

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

Speaker: Jeff Pearson

All right. We still got people getting connected, but we'll go ahead and get started. Once again, my name is Jeff Pearson from New Generation Software. I'm joined today by Bill Langston, our director of product marketing. We've got a great hour presentation to unpack here for you today to learn all the ins and outs and features and functions of NGS-IQ, our report writing and data analytics solution. With that, Bill, I think you can get started.

Speaker: Bill Langston

All right. Thank you, Jeff.

We're going to cover a lot of material today, and I want to keep the PowerPoint portion to a minimum. But I do feel like we want to cover some key points. I think most of you are well aware, going back to the late 1980s with the rollout of the AS/400, IBM had a tool they called IBM Query/400. And for now, holy cow, almost forty years, that tool has continued to be used by a whole lot of folks on this platform. Even though in 2007, IBM said, we're not going to support it or develop it anymore.

And they even really tried to make it hard for people to use. They brought out DB2 Web Query with V5 R4 at that time.

And they tried very hard to get people to adopt DB2 Web Query as a replacement. And they did all kinds of promotions and education and went around the world promoting it. But then much to a lot of people's surprise, not quite three years ago in October 2023, they just suddenly announced they weren't going to support anymore. They were dropping everything and people on maintenance were only going to get support for the duration of their existing maintenance term.

And then they encouraged folks if they really wanted to, to talk to the third party vendor that had acquired the company that originally had been IBM's development partner.

And that tended to go badly with people being offered prohibitively expensive software maintenance plans if they really wanted to migrate to that vendor solution. Not many folks did.

So now there's some talk IBM might be working on yet another query tool for IBM i customers. And all we find is keep your eyes open. Be open to learning and alternatives because the market is crowded with lots of alternatives. And NGS-IQ we think is a really strong one. And we've proven it through many years of being in business and supporting a lot of customers. And I think you'll see as we go through this demonstration today that we have an awful lot to offer. And this is our focus as opposed to being like a small part of our overall business.

Query and reporting and BI or business intelligence solutions are used by a variety of different people in most organizations. You get developers. You get analysts. You get end users who just run things.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

You get people doing quick ad hoc queries to look at something. You get people that want to do analytical modeling over multidimensional data.

And I want to just say that even if you have an RPG or SQL background and you're very comfortable writing queries and pulling data from your system, it's normal in most environments for queries and reports to need to be revised over time.

And while that might be easier for you, there's a good chance you're not always available.

Or you're in the middle of something, and you really don't want to have to drop what you're working on to do something that someone else needs.

And in some cases, you might be in a shop where you don't have much development resource in house, but your ERP vendor or primary software vendor or IBM business partner has said, just call us and we'll take care of it for you. Well, those folks are, you know, a few reports, just a few queries can run into a few thousand dollars in custom consulting and development time, which can literally be the cost of a solution like ours. So we want to encourage you to think about us as a solution you can use regardless of whether you have technical skills.

The more skill you have, the easier things are, of course. And we're going to show you a lot of that today. But even if you don't have that background, I think you will be able to see that we can train you and your end users to be very productive with a solution like NGS-IQ.

A big part of everything we do is query and web report design, meaning how do we find the tables or files that we need, how do we join them, inner joins, outer joins, one to many joins, union joins, all the kinds of things that you might occasionally run into. Being able to cast how a field should be derived in the output based on a series of statements or conditions as we call them. So you can say, you know, if this, then this, if this and this and this, then this, if this and this or this. You know, those kinds of statements can be built into your query and easily maintained or changed. We do runtime prompting, which is a common requirement for whether you're letting end users run the queries from a screen that they can bring up in a browser or on Windows desktop and enter a date range, a part number, a customer number, whatever, a region code, whatever it might be, an email delivery address.

Or if you're running jobs on the host and delivering output, maybe you're running things from a scheduler and you want to deliver things that way as an email attachment or FTP it to someone, you can pass parameters to us from your programs to take care of those kinds of variables at runtime. We do a lot of nice things with date and time arithmetic. You've probably encountered situations where data is formatted in ways that aren't necessarily perfect for presentation or sorting or selecting dates stored in multiple fields or in formats just don't make a whole lot of sense. I'll show you some examples of how we cope with that and help you work around those kind of things.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

Some of you, if you're going back to like a basic tool like Query/400, you've probably had multiple queries to work up a file of data that you then use in additional processing and calculations to get calculations at the summary level. We can do all that in one pass so you don't have that requirement very often.

We also, for some of you who are more advanced, we support environment variables within our tool set. So you can have values and strings of characters or whatever you need stored, accounting periods and environment variables which can be pulled into a query or set by a processing, running a query, or used to record selection, you name it, a lot of variables that can really help you do some nice work.

We work directly with your DB2 on i database.

