



# XKEYSCORE Workflows

19 September 2011



# What is a workflow?

- Workflows automate queries.
  - One-time
  - Standing
- Every search type can be a workflow.
  - Same functionality and capability
- Follow on actions
  - Email alert
  - Download actions
  - Metadata summary



# Who can submit a workflow?

- Anyone!
- One owner per workflow, but using follow-on actions:
  - Multiple-users can be notified of results and/or sent summary information
  - Result table can be automatically shared
- If ownership needs to be changed, a ticket can be submitted to the team.

# What can I do with a workflow?



- Workflows can be configured to run once
- Workflows can be configured to run daily
  - Every 1, 2, 3, 4, 6, 8, 12 or 24 hours
  - You can set an offset to start running at a certain hour
- Download results
- Email results and email alerts
- MAILORDER results
- MySQL report

# Why do I want a workflow?



- XKEYSCORE has a rolling buffer of data
- Repetitive queries
- Sigdev purpose
  - Fingerprint and appid testing
- Queries take a long time during high times
- Follow on actions
  - Google Earth data
  - Statistics
  - Customizable – write a script!

# How do I setup a workflow?



- Two main ways
  - Based on the results of a recent query
    - Simplifies the process & more likely to produce the desired result!
    - This is done by right-clicking on the result set from the desired query and selecting *Create Workflow from this Search*. This populates the Workflow Wizard with the same criteria that was used by the selected query.
  - From scratch using the Workflow Wizard
    - Not recommended – but we'll show you anyway

# How do I setup a workflow?



- The next ten slides demonstrate how to step through the workflow wizard from scratch
- But if you create the workflow from an existing query result many of the steps will already be correctly populated!

A screenshot of a software interface showing a list of recent queries. A context menu is open over the first query in the list, titled "Result Grid Row Actions". The menu includes options like "View Metadata", "Delete Row", "Rename Query", "Share Results...", "Repopulate this Search into Form", and "Create Workflow from this Search". A callout bubble points to the "Create Workflow from this Search" option with the text "Right click to get the menu and choose this option".

Query Name	Num Results	Num DBs	Datetime Submitted	Query ID
byz_rapt_rdp.india_both_dir	3006	51 of 51	2011-09-19 17:01:44	jb_e00b
byz_rapt_rdp.class.c	132	49 of 51	2011-09-19 16:38:07	jb_e00b9
byz_rapt_rdp	98	49 of 51	2011-09-19 16:35:36	jb_e00b9
www_bb_pin_imsi_no_five_eyes (WORKFLOW)	9055	54 of 57	2011-09-19 08:55:57	xml_job_2
afghan_pin_imsi_correlation (WORKFLOW)	7124	12 of 12	2011-09-18 23:55:19	xml_job_2

**Result Grid Row Actions**

- View Metadata
- View Metadata (New Window)
- Delete Row
- Rename Query
- Share Results...
- Repopulate this Search into Form
- Create Workflow from this Search
- Split Both Sides of Traffic
- Archive Results

**Result Grid Cell Actions**

- Filter: Query Name Equal 'byz\_rapt\_rdp.india\_b...'
- Filter: Query Name Not Equal to 'byz\_rapt\_rdp.india\_b...'
- Show Full Cell Value

# How do I setup a workflow?



This system is audited for USSID 18 and Human Rights Act compliance  
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XKEYSCORE Welcome: switch users Preferences Help

Welcome to the New XKEYSCORE Home Page!  
 If you have questions or bug reports please go to XKEYSCORE New GUI Forum  
 To use the old GUI, click [here](#)

**HUMAN RIGHTS ACT,  
USSID 18 AND USSID 9**

I (SYSTEM) queries require a justification to ensure Human Rights Act (HRA), USSID 18 and USSID 9 compliance. Please enter information as prompted by the query interface. An audit trail has been established and will be searched as part of Menwith Hill Station's response to any complaint brought under HRA and as part of the USSID 18 and USSID 9 process. Please note that SENSITIVE TARGETING APPROVAL (STA) is required for HRA before submitting any query which includes terms specific to a person or company (eg name, address, identity details such as communications address, passport/bank account number) who EITHER (a) is defined as a UK, British Dependent Territory (BDT) or Second Party "person" or (b) is located in the UK, or a BDT or Second Party country. STA is also required for wildcard pulls that are inevitably going to retrieve a substantial proportion of such entities (e.g. wildcarding on a UK city code). Full legal guidance is available from the HRA Compliance Officer at Menwith Hill Station.

