XKEYSCORE Workflows

05 March 2009

DERIVED FROM: NSA/CSSM 1-52
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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
  - Multiple-users can be notified
- If ownership needs to be changed, a ticket can be submitted to the team.
- Future: sharing workflows
  - Right now, only the owner has the results in their "My Results" view.

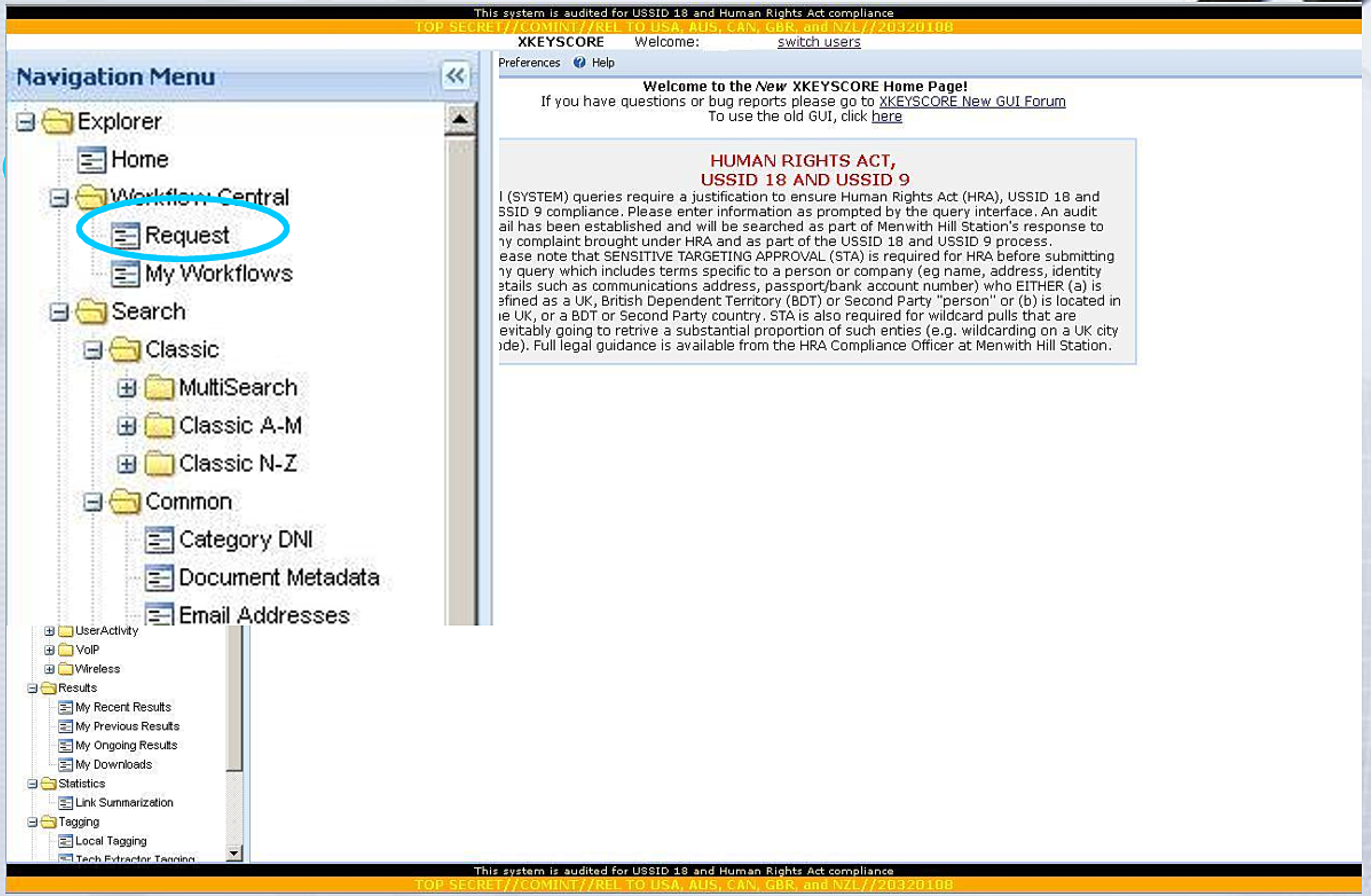
What can I do with a workflow?

- 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?



This system is audited for USSID 18 and Human Rights Act compliance

TOP SECRET//COMINT//REL TO USA, AUS, CAN, GBR, and NZL//20320108

XKEYSCORE Welcome:

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
SSID 9 compliance. Please enter information as prompted by the query interface. An audit
ail has been established and will be searched as part of Menwith Hill Station's response to
ny complaint brought under HRA and as part of the USSID 18 and USSID 9 process.
ease note that SENSITIVE TARGETING APPROVAL (STA) is required for HRA before submitting
ny query which includes terms specific to a person or company (eg name, address, identity
etails such as communications address, passport/bank account number) who EITHER (a) is
efined as a UK, British Dependent Territory (BDT) or Second Party "person" or (b) is located in
e UK, or a BDT or Second Party country. STA is also required for wildcard pulls that are
evitably going to retrive a substantial proportion of such enties (e.g. wildcarding on a UK city
de). Full legal guidance is available from the HRA Compliance Officer at Menwith Hill Station.

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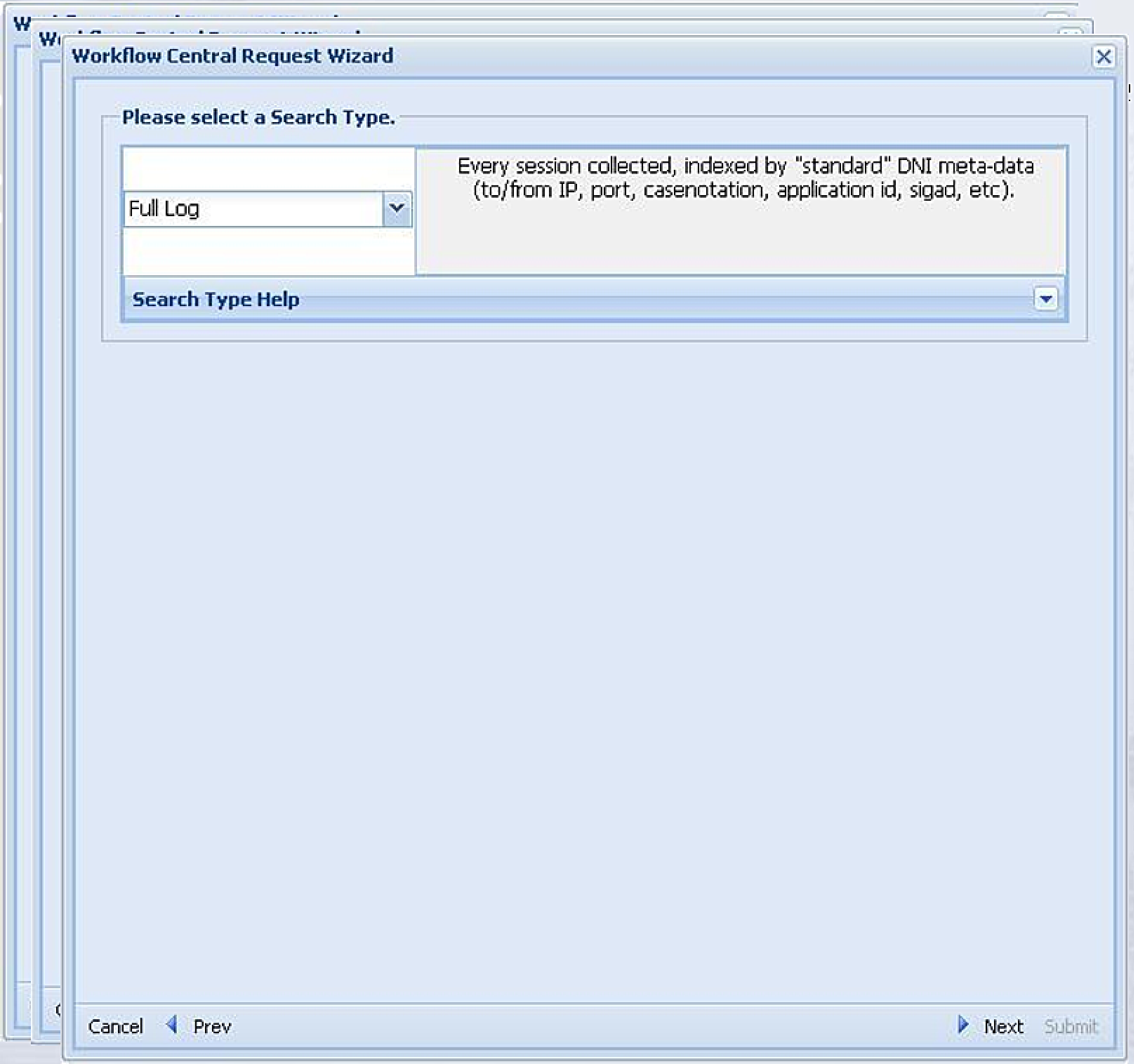
How do I setup a workflow?

First, s a workflc



Workflow Central Request Wizard

Please select a Search Type.

