



Security Champions

A Force Multiplier for Cyber



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Broken Access Control | Improper Access Control



Instructions Tasks

● Broken Access Control

- Unlike authentication, which only "proves" that a user is who they say they are, authorization defines what a user can and cannot access. Access controls are the methods to prevent a user from accessing something they are not authorized to access.

An example of this is an ATM. You use card and pin to authenticate you to the bank. You are authorized to access your account. There are methods in place to control your access to only your account.

A Broken Access Control vulnerability is a violation of what you are authorized to do. For example, access other users' accounts or transfer funds from other accounts.

Broken Access Control is when the application does not ensure the user is authenticated and authorized to access data or perform a function.

Reconnaissance

First, make sure Intercept Requests is enabled.

```
Save Code Save & Run Code Language: Python
1 import os
2 import json
3 import jwt
4 import pymysql
5
6 def submit_post(user_id, jwt_token, post_body):
7     JWT_KEY = os.getenv("JWT_KEY", "")
8     if not JWT_KEY:
9         return json.dumps({
10             "error": True,
11             "message": "JWT Key missing",
12             "status_code": 500
13         })
14
15     try:
16         token = jwt.decode(jwt_token, JWT_KEY, algorithms="HS256")
17     except Exception as e:
18         return json.dumps({
19             "error": True,
20             "message": str(e),
21             "status_code": 500
22         })
23
24     if "logged_in" in token.keys() and token["logged_in"] == True:
25         try:
26             query = """
27             INSERT INTO posts (user_id, body) VALUES (%s, %s)
28             """
29
30             conn = pymysql.connect(host=os.getenv("DB_HOST"),
31                                   user=os.getenv("DB_USER"),
32                                   password=os.getenv("DB_PASS"),
33                                   database=os.getenv("DB_NAME"))
34             cursor = conn.cursor()
35             cursor.execute(query, (user_id, post_body))
36             conn.commit()
37             cursor.close()
38             conn.close()
39
40             return json.dumps({
41                 "message": "Post created successfully",
42                 "status_code": 201
43             })
44         except Exception as e:
45             return json.dumps({
46                 "error": True,
47                 "message": str(e),
48                 "status_code": 500
49             })
50
51     return json.dumps({
52         "error": True,
53         "message": "User not logged in",
54         "status_code": 401
55     })
56
57 if __name__ == "__main__":
58     user_id = input("User ID: ")
59     jwt_token = input("JWT Token: ")
60     post_body = input("Post Body: ")
61     submit_post(user_id, jwt_token, post_body)
```

Sandbox Output

Clear

Digital University, a joint venture started between the US **Air Force** and **Space Force** and available to members of the DoD, provides anytime access to Silicon Valley accredited technology training & fosters a community of learners for tomorrow's warfighter.

<https://digitalu.af.mil>



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DoD Cyber Posture

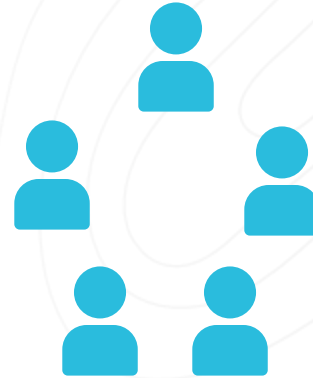
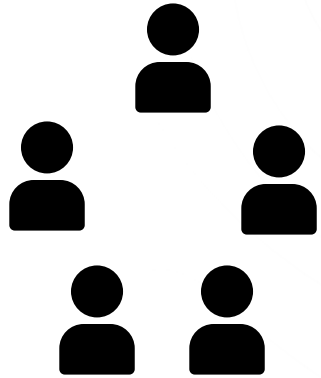
“There is a recognized shortage of skilled cyber personnel that could potentially impact operational readiness across the Department and put national security at risk. Despite the vast expansion of cyber educational and experiential opportunities, the Nation’s cyber talent pipeline remains limited.”



