**Penetration testing**, also known as pen testing, is a security exercise where a cyber-security expert attempts to find and exploit vulnerabilities in a computer system. [The purpose of this simulated attack is to identify any weak spots in a system’s defenses which attackers could take advantage of1](https://www.cloudflare.com/learning/security/glossary/what-is-penetration-testing/).

Here are **five free tech learning resources** where you can enhance your knowledge and skills:

1. **AI Singapore Student Outreach Programme**: This initiative promotes AI literacy and proficiency among students. It offers three levels, equipping participants with programming skills and practical experience in AI projects. [Completion of each level earns an industry-recognized certificate, and level three participants receive the Google professional machine learning engineer certificate](https://www.cloudflare.com/learning/security/glossary/what-is-penetration-testing/)[2](https://www.tech.gov.sg/media/technews/new-year-new-tech-skills).
2. [**SkillsFuture@NS Learning eXperience Platform**: Designed for full-time national servicemen (NSFs), this platform provides free unlimited access to over 75,000 online courses in various categories, including Python programming, machine learning, management training, and digital photography2](https://www.tech.gov.sg/media/technews/new-year-new-tech-skills).
3. **Coursera**: Coursera offers many courses for free, some from renowned universities. Learn about machine learning, game theory, COVID-19 contact tracing, microeconomics, and more. [Explore their diverse offerings and expand your knowledge2](https://www.tech.gov.sg/media/technews/new-year-new-tech-skills)[3](https://www.techtarget.com/searchsecurity/definition/penetration-testing).
4. **General Assembly**: While not entirely free, General Assembly provides some free introductory courses in tech-related fields. [These can serve as a starting point for further exploration2](https://www.tech.gov.sg/media/technews/new-year-new-tech-skills).
5. **Mozilla Developer Network (MDN)**: MDN is a valuable resource for learning web development technologies such as HTML, CSS, and JavaScript. [It’s an excellent place to enhance your web development skills](https://www.cloudflare.com/learning/security/glossary/what-is-penetration-testing/)[4](https://www.linkedin.com/pulse/10-free-websites-help-you-learn-tech-skills-fabio-tongson).

Remember, these resources can help you build a strong foundation in tech without breaking the bank! 🌟👩‍💻📚