



# USA Staffing

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## USA Staffing Reporting & Analytics

Reporting and Analytics Workgroup Meeting

*August 6, 2019*

*Created by the OPM Federal Staffing Center*

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# Agenda

- **Program Updates**
  - Cognos Performance Metrics
- **Modifications to Reports and Data Models**
  - Applicant Flow Data Analytics
  - Staffing Analytics
  - Staffing Reports
  - New Hire (End of Day)
- **Cognos Tips**
  - Creating Basic Visualizations
- **Open Demo and Q&A**



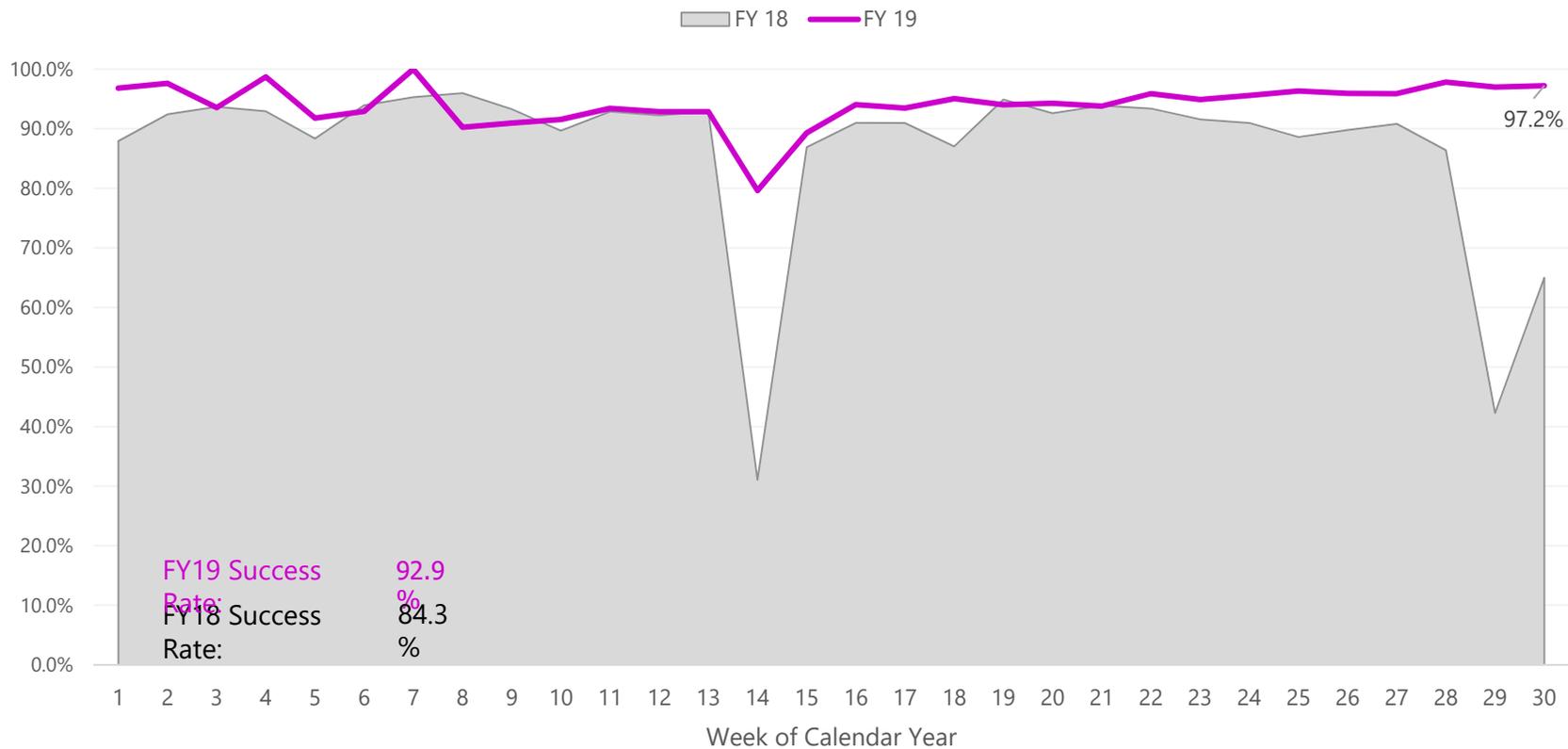
# Cognos Performance Metrics



# Report Run Success Rate

Goal: Cognos Report Success Rate  $\geq$  95%

Percent of Successful Reports Run by Week





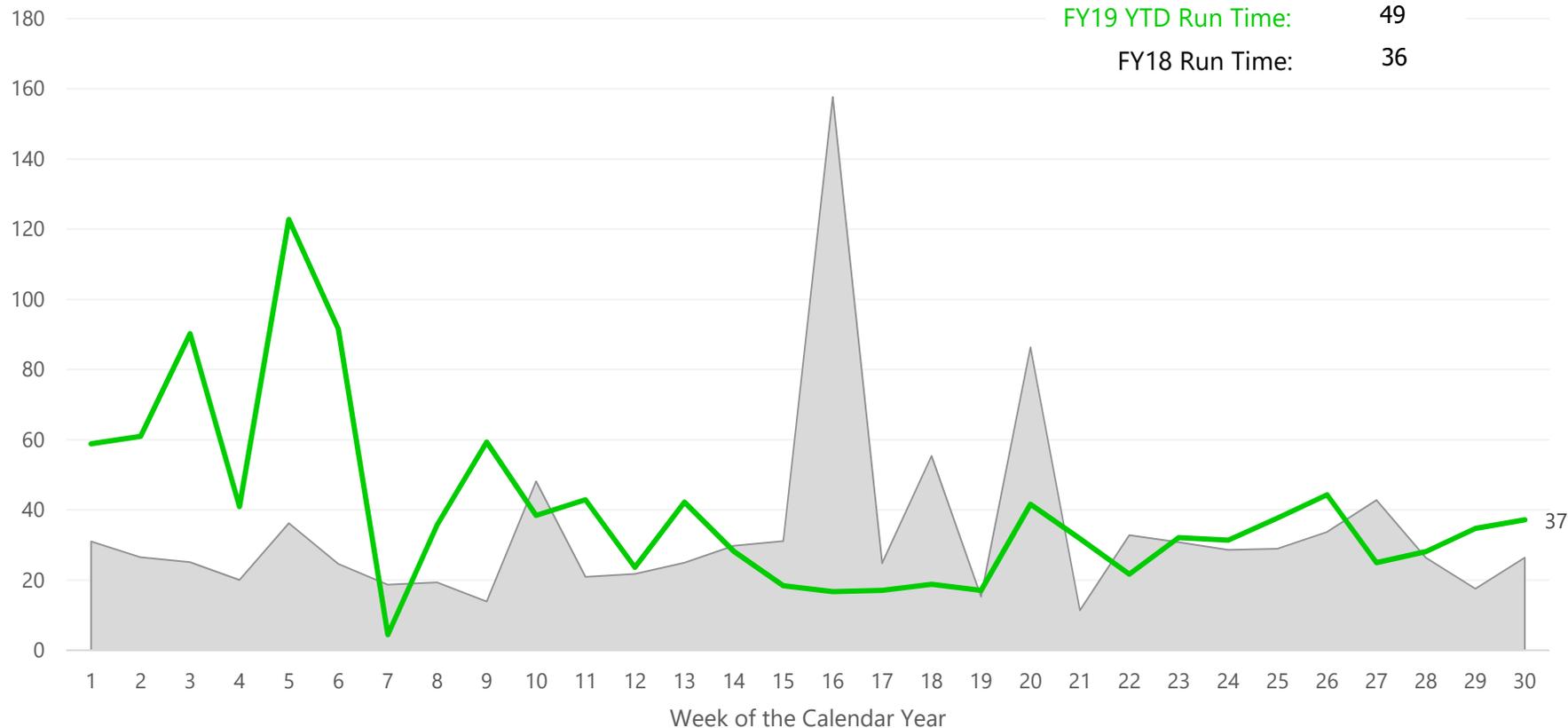
# Report Runtime

Goal: Cognos Report Runtime <1 min

Average Report Run Time in Seconds

FY 2018 (grey) FY 2019 (green)

FY19 YTD Run Time: 49  
FY18 Run Time: 36





# Modifications to Reports and Data Models

**Sprint 18 deployed to Production on July 11<sup>th</sup>**

**Sprint 19 deployed to Production on July 25<sup>th</sup>**

**Sprint 20 will be deployed to Production on August 8<sup>th</sup>**



# Applicant Flow Data Analytics

## Data Model Changes

### **Business Logic – will be deployed August 8<sup>th</sup>**

Recent changes in the USA Staffing interface now enable users to cancel certificates. In association with this new functionality, the vacancy-level business logic that determines whether or not a vacancy's applicant flow data is visible/reportable, as well as the logic associated with application-level indicators are being updated.

