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DAFTAR PUSTAKA

[1] V. R. Kebande, "Industrial internet of things (IIoT) forensics: The forgotten concept in the race towards industry 4.0," *Forensic Science International: Reports*, vol. 5, hlm. 100257, Jul 2022, doi: 10.1016/j.fsir.2022.100257.

[2] E. Sisinni, A. Saifullah, S. Han, U. Jennehag, dan M. Gidlund, "Industrial Internet of Things: Challenges, Opportunities, and Directions," *IEEE Transactions on Industrial Informatics*, vol. 14, no. 11, hlm. 4724–4734, Nov 2018, doi: 10.1109/TII.2018.2852491.

[3] P. Welander, "An iPhone as your next HMI: consumer-grade smartphones and tablet computers are fast becoming commonplace extensions of industrial networks, permitting process monitoring and, even (gasp!) process control," *Control Engineering*, vol. 58, no. 8, hlm. 28–32, Agu 2011.

[4] Z. Mandic, S. Stankovski, G. Ostojic, dan B. Popovic, "Potential of Edge Computing PLCs in Industrial Automation," dalam *2022 21st International Symposium INFOTEH-JAHORINA (INFOTEH)*, East Sarajevo, Bosnia and Herzegovina: IEEE, Mar 2022, hlm. 1–5. doi: 10.1109/INFOTEH53737.2022.9751324.

[5] P. O'Donovan, C. Gallagher, K. Bruton, dan D. T. J. O'Sullivan, "A fog computing industrial cyber-physical system for embedded low-latency machine learning Industry 4.0 applications," *Manufacturing Letters*, vol. 15, hlm. 139–142, Jan 2018, doi: 10.1016/j.mfglet.2018.01.005.

[6] S. Ahmad, S. Alhayyas, M. Almansoori, N. Almenhali, F. Alsudain, dan A. Alkhaldi, "Remote Control of the FESTO MPS PA Compact Workstation for the Development of a Remotely Accessible Process Control Laboratory," *Int. J. Onl. Eng.*, vol. 16, no. 05, hlm. 84, Mei 2020, doi: 10.3991/ijoe.v16i05.12809.

[7] P. Drahoš, E. Kučera, O. Haffner, dan I. Klimo, "Trends in industrial communication and OPC UA," dalam *2018 Cybernetics & Informatics (K&I)*, Jan 2018, hlm. 1–5. doi: 10.1109/CYBERI.2018.8337560.

[8] M. S. Andy, M. B. Rahardjo, dan M. B. Hanindhito, "Attack Scenarios and Security Analysis of MQTT Communication Protocol in IoT System," 2017.

[9] W. Dai, H. Nishi, V. Vyatkin, V. Huang, Y. Shi, dan X. Guan, "Industrial Edge Computing: Enabling Embedded Intelligence," *IEEE Industrial Electronics Magazine*, vol. 13, no. 4, hlm. 48–56, Des 2019, doi: 10.1109/MIE.2019.2943283.

[10] H. Ramzey, M. Badawy, M. Elhosseini, dan A. A. Elbaset, "I2OT-EC: A Framework for Smart Real-Time Monitoring and Controlling Crude Oil Production Exploiting IIOT and Edge Computing," *Energies*, vol. 16, no. 4, hlm. 2023, Feb 2023, doi: 10.3390/en16042023.

[11] A. Ghosh, A. Mukherjee, dan S. Misra, "SEGA: Secured Edge Gateway Microservices Architecture for IIoT-Based Machine Monitoring," *IEEE Trans. Ind. Inf.*, vol. 18, no. 3, hlm. 1949–1956, Mar 2022, doi: 10.1109/TII.2021.3102158.

[12] A. Brecko, F. Burda, P. Papcun, dan E. Kajati, "Applicability of OPC UA and REST in Edge Computing," dalam *2022 IEEE 20th Jubilee World*

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Symposium on Applied Machine Intelligence and Informatics (SAMI), Poprad, Slovakia: IEEE, Mar 2022, hlm. 000255–000260. doi: 10.1109/SAMI54271.2022.9780849.

[13] A.-M. Mateoiu, A. Korodi, A. Stoianovici, dan R. Tira, "Supervisory Monitoring and Control Solution on Android Mobile Devices for the Water Industry 4.0," *Sustainability*, vol. 15, no. 22, hlm. 16022, Nov 2023, doi: 10.3390/su152216022.

[14] M. Dwiyaniti, Y. E. S. Situmorang, Y. D. Handoyo, H. Setiana, dan A. K. Wardhany, "Implementation of IoT on PLC-Based Induction Motor Speed Control," dalam *2023 International Conference on Converging Technology in Electrical and Information Engineering (ICCTEIE)*, Bandar Lampung, Indonesia: IEEE, Okt 2023, hlm. 118–123. doi: 10.1109/ICCTEIE60099.2023.10366716.