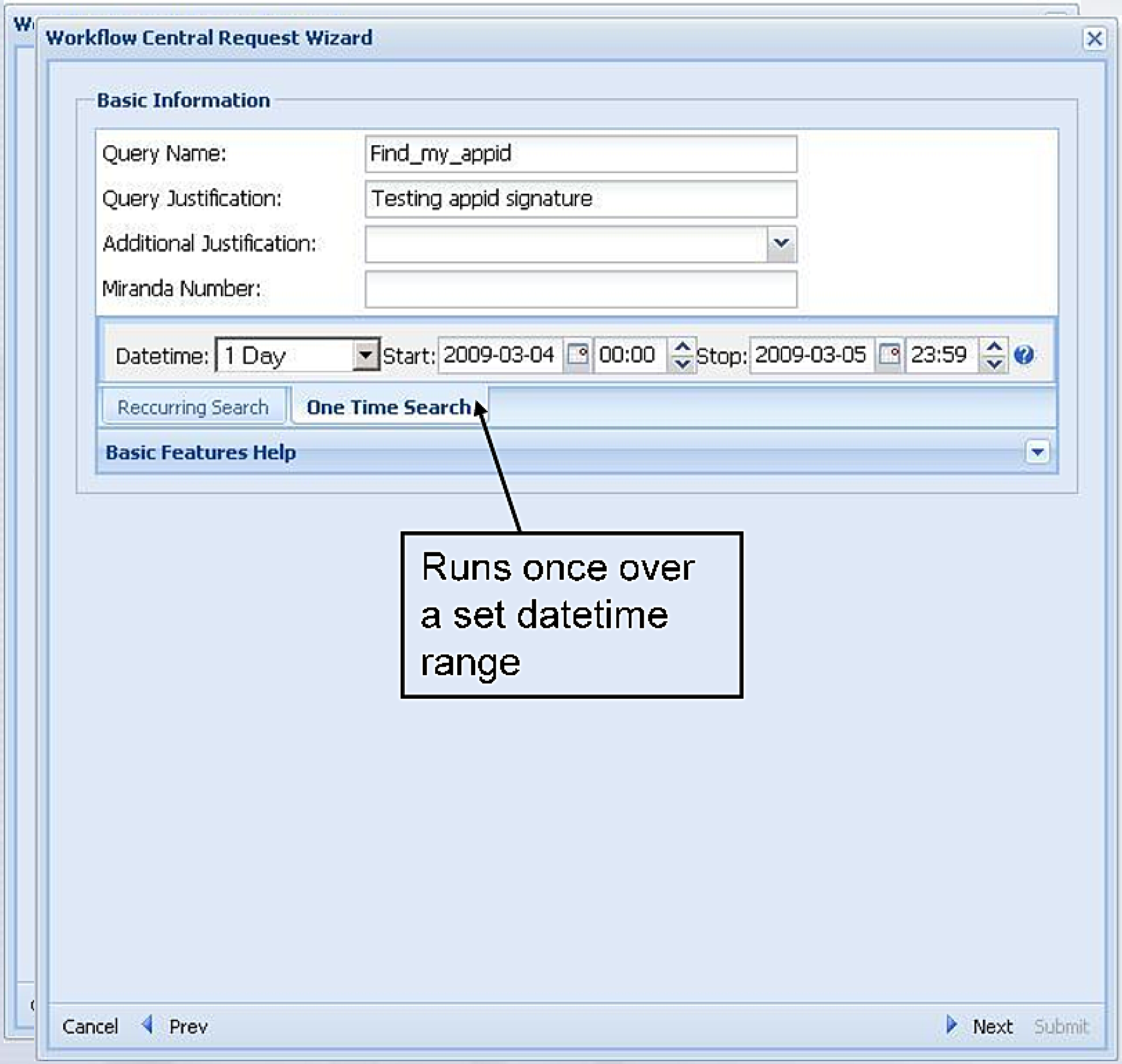
Full Log

Every session collected, indexed by "standard" DNI meta-data (to/from IP, port, casenotation, application id, sigad, etc).

How do I setup a workflow?

ring or one-

ıst be unique per user
must have a justification
justifications



Workflow Central Request Wizard

Basic Information

Query Name: Find_my_appid

Query Justification: Testing appid signature

Additional Justification:

Miranda Number:

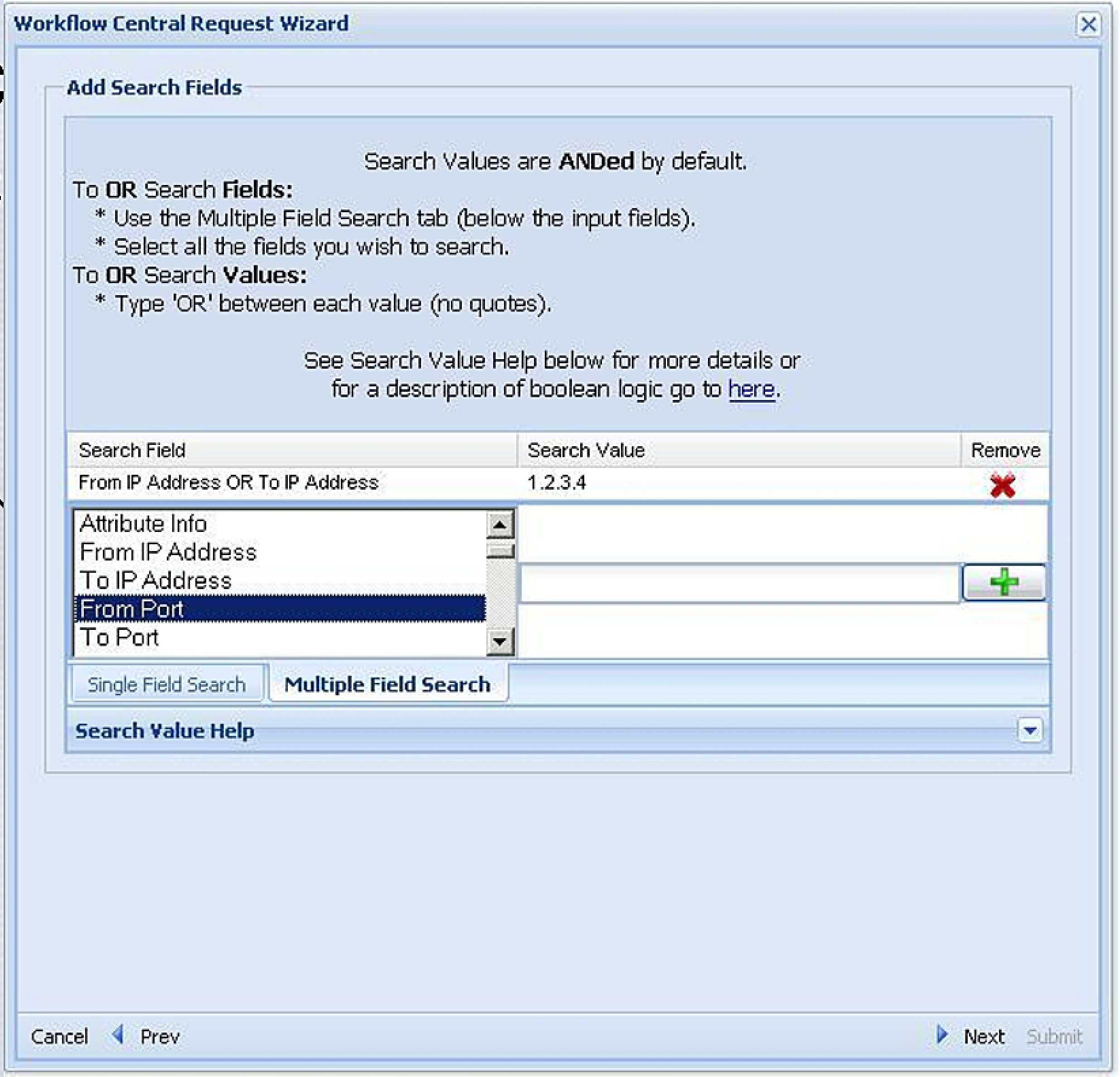
Datetime: 1 Day Start: 2009-03-04 00:00 Stop: 2009-03-05 23:59

Runs once over a set datetime range

How do I setup a workflow?

Selec ant to

searc



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.

