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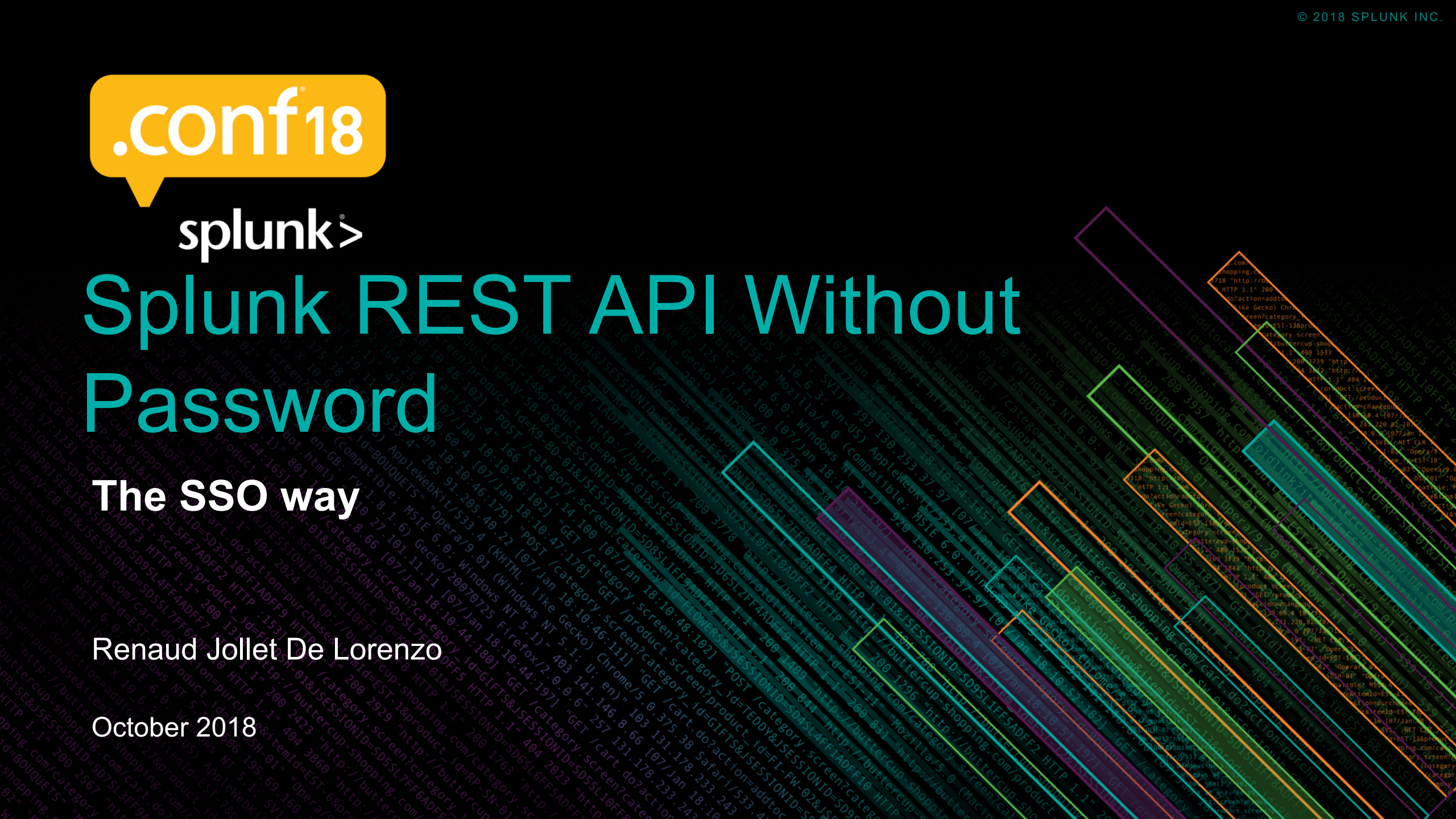

