

# NatQuery's F.A.Q. on the Use of NatQuery

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For a any questions which the user can not find an answer for in this document, please contact your closest NatQuery representative or contact our office; [info@natworks-inc.com](mailto:info@natworks-inc.com)

## What is NatQuery?

NatQuery is a tool that allows the client to process a data extraction (query) against ADABAS without asking the user to know Natural or even that they are accessing ADABAS Files.

For those of you who speak “Natural”, consider this tool a GUI “code generator” for Natural. NatQuery works within a site's batch environment to automatically submit and download the results of the users queries. NatQuery is Administratively controlled for all aspects of a users interface with the tool; from the Files they may access, submission parameters, retrievable record size, to the specific security measures at the clients site. For those users who don't know how to program using Natural, don't worry, you won't need to know it or any programming language for that matter. NatQuery looks very much like a Window's application as you step through screens while building your query.

NatQuery is your organizations: “Substitute Programmer” for situations where users need access to ADABAS data, right now.

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## **Building a Query – I'm not a programmer but I need certain data from ADABAS.**

A user of NatQuery is not expected to have an understanding of ADABAS, Natural, or the associated ADABAS Utilities. Utilizing a Windows style “desktop”, NatQuery allows the user to first select the files of interest and then apply varying degrees of “logic selection” against them. This “logic” can be as simple as “Read all Records” in which case NatQuery will return all the information from the selected files or much more complex as when the user needs certain Fields across multiple Files. Using Programming Intelligence supplied by your DBA, NatQuery automatically handles all ADABAS File associations such that the user is presented with only those Files that actually share a relationship. Whether they know their way around ADABAS or not, NatQuery was designed to allow users easy access without the intervention of a programmer. Please note that the ADABAS Administrator strictly governs the freedoms enjoyed by the user, record return limitations, file availability, submission priority, and much more.

## **Selecting Fields when building a Query – I have a need for specific data from ADABAS.**

NatQuery allows the user to see what fields are available in the Files they are going to use. The user can then add one, several, or all of these fields to their query. The user also has the power to edit the fields' format and name, thus changing how they will appear in the column headers of an Excel spreadsheet or an SQL database table (target) for example. From the Query Selected Fields window of NatQuery, the user has access to metadata; called Predict Information, it allows the user to check the field for specific information. Furthermore, the user may create five different types of variables that may also be included – or not – in the returned data.

## **Selection Logic – I don't want all the records from this File I need specific data.**

During the building of a query, a user will be asked if they would like to apply Selection Logic. Selection Logic allows two options – Read All Records, this is the return of all the allowed records in a File – or Apply Selection Logic this option allows the user to bring back specific file records.

A Read all Records example would be the user who needs all the Inventory records in order to populate a Data Warehouse. An Apply Selection Logic example might be a NatQuery user who only needs EMPLOYEE's whose PERSONNEL ID numbers are higher then 5001, who have worked for less then 4 years for the organization, and make more then \$1,000,000 annually.

## **Changing the order of Fields as they will appear in the target - re-sequencing**

Besides editing Field names as they will appear in the downloaded version of the requested data, a user may also rearrange their order to suite a particular reporting order.

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## E-Mail my data

Automated E-mailing of query results either to the user or to another target is an administratively controlled Output Process created through a special production JCL template. However, once it is made available to the user this option can be utilized at their discretion.

## Favorite Query List – Last Modified – I use over 20 queries but I use these two most often.

When closing a new query, the user will be asked if they wish to save the query, if the answer is yes, then the Query Description window will pop up. As part of the Query Description windows' user input, the user is offered the option to check a "Favorite" box. Checking this box will allow the user to sort for this query in the "Favorite" column of the Open Query window. It is recommended that the user only designate those few queries that will be used most often.

The user is allowed to modify the descriptive information as well as the Favorite status of a saved query through the Query Description window.

The "Last Modified" column of the Open Query window allows the user to sort queries by their oldest / newest dates opened or modified.

## Fields to be included – I need specific Fields from specific Files, can I do that?

For some queries the user may wish to extract all the fields from a given File while in other queries the user will only want specific fields returned. NatQuery allows the user the ability to choose the field or fields they wish to have data returned from for any given File or Files.

## Variables can be created and included as part of the retrieved data

In concert with NatQuery allowing users to build custom variables, such as a redefinition or expression variable, it also optionally allows these variables be part of the returned data. The ability to return data that is immediately usable is the primary reason for the development of NatQuery. For more information on the user friendly capabilities of NatQuery please visit the product information page located on our web site;

<http://www.natworks-inc.com/>.

## Importing / Exporting Queries

NatQuery allows the user to import queries from other workstations (intranet or internet) as well as export queries to other workstations where permissions have been granted for such activity.

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## Intersection vs. Return All Records

In the Send to Server window; Data Retrieval Option frame; the user will note that if they wish to extract data from more than one File, such as in the case of looking for all the Ford cars (VEHICLE File) that are owned by employees (EMPLOYEE File), there will be a choice to Read All Records or to choose the Intersection option.

