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Preguntas Orientadoras:

¿Cuáles fueron los aprendizajes obtenidos al realizar esta guía?, liste como mínimo 3 aprendizajes y relaciónelos con su futuro que hacer profesional

- Aprendizajes obtenidos:
- Uso de Sockets y Concurrencia: Desarrollar aplicaciones con conectividad y manejo de hilos, una habilidad clave en software distribuido y redes.
- Trabajo en equipo y comunicación: Practicar la colaboración, esencial en proyectos de software.
- Consulta bibliográfica especializada: Fortalecer habilidades de investigación y actualización, cruciales en tecnología.

¿Dónde presentó mayor dificultad resolviendo la guía? y ¿cómo lo resolvieron? ¿Cuáles fueron las estrategias de solución?

- Dificultades y estrategias de solución:
Configuración de Sockets: Para problemas de conexión, se revisaron fuentes recomendadas y se hicieron pruebas iterativas.
Enfoque de ensayo-error: Ajustar parámetros y verificar resultados ayudó a solucionar errores y afinar el funcionamiento del sistema.

Actividad de Trabajo Autónomo:

- ❖ Distributed Computing: Distributed computing involves multiple computers working together over a network to achieve a common goal. This setup allows for resource sharing and parallel processing, making it possible to solve complex problems more efficiently than with a single machine.
- ❖ Sockets: Sockets are endpoints for communication between two machines over a network. They enable data exchange between applications running on different devices, using protocols like TCP and UDP to manage the connection and data transfer.
- ❖ Difference between UDP and TCP:
 - TCP (Transmission Control Protocol): Ensures reliable, ordered, and error-checked delivery of data between applications. It establishes a connection before data transfer and guarantees that data packets arrive in sequence and without errors.
 - UDP (User Datagram Protocol): Provides a faster, connectionless communication method. It sends data packets without establishing a connection and does not guarantee their order or delivery, making it suitable for applications where speed is more critical than reliability, such as streaming and gaming.
- ❖ RMI and JNDI:
 - RMI (Remote Method Invocation): A Java API that allows objects to communicate and invoke methods on objects located on different JVMs (Java

Virtual Machines). It uses sockets for transmitting method calls and responses over a network.

- JNDI (Java Naming and Directory Interface): Provides directory and naming services to Java applications, allowing them to look up and access resources like RMI objects. JNDI can use sockets to interact with directory services over a network.
- ❖ Web Service: A web service is a software system designed to support interoperable machine-to-machine interaction over a network. It uses standard protocols like HTTP and data formats like XML or JSON to enable communication between different applications, often over the internet. Web services can be RESTful (using standard HTTP methods) or SOAP-based (using XML-based messaging).