

IPInfo App for Splunk

App Version: 5.7.3

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Description: Installation and Configuration Document for IPInfo App for Splunk

Latest Update Date: 25th June, 2022

Version Summary

Version	Change History
1.0.0	Initial Version
1.0.2	Added Screenshots and Web Installation Steps
1.0.3	Replace old dashboard screen with new
1.0.7	Bug Fixes, Color Issues
3.0.0	Support to Splunk 8.x and Python 3.x
	Internal Updates
3.4.9	New scripted lookup New ipinfobatch command
3.4.11	Bug Fixes and Compliance to Splunk App Inspect
3.5.3	Added Support for New Lookup Commands. - privacyinfolookup - domaininfolookup - rangesinfolookup
3.5.4	Bugfixes : Issues with ipinfolookup command
4.0.0	IPInfo not supported on Splunk 6.x and 7.x
4.0.9	Support for Proxy Settings
5.0.2	Support for Splunk Search Head Cluster
5.1.1	Merging ipinfolookup capability with original ipinfo command privacyinfolookup to now be privacyinfo domaininfolookup to now be domaininfo rangesinfolookup to now be rangesinfo
5.1.2	Updating `ipinfo` command to support ipinfo bulk api
5.2.8	Feature to Add custom rootCA certificate. Feature to Disable the SSL verification. Couple of other Bug fixes.
5.2.10	Updating Python Library to 1.6.15 Bug Fixes with Batch Command
5.3.1	Adding WorkFlow Action for IPInfo
5.4.0	Support batching in privacy command
5.4.1	Cleaning Up of Old Splunk Code and Minor Bug Fixes
5.4.2	Introducing lat/lon along with loc, for better support with maps
5.4.3	Adding prefix=true support with ipinfo command
5.5.0	Multi IP support with ipinfo command (eg ipinfo src_ip dest_ip)
5.5.1	Adding a privacy=true flag so that the results are returned as part of the ipinfo command and other Minor Bug Fixes

5.6.1	Adding a privacy=true flag so that the results are returned as part of the ipinfo command Support for multiple fields in one go , for example ipinfo prefix=true src_ip, dest_ip
5.6.2	Minor BugFixes with commands
5.6.3	Minor BugFixes with setup page
5.7.3	Support for Authenticated Proxy Splunk Cloud Compatibility Package

Supported OS

OS
Windows 10
Windows Server 2012
Windows Server 2016
Windows Server 2019
RHEL 7
RHEL 8
UBUNTU 14
UBUNTU 16
UBUNTU 18
UBUNTU 20

Supported Splunk

Splunk
Splunk 8.X
Splunk 9.X

IPInfo App for Splunk

IPInfo App for Splunk provides an Integration between IPInfo API and Splunk. This app adds *ipinfo* command to Splunk, which uses IPINFO API engine to lookup information for a given IP

Install the App

NOTE: There are multiple ways of deploying apps to Splunk environment, in this document we'll be referring installation via CLI (Command Line Interface)

CASE1: SINGLE STAND ALONE MACHINE (CLI)

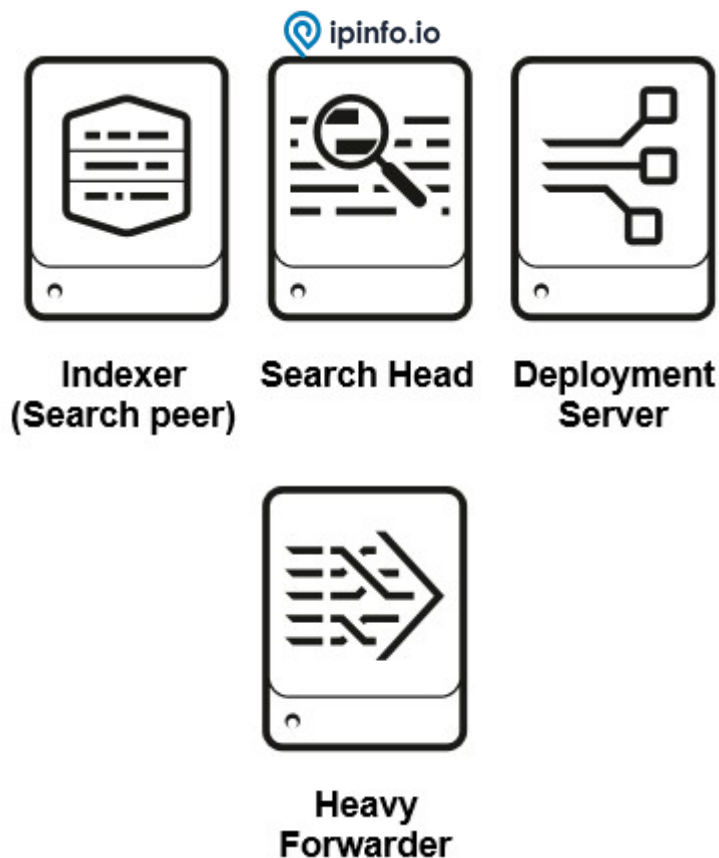
Single standalone Splunk Enterprise Installation on Windows/*NIX