- Vacancy-Level Logic:
  - Current: In order for a vacancy's applicant flow data to be visible/reportable, the associated announcement must be in a closed status and all certificates must be in an audited status.
  - New: In order for a vacancy's applicant flow data to be visible/reportable, the associated announcement must be in a closed status and all certificates must be in either an audited or cancelled status.
    - *Exception:* If all certificates for a vacancy are in a cancelled status, the vacancy's applicant flow data will not be reportable.



# Applicant Flow Data Analytics

## Data Model Changes

### Business Logic (continued) – will be deployed August 8<sup>th</sup>

- Application-Level Logic:
  - Application Referred Indicator:
    - Current: In order for this field to display “Yes,” an application must have been referred on at least one certificate associated with the vacancy.
    - New: In order for this field to display “Yes,” an application must have been referred on at least one non-cancelled certificate associated with the vacancy.
  - Application Selected Indicator:
    - Current: In order for this field to display “Yes,” an application must have been selected on at least one certificate associated with the vacancy.
    - New: No changes are being made to the Application Selected Indicator, as rules for when a certificate can be cancelled require that no applicant have an audit code and/or return status.



# Staffing Analytics

## Data Model Changes

### **User Retired Indicator – deployed July 11<sup>th</sup>**

A new field was added to enable reporting on whether or not a user account is retired. This field will be incorporated to standard User License reports to ensure that each report provides accurate information about the current status of user licenses and accounts.

- [Staffing Analytics].[User License Metrics].[User Retired Indicator]



# Staffing Reports

## Data Model Changes

### **Announcement Locations – will be deployed August 8<sup>th</sup>**

Added a new query item to enable reporting on all locations associated with an announcement in a single row.

- [Applications].[Announcement].[Announcement Locations]

### **Application Identifiers - deployed July 25<sup>th</sup>**

Added new query items to enable reporting on unique database-level indicators that are included in the manual assessment import/export spreadsheet. The Application ID is an equivalent identifier to Application Number. The Application Rating ID is a unique identifier associated with an application's rating for a specific rating combination.

- [Applications].[Application].[Application ID]
- [Applications].[Application Ratings].[Application Rating ID]



# Staffing Reports

## Data Model Changes

### **Application Record Status Category – will be deployed August 8<sup>th</sup>**

Added a new query item to enable reporting on the category of the record status code (i.e., eligible, ineligible, pending, hired) associated with a vacancy.

- [Applications].[Application].[Application Record Status Code Category]
- [Certificates].[Certificate Applications].[Certificate Application Record Status Code Category]

### **Assessment Package Template Position Description data – deployed July 11<sup>th</sup>**

Added new query items to enable reporting on position descriptions associated with an assessment package template.

- [Assessment Package Templates].[Assessment Package Template Position Descriptions].[Assessment Package Template Position Description Number]
- [Assessment Package Templates].[Assessment Package Template Position Descriptions].[Assessment Package Template Position Description Position Title]



# Staffing Reports

## Data Model Changes

### **CBP DSS Reporting – deployed July 25<sup>th</sup>**

Added new query items to a specialized view/query subject to support CBP DSS reporting to enable reporting on additional application details in support of DHS/CBP DSS reporting.

- [Applications].[Application CBP\_DSS\_EL].[Application Final Rating]
- [Applications].[Application CBP\_DSS\_EL].[Application Grade]
- [Applications].[Application CBP\_DSS\_EL].[Application Originally Submitted Date/Time]
- [Applications].[Application CBP\_DSS\_EL].[Application Rating Notification Message Code]
- [Applications].[Application CBP\_DSS\_EL].[Application USA Hire Completed Date/Time]
- [Applications].[Application CBP\_DSS\_EL].[Certificate Issuer]

### **Request Locations – will be deployed August 8<sup>th</sup>**

Added a new query item to enable reporting on all locations associated with a request in a single row.

- [Applications].[Request].[Request Locations]



# New Hire (End of Day)

## Data Model Changes

### **New Hire Notifications – deployed July 25<sup>th</sup>**

Added a new query subject and fields to enable reporting on notifications sent to new hires.

