

## ZEEK® LOGS

### conn.log | IP, TCP, UDP, ICMP connection

FIELD	TYPE	DESCRIPTION
ts	time	Timestamp of first packet
uid	string	Unique identifier of connection
id	record	Connection's 4-tuple of endpoints
> id.orig_h	addr	IP address of system initiating connection
> id.orig_p	port	Port from which the connection is initiated
> id.resp_h	addr	IP address of system responding to connection request
> id.resp_p	port	Port on which connection response is sent
proto	enum	Transport layer protocol of connection
service	string	A comma-separated list of confirmed protocols in the connection
duration	interval	How long connection lasted
orig_bytes	count	Number of payload bytes originator sent
resp_bytes	count	Number of payload bytes responder sent
conn_state	string	Connection state (see <a href="#">conn.log &gt; conn_state</a> )
local_orig	bool	Value=1 if connection originated locally
local_resp	bool	Value=1 if connection responded locally
missed_bytes	count	Number of bytes missed (packet loss)
history	string	Connection state history (see <a href="#">conn.log &gt; history</a> )
orig_pkts	count	Number of packets originator sent
orig_ip_bytes	count	Number of originator IP bytes (via IP total_length header field)
resp_pkts	count	Number of packets responder sent
resp_ip_bytes	count	Number of responder IP bytes (via IP total_length header field)
tunnel_parents	table	If tunneled, connection UID value of encapsulating parent(s)
ip_proto	count	For IP-based connections, this holds the protocol identifier passed in the IP header
orig_id_addr	string	Link-layer address of originator
resp_id_addr	string	Link-layer address of responder
vlan	int	Outer VLAN for connection
inner_vlan	int	Inner VLAN for connection

### conn\_state

A summarized state for each connection

S0	Connection attempt seen, no reply
S1	Connection established, not terminated (0 byte counts)
SF	Normal establish & termination (>0 byte counts)
RJ	Connection attempt rejected
S2	Established, Orig attempts close, no reply from Resp
S3	Established, Resp attempts close, no reply from Orig
RSTO	Established, Orig aborted (RST)
RSTR	Established, Resp aborted (RST)
RSTO50	Orig sent SYN then RST; no Resp SYN-ACK
RSTR50	Resp sent SYN-ACK then RST; no Orig SYN
SH	Orig sent SYN then FIN; no Resp SYN-ACK (half-open)
SHR	Resp sent SYN-ACK then FIN; no Orig SYN
OTH	No SYN, not closed, Midstream traffic. Partial connection.

### history

Orig UPPERCASE, Resp lowercase

S	A SYN without the ACK bit set
H	A SYN-ACK ("handshake")
A	A pure ACK
D	Packet with payload ("data")
F	Packet with FIN bit set
R	Packet with RST bit set
C	Packet with a bad checksum
I	Inconsistent packets (e.g., SYN & RST)
G	Content Gap
Q	Multi-flag packet (SYN & FIN or SYN + RST)
Z	Retransmitted packet
W	Packet with zero Window advertisement
A	Flipped connection
X	Connection analysis partial

### dhcp.log | DHCP lease activity

FIELD	TYPE	DESCRIPTION
uids	table	Earliest time DHCP message observed
client_addr	addr	IP address of client
server_port	port	Client port at time of server handing out lease
server_port	port	Server port at time of server handing out IP
mac	string	Client's hardware address
host_name	string	Name given by client in Hostname option 12
client_fqdn	string	FQDN given by client in Client FQDN option 81
domain	string	Domain given by server in option 15
requested_addr	addr	IP address requested by client
assigned_addr	addr	IP address assigned by server
lease_time	interval	IP address lease interval
client_message	string	Message with DHCP_DECLINE so client can tell server why address was rejected
server_message	string	Message with DHCP_NAK to let client know why request was rejected
msg_types	vector	DHCP message types seen by transaction
duration	interval	Duration of DHCP session
client_chaddr	string	Hardware address reported by the client
msg_orig	vector	Address originated from msg_types field
client_software	string	Software reported by client in vendor_class
server_software	string	Software reported by server in vendor_class
circuit_id	string	DHCP relay agents that terminate circuits
agent_remote_id	string	Globally unique ID added by relay agents to identify remote host end of circuit
subscriber_id	string	Value independent of physical network connection that provides customer DHCP configuration regardless of physical location