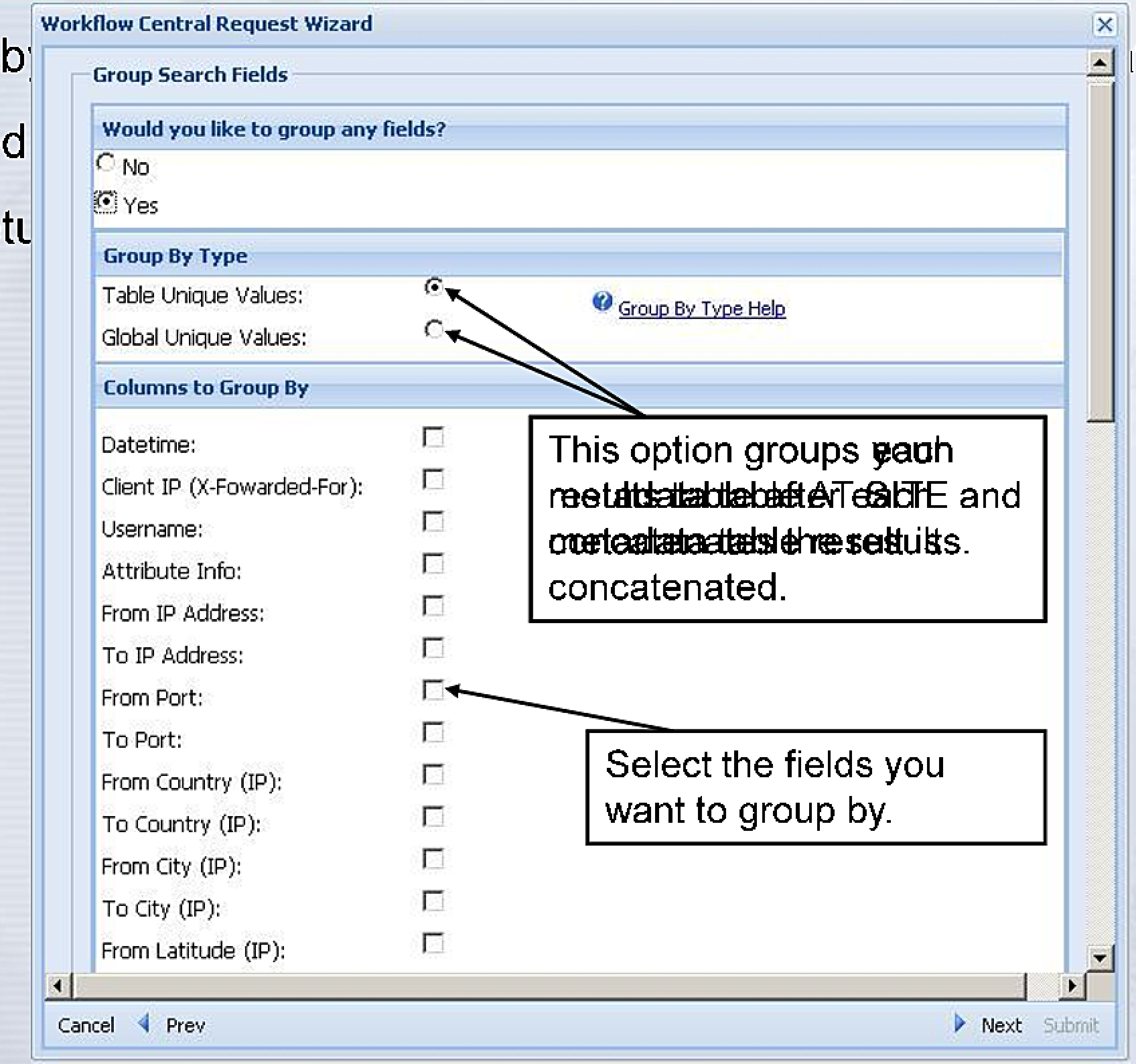
Search Field	Search Value	Remove
From IP Address OR To IP Address	1.2.3.4	✖

Select a field to search

or every field, ou must select e PLUS key

Group by option

- Group b ta results.
  - Red
  - Retu



Would you like to group any fields?

○ No
● Yes

Group By Type

Table Unique Values: ●
Global Unique Values: ○

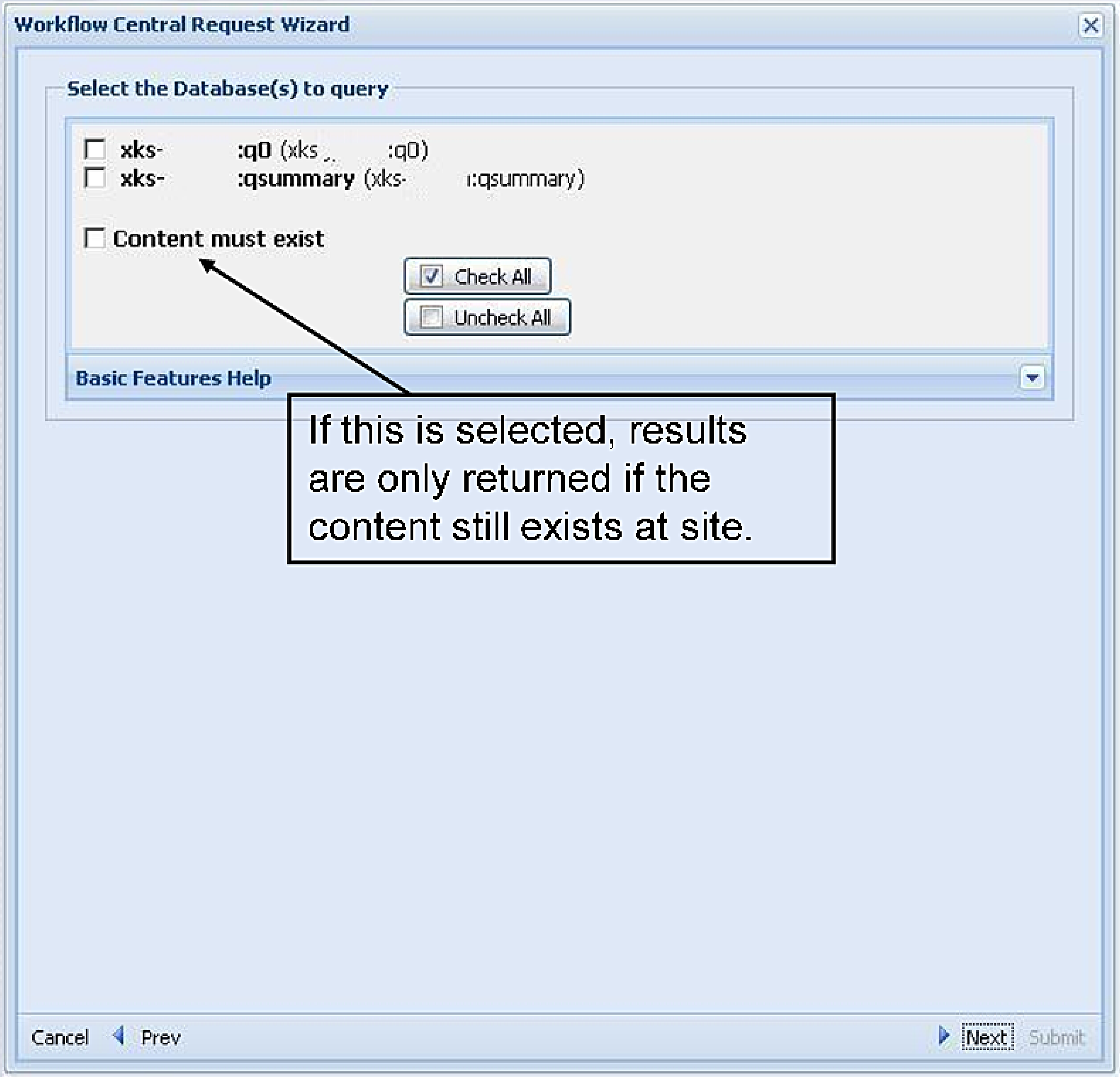
Columns to Group By

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 result table by SITE and concatenates the results.
concatenated.

Select the fields you want to group by.

Select databases



Workflow Central Request Wizard

Select the Database(s) to query

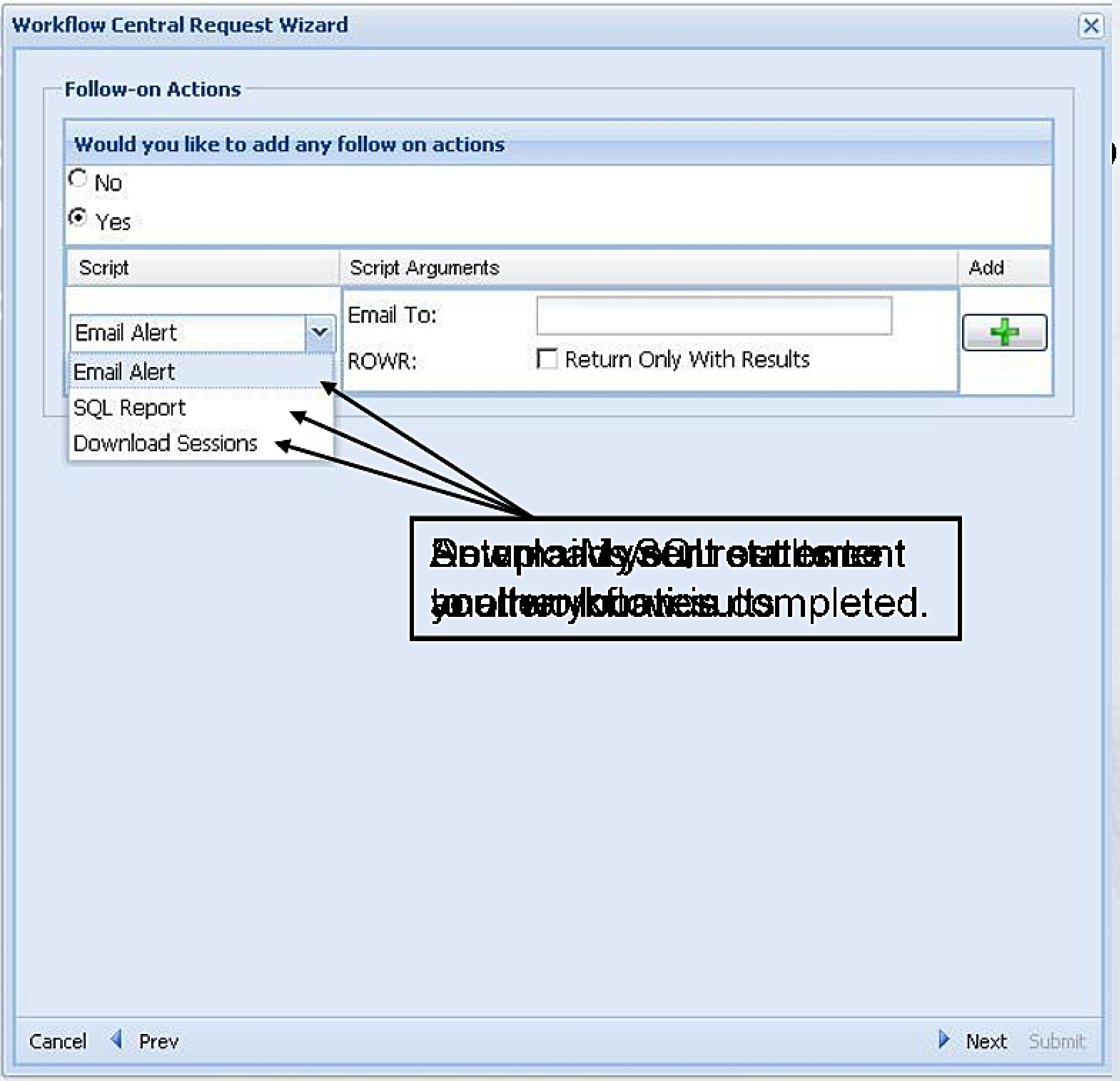
- ☐ xks- :q0 (xks ,. :q0)
- ☐ xks- :qsummary (xks- ı:qsummary)