- [New Hires].[New Hire Notifications].[New Hire Notification Sent Date/Time]
- [New Hires].[New Hire Notifications].[New Hire Notification Recipients]
- [New Hires].[New Hire Notifications].[New Hire Notification Sender]
- [New Hires].[New Hire Notifications].[New Hire Notification Template]
- [New Hires].[New Hire Notifications].[New Hire Notification Template Type]



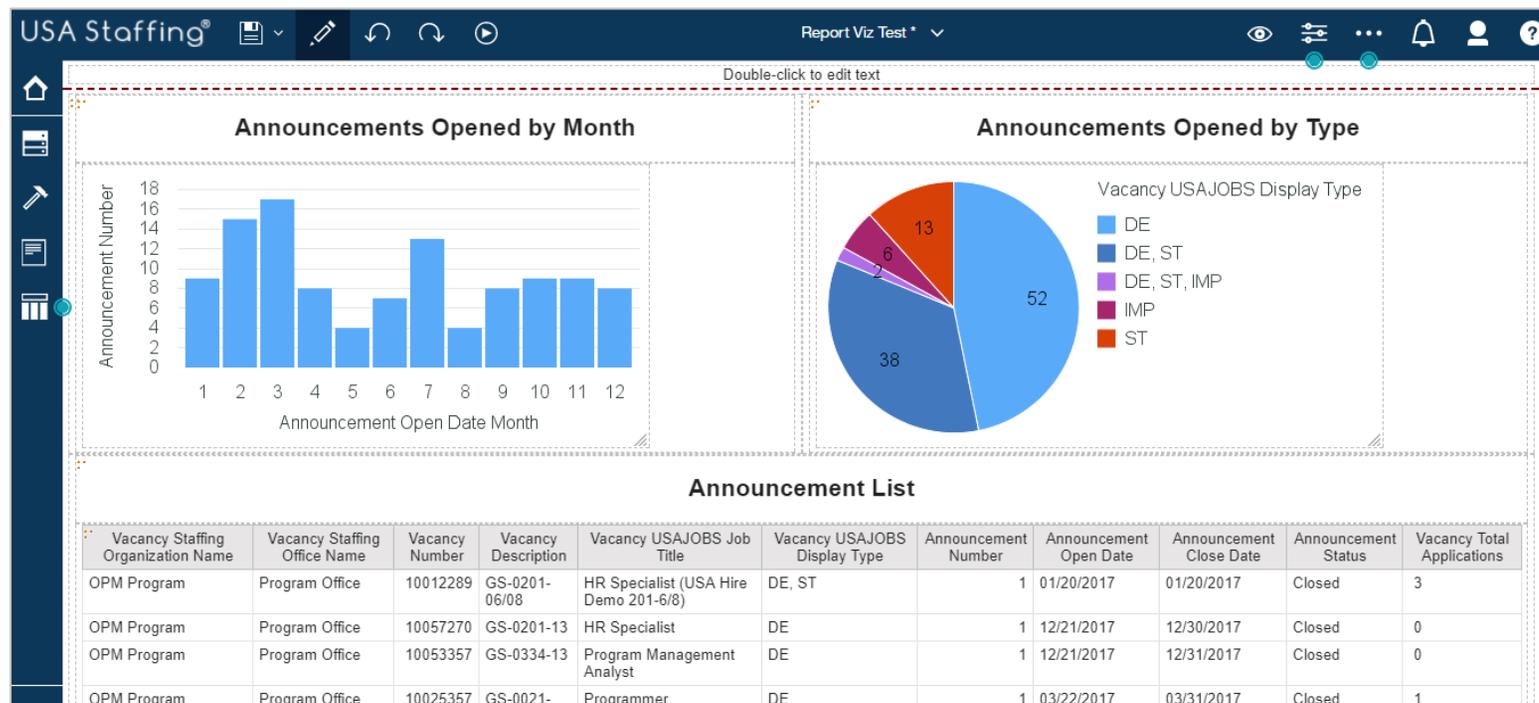
# Cognos Tips

Creating Basic Visualizations



# Visualizations in Reports

Similar to the Dashboard feature, **users can build reports with visualizations** to display summary data alongside detailed data



**Unlike Dashboards, reports using visualizations can be exported into PDF, Excel, and other formats. Reports can also more easily drill-through from summary to detail reports.**