You don't need middleware. You don't need any data dictionary or repository or anything built over it. We work directly with it.

You can instantly deploy us as soon as you install the application here working with your data. And whether you're trying to format for Excel or the web or a piece of paper or an Adobe PDF attached to an email, you'll see a lot of that today. And of course, with our web reporting, we support drill downs.

And of course, you can run things from hyperlinks. And again, I'll be covering a lot of that stuff. What I won't have time today, but I want to make sure you know it's there, is we support email distribution lists. So you can have reports that are burst and split out and sent to different places based on values in the data. All of that's possible. We'd love to show you that in a follow-up demonstration. But it's something more than I can cover in a quick time we have available today.

Some of you may also work in organizations where you've had requirements to extract and organize and summarize and clean up data to hand it off to someone maintaining a data mart or data warehouse.

We have a lot of the functionality that I think you would find could help you in that area, whether it's putting things into columns or buckets by accounting period or some code, whether it's translating values into a format that's more consistent across different databases you work with, cleaning data up, finding errors, removing things that are too sensitive to put out in the cloud possibly if you're moving data off your system to a cloud to do some kind of analysis.

You might not be the one that has to do it, but you may have to support people who are doing that or getting requests from responding to their requests and we just want you to know NGS-IQ can also be a great tool for someone to support those types of folks.

Some organizations really want to push responsibility for running reports out to business users, whether they be on the web or on the Windows desktop. We support that. Part of our application, we have a module you'll be seeing today, is a self-service interface.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

So a user, let's say on the Windows desktop, can open up the app and say, I want to run this query in this library. I want to output it to Excel or PDF or whatever it might be. And I wanted to put it in this worksheet, this range, this create or replace, append, whatever it might be, we'll show you that. Those are terrific features. We also have that's also how we can pull data out of DB2 on i and deliver it into a multi dimensional model in what we call our SmartView module of NGS-IQ, which I'll just briefly be showing you today.

So there's tremendous capability for a shop that's trying to push the execution out to users, including runtime prompting and things of that nature.

And I mentioned SmartView. Our analytical module is a terrific way to bring a high volume of data into a view where you can filter and and sort and drill into it, chart it, export it to HTML if that's what you need to do, export it to Excel if that's what you need to do, filter it, chart it. It's a tremendous interface for folks who want a quick read only environment where they can play with data. And the read only aspect of this is really powerful because you can know that people are authorized to run the query to load the model or they're not or they're allowed to change it or they're not. You can make all kinds of little controls to secure who can change the data. But the essence of it is it's read only and no one can change. They can manipulate it and do as if or what if type scenarios, but they can't change what they've been given from the host so you know the data is accurate.

We have a security module that's an option. We always comply with IBM i security, object level authority, all those rules, user group, user profiles, group profile, everything you're used to, that all applies.

We have some customers who feel that's not enough. They're in highly regulated industries or they're just in companies where the policy is we want to have a lot more control over who can access certain records and columns in our database when they're building a query. There might be certain things we don't want certain people to be able to include, or we want certain people to be able to run a query but not download it to Excel, or maybe certain people can run a query but not email the output to somewhere. There are all kinds of things you may want to control, FTP, so forth.

That's an option. You don't need to do it. It's up to your environment, whether it's a requirement. And we can teach you about it if that is an area you want to explore.

We also have a module for those of you who are in a multi platform environment where you want to have IBM i act as the hub for organizing data coming together and integrating data from various other server environments, SQL Server, Oracle, MySQL, even DB2 on another platform or in another box and another LPAR, whatever it might be.

You essentially have a way you can run those requests either separately or as a front end process to an IBM i query written in NGS-IQ and have the data pulled together in your output. Again, not a requirement for everybody. It's an optional module. We want you to know it's there. I'm not going to be demonstrating it today, but it is something to explore if that's the kind of thing you're hoping to do.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

Anytime, I guess we can't have any conversation around this topic without someone questioning, you know, how does this play into our enterprise AI plan? And you may not be the one responsible for helping do things with AI related to your DB2 on i data. And maybe at this point, it's more of a concept and a long term plan than an actual deliverable.

But we just want you to know that the data you extract into your reports or use NGS-IQ to pull into a data warehouse or data mart or to do some kind of analytical model. Those are tremendous sources of data. And you can make sure in the process you've only included the data that you want to be exported and used by your AI team or in some process. So we do have a role to play here.

We are not directly an AI solution. However, being able to pull and clean up and organize good data is going to make everything better for you if you are moving toward using your DB2 on i data in an AI project.

And kind of going the other direction, for those of you who still have people using IBM Query/400, it's an interesting topic. We are often asked, well, can't we just convert all those queries into NGS-IQ queries? And what we found is that's not really the best approach because regardless of how much functionality we will show your users in NGS-IQ, and you'll see some of today, you will have a few folks who have been using Query/400 for years, and they will want to go back to using it even if they see a better alternative in NGS-IQ.

