

Troubleshooting Apache Impala

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Troubleshooting common issues in Impala

This topic describes the general troubleshooting procedures to diagnose some of the commonly encountered issues in Impala.

Symptom	Explanation	Recommendation
Impala takes a long time to start.	Impala instances with large numbers of tables, partitions, or data files take longer to start because the metadata for these objects is broadcast to all <code>impalad</code> nodes and cached.	Adjust timeout and synchronicity settings.
Query rejected with the default pool-defined memory limit settings.	Some complex queries fail because the minimum memory reservation per host is greater than the memory available to the query for buffer reservations.	Increase VW t-shirt size so that there are more hosts in the executor group and less memory is needed per host.
Joins fail to complete.	There may be insufficient memory. During a join, data from the second, third, and so on sets to be joined is loaded into memory. If Impala chooses an inefficient join order or join mechanism, the query could exceed the total memory available.	Start by gathering statistics with the <code>COMPUTE STATS</code> statement for each table involved in the join. Consider specifying the <code>[SHUFFLE]</code> hint so that data from the joined tables is split up between nodes rather than broadcast to each node. If tuning at the SQL level is not sufficient, add more memory to your system or join smaller data sets.
Queries return incorrect results.	Impala metadata may be outdated after changes are performed in Hive.	After inserting data, adding a partition, or other operation in Hive, refresh the metadata for the table with the <code>REFRESH</code> statement.
Attempts to complete Impala tasks such as executing <code>INSERT SELECT</code> statements fail. The Impala logs include notes that files could not be opened due to permission denied.	This can be the result of permissions issues. For example, you could use the Hive shell as the <code>hive</code> user to create a table. After creating this table, you could attempt to complete some action, such as an <code>INSERT SELECT</code> on the table. Because the table was created using one user and the <code>INSERT SELECT</code> is attempted by another, this action may fail due to permissions issues.	Ensure the Impala user has sufficient permissions to the table that the Hive user created.
Impala fails to start up, with the <code>impalad</code> logs referring to errors connecting to the <code>statestored</code> service and attempts to re-register.	A large number of databases, tables, partitions, and so on can require metadata synchronization, particularly on startup, that takes longer than the default timeout for the <code>statestore</code> service.	Configure the <code>statestore</code> timeout value and possibly other settings related to the frequency of <code>statestore</code> updates and metadata loading.