1. **Unzip ipinfo_app.spl**
2. **Copy** the unzipped directory **ipinfo_app** to **\$SPLUNK_HOME/etc/apps/**
3. **Open CLI** and restart Splunk using **./splunk restart**

CASE2: DISTRIBUTED ARCHITECTURE

Single Indexer Single Search head and Single forwarder (Heavy or Universal) and Deployment server



1. **Unzip ipinfo_app.spl**
2. **Copy** the unzipped directory **ipinfo_app** to deployment server in the following location
\$SPLUNK_HOME/etc/deployment-apps/
3. Add following to **serverclass.conf**

```
[serverClass:<SEARCHHEAD_SERVERCLASS>:app:< ipinfo_app > ]  
stateOnClient=enabled  
restartSplunkd=true
```

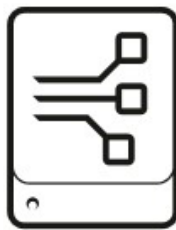
4. **Open CLI** deploy the apps using following command **./splunk reload deploy-server**

CASE3: DISTRIBUTED ARCHITECTURE

Multiple non-clustered Indexers, Multiple non-clustered SearchHeads, Forwarder(Heavy or Universal) and



Deployment server



**Deployment
Server**



**Heavy
Forwarder**

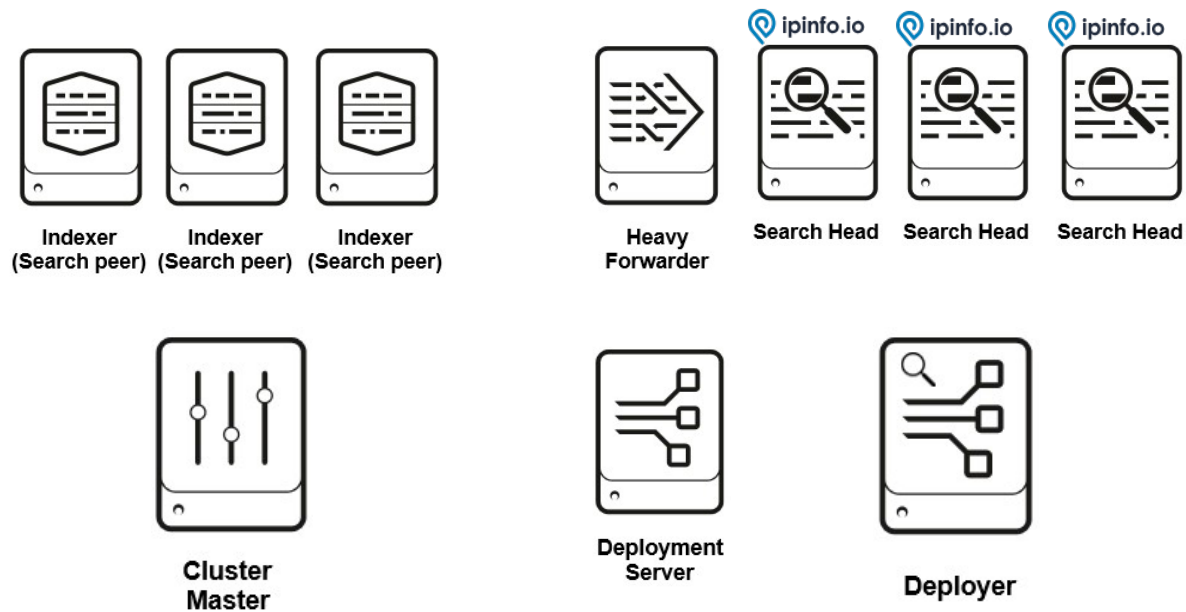
1. **Unzip ipinfo_app.spl**
2. **Copy** the unzipped directory **ipinfo_app** to deployment server in the following location
\$SPLUNK_HOME/etc/deployment-apps/
3. Add following to **serverclass.conf**

```
[serverClass:<SEARCHHEAD_SERVERCLASS>:app:< ipinfo_app >]
stateOnClient=enabled
restartSplunkd=true
```

4. **Open CLI** deploy the apps using following command **./splunk reload deploy-server**

CASE4: DISTRIBUTED ARCHITECTURE

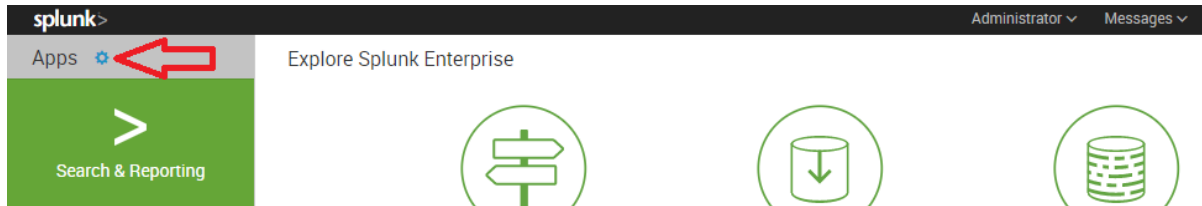
Single Site clustered Indexer, Clustered Search heads and Forwarder (Heavy or Universal).