Their knee jerk reaction will be, I know how to do it. It's quick. I don't have to think. It's something I can do.

And if you've tried to convert them, they will find themselves very frustrated and you'll be dealing with questions. So what we've done is we just said, let's create an API where you can run a Query/400 query as is from within our tool through a back end API, have the output directed into a DB2 on i file or table, which we then take and do additional processing over if need be. So we could suddenly turn it into Excel output or a PDF or email it or FTP it or add additional filtering and selecting.

But the essence is the back end Query/400 object is not changed. You can take advantage of it. And if you've got stubborn users who still want to use Query/400, they can keep on doing that. And then if need be, you can run those from our API rather than telling people to switch.

Okay, I'm going to drop right there and jump into the demo because I want to spend a lot of time on demonstrating things today. I think it's more important than anything for you to see what is possible. So I'm going to begin at the end of where I want to go. Because in my experience, it's a lot easier to follow along a demo that's showing you a development process.

And it's a lot more interesting if you know where you're headed before you see the development. So what I want to do is I'm going to show you some output and some examples showing queries outputting in popular formats. I'm going to do that from both the Windows desktop here and from the browser. Then once you've seen and you kind of go, Okay, that's what they're creating, then I'm going to go into development interface and actually build from scratch the exact same queries.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

And I'm going to go through several examples here today in about a half hour so you can see a lot of versatility and function and understand what the end goal is.

So the first thing I'm going to do is in the self-service interface here, which we call Qport Access, I fill in the name of the library. I'm sorry, the system name, the query name, the library that it's stored in over on IBM i. I have the output where I want it to go. This would be if I'm an end user wanting to direct this query into a particular Excel workbook, and I called mine lmonth.xlsx. I want to create or replace it. I could also do refreshes.

I want to open Excel when it's finished. I want to protect leading zeros. You've probably had in sessions where you've got customer numbers, part numbers, codes of various kinds that are a string of digits, but they're not really a number. And Excel will strip the leading zero because it doesn't understand that a string of digits isn't always a number. It's a code.

Use host character column types, which I checked here, which I encourage you to always check it, will preserve those leading zeros when outputting to Excel so you don't find yourself looking at ZIP codes with no leading zero or whatever it might be. And some of you are probably aware, if you've worked with Excel users or if you and yourself are a heavy Excel user, Excel has a feature called format as table, where you can take the rows and columns of your output and tell Excel to treat it like a table rather than just a group of cells. And that allows you to immediately to do filtering and sorting. And there are a lot of cases if you're also working with people who take data from Excel and then push it out to Microsoft Power BI.

Excel sheets where the data is formatted as a table are easy, easy, easy to upload into Power BI and work with. Power BI loves Excel tables. So we give you that ability. So first thing I'm going to do here, I've got all this information set. I told it where I want to go. I'm going to just run query.

It takes off and runs. And here it launches Excel. And I told it I wanted last month's orders and I'm looking at simply order dates. You can see they're all in April because my query was designed to select last month.

I've got different item size, color, quantity, and line total, line cost, gross margin. And if I wanted to, I could immediately say sort low. I could say show me the one with the highest gross margin or the smallest gross margin. I can do all that because we've output it as an Excel table directly rather than just dumping data there and telling the user you figure it out.

And we've added in our output a flag here so we could see we want to flag. If I had hundreds of rows here, it'd be a lot more meaningful. But I say, I want to look at the low margin orders. Okay, we only had one of them in my little set of data. But that's something a user might want to do if you had hundreds and hundreds of rows. You can imagine how useful that could be. So that's one example of being able to just run the query on demand, output it as an Excel table. I'm not going to save that.

Now when you see all these settings here, and let's imagine this is a report, you do run it every month. Always looking at last month's orders. You run it all the time and you're going to do it again.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

So you can save this, do a save as, and it's what I did here. The extension in our case is a .IQP, which is a profile that tells it to have all these output settings. And you save it so that it can be recalled easily or as I did over here. Let's come all the way to the desktop here. I have some shortcuts where I use those IQPs. So if you look at my properties, this particular one, I called it last month's orders. And I have an example. This is a slightly different query than the one you just saw me run. And it's referencing a different IQP.

And now if I'm an end user and that's a report I'm going to run all the time, I just come in here, double click, and within a few moments, here's my data in Excel just like I did before. Now in this case, I chose to make the report include some additional things that users sometimes would want to see. So instead of just the rows of orders like you saw the first time, I brought in totals by region and we told it to turn those totals into Excel formulas.