Splunk REST API Without Password

The SSO way

Renaud Jollet De Lorenzo

October 2018

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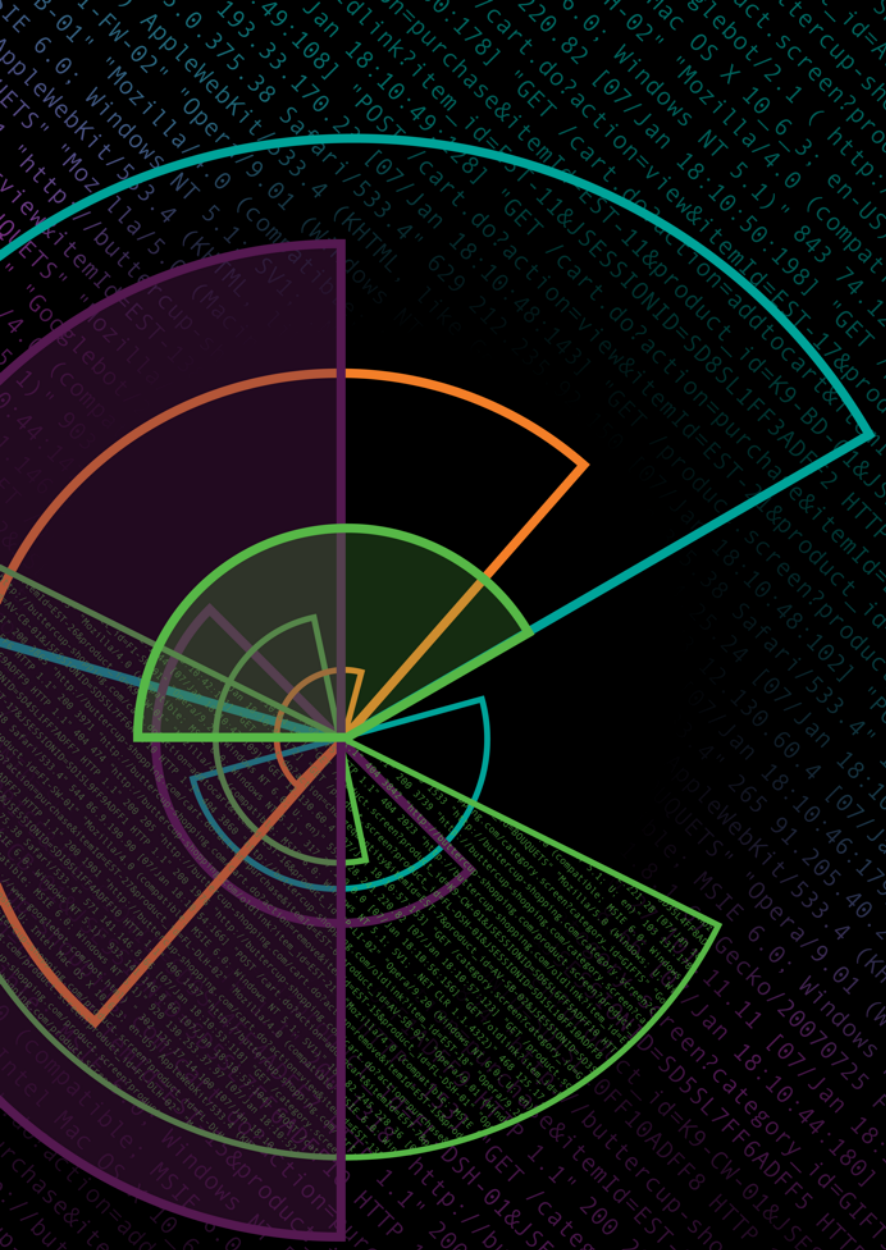