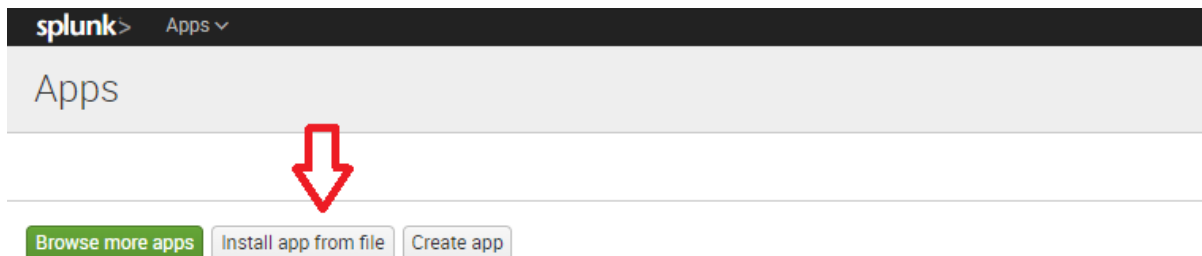
1. **Unzip ipinfo_app.spl**
2. **Copy ipinfo_app** to Deployer server in the following location `$SPLUNK_HOME/etc/shcluster/apps/`
3. **Open CLI** on Deployer and deploy the app on Search Head Cluster using following command
`./splunk apply shcluster-bundle -target <URI>:<management_port> -auth <username>:<password>`

CASE5: STANDALONE INSTALLATION (WEB)

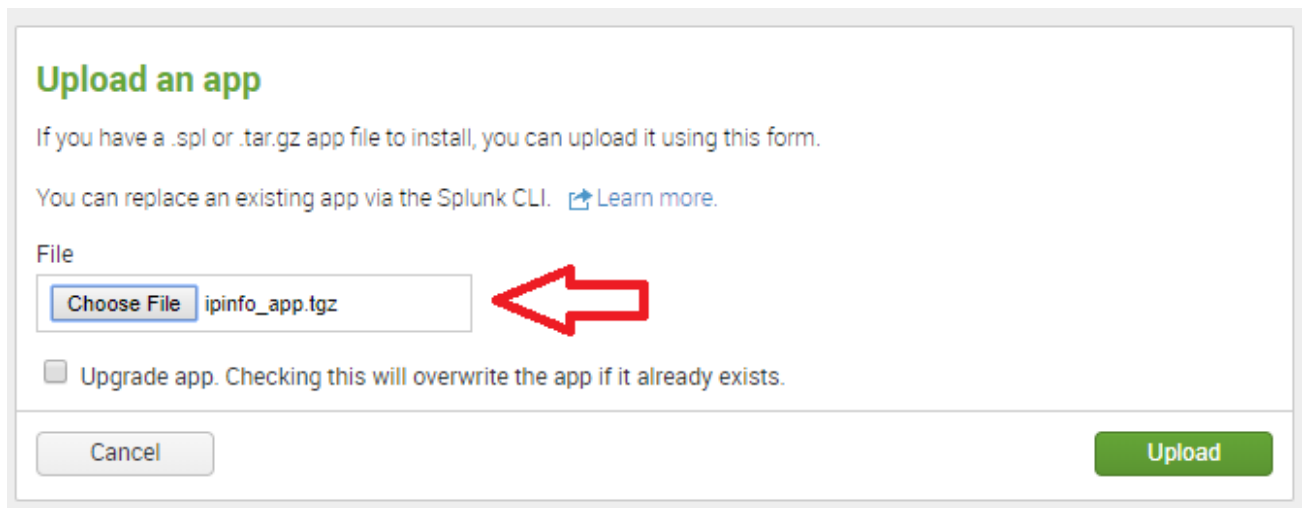
1. On the Splunk Home Page, Click on “Manage Apps”



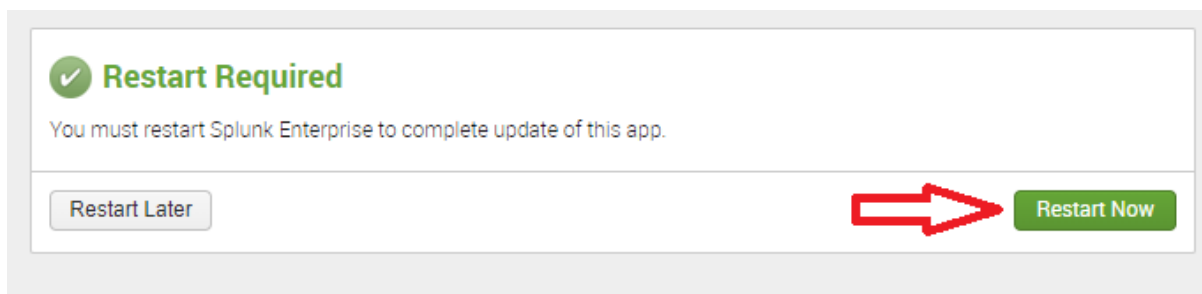
2. On the Manage Apps page, Click on “Install app from file”



3. Select path for IPINFO Splunk app and Click “Upload”



4. Splunk will prompt you to restart the machine, please restart



Configuration

1. After Installation and restart, login to the Splunk web and go to 'Manage Apps'
2. It will list out all the installed application and their configuration option.
3. Look for 'IPINFO' and click on the 'Set-Up' link to configure the add on.
- 4.