So you see the subtotal for the cost, the gross margin. We have a margin as a percentage. And down here we added some analysis where we said, show us the number of orders per region that rank them high to low. I only have three regions, but you can see that. So the query can do rankings, sum of gross margin, percentage of total, cumulative percent, so forth. Those are all just check boxes in the query definition, and you'll be seeing that momentarily, that enable us to deliver a much more in-depth analysis to the person getting this data in Excel.

All right. So let's close that one. Now here's another one where you say, well, I want that same information and I want it delivered to someone as a PDF. So here I took another shortcut and in this case the user runs the query, it populates out into a formatted PDF. Let's make it a little bit bigger so you can see it. There's the same data presented. And I added a bookmark as part of the query. I can say bookmark it by, in my case, the sort field was region.

So if I want to go to the next region or I want to go to that region, I can. And here's that summary and matrix at the end that helps me understand the data a little more thoroughly. So it's the same thing, but here we turned it into a PDF. Now in a minute, I'm going to be doing this where I output it from the host and deliver it as an email attachment and so forth.

What I wanted to do first, just to help get the ball rolling, was show you that the on demand capability is here to let a user run these things from the desktop. But we know many times you're running it for them from the host as part of a scheduled process or maybe from an application menu. We want you to know you can do that. The rest of the demonstration today, I'll be doing things that way.

Here's another one. I mentioned we have our analytical model called SmartView. Here I had a slightly different query, but the same data. And I told it I want to look at the last basically two and a half years of order data and populate it into a model layout that I'd saved previously and give us this new data. And here we can see we've got those same calculations, total cost and margin by year, by region.

If I want to drill into a region, I can click on the value and see the detail. If I want to sort it by a particular item in the data, I can do that. If I wanted to copy and paste it, I could do that.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

The key thing here with SmartView is I don't have to write a bunch of formulas in Excel. I don't have to construct an Excel pivot table. We give you the chance to say, I want to lay out this so I have region, ship to, order number, line number, year, item size, color, total cost margin. I have certain things I want to filter on down here as my available fields.

Here I want to have drill down fields that show up if I do a drill down, but they don't have to show up at the high level. Once you go through, you can do additional calculations. You can do formatting. Once you've done that, here we are.

We're looking at this data. If someone says, well, we need to chart the order totals cost and margin for last year across all the regions. Okay, fine. We give you the ability to design and save charts that are particularly useful so you can have a format you share to different models.

Here I've done that. I'm going to update the data. So now I'm looking at orders and margin by region. I've got each region listed here. If I wanted to filter out cost, I could do that. If I wanted to filter out margin, I could do that. If I want to drill into a value here and see what's behind that bar, I can do it just like it did from the cell.

And I could have this disappear if I wanted to. But let's say I'd rather see this by row. Now I've got the whole year together and the next year and the next and so forth.

Tremendous functionality and the simplicity of SmartView is really its strength. The user doesn't have to be a guru. You run a query. It delivers detailed data to SmartView in a layout that you've saved and possibly secured if you want to keep it as is and just let the user work with the data without having any modification capability. So if I here, I say I want to look at within that region because I made ship to the next level. If I want to look at that ship to, now I see their orders. If I want to see the lines within the order in this case, I can do that.

If I suddenly say, well, I only care about the ones with low margin. I want to study those. I can click up here on my available fields. Tell it now I'm only looking at data for those. I didn't have to rerun the query. I want to bring them all back. Let's bring them back. Okay.

Or maybe I say, I'd like to just compare a certain month. I know this year we've only had the first part of the year. So I want to just compare the first four months of the year. Now I don't have to worry about one year numbers being higher just because we're looking at the whole year versus a partial year.

There's so much more you can do with SmartView. It's a tremendous solution. We encourage you to learn it and let your users experiment because I think they'll find it's a terrific alternative to always building a spreadsheet. And it is a read only interface for them.

So you've seen me run a few things. I want to do one more and that'll highlight another capability. You might want to have a web report that does some of those same things. So here I've got a query designed with an HTML layout. I go to the web interface here. I say run the query. And here are the current year's orders. This query was designed to give me the whole current year.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

And I can see those margin flags are calculated over here. I can look and I see summary by region is down here with an average gross margin by region. And I can scroll to the end. And here we added a chart so we can see the relative size of the gross margin across the regions year to date if that's something we need to look at.

Nice, simple process. We'll show you that momentarily is how you can do it. Now because some of you are probably thinking ahead, we have other formats here, HTML, Excel, PDF, so forth. Only authorized users can run the query. So that's how you control that through from IBM i. As always, the processing occurs in IBM i.

You could, if you wish, integrate runtime hyperlinks to our web reports into a custom web page, a portal, a menu, whatever you might want to call it. So here we did that to illustrate that capability. If I mouse over something here, you'll see down in the bottom left, the parameters are, in this case, a simple one. It's the system name slash NGSIQ question mark, the query name, in my case here is there, then an ampersand, then the library it's in. If I click on that, I have to have authority. So it's asking me my username and password. It's asking me if I want to enter a year. I'm going to say I want last year. Continue.

