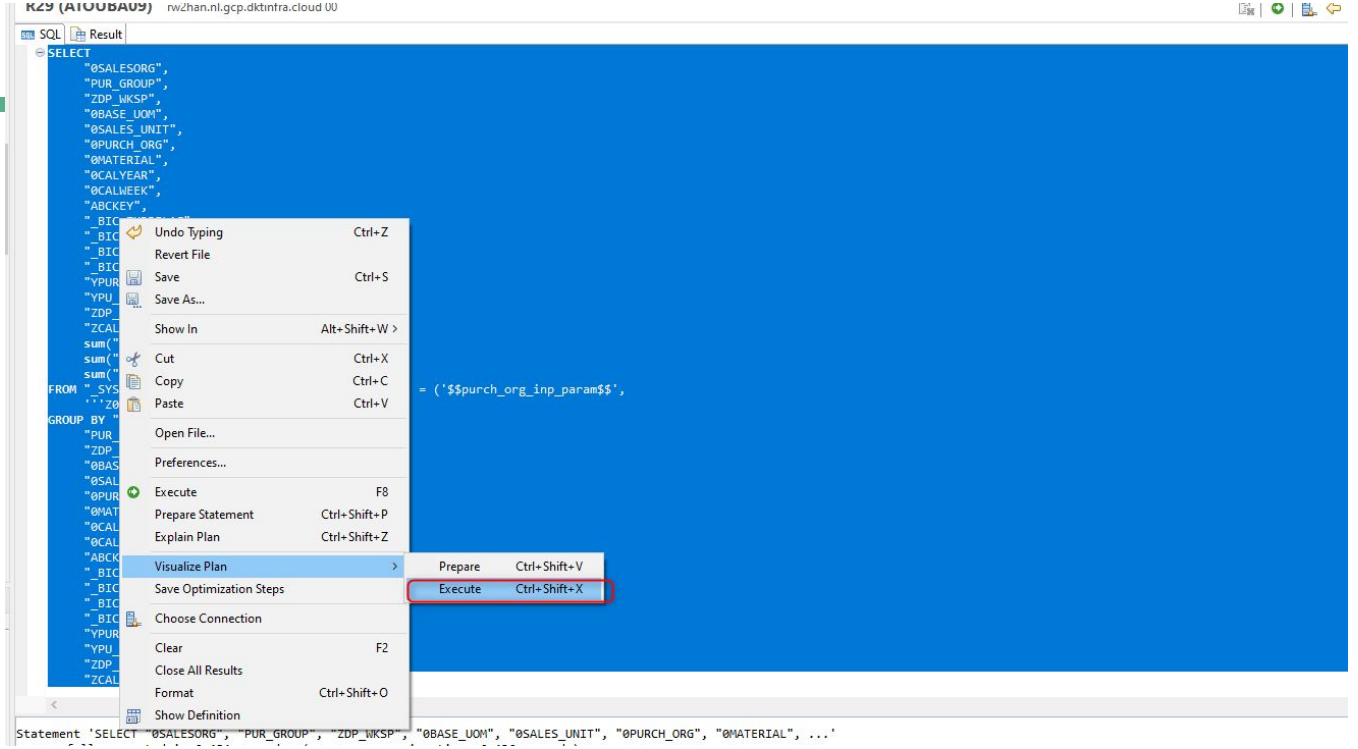


How to Create a Plan in HANA Studio (2nd Method)

