Privileged Access Management (PAM)

- **Definition**
  - PAM refers to the strategies and tools used to control, monitor, and secure access to critical systems and sensitive information by privileged users.
- **Key Objectives**
  - Access Control
  - Audit and Monitoring
  - Risk Mitigation
  - Least Privilege Principle
- **Core Components of PAM**
  - Privileged Account Discovery
  - Credential Vaulting
  - Session Management
  - Access Workflow
  - Just-In-Time (JIT) Access
  - Password Rotation
  - Multi-Factor Authentication (MFA)
- **Types of Privileged Accounts**
  - Human Privileged Accounts
  - Non-Human Privileged Accounts
  - Shared Accounts
  - Domain Administrator Accounts
  - Superuser Accounts
- **Benefits of PAM**
  - Improved Security
  - Regulatory Compliance
  - Enhanced Accountability
  - Minimized Insider Threats
  - Reduced Attack Surface
- **PAM Implementation Steps**
  - Assessment
  - Centralized Vaulting
  - Policy Creation
  - Monitoring and Auditing
  - Integration
  - Training and Awareness
- **Challenges in PAM**
  - Complexity
  - Resistance to Change
  - Shadow IT
  - Legacy Systems
  - Credential Sprawl
- **PAM Tools and Technologies**
  - PAM Solutions
  - Session Monitoring
  - Automated Password Management
  - Privileged Threat Analytics
  - Integration with SIEM
- **PAM in Cloud and Hybrid Environments**
  - Cloud Privileged Accounts
  - Hybrid Architecture
  - Dynamic Scaling
  - Cloud-Native Tools
- **Best Practices for PAM**
  - Enforce Least Privilege
  - Enable MFA
  - Use Time-Limited Access
  - Monitor Continuously
  - Password Hygiene
  - Conduct Penetration Testing
  - Automate Where Possible
- **PAM and Compliance**
  - Key Regulations
    - GDPR: Protect access to sensitive personal data.
    - HIPAA: Secure privileged access to health records.
    - PCI DSS: Manage privileged accounts for payment systems.
  - Auditable Controls
- **Future Trends in PAM**
  - AI and Machine Learning
  - Zero Trust Integration
  - Cloud-Native PAM
  - Decentralized PAM
  - IoT and Edge Devices