# Creating a Report with Visualizations

*Create a new report that includes visualizations to display the number of announcements posted by month and type*

1. Click on the *New* Icon (+ button) in the bottom left corner of the Welcome screen. Select *Report*
2. Select a 2 over 1 Template. Click OK
3. In the *Source* pane, click on the *Add report data* icon (+ button). Select *USA Staffing Packages and Folders, Staffing Reports*. Click *Open*
4. Click on the *Queries* icon and add a new query (+ button). Right-click on the newly created query and select *Rename query*. Rename the query **qry\_visuals**



# Creating a Report with Visualizations

- 5. Double-click the query to open it, then click the Source icon. From the *Applications* namespace, drag and drop (or double-click the following query items into the query):

Folder	Query Subject	Query Item
<i>Vacancy Detail</i>	<i>Vacancy</i>	<i>Vacancy Number</i>
		<i>Vacancy USAJOBS Display Type</i>
		<i>Vacancy USAJOBS Job Title</i>
		<i>Vacancy Staffing Office Name</i>
		<i>Vacancy Staffing Organization Name</i>
	<i>Vacancy Counts</i>	<i>Vacancy Total Applications</i>
<i>Announcement Detail</i>	<i>Announcement</i>	<i>Announcement Number</i>
		<i>Announcement Open Date</i>



## Creating a Report with Visualizations

6. Identify the query items that will be used as metrics and change the aggregation properties appropriately. For this exercise, *Announcement Number* will be used as a metric.
  - Click on *Announcement Number*, then click on *Show properties*. Change the *Detail aggregation* and *Summary aggregation* to *Count distinct*.
  - Change the *Label* of *Announcement Number* to *Announcement Count*.
7. Create filters and modify query items to prepare to build visualizations.
  - *Announcement Open Date*
    - Double-click on *Announcement Open Date*
    - Modify the *Expression Definition* to:  
month([Applications].[Announcement].[Announcement Open Date])
    - Modify the *Name* to: *Announcement Open Date Month*
  - *Announcement Is Released*
    - From the *Source* pane, drag and drop *Announcement Is Released* into *Detail Filters*
    - In the *Expression Definition*, modify the text to read:  
[Applications].[Announcement].[Announcement Is Released] = 'Yes'



## Creating a Report with Visualizations

8. Click on the *Pages* icon and select *Page1* to navigate to the report page. Click the *Source* icon and select *Data items* to view the data items in the *qry\_visuals* query
9. In the upper left area of the report page, click the + icon and select *Visualization*. Select the *Clustered column* visualization and click OK
10. In the *Object and query names* window, select the *qry\_visuals* query and click OK
11. Add data items to the visualization by dragging and dropping *Announcement Number* to the *Values* section of the visualization and *Announcement Open Date Month* to the *X axis* section of the visualization.
12. Click on the *Page views* icon and select *Page preview* to view the visualization populated with data
13. In the upper right area of the report page, click the + icon and select *Visualization*. Select the *Pie* visualization and click OK
14. In the *Object and query names* window, select the *qry\_visuals* query and click OK



## Creating a Report with Visualizations

15. Add data items to the visualization by dragging and dropping *Announcement Number* to the *Values* section of the visualization and *Vacancy USAJOBS Display Type* to the *Categories* section of the visualization.
16. Modify the size of the visualizations to fit the page. One at a time, select the visualization and click *Show properties*. Change the *Height* to 250
17. On the bottom of the report page, click the + icon and select *List*. In the *Object and query names* window, select the *qry\_visuals* query and click OK
18. Add all of the data items from the *qry\_visuals* query to the *List*, with the exception of *Announcement Number* and *Announcement Close Date*.
19. Click the *Run Options* Icon. Select *Run HTML* to view the report
20. Close the Cognos Viewer browser window to return to your report. Save the report in My Content as *Report with Visualizations*



# Creating a Report with Visualizations

Steps 1 - 3

The screenshot illustrates the initial steps of creating a report with visualizations in the USA Staffing application. It is divided into two panels. The left panel, titled "Templates and themes", shows a grid of report templates. A red box highlights the "2 over 1" template. A red arrow points from this template to a red box around a report icon in the top navigation bar of the right panel. The right panel, titled "Source Data items", shows a workspace with a red box around a plus sign icon. A red arrow points from the plus sign to a red box around the "Staffing Reports" folder in an "Open file" dialog box. A final red arrow points from the "Staffing Reports" folder to a red box around the "Open" button in the dialog box.