Apps

ipinfo

Browse more apps | Install app from file | Create app

Showing 1-2 of 2 items

Results per page 25

Name	Folder name	Version	Update checking	Visible	Sharing	Status	Actions
IPINFO	ipinfo_app	1.0.1Beta	Yes	No	Global Permissions	Enabled Disable	Set up Edit properties View objects View details on SplunkApps

API Configuration

Just Enter your personalized authorization token, there is also link to purchase the token

Proxy

☐ Enable proxy

Proxy host

Proxy port

Proxy username

Proxy password

Proxy type

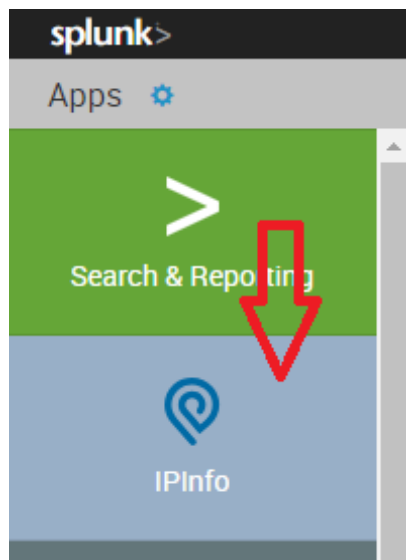
☒ Remote DNS resolution

Just update ip_info_setup.conf in `$SPLUNK_HOME/etc/apps/ip_info/local/`

```
[ip_info_configuration]
api_url = https://ipinfo.io/
api_token = <your token here>
```

and restart Splunk

ACCESSING THE APP



TEST COMMAND

-----IPInfo -----

```
| makesresults 1 | eval IP1=random()%192, IP2=random()%210, IP3=random()%230,
IP4=random()%192, IP='IP1'.'.'.'IP2'.'.'.'IP3'.'.'.'IP4'| table _time IP | ipinfo IP
```

Availability of Fields

- **Basic Subscription** - ip, city, region, country, loc, org, postal, hostname
- **Standard Subscription** - ip, city, region, country, loc, postal, hostname asn_asn, asn_name, asn_domain, asn_route, asn_type
- **Pro Subscription** - ip, city, region, country, loc, postal, hostname asn_asn, asn_name, asn_domain, asn_route, asn_type, company_name, company_domain, company_type, carrier_name, carrier_mcc, carrier_mnc

----- IPInfo -----

```
| makesresults count=2000
| eval IP1=random()%192, IP2=random()%210, IP3=random()%230, IP4=random()%192,
IP='IP1'.'.'.'IP2'.'.'.'IP3'.'.'.'IP4'
| table _time IP
| ipinfo IP
```

----- IPInfo ----- (Multi)

```
| makesresults count=100
| eval IP1=random()%192, IP2=random()%210, IP3=random()%230, IP4=random()%192,
SRCIP='IP1'.'.'.'IP2'.'.'.'IP3'.'.'.'IP4'
| eval IP1=random()%192, IP2=random()%210, IP3=random()%230, IP4=random()%192,
DESTIP='IP1'.'.'.'IP2'.'.'.'IP3'.'.'.'IP4'
| table _time SRCIP DESTIP
| ipinfo SRCIP DESTIP
```

----- IPInfo ----- (prefix)

```
| makesresults count=100
| eval IP1=random()%192, IP2=random()%210, IP3=random()%230, IP4=random()%192,
SRCIP='IP1'.'.'.'IP2'.'.'.'IP3'.'.'.'IP4'
| table _time SRCIP
| ipinfo prefix=true SRCIP
```

----- IPInfo ----- (privacy)

```
| makesresults count=2000
| eval IP1=random()%192, IP2=random()%210, IP3=random()%230, IP4=random()%192,
SRCIP='IP1'.'.'.'IP2'.'.'.'IP3'.'.'.'IP4'
| eval IP1=random()%192, IP2=random()%210, IP3=random()%230, IP4=random()%192,
DESTIP='IP1'.'.'.'IP2'.'.'.'IP3'.'.'.'IP4'
| table _time SRCIP DESTIP
| ipinfo prefix=true privacy=true SRCIP, DESTIP
```

----- IPInfo Batch -----

| ipinfobatch ip="197.94.71.228,197.94.71.227,197.94.71.221 , 197.94.71.226,197.94.71.225
,197.94.71.22"

