Select **one** of the topics below. Then, answer the “what,” “how,” and “why” questions below about your selected topic. Provide a simple code or code snippet example to further illustrate your thoughts.

* Validate input data
* Encrypt data transmission
* Store data securely

**“What,” “How,” and “Why” Questions**

* **What:** What are you writing about? Give the audience a brief overview of the topic by providing them with foundational information (history, background information, etc.).
* **How:** How is the information relevant? Apply personal knowledge (this can be through research or actual practiced knowledge) to build trust with the audience.
* **Why:** Justify your position and/or course of action. The audience needs proof the information you are presenting is creditable and actionable.

For this discussion post, I will be focusing on validating input data.

Input validation should be done with all input from outside the source and also for backend feeds (OWASP, 2019). Although it can help prevent attacks like XSS and SQL injection, other methods should be used to improve protection (OWASP, 2019). Validating input data should ensure syntax is correct and the values match the expected input (OWASP, 2019). Input validation helps to prevent an attack from processing (OWASP, 2019). Validating input looks for input that is harmful or can infiltrate the system (McCarvill, 2023). Information is vulnerable, as is the entire system (McCarvill, 2023). Validating input does more than just protect against attacks. Validating input can make user input more accurate since input requirements exist (McCarvill, 2023). This made the data more reliable and improved overall quality.

This information is very important when dealing with input validation. If we are not careful, attackers can penetrate our systems through SQL injection or other malicious actions. As a user, I want the sites I am using, especially those that hold personal data, to have preventative measures to help protect my data, and validating input data is a great safeguard. Better quality data means better operating systems. When dealing with web leads at work, the lead quality decreases if a customer messes up a number or a form.

The Open Worldwide Application Security Project (OWASP) is a nonprofit providing information and mitigation methods. This is a reputable source, and the information included on the website should be followed when appropriate.

Here is a snippet of code using Java Regex for validating the parameter zip (OWASP, 2019):

private static final Pattern zipPattern = Pattern.compile("^\d{5}(-\d{4})?$");

public void doPost( HttpServletRequest request, HttpServletResponse response) {

try {

      String zipCode = request.getParameter( "zip" );

      if ( !zipPattern.matcher( zipCode ).matches() ) {

          throw new YourValidationException( "Improper zipcode format." );

      }

      // do what you want here, after its been validated ..

  } catch(YourValidationException e ) {

      response.sendError( response.SC\_BAD\_REQUEST, e.getMessage() );

  }

}

**References**

McCarvill, A. (2023, August 11). *An Introduction to the Importance of Input Validation in Preventing Security Vulnerabilities - Bright Security*. Bright Security. https://www.brightsec.com/blog/an-introduction-to-the-importance-of-input-validation-in-preventing-security-vulnerabilities/

OWASP. (2019). *Input Validation OWASP Cheat Sheet Series*. Owasp.org; Owasp. https://cheatsheetseries.owasp.org/cheatsheets/Input\_Validation\_Cheat\_Sheet.html

**Assignment Requirements and Grading:**

* An initial post of approximately 250 words is due by **Thursday, 11:59 p.m., CST**.
* Submit your post by clicking on the assignment link above, then Create Thread. You must create a thread in order to view your peers' posts. Tip: Create your post in a Word document and then copy and paste your work into the thread.
* A minimum of three (3) responses, to the original threads of other students, of 100-200 words each are due by **Sunday, 11:59 p.m., CST**.
* This discussion board is worth **25 Points**.
* To view the rubric grading criteria, click on the following link: [Discussion Board Grading Rubric.](https://content.bellevue.edu/cst/csd/rubricdbv3.pdf)

Hey, Jessica! You did a great job on your post for this week. I also discussed validating input data for my post, so it was enlightening to see the differences between our thoughts, even though we referenced OWASP. Input validation really is an important part of developing code. Although it should not be the only or main form of input validation, I thought this information helped when working on the program for our assignment for this week. I wanted to ensure that the input entered by the user matched what was expected. Did you also find this helpful when completing your assignment?

Hello, Adrian! I think your post for this week was well said. Storing data securely is a monumental aspect of development. As developers, we want to protect our personal data, but also that of our users. When data is secure and a company is known for protecting data, then users are more likely to return to the program in the future. When trust is established, users are more likely to recommend the application to others, increasing clientele. I like the snippet of code that you included. I thought it nicely expanded on your answers for the what, how, and why.

Hi there, Nima! I really enjoyed reading your post for this module. You did a thoughtful job of explaining the what, how, and why behind encrypting data transmission. Data encryption is something that should consistently be implemented when creating code. Someone can easily access and intercept the data if a server is exposed or not trusted. This means the data has now been compromised. I think people often do not consider the possibilities of bad actors acting when they seemingly harmlessly connect their devices to public networks. So I think it means having safeguards to help against these attacks is important.