Introducing a Pythonic RBAC API

Nov 6, 2019
Why?

Because it was there
Now Tell Us Really Why

March 2018

Distal Biceps Disruption

March 21, 2018 by SHAWN MCKINNEY

LDAPCon 2019, Sofia
Rehab == Coding

871 contributions in 2018

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<th>Apr 2018</th>
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<th>Workout</th>
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New Sheriff in Town

And it don’t need no stinking badges. Yeah, I’m mixing clichés, happens sometimes when coding long hours in a stretch. 😊

What I’m talking about is a new access management system, released to PyPI yesterday for the first time.

py-fortress on PyPI

Considering we just started coding a couple of months ago that’s pretty good progress.
They’re Back

Role-Based Access Control Standard

Kuhn, Ferraiolo and Sandhu
https://www.facebook.com/ieeecomputersociety/posts
ANSI RBAC INCITS 359 Specification

**RBAC0:**
- Users, Roles, Perms, Sessions

**RBAC1:**
- Hierarchical Roles

**RBAC2:**
- Static Separation of Duties

**RBAC3:**
- Dynamic Separation of Duties

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Not Yet
RBAC Functional Model

APIs form three standard interfaces:

1. **Admin** – Add, Update, Delete
2. **Review** – Read, Search
3. **System** – Access Control

Management and Config processes

Runtime processes
RBAC Functional Model

System Manager APIs:

https://github.com/shawnmckinney/py-fortress/blob/master/pyfortress/impl/access_mgr.py

1. createSession – authenticate, activate roles
2. checkAccess – permission check
3. sessionPermissions – all perms active for user
4. sessionRoles – return all roles active
5. addActiveRole – add new role to session
6. dropActiveRole – remove role from session
About py-fortress

• Security access control APIs for the Python3 platform.
• Requires an LDAP server to store the policy data.
• Published to PyPI as py-fortress.
• Compliant with ANSI INCITS 359 RBAC0, a.k.a "Core RBAC".
• Sponsored by SYMAS
• Released under Apache License 2.0.

https://github.com/shawnmckinney/py-fortress
More About py-fortress

• Data Format
  – Apache Fortress LDAP schema
• Error Mapping
  – Apache Fortress Exception ids
• Management Interfaces
  – Apache Fortress Web and Rest

https://github.com/shawnmckinney/py-fortress
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