**DOD
CYBER WORKFORCE
STRATEGY**
2023-2027



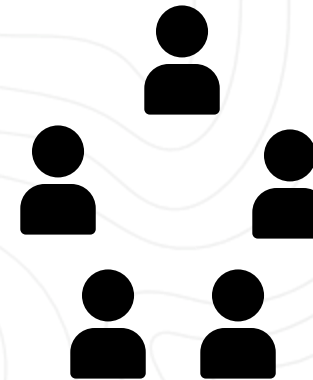
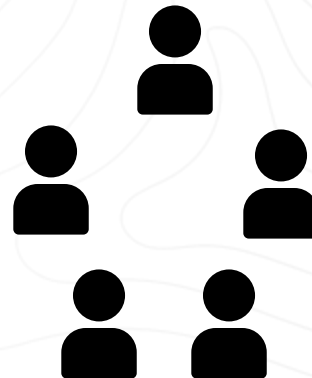
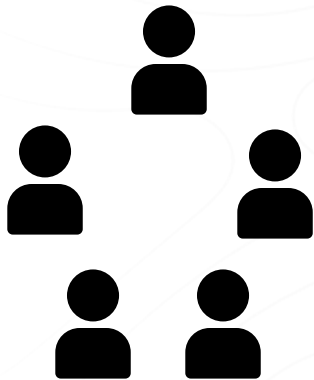
What is the challenge?



Cyber Specialists (N= ~225,000)