☐ Content must exist

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

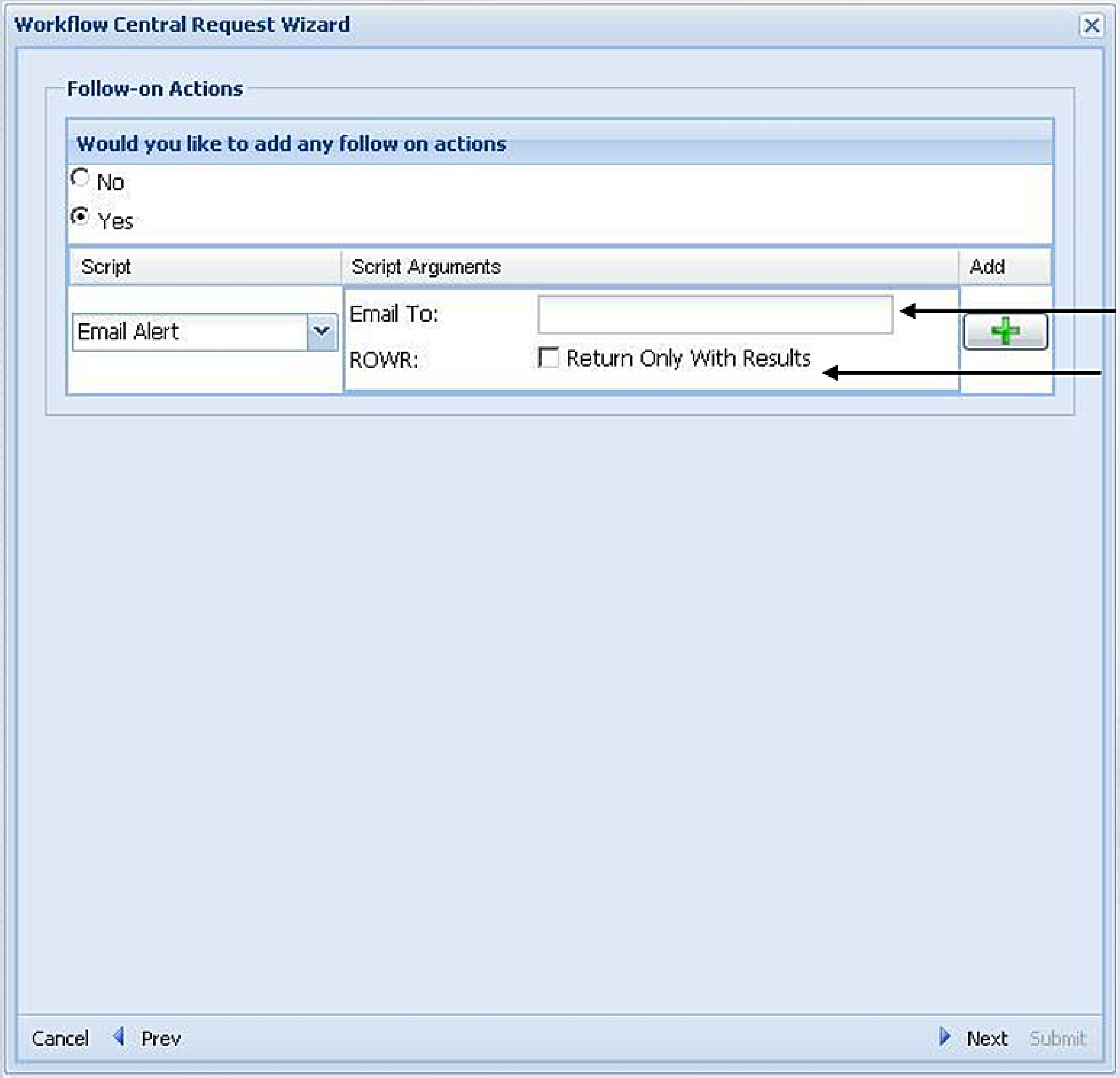
Follow on Actions

- Allo
- Allo ntent) to another loca
- Allo



[illegible] completed.

Email alert



Workflow Central Request Wizard

Follow-on Actions

Would you like to add any follow on actions

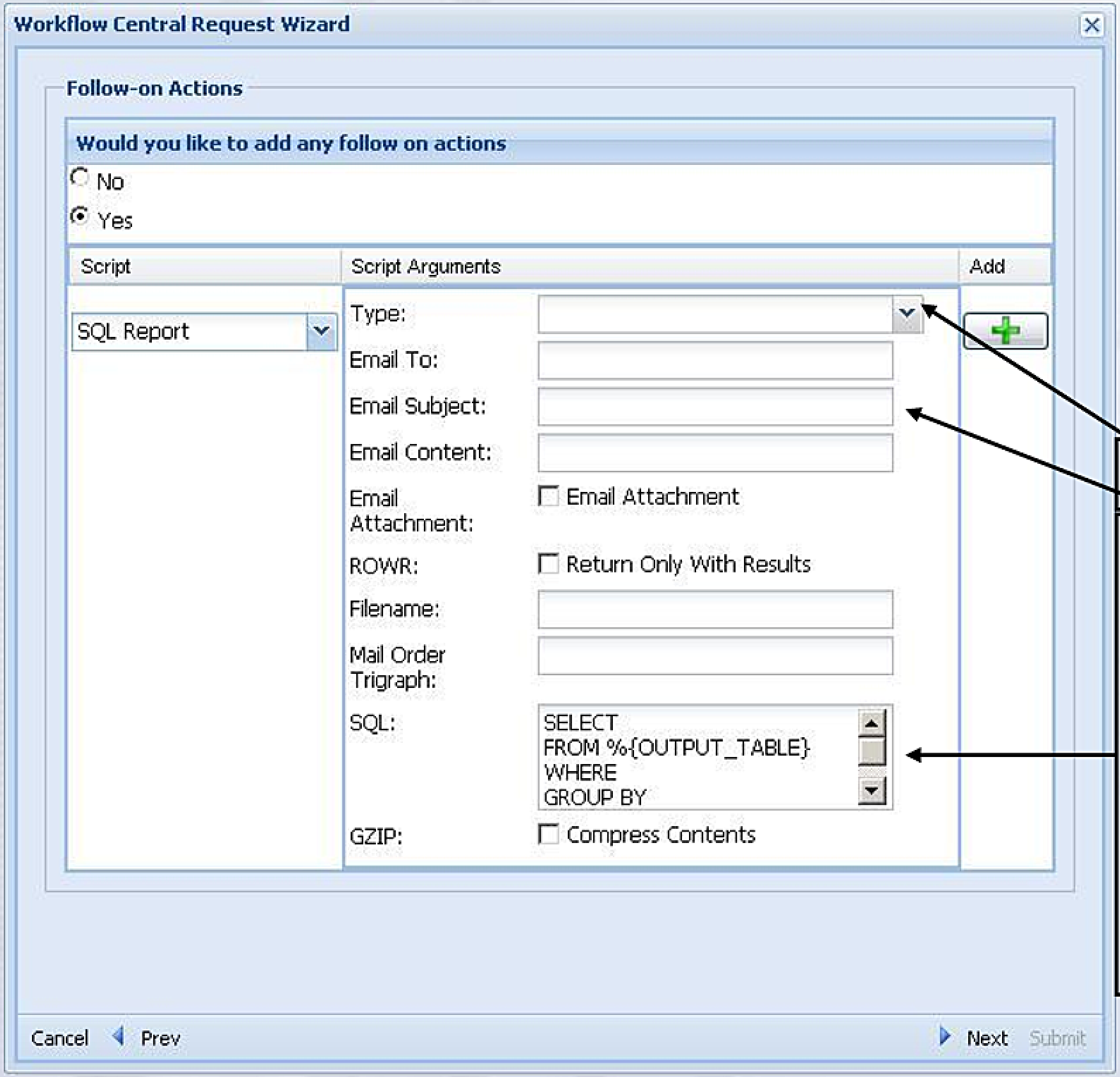
○ No
● Yes

Script	Script Arguments		Add
Email Alert	Email To:		
	ROWR:	□ Return Only With Results	

Comma delimited email addresses.