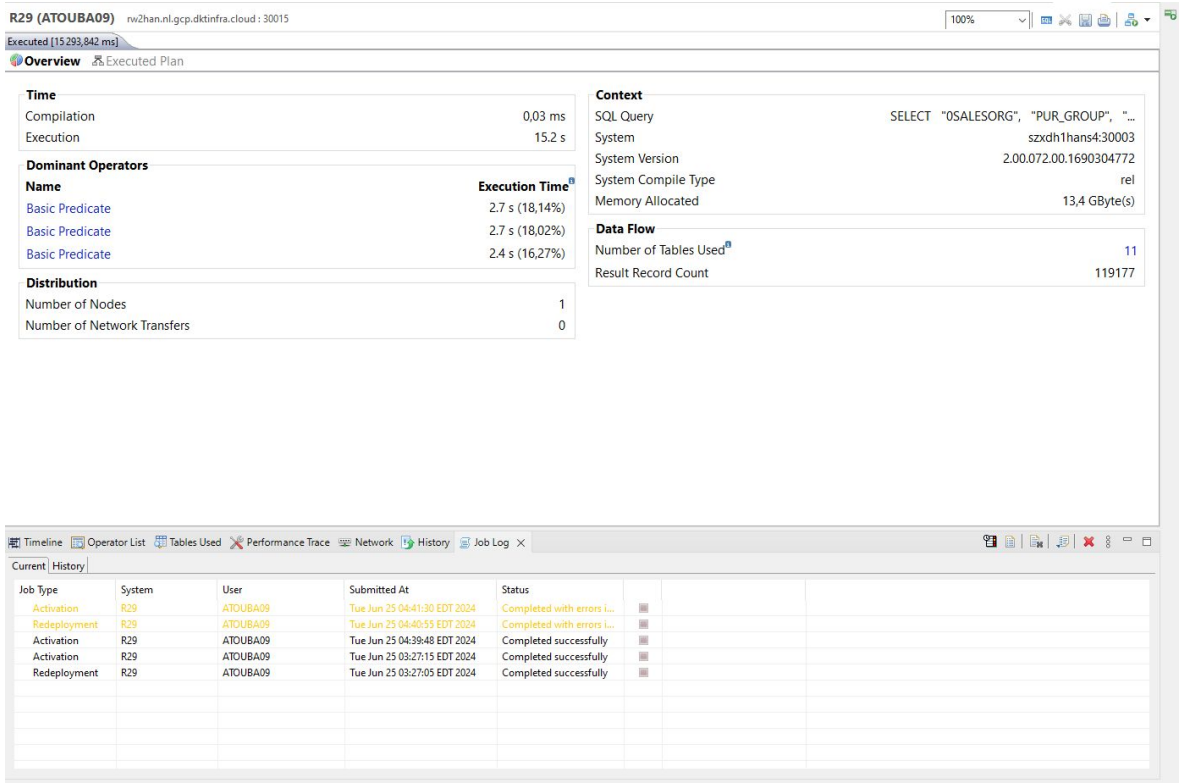


How to Create a Plan in HANA Studio

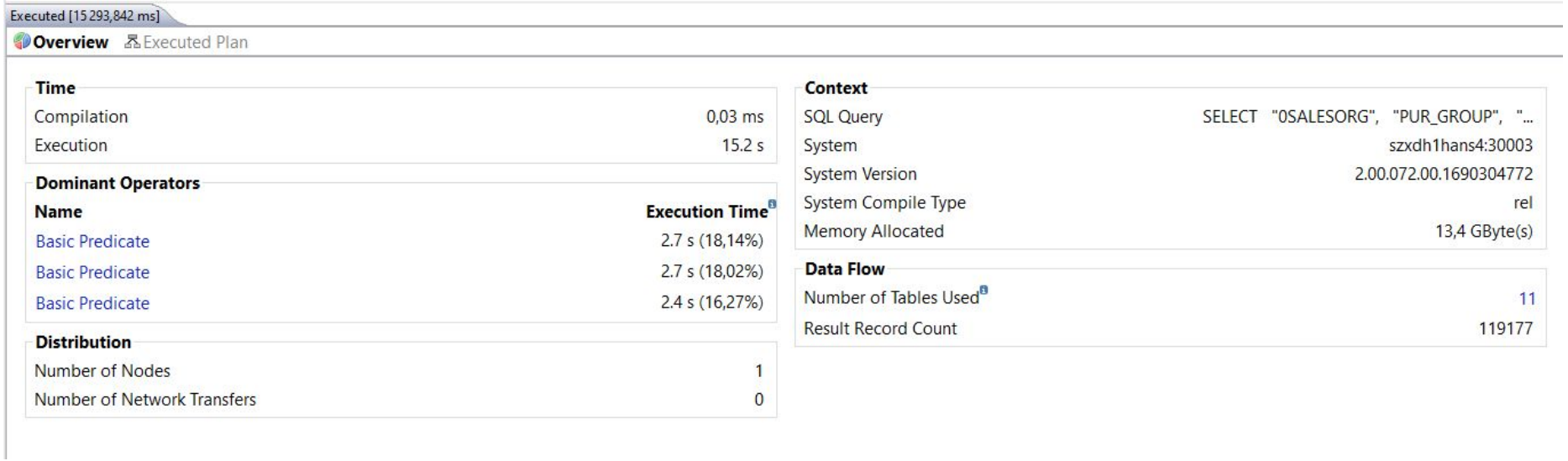
Select All your SQL statements right click,visualize Plan , click on execute