This particular one shows me gross margin by month from last year, and I can see the trend line across the whole year. If I want to look at the big month here where we had a pretty high margin, I set up a hyperlink drill down that says, okay, here, in my case, it says sales rep. It might be sales channel. It could be geography, warehouse, whatever your circumstances are. But I it's now showing me the the month I selected profit by rep.

And in this case now, I'm looking at these numbers and if I say, you know, I'd like to know more about that one, I can click on that particular rep.

And now in this case, we linked to a detail report that shows the month that we previously selected, the rep that I just now selected, and the detail listing of their orders.

That's a simple example of the kind of thing that can be done. Now let's go look at another one that takes advantage of some date arithmetic. So here, we want to know, are there orders that were forecast that didn't arrive by the time we expected them to? And the way we wanted to look at that was we wanted to say, well, we can do math behind the scenes and say how many days typically go by between a particular customer's order of a particular item on average, and then compare their most recent order to the current date and see whether or not they're overdue for when they would normally reorder.

So here I generated it as a pie chart, and if I wish to look at any one customer and see how their order activity occurred, I click on that wedge and now I see that selected bill to number has five items here where they, on average order twenty four over the period of time that we looked back over. Their most recent order date was here. Typically over the time period we looked at, they had a nineteen day gap between orders, but it's been way more than nineteen days. So that's an order we would have expected that didn't happen.

And here are others that are the same type of thing, and there's the total dollars that are involved. So it's the kind of thing where someone might have information about orders but not always be able to see it so clearly that these are specific ones for a specific customer that need to be looked at.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

Again, introducing the concept just so you can see that there is a tremendous amount of capability in the web reporting side, as well as on the Windows side, which I just run. So let's minimize that. And I'm going to go to the development interface because I know most of you are looking at this saying, but how much work is it to create these queries? Holy cow.

All right, so I've got about twenty minutes here. And I'm going to dive through a lot in that time. But I think you'll find it pretty interesting. So let's say that first report I had, I ran and I wanted to see the last month's orders output as an Excel table.

And previously, I ran it from the desktop. This time I'm going to build it and set it up to be run from the host because you might think, well, that's more likely in my environment. And we want you to know you can go either way. So here I click and I scroll down and I pick the tables that I wish to work with.

In my case, I have ORDERSPF as our orders file.

We want to do some work with the date formatting and we support a function. We have a table we supply called IQDATE. I'm going to join it to the order file. When I clicked on it to pop it over here as a selected file, we remember how you previously joined these. You could change it. But the order date in our order file is a numeric 8 0 field. It's not a date field.

So we join it to the numeric 8 0 formatted the same way in IQDATE, and then we have over thirty different formats that we'll be taking advantage of so that we can present the data or sort it or select or use it in calculations without having to struggle over the fact that our order date was in this unusual format that's not always what we want or what users want to see in the output. So there, I've got that joined. Now I want to join to the customer file. I double click on customer. And again, because we've previously joined a customer, it said, oh, okay. I'm going to join the bill to field from the order file to this customer number in the customer file. That's good.

And I want to join to the inventory files. I've got that. And it also knew how to join an item size and color in this case. So I've quickly built the beginning of a query with four tables that are DB2 on i tables that are available to me. I'm going to do some simple work with calculations because everybody has those. I'm going to say the first thing I want to do is a line total because we have orders and lines and they all have quantities and prices. If you scroll down here at the bottom of the screen where the fields are listed, if I get down here through all of them, you see I have a field called iprice down here.

I also had the one up here in the orders table that was quantity. You see it right there. So I just simply do that. I do quantity, simple formula, quantity times iprice.

We also have one called cost. So what I'm going to do here to save a few keystrokes, I'm going to copy that. I'm going to call this one cost, change the heading to cost, and change iprice to icost. And now we've got line total and line cost. And we wanted to see gross margin, so I'm going to create a field called margin. I'm going to make it the same length as those. I'm going to call it gross margin.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

And it's simply the line total minus the line cost. Uppercase isn't sent. It's not case sensitive. So I created those fields called line total and line cost.

Now I subtracted one from the other and I've got a margin calculation. And then I want to just quickly show an example of a conditional calculation because almost everybody has a need to do this. I'm going to call this GMASPCT, meaning it's going to be the gross margin percentage. With percentages, it's going to be five positions along with two to the right of the decimal.

And I'm going to say margin as percent as the column heading. We take our margin divided by our line total times one hundred, and that gives us that margin percentage that we're looking for. Now is when I want to get to the calculation, the conditional. I'm going to call this the margin flag and it's a character field. (35:54)

I'll call it the margin flag. And here we say conditional, if the margin is less than twenty five, I want to flag it as low.