One Does Not Simply

Have a REST API

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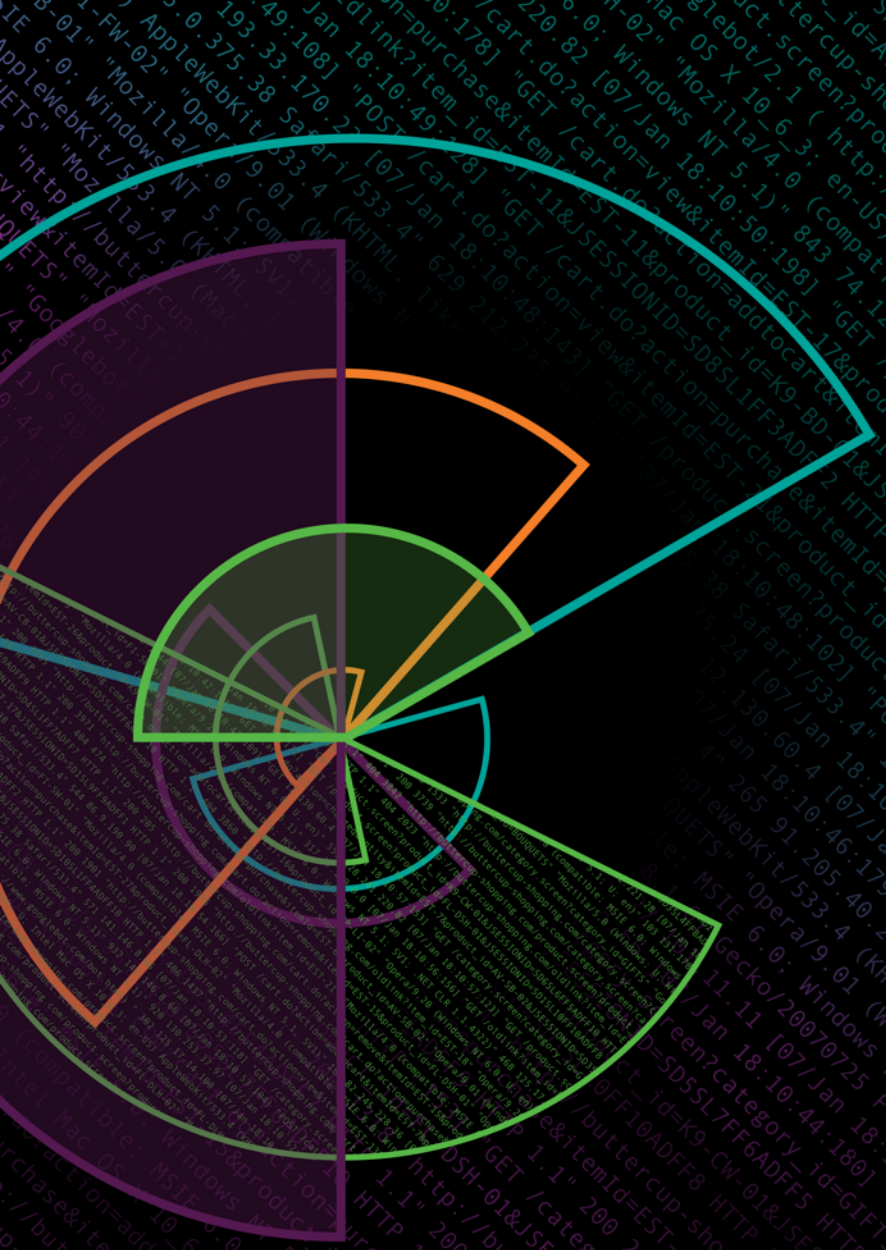

An Open REST API

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Secure DevOps Testing

Is your logs correctly collected by Splunk ?

Does the user with its roles will have access to this logs ?

Is there any error or warning generated by the host during the test ?

1. Run the test
   - Install the app
   - Run your test scenario
2. Get the logs
   - Get the application and OS logs from the REST API
3. Assert if successful
   - Check if you get the expected logs
   - Be notified if any unexpected error occurs in at the app or OS level during the test

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Open but Secure

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User Manual

First reflex Splunk docs

- -k
  - Verify the server
- admin
  - Be a limited User
- admin:pass
  - Prefer token over password

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Proposed Solution

First thought

- Reverse Proxy to the management port
  - Possible mismatch of the user with the client certificate
  - We don’t want to manage password
- Having a shared REST API user
  - No user differentiation in the audit logs
  - Managing User Authorization will be tough

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““After a successful login, a session cookie is created and the user can seamlessly access Splunk Web.”,

About Proxy SSO, Splunk docs

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SSO

Single-Sign-On

Compatible with your company authentication and authorization service.

Seamless Splunk Web access but not to the REST API.