**Navigation Menu**

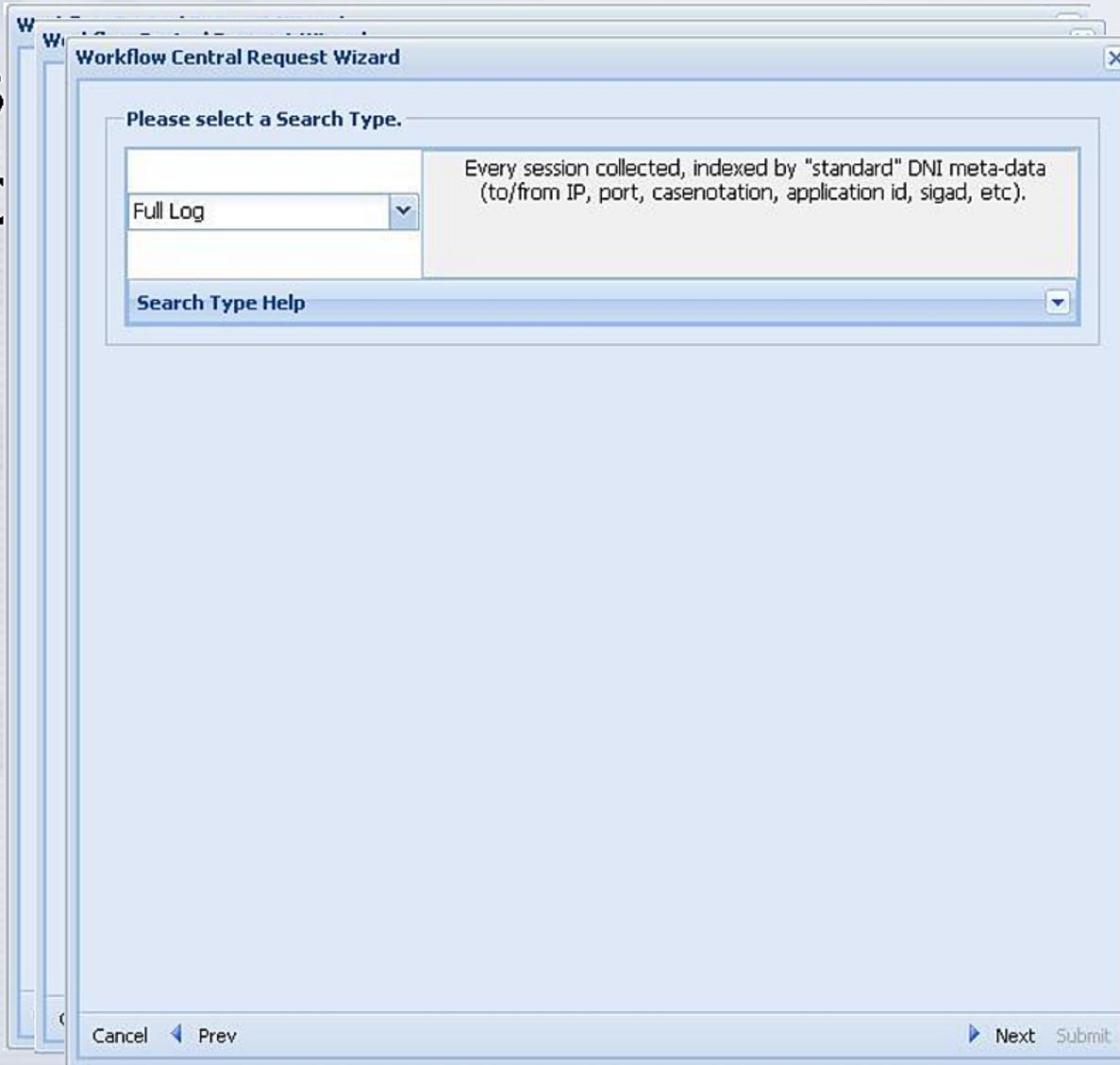
- Explorer
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# How do I setup a workflow?