And then I'm going to copy that and say if it's greater than thirty, it's going to be high.

You could have a whole lot of rules here. This is just trying to and it's poor. There we go. So very quickly I just had a couple.

You could have buckets for every month of the year, every accounting period, all kinds of nice things you can do with conditionals. You can recast a field into different formats. All right. So now let's go to sequence some fields because we've got these calculations we just did but we want to pull some fields into our output.

So I'm going to have to scroll down here. I'm going to go all the way down to our customer file. The first one I want to grab is the region code because we're going to do a lot of work with that. So I click on it and it pops over here to the right.

And I'll get these in the right order in a minute. I want to use the ship to field and I want to get the order number and the line number. Now I want to get the order date, but I want an order date that's in a format that Excel is going to know is a date, not just a string of digits. So I select USA date, which is our true DB2 date format.

And if you're curious, I could come up here and say full type. Now you can see the characteristics of the different fields that I'm working with. All right. So I've done that.

Now I have item, size, color, quantity.

Basically, that's everything I need. However, I want to move these calculated fields to the end site. Mouse down and select them all. Click on the double arrow.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

And now I've got everything in the orders that I want it to be in for my report. Okay. Now we're going to do a little trickery here with the date because we want to select last month of orders every time. So here in our date file, we have a field called month number and I'm going to there it is, month number.

And it gives us literally goes back over one hundred and twenty five years of every month giving it a number. So what we do here, we say if month number equals and then we're going to use a date function. We're going to tell it the current date.

We want to extract the month number from the date that this query is run so we can put it into the format that matches our month number field and subtract one from it, which will always then give us last month.

Every day we ever run this for the rest of time, we don't have to go think about it. We don't have to change this. It will know if the current date, you extract the month number, you subtract one. That's the order group that we want to select. Oh, I left off the pound sign. Sorry about that. There we are. Okay. So that's the only selection we need. Now we want to sort these.

We got a few things. We want to sort by region, ship to. So I click on that. And then I'll do order and line. So we've got four sorts. And because this first go round, we're just going to output to an Excel table. I don't need to do any summarization.

That'll happen in Excel. If I come over here to options and I say I want to output this as an Excel sheet, I'm going to call it last month. And I don't have any summary, so I uncheck that. I do want to protect leading zeros. I do want it to be an Excel table. So I check those two options.

And we output to the IFS when we're running these queries. So what I'm going to do here is simply reference. I have a folder called myreports and I'm going to call this lmonth2.xlsx. I'm going to give myself authority to create to delete it and create or replace it. So there's my path where I'm going to output this query's data in Excel in XLSX format.

Now I want to do one other thing. When we brought in that date field from our date file, it doesn't have the heading we want. So I come over here to the layout and I just change that.

All right. And I could fool around here. You know, I don't like that edit code on there, so I could change that to a three. I want to change that one to a three. You can get creative here if you want to do a little formatting, that's great.

Quantity, I'll do the same thing with it. All right. And just although in Excel it won't matter, just so you can see it laid out as one row, I did it. There I am.

I just made the width wide enough to be able to illustrate that. So there I am. I've got the output format I want. I gave it a description, told it where I want to put it. I've done the selection that I want.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

So let's save this. Save. I'm going to call it the first one, I'm gonna call it lmonth2. That's the name of my query. It happens to be also the name that I gave my output. And there it is.

And now if I was in a environment production, I could run that from a schedule or whatever. What I want to do here is I'm going to just say as defined on host, and I fill in the name of the query because on the host, we told it what we want it to output. I don't have to do any processing from the desktop side here. So I tell it to run the query and off it goes.

And I'm going to go display my folder, the myreports folder that I told it to put it in. And there it is. Just ran. You can see the time, eleven forty two am Pacific time today, just now.

There it is. And when I click on it, it will open up Excel and it'll look just like the one I ran at the start of this session today with just the detail formatted into an Excel table. All right. So that's the first pass.

Now you saw the second example I ran. I added a little analysis to it. So I want to do that next just to show you how easy it is. So I'm going to open that query that we just worked on, lmonth2. And although I could do it in the same one, I'm going to just keep them separate in case there's someone that wants to see each one individually. So I'm going to call this one lmonth3.

And all I have to do here, I'm not going to have to change any of the selection or the fields or counts or anything like that. I'm going to request the analytical table. And I click on the tables tab. I click region. We add a count. You don't have to, but we did. And I want to make that based on the margin. So I click margin.

And here I say, I want it to show me the thumb of the margin, rank it high to low, sort them high to low. I want to do a percent or total, cumulative sum, cumulative percent. I could do averages if I want. That quickly without any formulas, I've now told it to calculate all those values.