# Creating a Report with Visualizations

Steps 4 - 5

The screenshot shows the USA Staffing application interface. The top navigation bar includes the OPM logo, the text 'OPM.GOV', and 'USA Staffing'. The main content area is titled 'USA Staffing®' and features a 'New report' button. A sidebar on the left contains navigation icons, with a bar chart icon highlighted by a red box. The main area displays a 'Report' section with a 'Find' search bar and a 'QUERIES' section containing a 'Query1' icon, also highlighted by a red box. A red arrow points from the sidebar icon to the 'Query1' icon, and another red arrow points from the 'Query1' icon to a red-bordered '+' button. A third red arrow points from the '+' button to a 'Query1' icon in the main area. A fourth red arrow points from this icon to a 'Value:' text box containing 'qry\_visuals'. A fifth red arrow points from the 'Value' box to an 'OK' button. A sixth red arrow points from the 'OK' button to a 'Data Items' list on the right side of the interface. The 'Data Items' list includes: Vacancy Number, Vacancy USAJOBS Display Type, Vacancy USAJOBS Job Title, Vacancy Staffing Office Name, Vacancy Staffing Organization Name, Vacancy Total Applications, Announcement Number, Announcement Open Date, and Announcement Close Date. Below the 'Data Items' list, a scrollable list of fields is visible, including: Announcement External Contact Name, Announcement Internal Contact Name, Announcement Hiring Paths, Announcement Hiring Path Clarification Text, Announcement Is Released, Announcement Last Update Date/Time, Announcement Maximum Salary, Announcement Minimum Salary, Announcement Not To Exceed, Announcement Number, and Announcement Open Date.



# Creating a Report with Visualizations

Step 6

The screenshot shows a report configuration interface with several panels. The 'Data Items' panel on the left lists various fields, with 'Announcement Number' highlighted and boxed in red. A red arrow points from this item to the 'Detail aggregation' field in the 'Data Item' configuration table on the right. In this table, 'Announcement Number' is listed as the 'Name', and 'Announcement Count' is entered in the 'Label' field, also boxed in red. The 'Detail aggregation' and 'Summary aggregation' fields both have 'Count distinct' selected, with red boxes around these values and arrows pointing to them. The top navigation bar includes a 'New report' dropdown, an eye icon, a settings icon (boxed in red), a menu icon, a notification bell, a user profile icon, and a help icon.

DATA ITEM	
Type	Data Item
Name	Announcement Number
Label	Announcement Count
Expression	[Applications].[Announcem...
Detail aggregation	Count distinct
Summary aggregation	Count distinct
Pre-sort	Don't sort
Detail	Automatic
Calculation intersection	Show value
Solve order	

**Label**  
Specifies the label of the object.



# Creating a Report with Visualizations

Step 7

**Data item expression - Announcement Open Date Month**

Name: **Announcement Open Date Month**

Available Components:

- Staffing Reports
  - Presentation View

Expression Definition:  
`month([Applications].[Announcement].[Announcement Open Date])`

Information:

Tips Errors

OK Cancel

- Announcement Detail
  - Announcement
    - Announcement Close Date
    - Announcement Control Number
    - Announcement External Contact Name
    - Announcement Internal Contact Name
    - Announcement Is Released**
    - Announcement Last Update Date/Time
    - Announcement Maximum Salary
    - Announcement Minimum Salary

Detail Filters

**Detail filter expression - qry\_visuals**

Available Components:

- Staffing Reports
  - Presentation View

Expression Definition:  
`[Applications].[Announcement].[Announcement Is Released] = 'Yes'`

Information:

Tips Errors

OK Cancel



# Creating a Report with Visualizations

Steps 8 - 9

The screenshot shows the USA Staffing report builder interface. On the left, a list of data items is displayed, including Vacancy Number, Vacancy USAJOBS Display Type, Vacancy USAJOBS Job Title, Vacancy Staffing Office Name, Vacancy Staffing Organization Name, Vacancy Total Applications, Announcement Number, Announcement Open Date Month, and Announcement Close Date. A red box highlights the 'Data items' section. A red arrow points from this box to a '+' icon in the report canvas. Another red arrow points from the '+' icon to the 'Clustered column' visualization in the 'Visualization gallery'. A third red arrow points from the 'Clustered column' visualization to the 'OK' button in the bottom right corner. The 'Clustered column' visualization is described as: 'Clustered column: Column visualizations use vertical data markers that are arranged in groups to compare individual values. You can use column visualizations to compare discrete data or show trends over time. Use clustered column visualizations to compare values across multiple categories. Author: IBM'.