In the example case of (SAG demo database) EMPLOYEES and VEHICLES, the two files are linked together by the field, PERSONNEL-ID. There will always be an employee record to match to a given vehicle record, but the opposite is not true. There may be no record in the VEHICLES file for a given employee record. An employee may have no car, one car, or more than one car. When a query is built that uses both of these files, NatQuery has no way of knowing whether to extract all of the EMPLOYEES records, or just the ones that can be linked to a vehicle (or vehicles).

Specifying the Intersection Records option will cause NatQuery to extract only those EMPLOYEES records that have at least one VEHICLES record associated with them. The default setting is to retrieve All Records. The Intersection Records option can have direct bearing on the number of records returned for the user's query.

## Normalizing my data – How do I make an address line in the output?

NatQuery accomplishes normalization for the user's data by offering the options of Concatenate or Flatten for that data which has multiple occurrences.

By example, with the returned data being sent to Microsoft Excel, how will the user want an extracted address to be returned?

Selecting Concatenate, the data will look like this:

Bob / Smith / 54 South Main Street / Suite 100 / PO Box 10 / City / Zip

There was one record written with multiple "Occurrences" – Name – 1<sup>st</sup> address, 2<sup>nd</sup> address, etcetera. In this Concatenated example, one source record was read and there will be one record written.

Selecting Flatten, the data will look like this:

Bob / Smith /1/54 South Main Street / City / Zip  
Bob / Smith /2/Suite 100 / City / Zip  
Bob / Smith /3/PO Box 10 / City / Zip  
(↑ NatQuery generated Index of 1, 2, 3 ...)

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In this Flattened example, one source record was read with three output records being written. Please note in the Flattened example an index has been generated that reflects the total number of occurrences.

While this is only a simple example of the difference between Concatenate and Flatten, it is hoped the user will see the benefits of the availability of a choice when extracting records concerning something as complex as payroll or perhaps medical records.

## Putting my data on the web

As a retrieval process option, NatQuery has the ability to download ADABAS data and then automatically convert this data into XML format, complete with XSL templates for immediate presentation with web browsers. A second option is for NatQuery to place the generated XML file back onto the server for use from there.

## Summary Processing – Can I preprocess query totals to save time in making reports?

The ability to perform “Summary Processing” of data before the actual loading of this data into a target such as an Excel spreadsheet will facilitate the retrieval of more definitive results from the ADABAS database for reporting purposes. This is the equivalent of adding up column rows, before they get to a target such as Excel or totaling non-numerical occurrences of data from within the returning data. For more information regarding Summary Processing, please visit our web site at [http://www.natworks-inc.com/Products/Slide\\_Presentation/slide\\_presentation.html](http://www.natworks-inc.com/Products/Slide_Presentation/slide_presentation.html)

## Targets - Where can I put my data?

NatWorks has provided both NatQuery and NatCDCSP with the ability to interface directly with many of today's most popular desktop business tools. Some examples of these tools include; Crystal Reports™ and Microsoft's Excel™ and Access™ applications. The ability to interface automatically with many types of ETL tools is also allowed, these include but are not limited to; (formerly) Ascential Software (now) IBM's WebSphere Data Stage suite® of tools, Informatica's Universal Data Services®, and alternative RDBMS databases such as; DB2, SQL, and Oracle.

Any software package that can process flat (sequential) / COBOL files becomes a legitimate target of ADABAS data retrieved through NatWorks products.

For a more complete list of extract targets that are available for automatic loading from NatQuery, please contact your NatQuery representative or visit the product page of our web site, accessed from <http://www.natworks-inc.com/>.

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## Variables – what they are and how to use them

A benchmark of any database extraction tool is its ability to allow the user to easily manipulate variables for the retrieval of specific information. NatQuery allows for every type of variable that a user might need when building general purpose or more specific data query definitions.

Using NatQuery, the available variables types include: Constant, List, Field, and Variable.

Within the Variable definition is a grouping of interactive variables: Redefine, Constant, Expression, Dynamic, and Compress. The Variable option allows the user to build a variable that can then be used within the query itself and can optionally be part of the data the user is asking to download.

An Administrator can also set global variables for each file such as the company date format or country code redefinitions, etcetera.

The ability to return data that is immediately usable is the primary reason for the development of NatQuery.

## Can I build my own datawarehouse or datamart?

NatQuery allows a site to build their own ADABAS warehouse in several ways; read-all-records, read-all-fields within a single record, read multiple files, combine several files and specific records from those files, and many other combinations.

Loading this data into MS Excel or Access is a great way to allow users access to your ADABAS data without burdening your ADABAS database. For a more robust warehouse situation the administrator can use NatQuery to not only extract specific data, but to then repackage it as a DDM and load it back onto the ADABAS database (Administrative function only). Making this DDM available to NatQuery users will allow them to query your ADABAS data at a static point in time, with this DDM being “refreshed” as needed with more current data.

If NatCDCSP (Change Data Capture tool) is available an Administer can make the ADABAS PLOG “Delta” information available to the warehouse. In this fashion, the file does not need to be read and refreshed in its entirety, as only those fields that have been affected will need to be updated. This is an extremely useful tool when file size is an issue or when the need for the latest information is time sensitive.

## Is training available

Training is available for both the Administrator and End-User of NatQuery and NatCDCSP. For more information regarding training please contact your NatQuery / NatCDCSP sales representative or contact NatWorks directly at [info@natworks-inc.com](mailto:info@natworks-inc.com).