Data Quality 101

SAFETYNET: Crash and Inspection Advanced Queries

Advanced query functions make your job easier by helping you find specific information in the SAFETYNET database. For example, queries can be used to meet grant reporting requirements, answer questions about the safety performance on specific roadways or types of drivers, or validate data quality by identifying missing data. Ultimately, advanced queries help you support motor carrier safety programs and help FMCSA prioritize at-risk carriers for interventions.

The SAFETYNET System is an automated information management system designed to support FMCSA motor carrier safety programs by monitoring the safety performance of interstate and intrastate commercial and some noncommercial motor carriers. The effectiveness of FMCSA's safety compliance and enforcement programs depend on the quality of the data you report.

What is an advanced query?

An advanced query uses two or more filter conditions, and allows multiple "AND/OR" combinations. Use an advanced query any time a SAFETYNET report does not meet your needs.

How do I create an advanced query in SAFETYNET?

Access the Query function by either choosing Record from the top-menu and choosing Query, or by clicking on the Query icon from the toolbar, as seen to the right:

Example: Advanced queries can answer questions like "What are the crash records with a crash date from January 2015 or from March 2015?"

- Begin a new query by clicking Add
  - - Enter the first set of conditions: Crash Date >= 01/01/2015 AND Crash Date <= 1/31/2015
  - Select Crash Date from the Field dropdown list
  - Choose a Comparison operator (e.g., <, >, =)
  - Provide a Value (e.g., 01/01/2015)

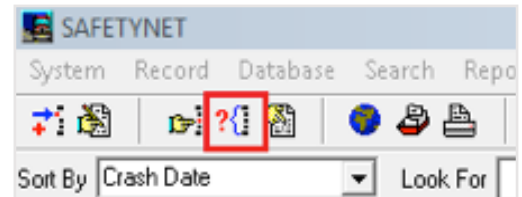- Note that each line is a query condition
  - Apply the AND/OR operators to add more conditions
  - Use AND if you want ALL query conditions to be met
  - Use OR if you want ANY query condition to be met

Note: This set of conditions alone gives only crash records for January 2015. To obtain records from March 2015, add a second set of similar conditions.

- Enter the second set of conditions: Crash Date >= 03/01/2015 AND Crash Date <= 3/31/2015

Note: The second set of conditions alone gives only the crash records for March 2015. Use the OR operator to combine the first set of conditions with the second set of conditions. This result will produce records from January 2015 OR from March 2015. Use parentheses to define the conditions that make a grouping. Multiple conditions in parentheses are considered one condition.

- The combined conditions are: (Crash Date >= 01/01/2015 AND Crash Date <= 1/31/2015) OR (Crash Date >= 03/01/2015 AND Crash Date <= 3/31/2015)

- In SAFETYNET, the query is entered as shown below:

[	[	[	Field	Comparison	Value	]	]	]	And/Or
		[	Crash Date	>=	01/01/2015				And
			Crash Date	<=	01/31/2015	]			Or
		[	Crash Date	>=	03/01/2015				And
			Crash Date	<=	03/31/2015	]]			

- Once all the query conditions are entered, click on Save, name the query, and click on Run to execute the query

Helpful Hints:

- Design the query on paper first and then transfer it over to the query function
- The SAFEYTNET Data Dictionary, located in the SAFETYNET Manual, is a great resource for identifying fields to include in queries
- Be sure to review the Accident table

How can advanced queries and the SAFETYNET Data Quality Report help improve crash data quality?

States support FMCSA's data-driven systems by using SAFETYNET advanced queries to identify inaccurate or missing data in their crash records. States also know that uploading quality data to FMCSA systems as soon as possible is critical to improving safety on the Nation's roadways. To support this effort, FMCSA provides SAFEYNET Data Quality Reports so State Partners do not have to write advanced queries to identify and fix data quality issues before data is uploaded to FMCSA. This report is rich with information that points to inaccurate or missing data in your crash records and is easier to run than creating advanced queries.

The SAFETYNET Data Quality Reports can be downloaded from FMCSA's InfoSys Website at **https://infosys.fmcsa.dot.gov/** directly or through the FMCSA Portal at **https://portal.fmcsa.dot.gov/login**.

SAFETYNET cannot handle my complex query, what should I do?

If your query exceeds SAFETYNET's querying capabilities, use the more robust Structured Query Language (SQL) tool. These tools access the SAFETYNET database directly, so ensure you use a read-only account.

For more detailed information about SAFETYNET, refer to the SAFETYNET Manual. You can find the SAFETYNET Manual within SAFETYNET. Go to the SAFETYNET help menu and choose the appropriate module.

The SAFETYNET Manual is designed to help States optimize their use of SAFETYNET and thus improve the quality of their safety data. The manual offers guidance to help you enter complete and accurate data.

Contact Information

As part of our commitment to continually improving our programs, FMCSA welcomes any comments, questions, or suggestions you have. Please contact Scott Valentine at Scott.Valentine@dot.gov or call 202-366-4869.

For questions regarding FMCSA Technical Support, you can contact the Technical Support team at FMCTechSup@dot.gov or call 617-494-3003. For additional technical support, you may also contact Nelson Canas at Nelson.Canas.CTR@dot.gov or call 617-494-6019.