First, set up your workflow



# How do I setup a workflow?



Workflow Central Request Wizard

Basic Information

Query Name: Find\_my\_appid  
Query Justification: Testing appid signature  
Additional Justification:  
Miranda Number:

Datetime: 1 Day Start: 2009-03-04 00:00 Stop: 2009-03-05 23:59

Recurring Search One Time Search **One Time Search**

Basic Features Help

Runs once over a set datetime range

Cancel ▲ Prev ▶ Next Submit

ring or one-

ist be unique per user  
must have a justification  
justifications

# How do I setup a workflow?



Select  
search

Select a  
field to  
search

**Workflow Central Request Wizard**

**Add Search Fields**

Search Values are **ANDed** by default.

**To OR Search Fields:**

- \* Use the Multiple Field Search tab (below the input fields).
- \* Select all the fields you wish to search.

**To OR Search Values:**

- \* Type 'OR' between each value (no quotes).

See Search Value Help below for more details or  
for a description of boolean logic go to [here](#).

Search Field	Search Value	Remove
From IP Address OR To IP Address	1.2.3.4	X
Attribute Info		
From IP Address		
To IP Address		
From Port		
To Port		

**Search Field Buttons:**

- Single Field Search
- Multiple Field Search

**Search Value Help**

Cancel ▲ Prev ▶ Next Submit

ant to

or every field,  
you must select  
the PLUS key



# Group by option

- Group by
- Red
- Retu

data results.

**Workflow Central Request Wizard**

**Group Search Fields**

Would you like to group any fields?

No  
 Yes

**Group By Type**

Table Unique Values:  [Group By Type Help](#)

Global Unique Values:

**Columns to Group By**

Datetime:   
Client IP (X-Fowarded-For):   
Username:   
Attribute Info:   
From IP Address:   
To IP Address:   
From Port:   
To Port:   
From Country (IP):   
To Country (IP):   
From City (IP):   
To City (IP):   
From Latitude (IP):

This option groups each row in the table after **Table** and concatenates the results.

Select the fields you want to group by.

**Cancel** **Prev** **Next** **Submit**



# Select databases

- Choose the search databases you would like to use
  - Can use an alias for multiple databases
  - Prepopulated if created from an existing search

Workflow Central Edit Request Wizard

SEARCH Databases

TAO STAT Team (tao-stat:xs\_web\_db)  
 TEC (tc1xks1.tec.ces.nsa:xs\_web\_db)

TEC DEEP DIVE (yakimedeepdd:xs\_web\_db)

TEC TURTLE RACE (turtlerace:xs\_web\_db)

Timberline SV (timberline-sv:xs\_web\_db)

TURBULENCE at the TEC (turbotec:xs\_web\_db)

TURBULENCE MHS live (TURBOPOUND) (turbopound:xs\_web\_db) **Please only enable if necessary**

TURTLEALE MHS live system (turboale:xs\_web\_db)

XKSVOIP1 NOFORN (xksvoip-nf:q0)

XKSVOIP2 REL (xksvoip-rel:q0)

Yakima Deep Dive (jackknife-dd:xs\_web\_db)

Yakima mission system (jackknife:xs\_web\_db)

Content must exist

If this is selected, results are only returned if the content still exists at site.

Basic Features Help

Cancel Previous Next Submit



# Follow on Actions

- Allows you alter your results

- Allows you location.

- Allows you  
allows you

content) to another

Workflow Central Edit Request Wizard

Follow-on Actions

Would you like to add any follow on actions?

No

Yes

Script	Script Arguments	Add
Email Alert	Email To: <input type="text"/> ROWR: <input type="checkbox"/> Return Only With Results Share Results: <input type="checkbox"/> Share Results with users above	
Email Alert		
SQL Report		
Download Sessions		
Find and Forward VoIP		

An email is sent out once your workflow is completed.

Setup a MySQL statement to alter your results

Download your results to another location.

Used to forward VoIP to NUCLEON

Cancel Previous Next Submit



# Email alert

Workflow Central Edit Request Wizard

Follow-on Actions

Would you like to add any follow on actions

No

Yes

Script	Script Arguments	Add
Email Alert	Email To: <input type="text"/> <input type="button" value="+"/>	
Email Alert	ROWR: <input type="checkbox"/> Return Only With Results	
SQL Report	Share Results: <input type="checkbox"/> Share Results with users above	
Download Sessions		
Find and Forward Voip		

Cancel   Submit

Comma delimited email addresses.

This option only sends an email if your workflow has results.