1. Cost
2. Retention
3. Influence
4. ROI

7%



Military Personnel
and DOD Civilians (N=~3,395,000)
2022 Demographics Report



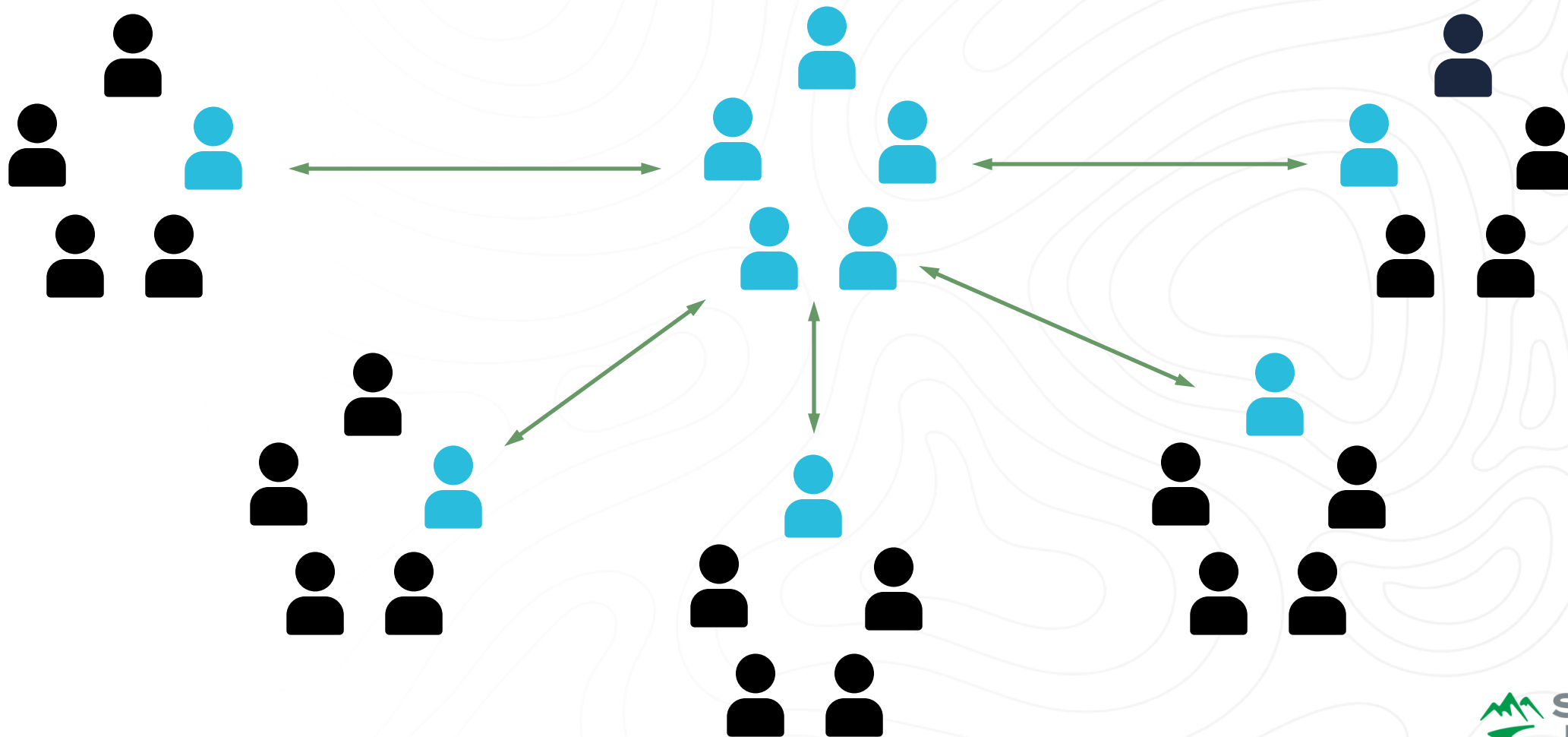
Security Champion



A Security Champion is an individual within an organization who, in addition to their primary role, takes on the responsibility of promoting cybersecurity best practices. They serve as the bridge between cybersecurity teams and the broader workforce, ensuring that security is prioritized in every aspect of the organization's operations.



Force Multiplier





Roles and Responsibilities

Educators

Raise awareness
among their peers



Advocates

Security considerations
are integrated into
decision-making
processes



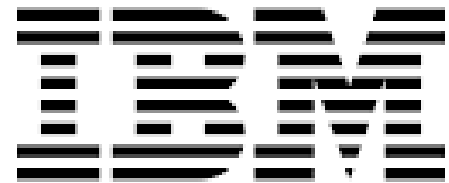
Liaisons

Facilitate communication
with cyber team





Civilian Sector Success Stories

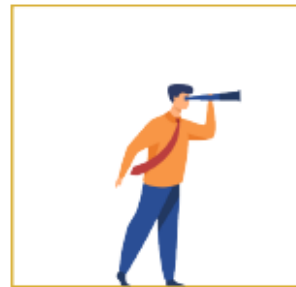




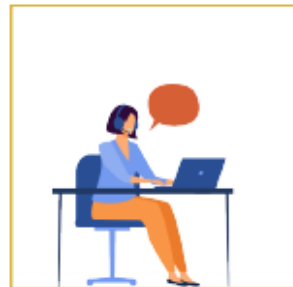
THE SECURITY CHAMPIONS MANIFESTO



Be Passionate
About Security



Start With
a Clear Vision



Secure Management
Support



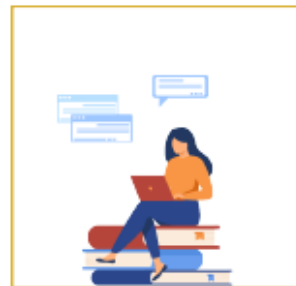
Nominate a
Dedicated Captain



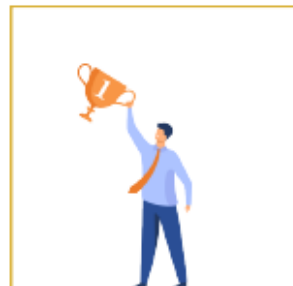
Trust
Your Champions



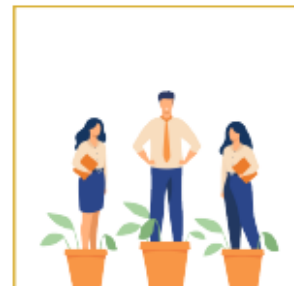
Create a
Community



Promote
Knowledge Sharing



Reward
Responsibility



Invest in
Your Champions



Anticipate
Personnel Changes



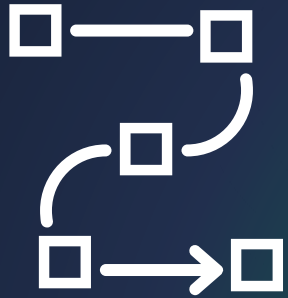
OWASP SECURITY CHAMPIONS GUIDE

<https://owasp.org/www-project-security-champions-guidebook/>



Be Passionate About Security

What	Ensure the people involved in your security champion program are passionate about security.
How	1. Promote security top down and on all levels within your organization. 2. Explain the importance of the security champions program within your organization. It should be clear what the program brings and what is expected of the people involved. 3. Start with recruiting volunteers and avoid assigning security champions when possible.