----- privacyinfo -----

| makeresults | eval IP="23.24.240.0" | privacyinfo IP

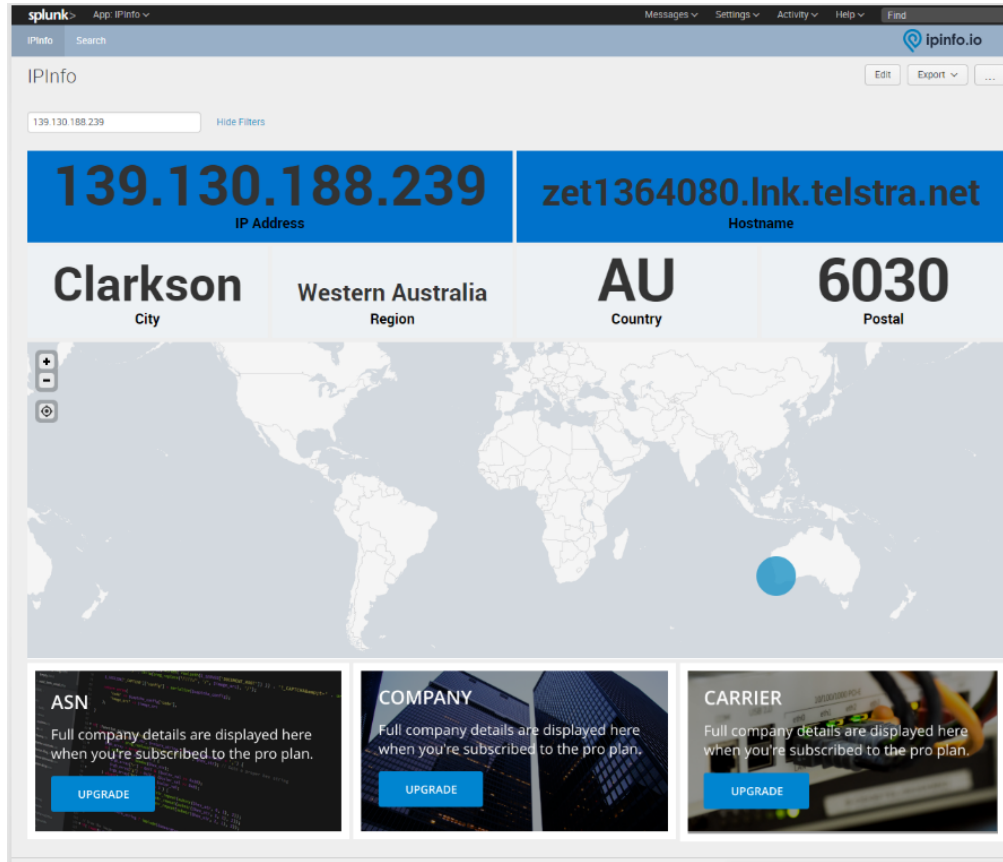
----- rangesinfo -----

| makeresults | eval domain="comcast.net" | rangeinfo domain

----- domaininfo-----

| makeresults | eval IP="1.1.1.1" | domaininfo IP

IPINFO BASIC



The screenshot shows the IPInfo web interface. At the top, there's a search bar with the IP address "139.130.188.239" entered. Below the search bar, the IP address is displayed in large blue text, followed by the hostname "zet1364080.lnk.telstra.net". Below this, the city "Clarkson", region "Western Australia", country "AU", and postal code "6030" are shown. A world map is displayed below the location information, with a blue dot indicating the location in Australia. At the bottom, there are three sections: "ASN", "COMPANY", and "CARRIER", each with a placeholder image and a blue "UPGRADE" button.