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

SQL report



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:		+
	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

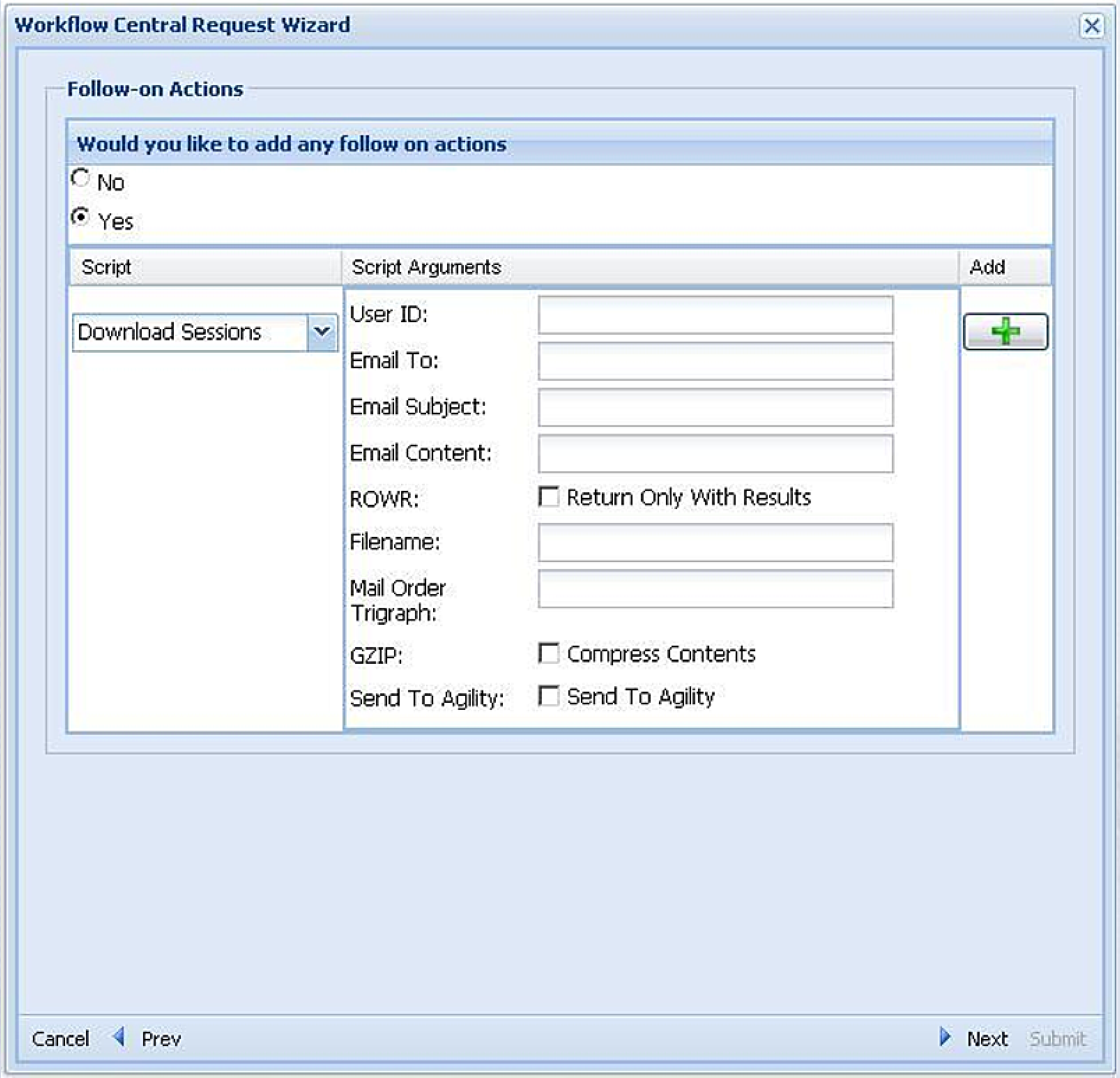
Email metadata that a user can set.

This must be a VALID SQL statement.

Example:

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

Download Results



Workflow Central Request Wizard

Follow-on Actions

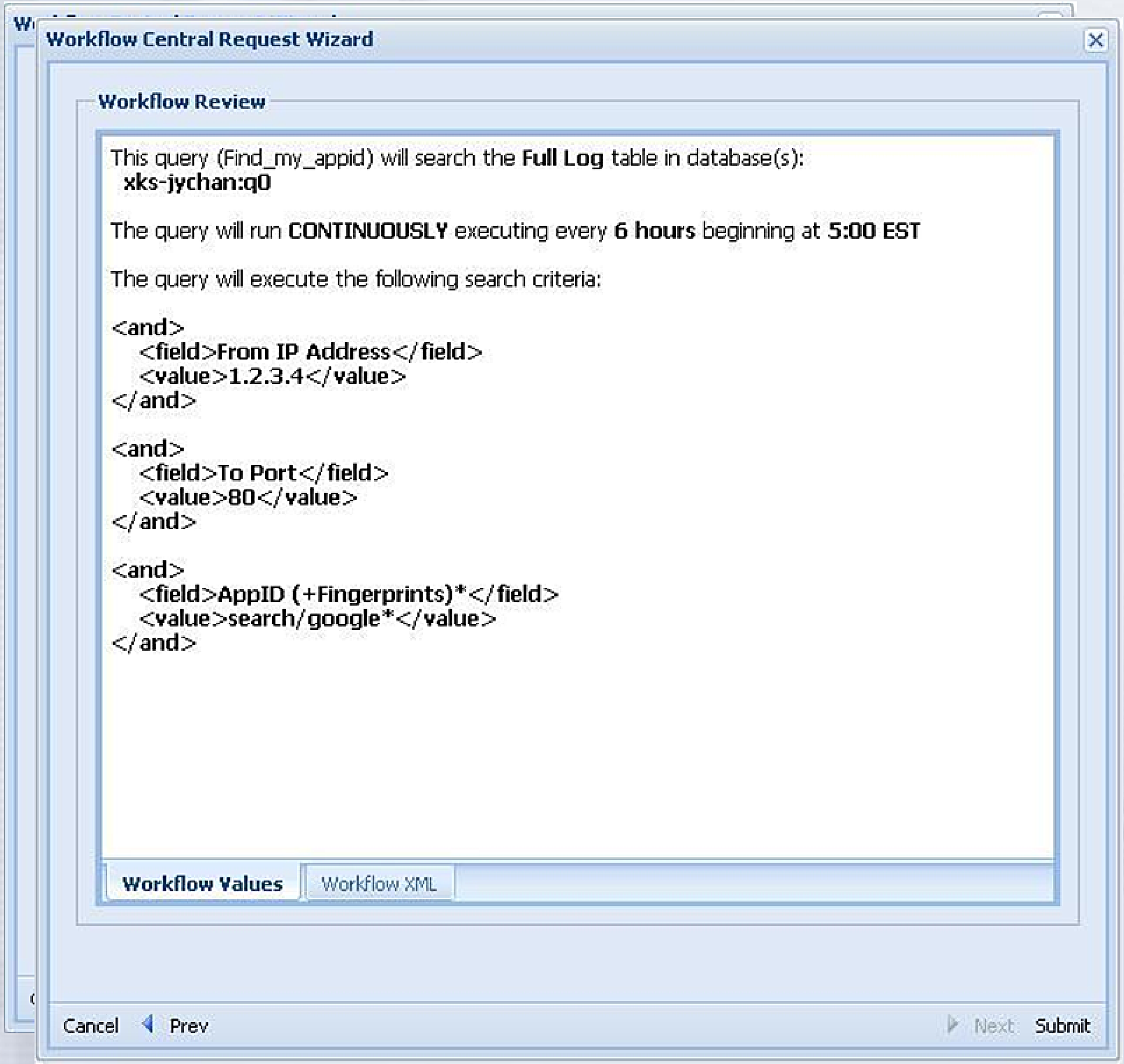
Would you like to add any follow on actions

○ No

● Yes

Script	Script Arguments		Add
Download Sessions	User ID:		+
	Email To:		
	Email Subject:		
	Email Content:		
	ROWR:	□ Return Only With Results	
	Filename:		
	Mail Order Trigraph:		
	GZIP:	□ Compress Contents	
	Send To Agility:	□ Send To Agility	

You’re almost done!