This will make the results appear for all of the listed users

# SQL report



## Workflow Central Request Wizard

### Follow-on Actions

Would you like to add any follow on actions

- No  
 Yes

Script

SQL Report

Script Arguments

Add

Type:



Email To:

Email Subject:

Email Content:

Email Attachment:

Email Attachment

ROWR:

Return Only With Results

Filename:

Mail Order Trigraph:

SQL:

```
SELECT
FROM %{OUTPUT_TABLE}
WHERE
GROUP BY
```

GZIP:

Compress Contents

CSV or HTML

Email metadata that a user can set.

This must be a VALID SQL statement.

Example:

```
SELECT casenotation, sigad
FROM %{OUTPUT_TABLE}
WHERE sigad!=""
GROUP BY casenotation
```

Cancel ▲ Prev

▶ Next Submit



# Download Results

Workflow Central Request Wizard

## Follow-on Actions

Would you like to add any follow on actions?

 No Yes

Script	Script Arguments	Add
Download Sessions	User ID: Email To: Email Subject: Email Content: ROWR: Filename: Mail Order Trigraph: GZIP: Send To Agility:	<input type="button" value="+"/>

Cancel &lt; Prev

&gt; Next Submit

# You're almost done!



Workflow Central Request Wizard

### Workflow Review

This query (Find\_my\_appid) will search the **Full Log** table in database(s):  
**xks-jychan:q0**

The query will run **CONTINUOUSLY** executing every **6 hours** beginning at **5:00 EST**

The query will execute the following search criteria:

```
<and>
  <field>From IP Address</field>
  <value>1.2.3.4</value>
</and>

<and>
  <field>To Port</field>
  <value>80</value>
</and>

<and>
  <field>AppID (+Fingerprints)*</field>
  <value>search/google*</value>
</and>
```

Workflow Values   Workflow XML

Cancel ▲ Prev ▶ Next Submit



# Workflow Pending

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XKEYSCORE Welcome: [REDACTED] switch users

Home Workflow Central Search Results Statistics Tagging Preferences Help

Navigation Menu

- Explorer
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    - Local Tagging
    - Tech Extractor Training

My Workflows

Help Actions

Query Type	Query Name	Last Modified	State	Actions
+ full_log	Find_my_appid	2009-03-05 14:44:5	pending	

State pending

Actions

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# Workflow Approved

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XKEYSCORE   Welcome: [REDACTED] [switch users](#)

[Home](#) [Workflow Central](#) [Search](#) [Results](#) [Statistics](#) [Tagging](#) [Preferences](#) [Help](#)

**Navigation Menu**

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  - [Tagging](#)
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    - [Tech Extractor Tuning](#)

**My Workflows**

Workflow: Find\_my\_appid

Query Type: full\_log

```
<?xml version="1.0" encoding="UTF-8"?>
<query_jobs>
    <internal_gui>1</internal_gui>
    <datetime_created>1236264295</datetime_created>
    <job>
        <xks_userid>[REDACTED]</xks_userid>
        <xks_user_name>[REDACTED]</xks_user_name>
        <xks_password>18837b706121a0ca</xks_password>
        <search_type>full_log</search_type>
        <query_name>Find_my_appid</query_name>
        <query_justification>Testing appid signature</query_justification>
        <datetime>
            <interval>6</interval>
            <offset>5</offset>
        </datetime>
        <sql>
            <where>
                <and>
                    <field>fm_ip</field>
                    <value>1.2.3.4</value>
                </and>
                <and>
                    <field>to_ap</field>
                    <value>80</value>
                </and>
                <and>
                    <field>fingerprint</field>
                    <value>search/google*</value>
                </and>
            </where>
            <group_by>to_ip</group_by>
            <indexes>unique key(to_ip)</indexes>
        </sql>
        <advanced>
            <content_must_exist>true</content_must_exist>
            <routing>
                <database>xks-jychan:q0</database>
            </routing>
        </advanced>
    </job>
</query_jobs>
```

[Cancel](#) [Save/Submit](#)

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# Common mistakes

- From IP and To IP with the same value.
- In this view, terms are ANDed together.
- Use Multiple Field Search Tab.

Workflow Central Request Wizard

Add Search Fields

To OR Search Fields:

Search Values are **ANDed** by default.

- \* Use the Multiple Field Search tab (below the input fields).
- \* Select all the fields you wish to search.