# Creating a Report with Visualizations

Steps 10 - 12

Object and query names

Visualization name:  
Clustered column

Data container name:  
Clustered column: Tabular data set

Query name:  
Query1  
**qry\_visuals**  
Query1

**OK** Cancel

The screenshot shows the report builder interface with a bar chart visualization. A red box highlights the 'Page preview' button in the top right corner. Another red box highlights the 'OK' button in the 'Object and query names' dialog. A third red box highlights the 'Announcement Open Date Month' field in the 'Data items' list. A fourth red box highlights the 'X axis' configuration in the visualization settings, showing the value '<#Announcement Open Date Month#>'. A fifth red box highlights the 'Value' configuration in the visualization settings, showing the value '<#Announcement Number#>'. A sixth red box highlights the 'Announcement Number' field in the 'Data items' list. A seventh red box highlights the 'Announcement Close Date' field in the 'Data items' list. A eighth red box highlights the 'Announcement Open Date Month' field in the 'Data items' list. A ninth red box highlights the 'Announcement Number' field in the 'Data items' list. A tenth red box highlights the 'Announcement Close Date' field in the 'Data items' list.



# Creating a Report with Visualizations

## Step 12

The screenshot shows the USA Staffing report builder interface. On the left, a 'Data items' list includes 'Announcement Open Date Month' and 'Announcement Count'. The main area displays a bar chart with 'Announcement Count' on the y-axis (0-300) and 'Announcement Open Date Month' on the x-axis (1-12). A configuration panel on the right shows 'Clustering column: Tabular data set', 'Values: # <#Announcement Number#>', and 'Categories: <#Announcement Open Date Month#>'.

Announcement Open Date Month	Announcement Count
1	120
2	165
3	130
4	125
5	155
6	155
7	155
8	300
9	155
10	140
11	110
12	105



# Creating a Report with Visualizations

Steps 13 - 14

The screenshot illustrates the process of adding a pie chart to a report. On the left, the 'Data Items' list includes 'Announcement Open Date Month' and 'Announcement Count'. A bar chart is currently displayed. In the center, a 'Visualization' menu is open, with a red box highlighting the 'Pie' option. To the right, the 'Object and query names' dialog is shown, with 'Pie' entered as the visualization name, 'Pie: Tabular data set' as the data container name, and 'qry\_visuals' as the query name. The 'OK' button is highlighted with a red box. Below this, another dialog shows the 'Pie' visualization selected, with a red box around it and another 'OK' button highlighted with a red box.



# Creating a Report with Visualizations

Steps 15

The screenshot shows the USA Staffing report builder interface. On the left, a 'Data items' list includes 'Vacancy USAJOBS Display Type' and 'Announcement Number', both highlighted with red boxes. Red arrows point from these items to the 'Pie: Tabular data set' configuration box. In this box, the 'Values' field is set to '<#Announcement Number>' and the 'Categories' field is set to '<#Vacancy USAJOBS Display Type#>'. To the right, a pie chart displays the distribution of display types with the following values: DE (908), DE, ST (420), ST (278), DE, ST, IMP (102), and DE, IMP (66). A legend on the right lists the display types with their corresponding colors.

Color	Display Type
Light Blue	DE
Dark Blue	DE, IMP
Purple	DE, ST
Dark Purple	DE, ST, IMP
Orange	IMP
Light Orange	ST
Yellow	ST, IMP



# Creating a Report with Visualizations

Step 16

The screenshot shows a report editor interface. On the left, a clustered column chart displays 'Announcement Count' on the y-axis (0 to 300) and 'Announcement Open Date Month#' on the x-axis. The chart has four bars with values approximately 115, 160, 125, and 120. To the right of the chart is a configuration panel for a 'Clustered column' visualization. The panel includes sections for 'CONDITIONAL', 'DATA', 'GENERAL', 'MISCELLANEOUS', 'COMMON', and 'COLUMN'. The 'COMMON' section has a 'Height' property set to 250, which is highlighted with a red box. Below the configuration panel, a pie chart is partially visible with segments labeled 102, 66, and 42.