The Consistency Check



Plan Overview

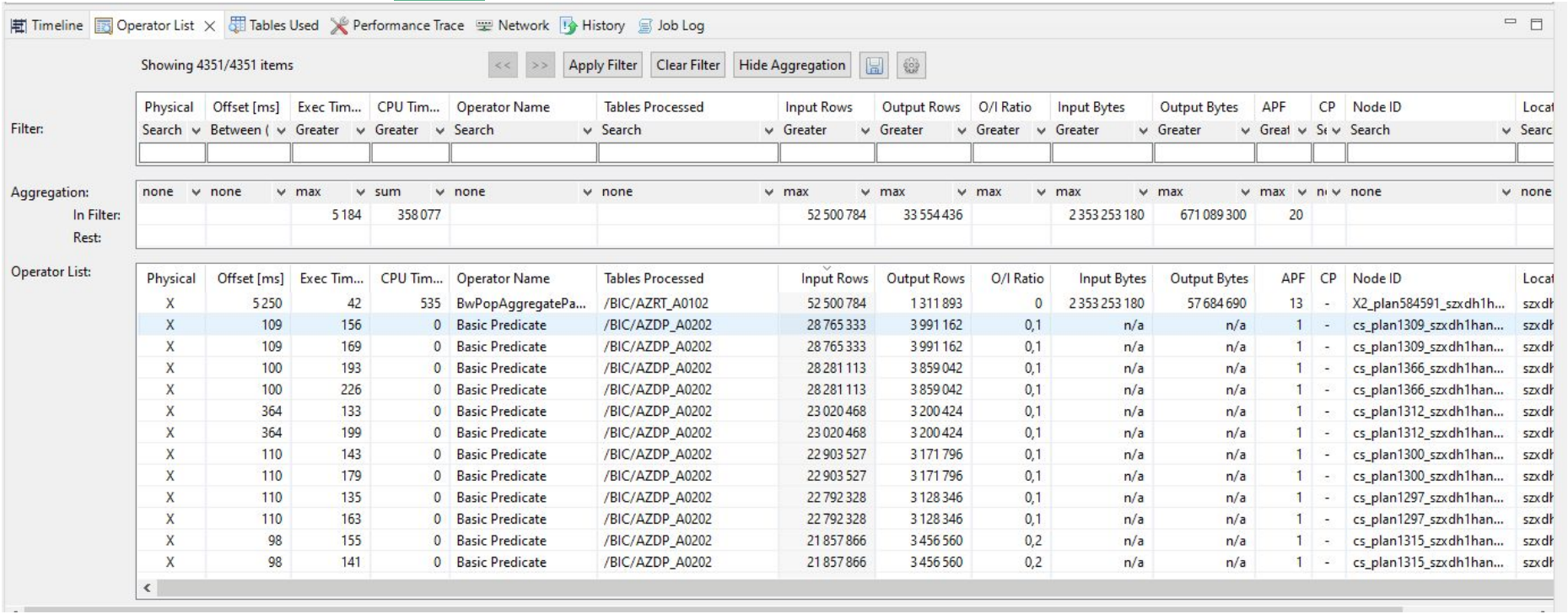


Tables Used List

Showing 11 item(s)