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**

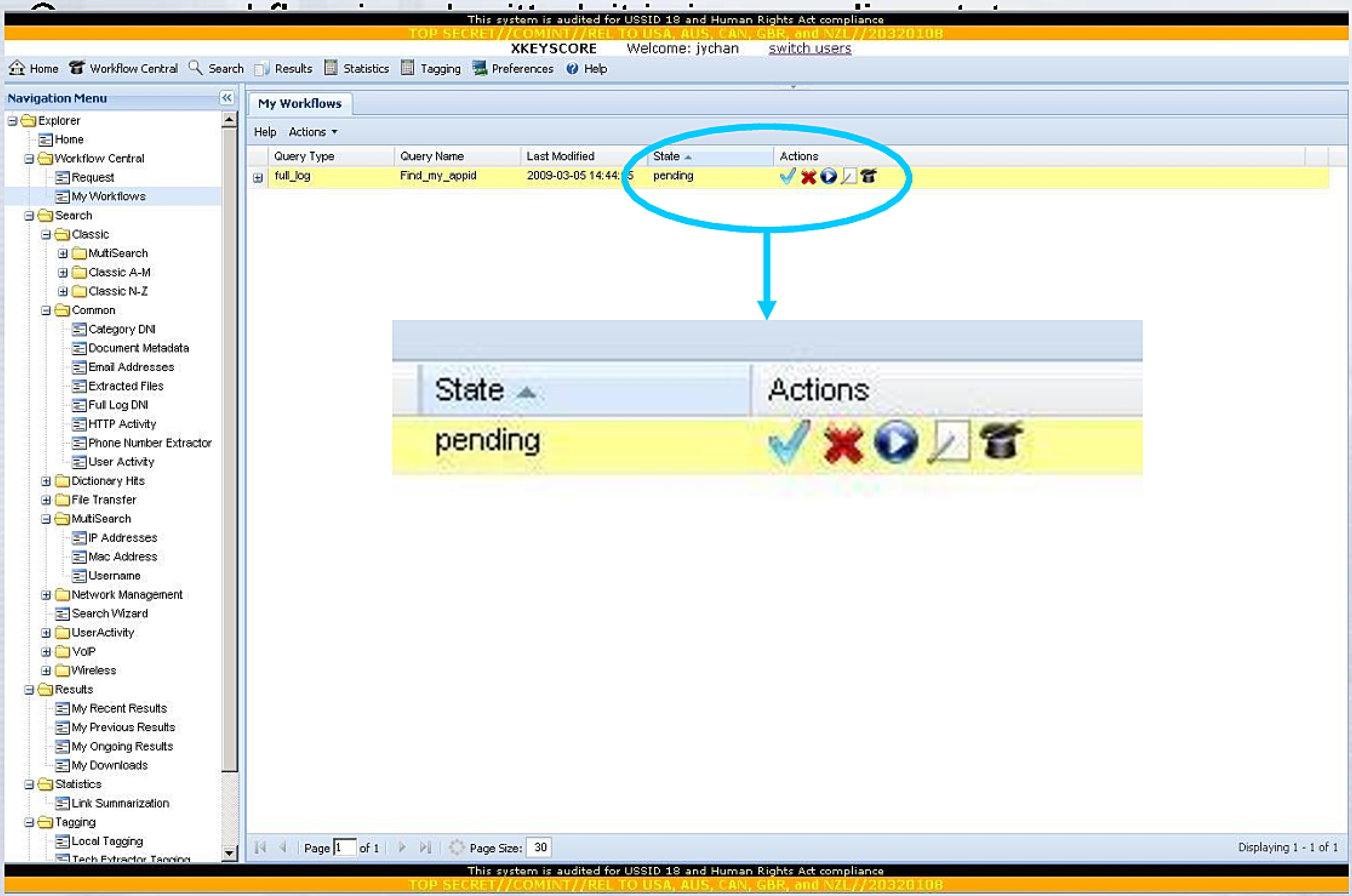
The query will execute the following search criteria:

```
<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 Pending



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XKEYSCORE Welcome: jychan switch users

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

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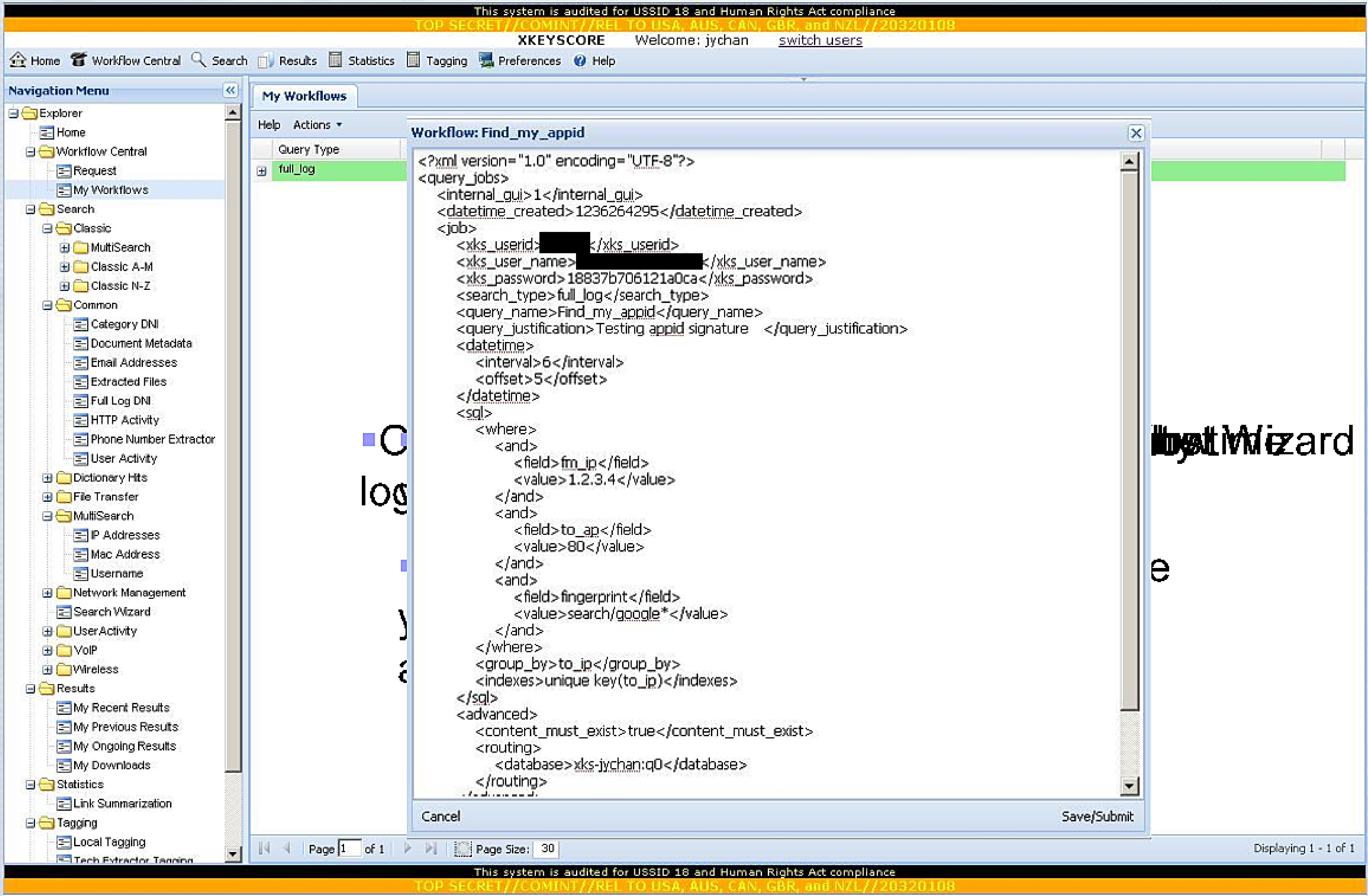
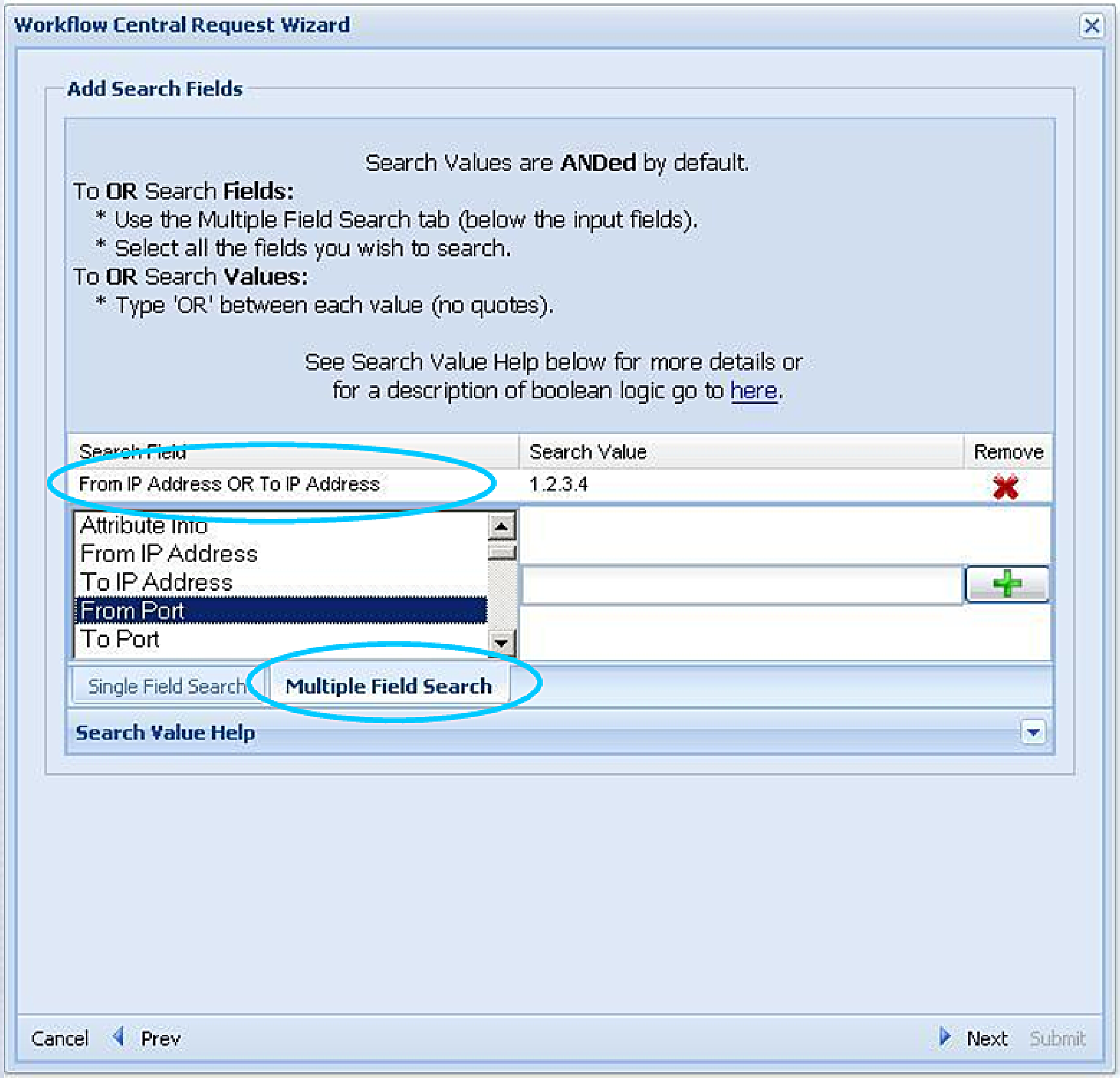
Workflow Approved