IP Address	Hostname
139.130.188.239	zet1364080.lnk.telstra.net

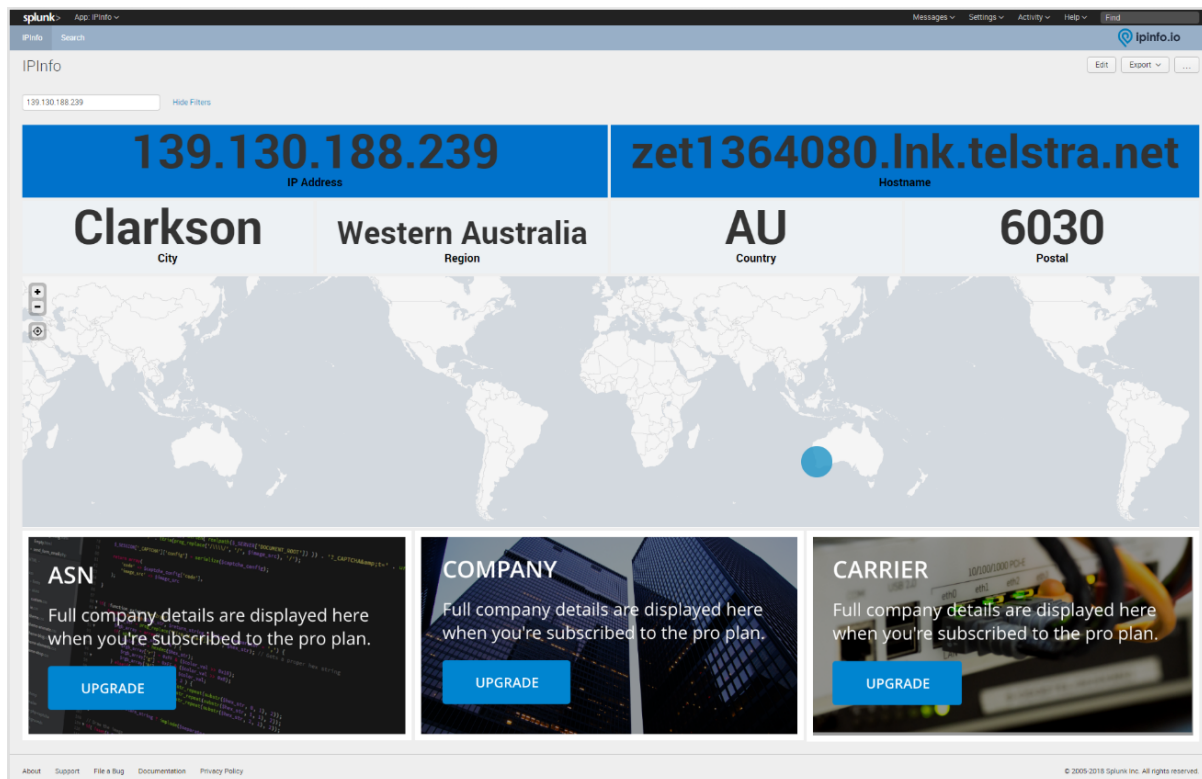
City	Region	Country	Postal
Clarkson	Western Australia	AU	6030

World Map showing location in Australia.

ASN
Full company details are displayed here when you're subscribed to the pro plan.
[UPGRADE](#)

COMPANY
Full company details are displayed here when you're subscribed to the pro plan.
[UPGRADE](#)

CARRIER
Full company details are displayed here when you're subscribed to the pro plan.
[UPGRADE](#)



This screenshot is identical to the one above, but includes a footer at the bottom. The footer contains links for "About", "Support", "File a Bug", "Documentation", and "Privacy Policy", along with a copyright notice: "© 2005-2018 Splunk Inc. All rights reserved."

IP Address	Hostname
139.130.188.239	zet1364080.lnk.telstra.net

City	Region	Country	Postal
Clarkson	Western Australia	AU	6030

World Map showing location in Australia.

ASN
Full company details are displayed here when you're subscribed to the pro plan.
[UPGRADE](#)

COMPANY
Full company details are displayed here when you're subscribed to the pro plan.
[UPGRADE](#)

CARRIER
Full company details are displayed here when you're subscribed to the pro plan.
[UPGRADE](#)

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splunk App: IPInfo Messages Settings Activity Help Find

IPInfo Search

139.130.188.239 Hide Filters

139.130.188.239

IP Address

zet1364080.lnk.telstra.net

Hostname

Clarkson

City

Western Australia

Region

AU

Country

6030

Postal

ASN		COMPANY		CARRIER	
Key ▾	Value ▾	Key ▾	Value ▾	Key ▾	Value ▾
ASN	AS1221	NAME	Telstra Internet	NAME	N/A
NAME	Telstra Pty Ltd	DOMAIN	telstra.com.au	MCC	N/A
DOMAIN	telstra.net	TYPE	isp	MNC	N/A
ROUTE	139.130.0.0/16				
TYPE	isp				

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splunk

App: IPInfo

Messages

Settings

Activity

Help

Find

IPInfo

Search

139.130.188.239

Hide Filters

139.130.188.239

IP Address

zet1364080.lnk.telstra.net

Hostname

Clarkson

City

Western Australia

Region

AU

Country

6030

Postal

ASN	COMPANY	CARRIER																												
<table> <tr> <th>Key</th> <th>Value</th> </tr> <tr> <td>ASN</td> <td>AS1221</td> </tr> <tr> <td>NAME</td> <td>Telstra Pty Ltd</td> </tr> <tr> <td>DOMAIN</td> <td>telstra.net</td> </tr> <tr> <td>ROUTE</td> <td>139.130.0.0/16</td> </tr> <tr> <td>TYPE</td> <td>isp</td> </tr> </table>	Key	Value	ASN	AS1221	NAME	Telstra Pty Ltd	DOMAIN	telstra.net	ROUTE	139.130.0.0/16	TYPE	isp	<table> <tr> <th>Key</th> <th>Value</th> </tr> <tr> <td>NAME</td> <td>Telstra Internet</td> </tr> <tr> <td>DOMAIN</td> <td>telstra.com.au</td> </tr> <tr> <td>TYPE</td> <td>isp</td> </tr> </table>	Key	Value	NAME	Telstra Internet	DOMAIN	telstra.com.au	TYPE	isp	<table> <tr> <th>Key</th> <th>Value</th> </tr> <tr> <td>NAME</td> <td>N/A</td> </tr> <tr> <td>MCC</td> <td>N/A</td> </tr> <tr> <td>MNC</td> <td>N/A</td> </tr> </table>	Key	Value	NAME	N/A	MCC	N/A	MNC	N/A
Key	Value																													
ASN	AS1221																													
NAME	Telstra Pty Ltd																													
DOMAIN	telstra.net																													
ROUTE	139.130.0.0/16																													
TYPE	isp																													
Key	Value																													
NAME	Telstra Internet																													
DOMAIN	telstra.com.au																													
TYPE	isp																													
Key	Value																													
NAME	N/A																													
MCC	N/A																													
MNC	N/A																													