Section	Property	Value
CONDITIONAL	Render variable	
	Data format	
GENERAL	Type	rave-library-c...
	Name	Clustered column
MISCELLANEOUS	Alternate text	None
	Background color	<input type="checkbox"/> Transparent
COMMON	Elements background color	<input type="checkbox"/> Transparent
	Height	250
COLUMN	Column border color	Black
	Column border width	0px
X-AXIS	Switch X and Y axes	No
	Height	Specifies the height of the visualization, in pixels



# Creating a Report with Visualizations

Step 17

The screenshot shows the USA Staffing report builder interface. On the left, a 'Data items' list includes: Vacancy Number, Vacancy USAJOBS Display Type, Vacancy USAJOBS Job Title, Vacancy Staffing Office Name, Vacancy Staffing Organization Name, Vacancy Total Applications, Announcement Number, Announcement Open Date Month, and Announcement Close Date. The main workspace contains three visualizations: a bar chart of 'Announcement Count' by 'Announcement Open Date Month', a pie chart of 'Vacancy USAJOBS Display Type', and a 'Crosstab Visualization' area. A dialog box titled 'Object and query name' is open, showing 'Name: List1', 'Query Name: Query1', and a dropdown menu with 'qry\_visuals' selected. Red boxes and arrows highlight the 'List' icon, the '+' button, the 'qry\_visuals' selection, and the 'OK' button.

Announcement Open Date Month	Announcement Count
1	100
2	150
3	120
4	120
5	140
6	140
7	140
8	280
9	140
10	120
11	100
12	100

Display Type	Count
DE	908
DE, IMP	420
DE, ST	102
DE, ST, IMP	66
IMP	278
ST	0
ST, IMP	0



# Creating a Report with Visualizations

## Step 18

USA Staffing® New report \* [Icons]

Source Data items

▼ qry\_visuals

- Vacancy Number
- Vacancy USAJOBS Display Type
- Vacancy USAJOBS Job Title
- Vacancy Staffing Office Name
- Vacancy Staffing Organization Name
- Vacancy Total Applications
- Announcement Number
- Announcement Open Date Month
- Announcement Close Date

Double-click to edit text

Double-click to edit text

Announcement Count

Announcement Open Date Month

Double-click to edit text

Vacancy USAJOBS Display Type

Double-click to edit text

Vacancy Staffing Organization Name	Vacancy Staffing Office Name	Vacancy Number	Announcement Open Date Month	Vacancy USAJOBS Display Type	Vacancy USAJOBS Job Title	Vacancy Total Applications
ASMG Internal Release Testing	Matt's House	10002218	11	ST	Program Analyst	0
ASMG Internal Release Testing	Matt's House	10005188	8	ST	Hand of the King	1
Office of Personnel Management	OPM HR Boyers	10000033	6	DE, ST	Support Services Specialist	1





# Open Demo and Q&A



## Resources and Contacts

### IBM Cognos Analytics User Guide

The official IBM user guide for Reporting via Cognos Analytics:

[https://www.ibm.com/support/knowledgecenter/SSEP7J\\_11.0.0/com.ibm.swg.ba.cognos.ug\\_cr\\_rptstd.doc/ug\\_cr\\_rptstd.pdf?view=kc](https://www.ibm.com/support/knowledgecenter/SSEP7J_11.0.0/com.ibm.swg.ba.cognos.ug_cr_rptstd.doc/ug_cr_rptstd.pdf?view=kc)

### USA Staffing Resource Center

Under the Reports and Analytics section, you'll find presentations from previous workgroup sessions and other resources:

[https://help.usastaffing.gov/USASUpgResCtr/index.php/USA\\_Staffing\\_Upgrade\\_Resource\\_Center](https://help.usastaffing.gov/USASUpgResCtr/index.php/USA_Staffing_Upgrade_Resource_Center)

### Cognos Report Author Training Sessions

An overview of USA Staffing data with practical exercises in running standard reports and developing custom reports in Cognos. Contact your Account Manager if you are interested in scheduling a session for the report authors in your organization

### Need Help?

If you are experiencing issues accessing Cognos or need help to create or troubleshoot a report, submit a HelpDesk ticket through USA Staffing. If you are unable to submit a HelpDesk ticket, please contact us at

[USASTaffingData@opm.gov](mailto:USASTaffingData@opm.gov)