```
<?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>
```

Common mistakes

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



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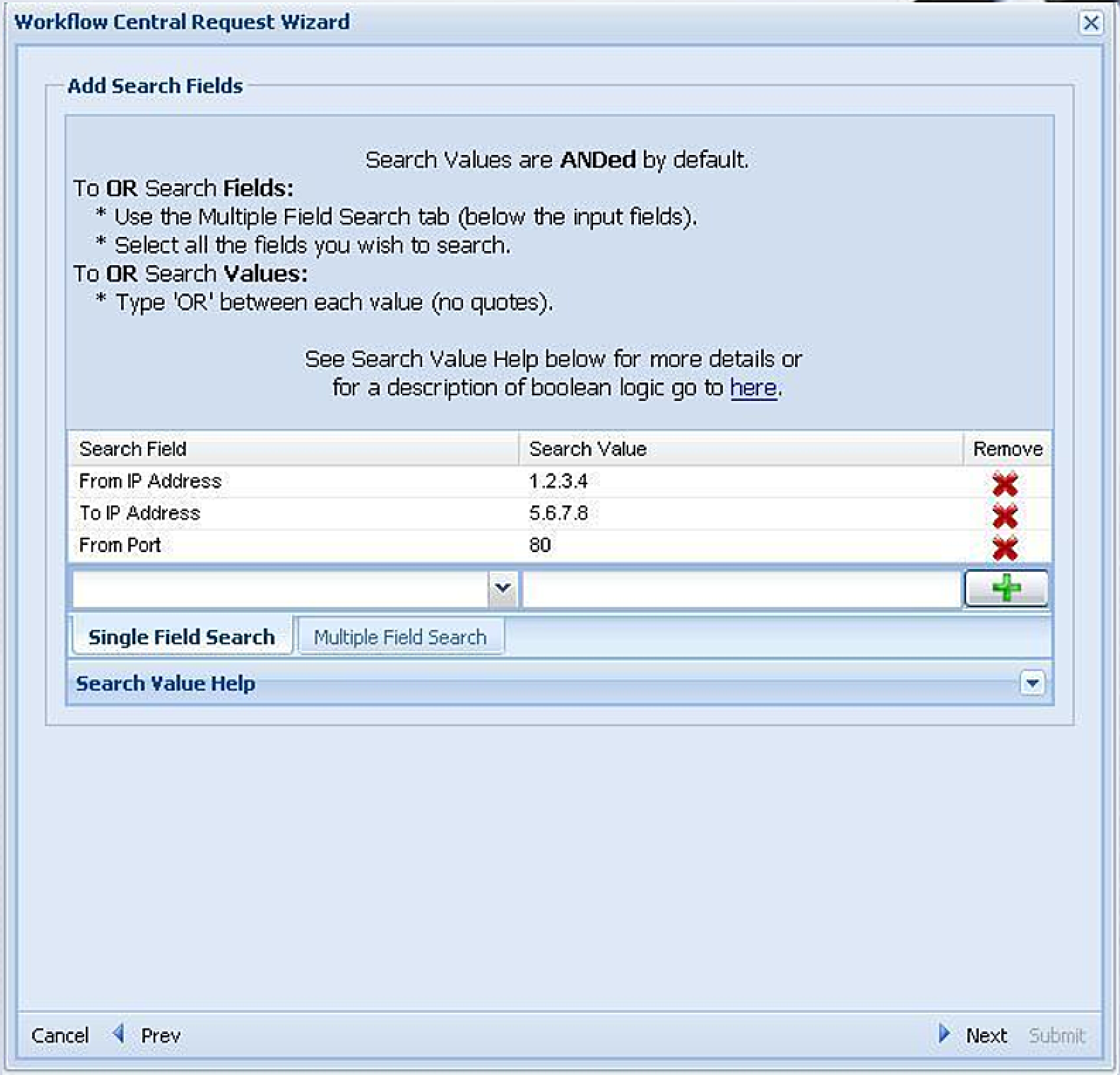
for a description of boolean logic go to here.

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

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.



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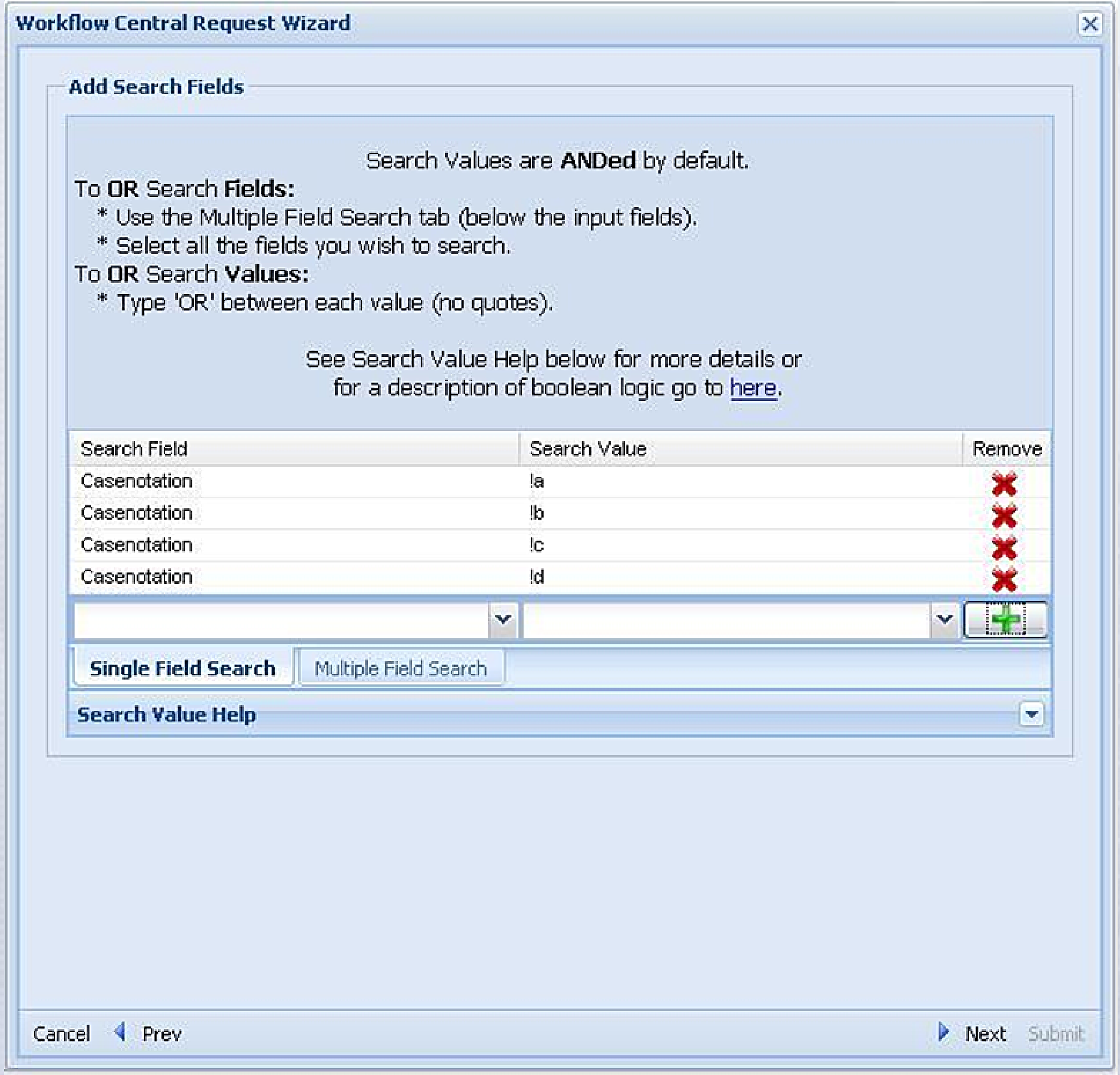
Search Field	Search Value	Remove
From IP Address	1.2.3.4	✖
To IP Address	5.6.7.8	✖
From Port	80	✖

Common mistakes

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



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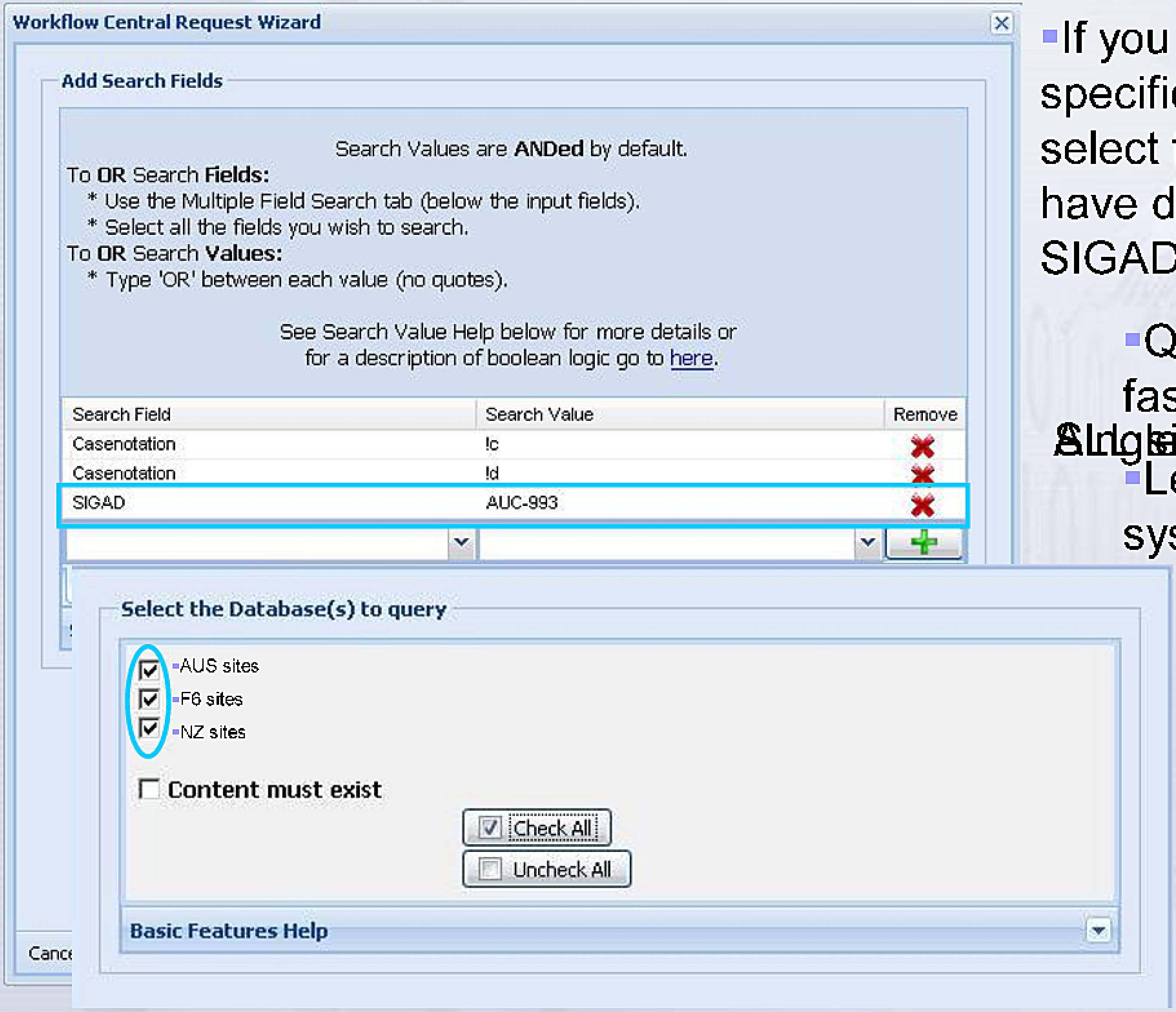
Search Field	Search Value	Remove
Casenotation	!a	✖
Casenotation	!b	✖