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IPINFO PRO (WITH CARRIER)

splunk

App IPInfo

Messages

Settings

Activity

Help

Find

IPInfo

Search

IPInfo

105.4.5.193

Hide Filters

105.4.5.193

IP Address

N/A

Hostname

Germiston

City

Gauteng

Region

ZA

Country

1401

Postal

+

-

+

-

ASN		COMPANY		CARRIER	
Key	Value	Key	Value	Key	Value
ASN	AS37158	NAME	NETEL GGSN2	NAME	Cell C
NAME	Cell C (Pty) Ltd	DOMAIN	netel.co.za	MCC	655
DOMAIN	cellc.co.za	TYPE	isp	MNC	7
ROUTE	105.4.0.0/14				
TYPE	isp				

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splunk>
App: IPInfo
Messages
Settings
Activity
Help
Find

IPInfo
Search

Hide Filters

105.4.5.193

IP Address

N/A

Hostname

Germiston

City

Gauteng

Region

ZA

Country

1401

Postal

ASN		COMPANY		CARRIER	
Key	Value	Key	Value	Key	Value
ASN	AS37168	NAME	NEOTEL GCSN2	NAME	Cell C
NAME	Cell C (Pty) Ltd	DOMAIN	neotel.co.za	MCC	655
DOMAIN	celic.co.za	TYPE	isp	MNC	7
ROUTE	105.4.0.0/14				
TYPE	isp				

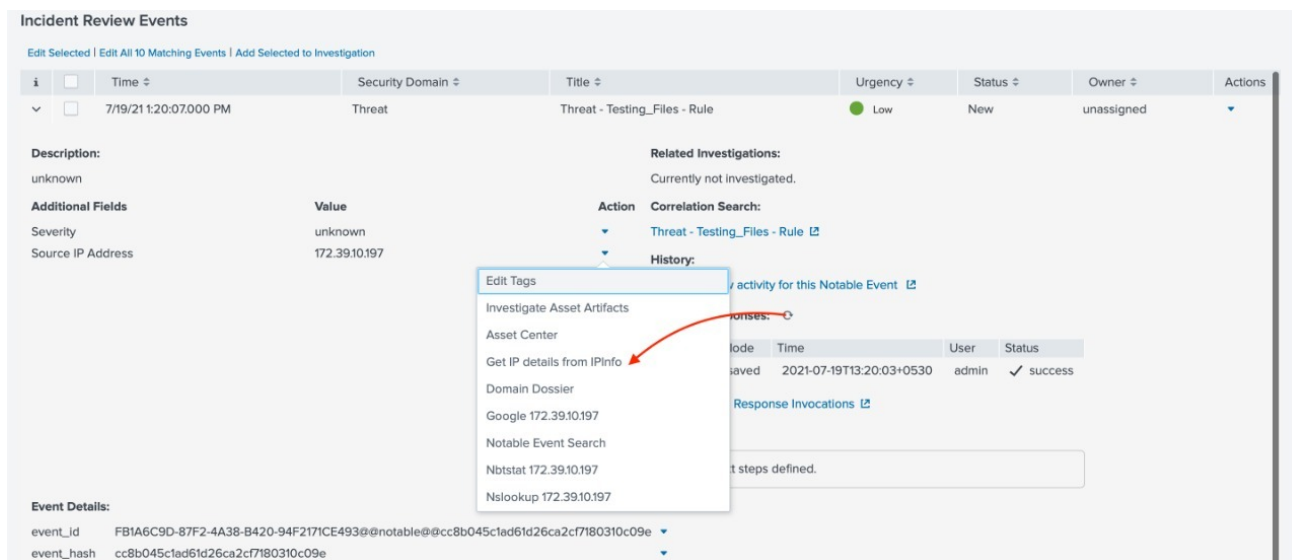
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Workflow Action:

From V5.3.1, we have added a new workflow actions in Splunk which will give you option to fetch details of IP from IPInfo by single click. It will work when fieldname is **ip** OR ***_ip** like **ip,dest_ip,src_ip** etc.