### dns.log | DNS query/response

FIELD	TYPE	DESCRIPTION
ts	time	Earliest timestamp of DNS protocol message
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
proto	enum	Transport layer protocol by connection
trans_id	count	16-bit identifier assigned by program that generated DNS query
rtt	interval	Round trip time for query and response
query	string	Domain name subject of DNS query
qclass	count	QCLASS value specifying query class
qclass_name	string	Descriptive name query class
qtype	count	QTYPE value specifying query type
qtype_name	string	Descriptive name for query type
rcode	count	Response code value in DNS response
rcode_name	string	Descriptive name of response code value
AA	bool	Authoritative Answer bit: responding name server is authority for domain name
TC	bool	Truncation bit: message was truncated
RD	bool	Recursion Desired bit: client wants recursive service for query
RA	bool	Recursion Available bit: name server supports recursive queries
Z	count	Reserved field, zero in queries and responses unless using DNSSEC. Represents 3-bit Z field using spec from RFC 1035
answers	vector	Set of resource descriptions in query answer
TTLs	vector	Caching intervals of RRs in answers field
rejected	bool	DNS query was rejected by server
auth	table	Authoritative responses for query
addl	table	Additional responses for query

### dpd.log | Dynamic protocol detection failures

FIELD	TYPE	DESCRIPTION
ts	time	Timestamp when protocol analysis failed
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
proto	enum	Transport protocol for violation
analyzer	string	Analyzer that generated violation
failure_reason	string	Textual reason for analysis failure
packet_segment	string	Payload chunk that most likely resulted in protocol violation

### files.log | File analysis results

FIELD	TYPE	DESCRIPTION
ts	time	Time when file first seen
fuid	string	Identifier associated with single file
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
source	string	Identification of file data source
depth	count	Value to represent depth of file in relation to source
analyses	table	Set of analysis types done during file analysis
mime_type	string	Mime type, as determined by Zeek's signatures
filename	string	Filename, if available from file source
duration	interval	Duration file was analyzed for
local_orig	bool	Indicates if data originated from local network
is_orig	bool	If file sent by connection originator or responder
seen_bytes	count	Number of bytes provided to file analysis engine
total_bytes	count	Total number of bytes that should comprise full file
missing_bytes	count	Number of bytes in file stream missed
overflow_bytes	count	Number of bytes in file stream not delivered to stream file analyzer
timedout	bool	If file analysis timed out at least once
parent_fuid	string	Container file ID was extracted from
md5	string	MD5 digest of file contents
sha1	string	SHA1 digest of file contents
sha256	string	SHA256 digest of file contents
extracted	string	Local filename of extracted file
extracted_cutoff	bool	Set to true if file being extracted was cut off so whole file was not logged
extracted_size	count	Number of bytes extracted to disk
entropy	double	Information density of file contents

### ftp.log | FTP request/reply

FIELD	TYPE	DESCRIPTION
ts	time	Timestamp when command sent
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
user	string	Username for current FTP session
password	string	Password for current FTP session
command	string	Command given by client
arg	string	Argument for command, if given
mime_type	string	Sniffed mime type of file
file_size	count	Size of file
reply_code	count	Reply code from server in response to command
reply_msg	string	Reply message from server in response to command
data_channel	record	Expected FTP data channel
connect_info	record	Expected Data Channel
fuid	string	File unique ID

### mysql.log | MySQL

FIELD	TYPE	DESCRIPTION
ts	time	Timestamp for when event happened
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
cmd	string	Command that was issued
arg	string	Argument issued to command
success	bool	Server replied command succeeded
rows	count	Number of affected rows, if any
response	string	Server message, if any

### sip.log | SIP analysis

FIELD	TYPE	DESCRIPTION
ts	time	Timestamp when request happened
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
trans_depth	count	Pipelined depth into connection
method	string	Verb used in SIP request (INVITE, etc)
uri	string	URI used in request
date	string	Contents of Date: header from client
request_from	string	Contents of request From: header
request_to	string	Contents of request To: header
response_from	string	Contents of response From: header
response_to	string	Contents of response To: header
reply_to	string	Contents of Reply-To: header
call_id	string	Contents of Call-ID: header from client
seq	string	Contents of CSeq: header from client
subject	string	Contents of Subject: header from client
request_path	vector	Client message transmission path, extracted from headers
response_path	vector	Server message transmission path, extracted from headers
user_agent	string	Contents of User-Agent: header from client
status_code	count	Status code returned by server
status_msg	string	Status message returned by server
warning	string	Contents of Warning: header
request_body_len	count	Contents of Content-Length: header from client
response_body_len	count	Contents of Content-Length: header from server
content_type	string	Contents of Content-Type: header from server

\* The tag= value usually appended to the sender is stripped off and not logged.