Casenotation	!c	✖
Casenotation	!d	✖

Common mistakes



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Search Field	Search Value	Remove
Casenotation	!c	✖
Casenotation	!d	✖
SIGAD	AUC-993	✖

Select the Database(s) to query

☑ AUS sites
☑ F6 sites
☑ NZ sites

☐ Content must exist

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

Single SIGAD

All sites selected

  - 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:

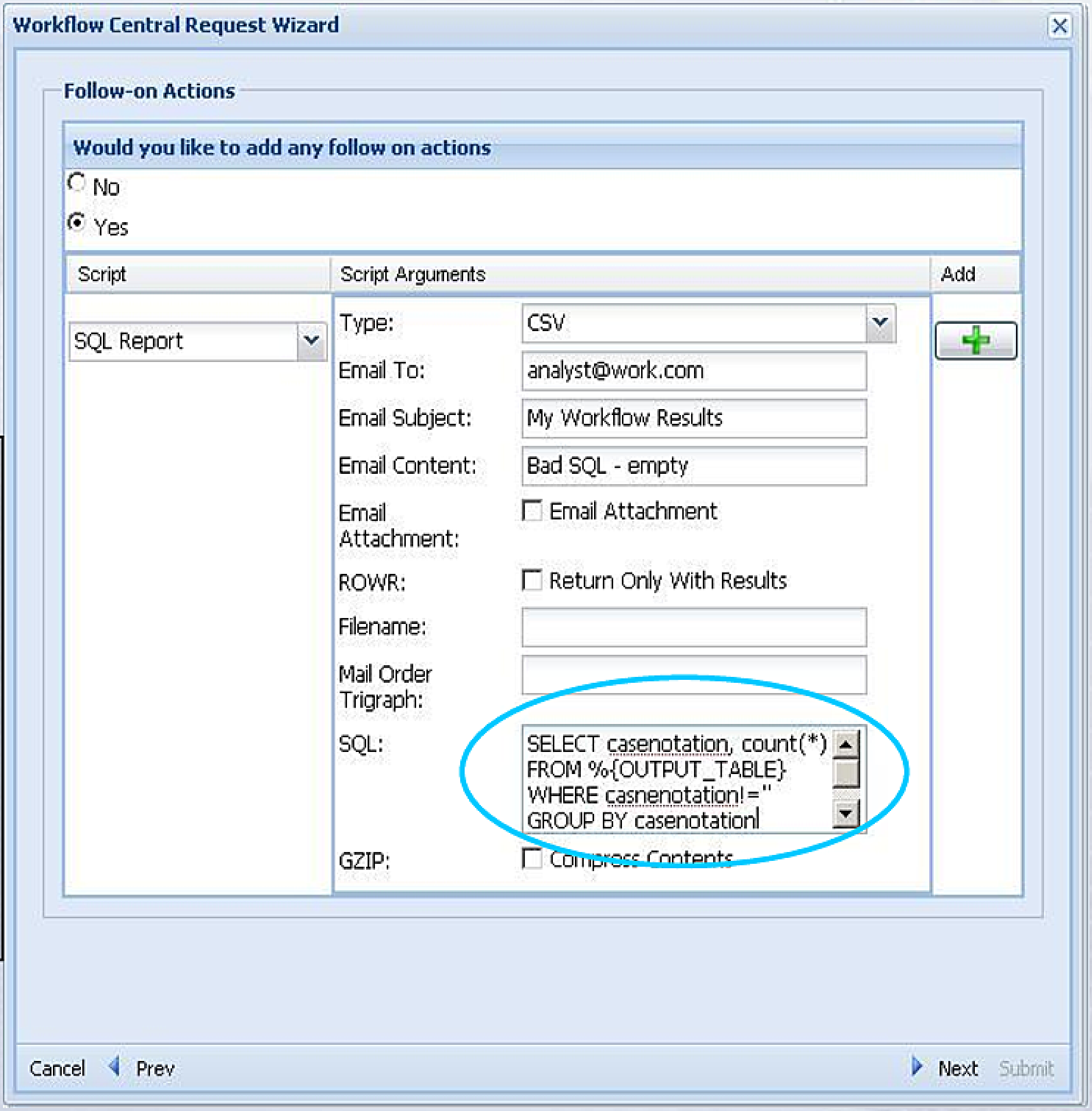
SELECT casenotation, count(*)

EMPTY 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: □ Email Attachment ROWR: □ Return Only With Results Filename: Mail Order Trigraph: SQL: SELECT casenotation, count(*) FROM %{OUTPUT_TABLE} WHERE casnenotation!='' GROUP BY casenotation GZIP: □ Compress Contents	+

XKEYSCORE

Questions?

xks_workflow@r1.r.nsa