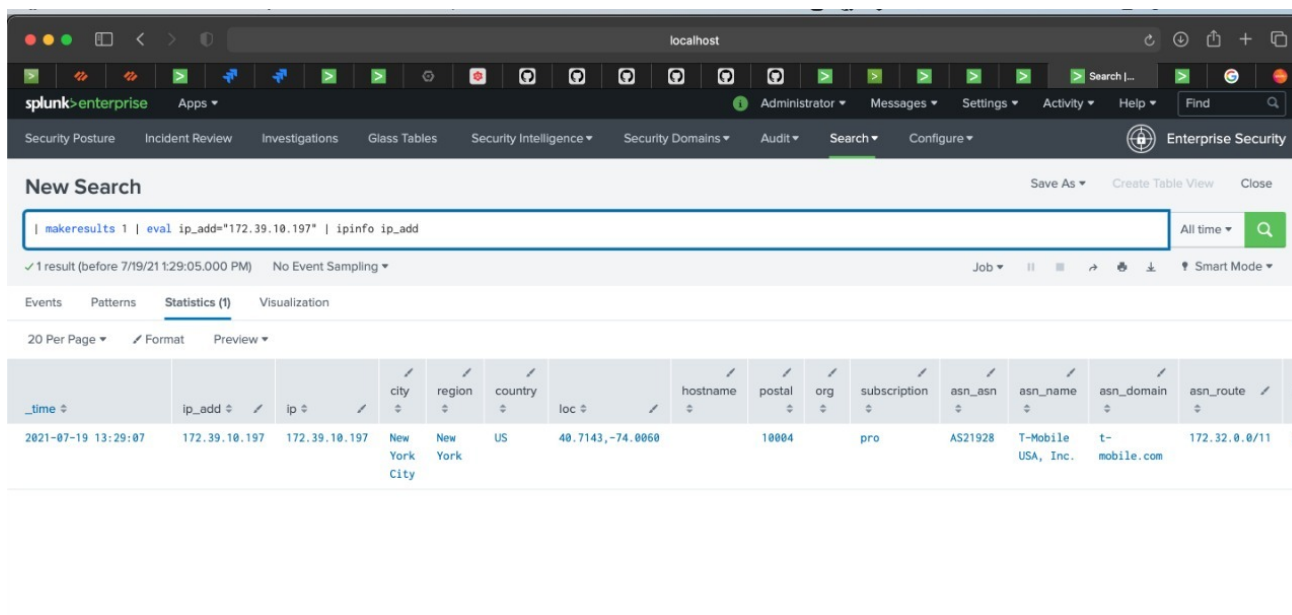
For Example:



The screenshot shows the 'Incident Review Events' interface in Splunk. A dropdown menu is open for the 'Action' field, listing several options. A red arrow points to the 'Get IP details from IPInfo' option. The interface also displays event details, related investigations, and correlation search results.

Field	Value
Description:	unknown
Severity	unknown
Source IP Address	172.39.10.197

Code	Time	User	Status
saved	2021-07-19T13:20:03+0530	admin	✓ success



The screenshot shows the 'New Search' interface in Splunk. The search query is `| makeresults 1 | eval ip_add="172.39.10.197" | ipinfo ip_add`. The search results show a single event with various fields including IP address, location, and organization details.

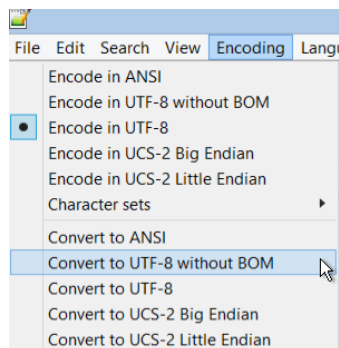
_time	ip_add	ip	city	region	country	loc	hostname	postal	org	subscription	asn_asn	asn_name	asn_domain	asn_route
2021-07-19 13:29:07	172.39.10.197	172.39.10.197	New York City	New York	US	40.7143,-74.0060		10004	pro		AS21928	T-Mobile USA, Inc.	t-mobile.com	172.32.0.0/11

1. Unicode issue with ip_info_setup.conf on certain windows machines

Sometimes we have noticed that unicode issue with ip_info_setup.conf which looks like this:

```
18/05/2022 2022-05-18 11:16:02,667 - IPINFO - ERROR -  
11:16:02.667 Traceback:  
Traceback (most recent call last):  
  File "C:\Program Files\Splunk\etc\apps\ipinfo_app\bin\ipinfo.py", line 107, in stream  
    list_of_ip_details = getipinfo(self,list_of_ips)  
  File "C:\Program Files\Splunk\etc\apps\ipinfo_app\bin\ipinfo.py", line 155, in getipinfo  
    config.read([default_conf,local_conf])  
  File "C:\Program Files\Splunk\Python-3.7\lib\configparser.py", line 696, in read  
    self._read(fp, filename)  
  File "C:\Program Files\Splunk\Python-3.7\lib\configparser.py", line 1079, in _read  
    raise MissingSectionHeaderError(fpname, lineno, line)  
configparser.MissingSectionHeaderError: File contains no section headers.  
file: 'C:\Program Files\Splunk\etc\apps\ipinfo_app\local\ip_info_setup.conf', line: 1  
'\ufe0f\n'  
Collapse  
host = source = C:\Program Files\Splunk\var\log\splunk\ipinfo\ipinfo.log sourcetype = ipinfo-2
```

This can be fixed by just doing a 'Convert to UTF-8 without BOM' action on the file:



THANK YOU