Kringlecon 4 Lessonized

Welcome to [KringleCon 4: Calling Birds!](https://2021.kringlecon.com/) a Capture the Flag (CTF) contest that is designed to entertain you and teach you penetration testing (pentest) and general IT security skills. Kringlecon 4 has a series of excellent presentations designed to keep your pentest skills up to date. Some of the presentations even show you how to solve problems you will encounter in Kringlecon. These lessons will lead you through the CTF while highlighting and explaining the concepts behind the challenges.

It is very important to note that Kringlecon 4 is available for free as a gift of [SANS](https://www.sans.org) and [CounterHack](https://www.counterhackchallenges.com/) to the IT security world. Kringlecon 4 offers a wide variety of practice for practitioners who may have to work in a small niche of the ITsec world during the rest of the year. It also introduces new techniques to people new to ITsec. Most of all, it lets us hack in a safe cyber range and have fun!

This year’s [Holiday Hack Challenge](https://holidayhackchallenge.com/) (HHC), is Kringlecon 4. All HHC’s are maintained year-round for your ITsec education pleasure. If you ever run across Ed Skoudis (Twitter @edskoudis) or the CounterHack team (@CounterHackSec), tell them thanks!

Note: These lessons are broken into small pieces to avoid giving spoilers away. If you are stuck go on to the next lesson, which will have the solution you need. The answers to all the HHC challenges are posted in many places on the Internet. If you want to get the most out of these lessons, avoid looking at the solutions on the Internet while doing the lessons.

The convention has many interesting talks, and some of them apply directly to the challenges. Here is Ed Skoudis’ welcome to Kringlecon talk.  
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<http://www.youtube.com/watch?v=lRbd2C6NHOg>

# Introduction to Kringlecon 4

First, we’ll familiarize you with some of the basic aspects of the game. Go to <https://2021.kringlecon.com/> and create an account. That should take you to the orientation area and entrance gate to Santa’s castle. You can personalize your avatar using the icons at the top right of the game.

The opening location asks you to talk to the elf Jingle Ringford. Talk to Jingle and pick up your wifi adapter. The dropdown list at the right allows you to review your conversations with the elves after the conversation bubbles are gone.

A screenshot of a video game

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Once you have talked to Jingle, grabbed your wifi, and talked to Jingle again the cranberrypi terminal will appear. Throughout the game you will use these terminals to solve challenges.   
A picture containing text, toy

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The first terminal is very simple, as its purpose is to show you what terminals look like. Type “answer” in the top frame, hit enter, and the gate will creak open. Your adventure has started!

The goal is to complete all the objectives on your badge. However, almost every objective has a terminal with a helpful elf that you need to complete first.