Table Name	Location	Partition	Max. Entries Processed	Number of Accesses	Max. Processing Time
SAPANWR01./BIC/AZDP_A0201	szxdh1hans4:30003	n/a	1	10	1,214
SAPANWR01./BIC/AZRT_A0062	szxdh1hans4:30003	n/a	0	39	1,871
SAPANWR01./BIC/AZRT_A0102	szxdh1hans4:30003	n/a	33 554 436	824	3 256,837
SAPANWR01./BIC/AZRT_A0061	szxdh1hans4:30003	n/a	0	52	0,835
SAPANWR01./BIC/PYMATERIAL	szxdh1hans4:30003	n/a	33 554 436	94	3 256,837
SAPANWR01./BIC/AZDP_A0202	szxdh1hans4:30003	n/a	28 765 333	1 482	4 434,930
SAPANWR01./BIC/PZMAT_PO	szxdh1hans4:30003	n/a	33 554 436	86	3 256,837
ATOUBA09./BIC/AZMD_A0152	szxdh1hans4:30003	n/a	119 177	3	592,672
SAPANWR01./BIC/AZMD_A0152	szxdh1hans4:30003	n/a	119 177	24	349,146
SAPANWR01./BIC/AZDP_A0512	szxdh1hans4:30003	n/a	119 177	8	165,567
ATOUBA09./BIC/AZDP_A0512	szxdh1hans4:30003	n/a	119 177	3	592,672

Selection Operators and Semi-Join



Timeline | Operator List | Tables Used | Performance Trace | Network | History | Job Log

Showing 4351/4351 items

<< >> Apply Filter Clear Filter Hide Aggregation

Filter:

Physical	Offset [ms]	Exec Tim...	CPU Tim...	Operator Name	Tables Processed	Input Rows	Output Rows	O/I Ratio	Input Bytes	Output Bytes	APF	CP	Node ID	Locat
Search	Between (	Greater	Greater	Search	Search	Greater	Greater	Greater	Greater	Greater	Great	Se	Search	Searc

