“Lab#3”:

Objective: To learn query execution in OLTP databases.

An organization has a main data table that lists events. Each event has a series of fields including duration, reason code and status.

The OLTP system has a table of statuses with attributes status code and Name and there is a common field between the main table (status code), which allows the organization to print the status name rather than the code.

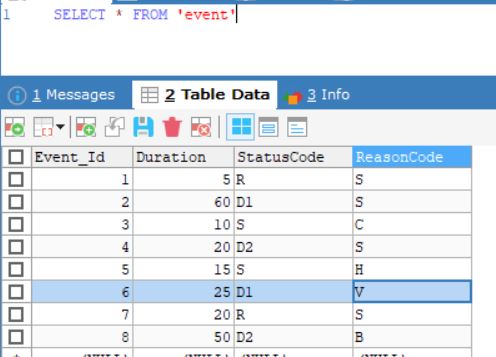
There are four statuses (ready, delay, spare and down) and there are a range of reasons associated with each status with reason codes. It is possible for the same reason code to exist in two statuses (e.g. delay maintenance and down maintenance).

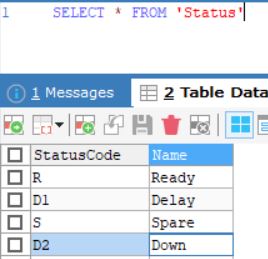
For some reason, the source database has four tables of reasons (one for each status). Each of these has a field which links to the main reason code.

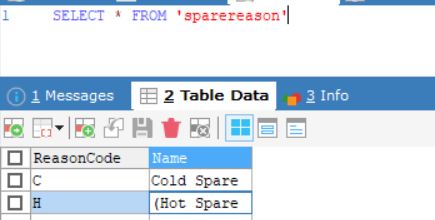
The organization wishes to do the following:

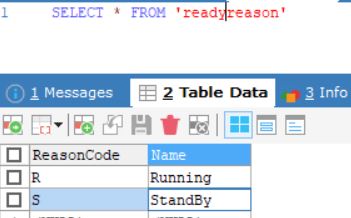
When the main table record status is ‘delay’, then retrieve the name in the ‘delay’ table which corresponds to the main table delay code. When the status is ‘down’, do the same thing but look up the name in the ‘down’ table.

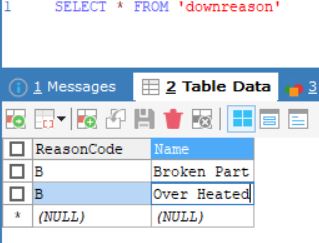
**“Create Tables”:**

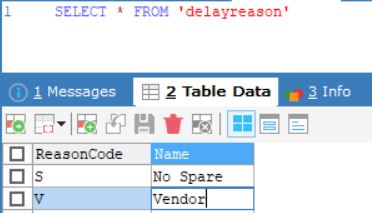
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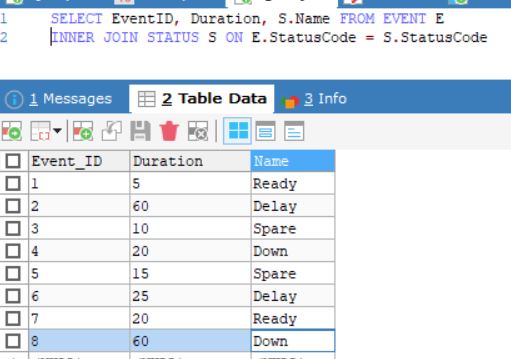
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**“Inner Join”:**

**“Query”:**

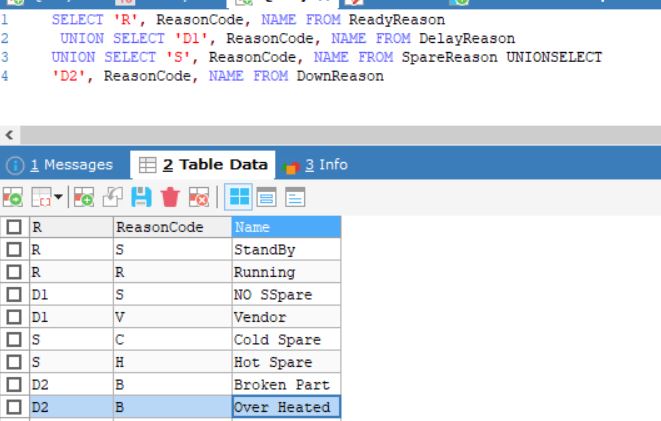
[SELECT](http://localhost/phpmyadmin/url.php?url=http%3A%2F%2Fdev.mysql.com%2Fdoc%2Frefman%2F5.5%2Fen%2Fselect.html) EventID, Duration, S.Name FROM Event E INNER JOIN Status S ON E.StatusCode = S.StatusCode

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**“Union”:**

**“Query”:**

[SELECT](http://localhost/phpmyadmin/url.php?url=http%3A%2F%2Fdev.mysql.com%2Fdoc%2Frefman%2F5.5%2Fen%2Fselect.html) 'R', ReasonCode, Name FROM ReadyReason UNION [SELECT](http://localhost/phpmyadmin/url.php?url=http%3A%2F%2Fdev.mysql.com%2Fdoc%2Frefman%2F5.5%2Fen%2Fselect.html) 'D1', ReasonCode, Name FROM DelayReason UNION [SELECT](http://localhost/phpmyadmin/url.php?url=http%3A%2F%2Fdev.mysql.com%2Fdoc%2Frefman%2F5.5%2Fen%2Fselect.html) 'S', ReasonCode, Name FROM SpareReason UNION[SELECT](http://localhost/phpmyadmin/url.php?url=http%3A%2F%2Fdev.mysql.com%2Fdoc%2Frefman%2F5.5%2Fen%2Fselect.html) 'D2', ReasonCode, Name FROM DownReason

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“Query”:

SELECT EventID, Duration,S.Name,

SR.name

FROM EVENT E

INNER JOIN STATUS S

ON E.StatusCode = S.StatusCode

INNER JOIN

(

SELECT ReasonCode, NAME

FROM ReadyReason

UNION

SELECT ReasonCode, NAME

FROM DelayReason

UNION

SELECT ReasonCode, NAME

FROM SpareReason

UNION

SELECT ReasonCode, NAME

FROM DownReason

) SR

ON E.ReasonCode = SR.ReasonCode

