

Rootkit

Phase	Time	Learning Outcome	Learning Objectives	Learning Activities	Teacher/trainer activities (What is the role of the teacher/trainer and what is he/she going to do?)	Communication and Collaboration form	Resources, tools, and media
Introduction and orientation	20 minutes	<ul style="list-style-type: none"> - Understand the concept and characteristics of rootkits - Define what a rootkit is and how it operates - Identify the key features and purpose of rootkits - Explain the common methods used for rootkit installation and persistence 	<ul style="list-style-type: none"> - Students will be able to understand and describe the concept and characteristics of rootkits. - Students will be able to define what a rootkit is and explain how it operates. - Students will be able to identify the key features and purpose of rootkits. - Students will be able to explain the common methods used for rootkit installation and persistence. 	<ul style="list-style-type: none"> - Use AR technology to watch rootkit attack simulations - Use AR technology to interact with different types of rootkit attacks - Discussion (Q&A, brainstorming). 	<p>Guide students through AR simulations and interactive activities, ensuring a robust understanding</p>	<p>Verbal and Guided Communication and collaboration form: teacher - student, student-student; remote or on site, synchronous or asynchronous</p>	<p>AR glasses, LMS</p>
Lesson Execution	15 minutes	<ul style="list-style-type: none"> - Analyze the impact and behavior of rootkits - Analyze real-world examples of rootkit attacks and their consequences - Study the techniques employed by rootkits to hide their presence and evade detection - Investigate the potential vulnerabilities that rootkits exploit - Evaluate the effectiveness of prevention and detection measures for rootkits - Evaluate the role of secure boot mechanisms and firmware protection in preventing rootkit infections - Assess the effectiveness of rootkit detection tools and techniques - Compare and contrast different strategies for rootkit prevention and removal 	<ul style="list-style-type: none"> - Students will be able to analyze the impact and behavior of rootkits. - Students will be able to analyze real-world examples of rootkit attacks and their consequences. - Students will be able to study and describe the techniques employed by rootkits to hide their presence and evade detection. - Students will be able to investigate potential vulnerabilities that rootkits exploit. - Students will be able to evaluate the effectiveness of prevention and detection measures for rootkits. - Students will be able to evaluate the role of secure boot mechanisms and firmware protection in preventing rootkit infections. - Students will be able to assess the effectiveness of rootkit detection tools and techniques. - Students will be able to compare and contrast different strategies for rootkit 	<ul style="list-style-type: none"> - Discussion (Q&A, brainstorming) 	<p>Utilize real-world cases to illustrate rootkit impacts and methods, facilitate explorative activities with AR technology, and guide discussions to foster critical thinking and comparative analysis of rootkit prevention and mitigation strategies.</p>	<p>Verbal and Guided Communication and collaboration form: teacher - student, student-student; remote or on site, synchronous or asynchronous</p>	<p>AR glasses, LMS</p>

			prevention and removal.				
Evaluation	10 minutes	<ul style="list-style-type: none"> - Evaluate what is a rootkit and what's not - Compare different types of rootkit attacks 	<ul style="list-style-type: none"> - Students will be able to evaluate and differentiate what constitutes a rootkit and what does not. - Students will be able to compare different types of rootkit attacks based on their characteristics and impacts. 	<ul style="list-style-type: none"> - Students will answer an online evaluation assessment/lesson feedback in the LMS and they will get the results 	<ul style="list-style-type: none"> Explicitly guide students through the evaluation process, assist as needed, ensure all feedback is submitted, and affirm the value of their input for continuous improvement. 	<ul style="list-style-type: none"> Written Evaluation Verbal and Guided Communication and collaboration form: teacher - student, student-student; remote or on site, synchronous or asynchronous 	LMS/Quiz