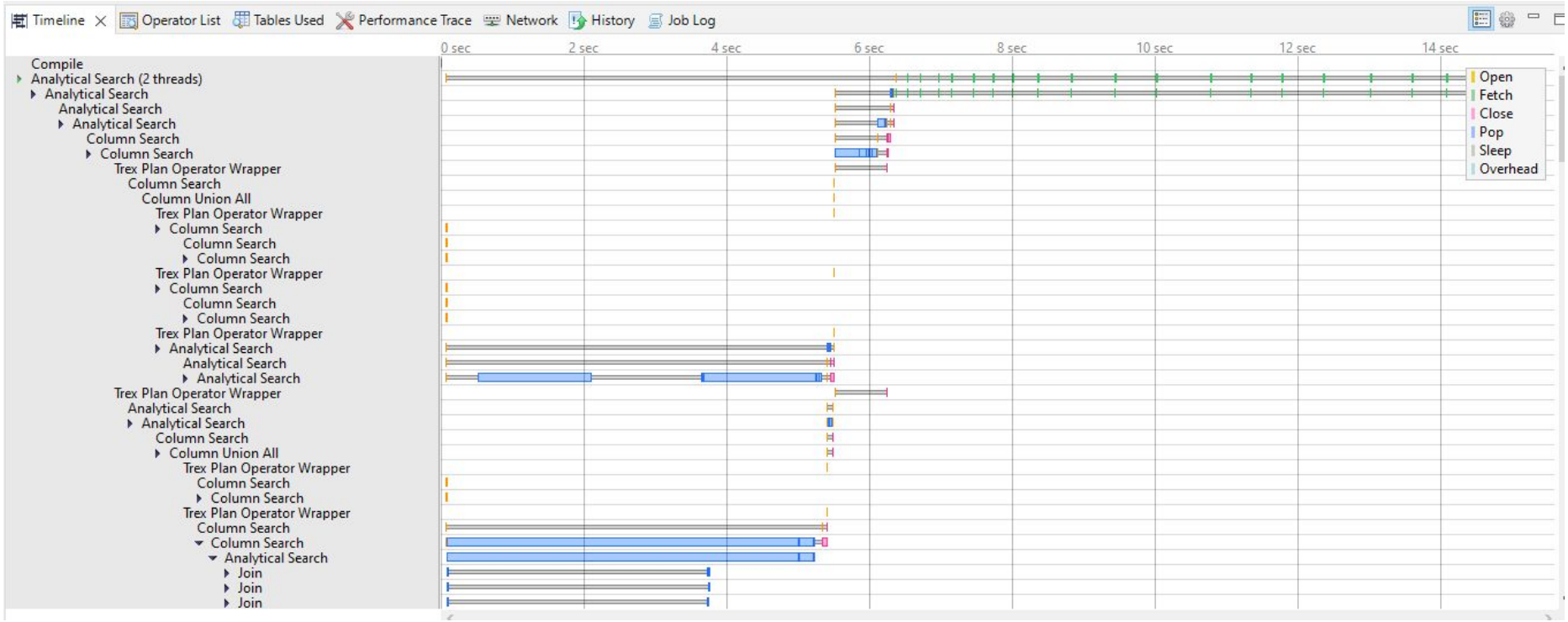
Aggregation:

	none	none	max	sum	none	none	max	max	max	max	max	max	n	none	none
In Filter:			5 184	358 077			52 500 784	33 554 436		2 353 253 180	671 089 300	20			
Rest:															

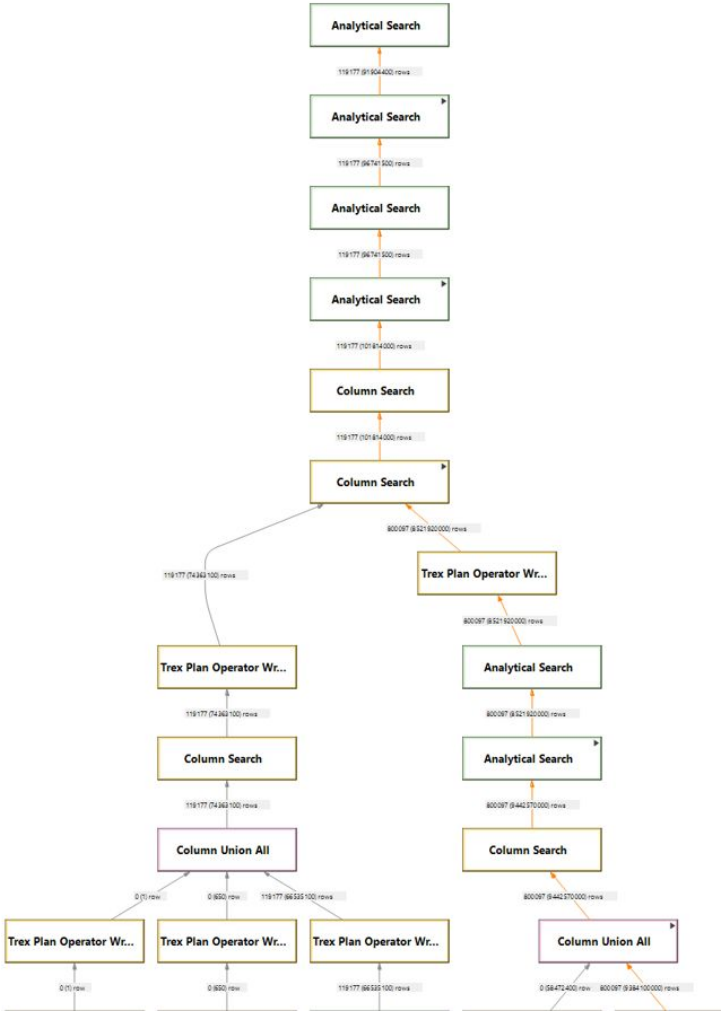
Operator List:

Physical	Offset [ms]	Exec Tim...	CPU Tim...	Operator Name	Tables Processed	Input Rows	Output Rows	O/I Ratio	Input Bytes	Output Bytes	APF	CP	Node ID	Locat
X	5 250	42	535	BwPopAggregatePa...	/BIC/AZRT_A0102	52 500 784	1 311 893	0	2 353 253 180	57 684 690	13	-	X2_plan584591_szxdh1h...	szxdh
X	109	156	0	Basic Predicate	/BIC/AZDP_A0202	28 765 333	3 991 162	0,1	n/a	n/a	1	-	cs_plan1309_szxdh1han...	szxdh
X	109	169	0	Basic Predicate	/BIC/AZDP_A0202	28 765 333	3 991 162	0,1	n/a	n/a	1	-	cs_plan1309_szxdh1han...	szxdh
X	100	193	0	Basic Predicate	/BIC/AZDP_A0202	28 281 113	3 859 042	0,1	n/a	n/a	1	-	cs_plan1366_szxdh1han...	szxdh
X	100	226	0	Basic Predicate	/BIC/AZDP_A0202	28 281 113	3 859 042	0,1	n/a	n/a	1	-	cs_plan1366_szxdh1han...	szxdh
X	364	133	0	Basic Predicate	/BIC/AZDP_A0202	23 020 468	3 200 424	0,1	n/a	n/a	1	-	cs_plan1312_szxdh1han...	szxdh
X	364	199	0	Basic Predicate	/BIC/AZDP_A0202	23 020 468	3 200 424	0,1	n/a	n/a	1	-	cs_plan1312_szxdh1han...	szxdh
X	110	143	0	Basic Predicate	/BIC/AZDP_A0202	22 903 527	3 171 796	0,1	n/a	n/a	1	-	cs_plan1300_szxdh1han...	szxdh
X	110	179	0	Basic Predicate	/BIC/AZDP_A0202	22 903 527	3 171 796	0,1	n/a	n/a	1	-	cs_plan1300_szxdh1han...	szxdh
X	110	135	0	Basic Predicate	/BIC/AZDP_A0202	22 792 328	3 128 346	0,1	n/a	n/a	1	-	cs_plan1297_szxdh1han...	szxdh
X	110	163	0	Basic Predicate	/BIC/AZDP_A0202	22 792 328	3 128 346	0,1	n/a	n/a	1	-	cs_plan1297_szxdh1han...	szxdh
X	98	155	0	Basic Predicate	/BIC/AZDP_A0202	21 857 866	3 456 560	0,2	n/a	n/a	1	-	cs_plan1315_szxdh1han...	szxdh
X	98	141	0	Basic Predicate	/BIC/AZDP_A0202	21 857 866	3 456 560	0,2	n/a	n/a	1	-	cs_plan1315_szxdh1han...	szxdh

Timeline Tool



Details of the Executed Plan PlanVisualizer



Summary

- PlanViz is crucial for performance analysis in HANA.
- Key points discussed: creating plans, consistency checks, overview, tables used, selection operators, semi-join, timeline tool, and details of executed plans.
- Emphasis on understanding and influencing execution plans.