Now I come over here to my report break. I want a break on region. So I go over here. I say region. Pops it over here. Now I come down here and say, what are the things I want to summarize at the region? I want to summarize line total. I click on line total and say sum. Let's make it nine long.

I'm going to change it to be a J\$ edit code. Here let's scroll down. I want to do the line cost at the region. The dollar sign. Here I want to do the margin. Same thing. J\$.

And I want to do an average of that percentage since it's not really logical to sum an average. So I do it as an, I need to do an average. Let's put it that way. All right.

So there I am. I've got those four values at the region. We automatically roll them down to the end of report. We assume you'd want to have them there too. You don't have to. You could remove them.

And here I want to tell it to attach that little matrix that I told it to say at the region, give me those running totals and cumulative percentages and rankings. So I click and link that to the end of report. All right.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

Now I want to go to my Excel options. I still want it to be an XLSX and it's still last month's orders. But now it's not going to be an Excel table. It's going to be a detailed report with summaries in it. So I check break summaries as formulas. I still want to preserve most column types. I'm going to call this one's output last month three since that's what I chose to do it.

And basically, I'm ready to go. So I'm going to upload this. Yes. Yes.

And I come back over here and I'll change that to three, the one we just ran. And again, I'm just saying as defined on host because we did everything on the host side. I tell it to run, off it goes. And if I come back to that folder and refresh, there's lmonth3. And I open it and you will see the same output I showed you, the second example that I showed you in Excel where we have the last month's orders and we've translated those summaries into Excel formulas and we've added those various rankings and so forth down here at the lower end of the report. So that quickly, we turned it from an Excel detail report as an Excel table to a report with calculations, formulas, and analytical matrix at the end. That's a start, but it's nowhere near all the stuff we're going to go through today.

All right. So I'm going to go back now and open up that query. Go back to the development interface. And I say, yeah, I want to open that query. We assume that's the one you want. I'm going to do save as. I'm going to call this one lmonth4.

And now I'm assuming we want that same data, but this time we need to attach it to an email and send it out as a PDF. So I say right. Give it that PDF title. And I want it to break on the region so there's a break in the report at each region.

I want to call this output lmonth4.PDF. Change that extension. I don't need to change anything else here, but I'm going to use email. So here I say send to, and I'm going to say it's, you know, we do support email distribution lists, report bursting, all of that. I don't have time today to cover it all, but it's there if you need it and it worked great. I'm sending this to myself.

I can add the description here, whatever I want to call it here in my message, just like you would do if you're writing an email. We also support exception reporting if you want to do things in that area. But there we are, we've added PDF output. We've added email instructions. We're set. Upload this.

Oh, one more thing. I want to just so I could add other things to the heading here if I want to. I'm not going to spend much time worrying about that. But let's say I just go here to report header and I want to say, call that and I say center that. And then I come over here and I could say, I want to have the name of the query appear so that if somebody questioned you, where did this data come from?

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

So I have a little code called LIB/QRY. That will give that and maybe I want to add today's date so that everybody knows what date this would run. There it is. So I've done that. Let's open, save it. Yes. Yes. And now I come back over here and I say lmonth4, run as defined on host, and off it goes. And in this case, now it's processing, firing off the PDF as an attachment to an email. So if I come over here, I open the folder, there it is, last month's orders and margin. And the PDF is attached. I click on it.

And you see just what we saw at the beginning where I now have added that same report that you saw me run before. I've created that version of it for delivery as an email attachment.

All right. We're not done. We're going to keep going. We got a little bit more time. I want to show you some more of the fun stuff.

All right. So let's go back to the development interface. We're going to open that query because now somebody says, well, that's all well and good, but it's time we turn that into a web report. So you come over here. We opened it up. I'm going to do save as. I'm going to call it lmonth5.

We generate HTML code when you click on this tab right here, But it's fairly vanilla initially. We have a default cascading style sheet, which I'm going to pull in by clicking format, specify style sheet. There it is. You can set a default so every report can look similar.

And I'm going to do some things here. It's got that title. I'm going to tell it to format and align that center. There it goes.

I can decide how I want to do this. I'm not going to do a lot here because time is of the essence here. But let's say I want to do a couple little things formatting wise just to make this report look a little nicer. I want to clean up some padding and spacing around the values.

I want to have a nice big thick black border. I say, I could come down here to the end of the break and I say, you know, this would be a cool place to have a chart. And you saw that. And so I say insert chart.

We assume you want to do it on one of these summary fields. I want to do it on margin. And in my case, I want it to be eight hundred wide and six eight hundred high and I'm sorry, eight hundred wide, six hundred high. I tell it it's going to do that.