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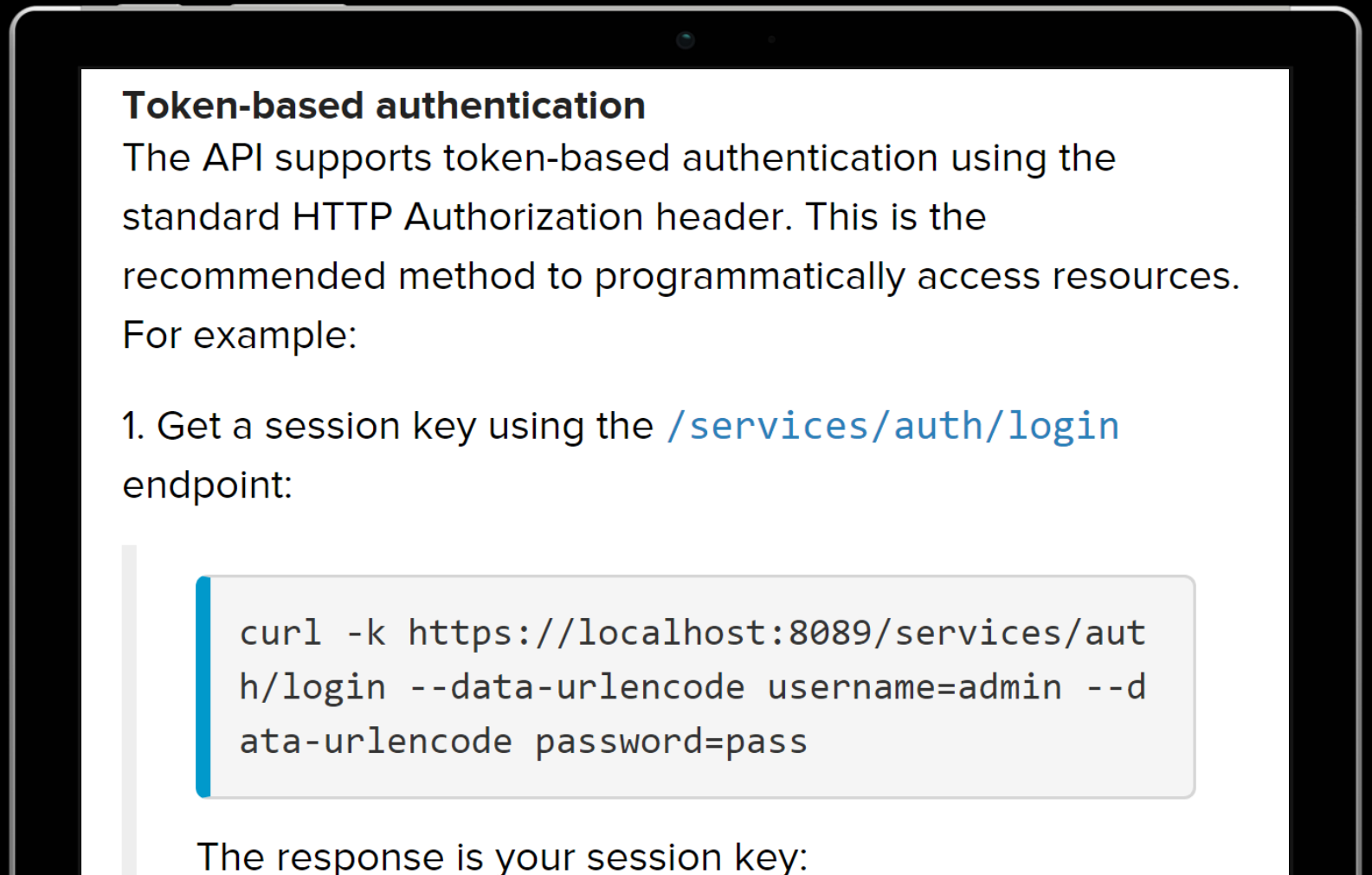
Token Based Authentication

Going deeper in Splunk docs



Token-based authentication

The API supports token-based authentication using the standard HTTP Authorization header. This is the recommended method to programmatically access resources. For example:

1. Get a session key using the `/services/auth/login` endpoint:

```
curl -k https://localhost:8089/services/auth/login --data-urlencode username=admin --data-urlencode password=pass
```

The response is your session key:

- Splunk REST API Support token
- But to get a token you have to use password

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Proposed Token Solution

- Advantage
  - Token have limited lifetime
  - Potential mismatch between token and certificate
- Drawback
  - Potential mismatch between token and certificate

1. Get token
   - Splunk Web (SSO)
   - Get token endpoint (using a basic Splunk app)
2. REST API
   - Client Certificate Proxy
   - Bearer token in the header

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““After a successful login, a session cookie is created and the user can seamlessly access Splunk Web.”,

About Proxy SSO, Splunk docs

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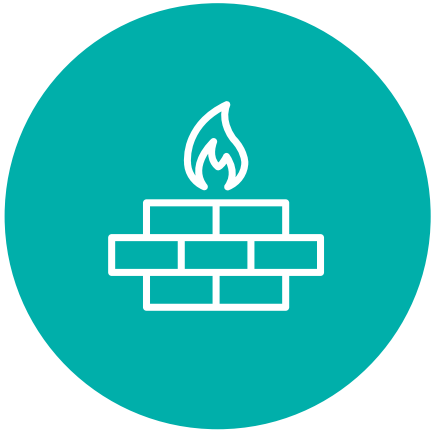
Getting Closer

Connecting the dot

Management port support token

Splunk Web support SSO



Splunkd token in the cookie

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Workaround

Our final solution

1. SSO
   - Authenticate the user using certificate
   - Set REMOTE_USER
2. Splunk Web
   - Call Splunk web
   - Collect splunkd token in the cookie
3. REST API
   - Add bearer token in the header
   - Make the query the management port

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Conclusion

1. You can apply the same Authentication for the REST API as for Splunk Web
2. API is User Experience
3. Open API need to be as secure as the web client

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Q&A

Renaud Jollet De Lorenzo

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