### smtp.log | SMTP transactions

FIELD	TYPE	DESCRIPTION
ts	time	Timestamp when message was first seen
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
trans_depth	count	Transaction depth if there are multiple msgs
hello	string	Contents of Hello header
mailfrom	string	Email addresses found in From header
rcptto	table	Email addresses found in Rcpt header
date	string	Contents of Date header
from	string	Contents of From header
to	table	Contents of To header
cc	table	Contents of CC header
reply_to	string	Contents of ReplyTo header
msgid	string	Contents of MsgID header
in_reply_to	string	Contents of In-Reply-To header
subject	string	Contents of Subject header
x_originating_ip	addr	Contents of X-Originating-IP header
first_received	string	Contents of first Received header
second_received	string	Contents of second Received header
last_reply	string	Last message server sent to client
path	vector	Message transmission path, from headers
user_agent	string	Value of User-Agent header from client
tls	bool	Indicates connection switched to using TLS
fuids	vector	File unique IDs attached to message
is_webmail	bool	If message sent via webmail

### snmp.log | SNMP messages

FIELD	TYPE	DESCRIPTION
ts	time	Timestamp of first packet of SNMP session
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
duration	interval	Amount of time between first packet belonging to SNMP session and latest seen
version	string	Version of SNMP being used
community	string	Community string of first SNMP packet associated with session
get_requests	count	Number of variable bindings in GetRequest/GetNextRequest PDUs seen for session
get_bulk_requests	count	Number of variable bindings in GetBulkRequest PDUs seen for session
get_responses	count	Number of variable bindings in GetResponse/Response PDUs seen for session
set_requests	count	Number of variable bindings in SetRequest PDUs seen for session
display_string	string	System description of SNMP responder endpoint
up_since	time	Time at which SNMP responder endpoint claims it's been up since

### socks.log | SOCKS proxy requests

FIELD	TYPE	DESCRIPTION
ts	time	Time when proxy connection detected
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
version	count	Protocol version of SOCKS
user	string	Username used to request a login to proxy
password	string	Password used to request a login to proxy
status	string	Server status for attempt at using proxy
request	record	Client requested SOCKS address
request_p	port	Client requested port
bound	record	Server bound address
bound_p	port	Server bound port

### software.log | Software observed on network

FIELD	TYPE	DESCRIPTION
ts	time	Time at which software was detected
host	addr	IP address detected running the software
host_p	port	Port on which software is running
software_type	enum	Type of software detected (e.g., HTTP-SERVER)
name	string	Name of software (e.g., Apache)
version	record	Software version
unparsed_version	string	Full, unparsed version string found
url	string	Root URL where software was discovered

### ssh.log | SSH handshakes

FIELD	TYPE	DESCRIPTION
ts	time	Time when SSH connection began
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
version	count	SSH major version (1 or 2)
auth_success	bool	Authentication result (T=success, F=failure, U=unknown)
auth_attempts	count	Number of authentication attempts observed
direction	enum	Direction of connection
client	string	Client's version string
server	string	Server's version string
cipher_alg	string	Encryption algorithm in use
mac_alg	string	Signing (MAC) algorithm in use
compression_alg	string	Compression algorithm in use
kex_alg	string	Key exchange algorithm in use
host_key_alg	string	Server's host key's algorithm
host_key	string	Server's key fingerprint
remote_location	record	Add geographic data related to remote host of connection

### yara.log | YARA-based file analysis

FIELD	TYPE	DESCRIPTION
ts	time	Timestamp for when event happened
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
last_seen_ts	time	The last time the file was seen
fuid	string	Corresponding FUID identifier
file_name	string	File extracted to disk
source	string	Protocol of stream where observed
mime_type	string	Mime type
md5	string	An MD5 hash
sha1	string	A SHA1 hash
sha256	string	A SHA256 hash
archive_path	string	Location of archive
match_namespace	string	Namespaces of YARA rule matched
match_tags	string	Name of matched YARA rule
match_tags	string	Tags included in matched YARA rule
match_meta	string	Meta included in matched YARA rule
file_matches	count	Total number of YARA matches for file