To OR Search Values:

- \* Type 'OR' between each value (no quotes).

See Search Value Help below for more details or for a description of boolean logic go to [here](#).

Search Field	Search Value	Remove
From IP Address OR To IP Address	1.2.3.4	X

Attribute Info

From IP Address

To IP Address

From Port

To Port

Single Field Search    **Multiple Field Search**

Search Value Help

Cancel ▲ Prev ▶ Next Submit

The screenshot shows the "Workflow Central Request Wizard" window titled "Add Search Fields". It contains instructions for using the "To OR Search Fields" feature, which by default performs an AND operation. It explains how to use the "Multiple Field Search" tab and provides help for boolean logic. A table lists a search entry: "From IP Address OR To IP Address" with the value "1.2.3.4". Below the table is a list of attributes: "Attribute Info", "From IP Address", "To IP Address", "From Port", and "To Port". The "Multiple Field Search" tab is highlighted with a blue circle. At the bottom, there are navigation buttons: "Cancel", "Prev", "Next", and "Submit".



# Common mistakes

- Using the multiple field search does not break this up into 3 search<->value pairs.
- Enter each term separately in the single fieldsearch.

Workflow Central Request Wizard

Add Search Fields

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- \* Select all the fields you wish to search.

To OR Search Values:

- \* Type 'OR' between each value (no quotes).

See Search Value Help below for more details or for a description of boolean logic go to [here](#).

Search Field	Search Value	Remove
From IP Address	1.2.3.4	X
To IP Address	5.6.7.8	X
From Port	80	X

[Single Field Search](#) [Multiple Field Search](#)

Search Value Help

Cancel ▲ Prev ▶ Next Submit



# Common mistakes

- This will return ALL casenotations.
  - a will be defeated by “!a” but a does equal “!b”
- All the defeated values must be ANDed together.

**Workflow Central Request Wizard**

**Add Search Fields**

Search Values are **ANDed** by default.

**To OR Search Fields:**

- \* Use the Multiple Field Search tab (below the input fields).
- \* Select all the fields you wish to search.

**To OR Search Values:**

- \* Type 'OR' between each value (no quotes).

See Search Value Help below for more details or for a description of boolean logic go to [here](#).

Search Field	Search Value	Remove
Casenotation	!a	X
Casenotation	!b	X
Casenotation	!c	X
Casenotation	!d	X

**Single Field Search**   **Multiple Field Search**

**Search Value Help**

Cancel ▶ Prev ▶ Next Submit



# Common mistakes

**Workflow Central Request Wizard**

**Add Search Fields**

Search Values are ANDed by default.

**To OR Search Fields:**

- \* Use the Multiple Field Search tab (below the input fields).
- \* Select all the fields you wish to search.

**To OR Search Values:**

- \* Type 'OR' between each value (no quotes).

See Search Value Help below for more details or for a description of boolean logic go to [here](#).

Search Field	Search Value	Remove
Casenotation	Ic	X
Casenotation	Id	X
SIGAD	AUC-993	X

**Select the Database(s) to query**

AUS sites  
 F6 sites  
 NZ sites

Content must exist

Check All  
 Uncheck All

**Basic Features Help**

- If you are selecting specific SIGADs, only select the sites that have data from that SIGAD.
- Queries will return faster.
- Less work for the system.



# Common mistakes

- If you select the SQL Report option, make sure you put a valid SQL statement!

SQL statement filled in:

```
SELECT casenotation,
count(*)
statement
FROM %{OUTPUT_TABLE}
WHERE casenotation!=""
GROUP BY casenotation
```

Workflow Central Request Wizard

Follow-on Actions

Would you like to add any follow on actions

No  Yes

Script	Script Arguments	Add
SQL Report	Type: CSV Email To: analyst@work.com Email Subject: My Workflow Results Email Content: Bad SQL - empty Email Attachment: <input type="checkbox"/> ROWR: <input type="checkbox"/> Return Only With Results Filename: Mail Order Trigraph: SQL: <pre>SELECT casenotation, count(*) FROM %{OUTPUT_TABLE} WHERE casenotation!="" GROUP BY casenotation</pre> GZIP: <input type="checkbox"/> Compress Contents	

Cancel ▲ Prev ▶ Next Submit



Questions?  
[xks\\_workflow@r1.r.nsa](mailto:xks_workflow@r1.r.nsa)