Start with a Clear Vision

What	A vision of security champions program serves as a guide in achieving security in your organization and can be used to provide a sense of purpose for IT engineers doing security.
How	A Champion Program Vision Should Be: 1. Imaginable 2. Desirable 3. Feasible 4. Focused 5. Communicable



Secure Management Support

What	Ensure your security champion program is recognized as a formal program with a set purpose within your organization.
How	1. Setting up a Security Champion program requires a thorough analysis of the stakeholders to get the program approved and supported. 2. Being a security champion should be included in the job description. 3. Per stakeholders, the benefits should be articulated, including addressing the potential risks they see for their objectives.



Nominate a Dedicated Champion

What	Ensure you have a dedicated Captain to lead the development, implementation and continuous success of a Security Champions Program.
How	1. A leading a Security Champions program is a full-time job. 2. It is recommended to “nominate” or hire dedicated people that are passionate about this role and have the right skills set to drive it to ensure success. 3. Having this as an “on the side job” takes away from the momentum and dedication needed to launch a successful program.



What	Security Champions are the eyes and ears of the organization and know exactly what their department's security needs are.
How	1. It should be clear to everyone involved what the Security Champions' role is about and what their mandate is. 2. Give your Security Champions the mandate to make decisions on security within the risk appetite of your organization. 3. Measure and showcase the impact that the Security Champions and the program make.



Trust Your Champions



Create a Community

What

A community provides a platform for security champions to share knowledge, experiences, challenges, and best practices with each other.

How

1. Start by defining a clear purpose, goals, and scope of the community.
2. Define how the community will align with the organization's security strategy and objectives.
3. Establish regular communication and collaboration channels for the security champions.
4. Organize periodic events and activities for the security champions to engage with the community.
5. Recognize and reward the security champions for their contributions and achievements.
6. Provide group training opportunities to foster the sense of community



Promote Knowledge Sharing

What	Invest in the education of your Security Champions and encourage knowledge sharing within and outside the company.
How	1. Promote a knowledge sharing culture, this is a mindset that values and rewards knowledge sharing. 2. Formal training programs can be rolled out using existing sharing and learning strategies. 3. Informal knowledge sharing via lunch sessions and pizza evenings can also be very valuable.



Reward Responsibility

What	The principle of “Reward Responsibility” involves establishing a system within an organization to recognize and reward the efforts of Security Champions.
How	1. Recognition Certificate Templates 2. Security Champion of the Month/Quarter/Year 3. Performance Dashboard 4. Personal Development Plan Template 5. Feedback and Endorsement Forms 6. Event Sponsorship Policy 7. Milestone Badges or Pins



Invest in Your Champions

What	Invest in the personal growth and development of your Security Champions.
How	1. By formally allocating time for security activities the Security Champions can combine security work with their other responsibilities. 2. Allocate budget for webinars, conferences and training to ensure Security Champions can develop and gain new knowledge. 3. Bonuses and promotion can be an additional incentive for employees to take security seriously and walk that extra mile.



Anticipate Personnel Changes

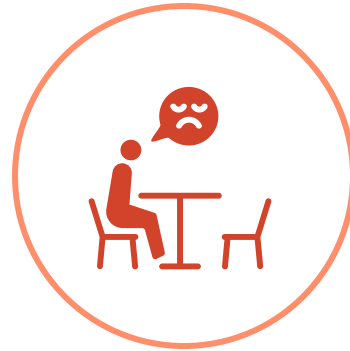
What	The increased reliance on technology has made Information security skills essential in many industries, leading to a high demand for information security talent and a lot of job opportunities.
How	1. Have a reasonable ratio of champions. 2. Reward personnel financially for their “additional” skill. 3. Run a continuous training and educations program for security champions. 4. Do not adopt the 1 Champion - 1 team model but group champions based on specialism or type of technology.



Antipatterns to Avoid



Volun-told
Champion



Isolated
Champion



Enforcer
Champion



Hero
Champion



Measuring Success

1. Number of Security Champions
2. Participation and Engagement Rate
3. Feedback and Satisfaction Scores
4. Retention Rate of Security Champions
5. Training and Certification Achievements

“Measure what matters!”



Questions

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The Security Champion Podcast