### ssl.log | SSL handshakes

FIELD	TYPE	DESCRIPTION
ts	time	Time when SSL connection first detected
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
version	string	SSL/TLS version server chose
cipher	string	SSL/TLS cipher suite server chose
curve	string	Elliptic curve server chose when using ECDHE/ECDHE
server_name	string	Value of Server Name Indicator SSL/TLS extension
resumed	bool	Flag that indicates session was resumed
last_alert	string	Last alert seen during connection
next_protocol	string	Next protocol server chose using application layer next protocol extension, if present
established	bool	Flags if SSL session successfully established
ssl_history	string	SSL history showing which types of packets were received in which order. Client-side letters are capitalized, server-side lowercase.
ssl_history	string	SSL history showing which types of packets were received in which order. Client-side letters are capitalized, server-side lowercase.
direction	enum	Direction of handshake
hello_request	string	Contents of Hello Request
client_hello	string	Contents of Client Hello
server_hello	string	Contents of Server Hello
hello_verify_request	string	Contents of Hello Verify Request
NewSessionTicket	string	Contents of NewSessionTicket
certificate_request	string	Contents of Certificate Request
server_key_exchange	string	Contents of Server Key Exchange
client_key_exchange	string	Contents of Client Key Exchange
certificate_verify	string	Contents of Certificate Verify
client_key_exchange	string	Contents of Client Key Exchange
finished	string	Contents of Finished
certificate_url	string	Contents of Certificate URL

cert_chain_fps	vector	All fingerprints for the certificates offered by the server
client_cert_chain_fps	vector	All fingerprints for the certificates offered by the client
subject	string	Subject of X.509 cert offered by server
issuer	string	Subject of signer of X.509 server cert
client_subject	string	Subject of X.509 cert offered by client
client_issuer	string	Subject of signer of client cert
snl_matches_cert	bool	Set to true if the hostname sent in the SNI matches the certificate, false if it does not. Unless if the client did not send an SNI.
request_client_certificate_authorities	vector	List of client certificate CAs accepted by the server
server_version	count	Numeric version of the server in the server hello
client_version	count	Numeric version of the client in the client hello
client_ciphers	vector	Ciphers that were offered by the client for the connection
ssl_client_exts	vector	SSL client extensions
ssl_server_exts	vector	SSL server extensions
ticket_lifetime_hint	count	Suggested ticket lifetime sent in the session ticket handshake by the server
dh_param_size	count	The diffie helman parameter size, when using DH
point_formats	vector	Supported elliptic curve point formats
client_curves	vector	The curves supported by the client
orig_alpn	vector	Application layer protocol negotiation extension sent by the client
client_supported_versions	vector	TLS 1.3 supported versions
server_supported_version	count	TLS 1.3 supported version
psk_key_exchange_modes	vector	TLS 1.3 Pre-shared key exchange modes
client_key_share_groups	vector	Key share groups from client hello
server_key_share_group	count	Selected key share group from server hello
client_compression_methods	vector	Client supported compression methods
sigalgs	vector	Client supported signature algorithms
hashalgs	vector	Client supported hash algorithms
validation_status	string	Certificate validation result for this connection
ocsp_status	string	OCSP validation result for this connection
valid_ct_logs	count	Number of different logs for which valid SCTs encountered in connection
valid_ct_operators	count	Number of different log operators for which valid SCTs encountered in connection

### syslog.log | Syslog messages

FIELD	TYPE	DESCRIPTION
ts	time	Timestamp when syslog message was seen
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
proto	enum	Protocol over which message was seen
facility	string	Syslog facility for message
severity	string	Syslog severity for message
message	string	Plain text message

### tunnel.log | Details of encapsulating tunnels

FIELD	TYPE	DESCRIPTION
ts	time	Time at which tunnel activity occurred
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
tunnel_type	enum	Tunnel type
action	enum	Type of activity that occurred

### quic.log | QUIC connection updates

FIELD	TYPE	DESCRIPTION
ts	time	Timestamp for when event happened
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
version	string	QUIC version found in INITIAL packet
client_initial_cid	string	First Destination Connection ID
client_cid	string	Client's Source Connection ID
server_cid	string	Server chosen Connection ID
server_name	string	Server name extracted from SNI extension
client_protocol	string	First protocol extracted from ALPN
history	string	Experimental QUIC history

### websocket.log | WebSocket handshakes

FIELD	TYPE	DESCRIPTION
ts	time	Timestamp for when event happened
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
host	string	Same as in the HTTP log
uri	string	Same as in the HTTP log
user_agent	string	Same as in the HTTP log
subprotocol	string	Websocket subprotocol selected by server
client_protocols	vector	Protocols requested by the client
server_extensions	vector	Extensions requested by the server
client_extensions	vector	Extensions selected by the client

### weird.log | Unexpected network/protocol activity

FIELD	TYPE	DESCRIPTION
ts	time	Time when weird occurred
uid & id	string	Underlying connection info - See <a href="#">conn.log</a>
name	string	Name of weird that occurred
addl	string	Additional information accompanying weird, if any
notice	bool	If weird was turned into a notice
peer	string	Peer that originated weird
source	string	The source of the weird, often an analyzer name

### x509.log | X.509 certificate info

FIELD	TYPE	DESCRIPTION