I want it to be a 3D column chart. I can give it say it's whatever I want to call it, here. I can also, come over here and tell it I want to have a border around that portion. I want to change that. Okay. Fine. You can do a lot more. But that's just to give you a quick idea.

Now I want to come over. I want to make the chart centered. So I say format align center. There it is. And I want to make this table centered. So I come over here and grab that section where we did all those calculations. And I say format align center.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

And it pops over there. So that quickly, we just turned that query into a web report. Now I do want to change one thing because I could change the selection if I wanted to just for the sake of showing that.

I could say, let's revise this and say century year, which is one of the formats we supply, equals, and I could have it I'm going to just put in the current year for time's sake. I could make that a runtime prompt if I wanted to. There I am. Okay.

Now I'm over here. If I just want to get an idea, what's that going look like? I can come up here and say view launch query in browser. It saves the changes that we just did. It launches a browser session. And there's our report.

And you can see the totals by region that we had before, just like you saw in the beginning. And here we are down at the end with our gross margin by region chart and the little table at the end. So all those things that you saw, the same data but presented in a little different way. So we're going to just take one more step here.

Now someone says that's not what I want. I want to see the data in a multidimensional model. So I do save as, and I'm going to call this one Lmonth6. Save. Okay. And now I don't need the table or the break because SmartView will do that summarization for us. So I remove that and I also remove the breaks. Just hitting delete on those. And I'm going to change the record selection to say range.

And I could have it do a prompt here if I wanted to. And I could tell it enter you know, however you want to do it. You could, you know, like something just as an illustration. All right. So you save that comment, you accept it. We upload it. Yes. Lmonth6.

Now I come over here to Qport in this case and I have the SmartView example that I want to get to is let me go out here and open it. LMonthE is the one that will help me get that data loaded the way I want to see it.

And it's designed to output to a particular smartview model. I tell it to run the query and show the result when you're done. And it prompts me.

I enter the years I want. And as you saw before, here we have that presentation with a multi dimensional model of the query output, which can then be filtered and stored and reorganized and so forth. So literally there in roughly thirty minutes, you saw multiple types of output to Excel. You saw output via PDF. You saw it delivered from the host. You saw it on demand from the window top. You saw us run a web report. You've seen us create a multi dimensional model.

It's that easy. Yes, of course, I have practice. You haven't been introduced to the software. But it is literally within your skill set to become very, very good at this or the people you support. So with that, I'm going to go back and get to the PowerPoint.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

So NGS-IQ is a modular solution and we try to make it as easy as possible for you to get started. And depending on the size of your shop, a small environment may be all you need or in time you may want more. You can decide.

But the lowest cost of entry for us is what we call our Query Developer Kit. It's a new concurrent user of the host application to process and save and maintain and secure all the queries, and that includes the web interface.

It's a seat of the development interface you've seen me using today and a seat of the runtime self-service interface you've seen me using today. It does not include the multidimensional modeling. That's the only thing I've shown you that it does not include. We also provide you with a knowledge transfer video service where we'll help if you have an expert that's wanting to talk about your database, talk about your environment, we can create a video with them which becomes like an internal technical documentation resource for your staff. That's not something you'd get with every vendor.

And that's a two thousand dollar investment and it's a subscription and the annual cost recurring if you were to remain at this is essentially right about that exact same number each year.

You can add users, developers, whatever it might be and we would quote we'll give you a quote if that's something you want to do. But we are not a huge budget item. We can get rolling very fast. And you can, in fact, get a trial. And we know these days most people have a lot of work and they're hesitant.

At any point you're ready, you can install this product in all its environment and do all the work you want over your own data, test it to your arch content, work with our tech support people during the process, and become very proficient and evaluate how well it's going to fit into what you're doing. So please talk to us about what you're trying to accomplish, your requirements, your deadlines, your goals.

We also have a really cool video library. I know we're running out of time, but I just want to make the point that on our website under NGSI.com, there's an option here, video library. There's intro videos. There are demo playbacks of sessions like the one I just did today.

There are more in-depth technical ones for our customers, but some of you may be advanced enough to appreciate some of those points. There's a dropdown search so you can look up how to do different things if you want to know how to do conditionals. Of course, you can contact us and talk to us. I don't want you to think that you're limited to video.

But I just want you to know that it's there. And there's tremendous amount of data there, knowledge transfer to make the migration to a solution like us as easy as possible for your company. So please talk to us. I know we went really fast today. You've got our number. You've got our website.

It's Time!



It's Time for New IBM i Query, Reporting, and Analytics Software

There are tremendous resources there and we're all US based and available to you from six am to five pm Pacific time. So even if you're working late in the evening on the East Coast, we're still here. And if you're working early in the morning on the West Coast, we're here already. So please talk to us. We hope this gave you a good introduction. We hope you'll want to see a lot more. Thank you and have a great rest of your day.