[15] A. Karmakar, N. Dey, T. Baral, M. Chowdhury, dan Md. Rehan, "Industrial Internet of Things: A Review," dalam *2019 International Conference on Opto-Electronics and Applied Optics (Optronix)*, Kolkata, India: IEEE, Mar 2019, hlm. 1–6. doi: 10.1109/OPTRONIX.2019.8862436.

[16] C. Gong, "Human-Machine Interface: Design Principles of Visual Information in Human-Machine Interface Design," dalam *2009 International Conference on Intelligent Human-Machine Systems and Cybernetics*, Hangzhou, Zhejiang, China: IEEE, 2009, hlm. 262–265. doi: 10.1109/IHMSC.2009.189.

[17] L. Bassi, "Industry 4.0: Hope, hype or revolution?," dalam *2017 IEEE 3rd International Forum on Research and Technologies for Society and Industry (RTSI)*, Modena, Italy: IEEE, Sep 2017, hlm. 1–6. doi: 10.1109/RTSI.2017.8065927.

[18] K. Zheng, "Enabling 'Protocol Routing': Revisiting Transport Layer Protocol Design in Internet Communications," *IEEE Internet Comput.*, vol. 21, no. 6, hlm. 52–57, Nov 2017, doi: 10.1109/MIC.2017.4180845.

[19] International Electrotechnical Commission (IEC), *IoT 2020: Smart and Secure IoT Platform*. Switzerland: IEC, 2016.

[20] J. Akerberg, M. Gidlund, dan M. Bjorkman, "Future research challenges in wireless sensor and actuator networks targeting industrial automation," dalam *2011 9th IEEE International Conference on Industrial Informatics*, Lisbon, Portugal: IEEE, Jul 2011, hlm. 410–415. doi: 10.1109/INDIN.2011.6034912.

[21] W. Shi, J. Cao, Q. Zhang, Y. Li, dan L. Xu, "Edge Computing: Vision and Challenges," *IEEE Internet Things J.*, vol. 3, no. 5, hlm. 637–646, Okt 2016, doi: 10.1109/JIOT.2016.2579198.

[22] W. Z. Khan, E. Ahmed, S. Hakak, I. Yaqoob, dan A. Ahmed, "Edge computing: A survey," *Future Generation Computer Systems*, vol. 97, hlm. 219–235, Agu 2019, doi: 10.1016/j.future.2019.02.050.

[23] T. Qiu, J. Chi, X. Zhou, Z. Ning, M. Atiquzzaman, dan D. O. Wu, "Edge Computing in Industrial Internet of Things: Architecture, Advances and Challenges," *IEEE Commun. Surv. Tutorials*, vol. 22, no. 4, hlm. 2462–2488, 2020, doi: 10.1109/COMST.2020.3009103.

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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

[24] S. K. Gautam, "Comparison of Edge and Cloud Computing Technology for Industry 4.0 Perspective on the Future," *IJSREM*, vol. 07, no. 07, Jul 2023, doi: 10.55041/IJSREM24555.
[25] S. Gupta, "An edge-computing based Industrial Gateway for Industry 4.0 using ARM TrustZone technology," *Journal of Industrial Information Integration*, vol. 33, hlm. 100441, Jun 2023, doi: 10.1016/j.jii.2023.100441.
[26] D. Arius dan U. Amikom, *Komunikasi Data*. Penerbit Andi, 2020.
[27] J. Edwards dan R. Bramante, *Networking Self-Teaching Guide: OSI, TCP/IP, LANs, MANs, WANs, Implementation, Management, and Maintenance*. John Wiley & Sons, 2015.
[28] M. A. B. Jalil, "A Brief Overview: Computer Network Based on Physical and Logical Topology," *IJRASET*, vol. 10, no. 3, hlm. 1154–1160, Mar 2022, doi: 10.22214/ijraset.2022.40833.
[29] M. H. DESROCHES, C. Tivig, C. Snyder, dan F. Eng, "Methods and systems for monitoring a service provided over a packet-switched network," US20190306041A1, 3 Oktober 2019 Diakses: 1 Maret 2024. [Daring]. Tersedia pada: https://patents.google.com/patent/US20190306041A1/en
[30] W. Sugeng, J. E. Istiyanto, K. Mustofa, dan A. Ashari, "The Impact of QoS Changes towards Network Performance," *Int. j. comput. netw. commun. secur.*, vol. 3, no. 2, hlm. 48–53, Feb 2015.
[31] A. Farrel, *Network quality of service know it all*. Burlington, MA: Elsevier, 2008. Diakses: 1 Maret 2024. [Daring]. Tersedia pada: https://cds.cern.ch/record/1992249
[32] F. Ohrtman, *WiMAX Handbook: Building 802.16 Networks*. McGraw Hill Professional, 2005.
[33] A. K. Saleh, H. P. A. Tjahyaningtijas, dan L. Rakhmawati, "Quality of Service (QoS) Comparative Analysis of Wireless Network," vol. 5, no. 2, 2022.
[34] M. Popović, *Communication protocol engineering*, Second edition. Boca Raton, FL: Taylor & Francis, CRC Press, 2018.
[35] D. Hercog, *Communication Protocols: Principles, Methods and Specifications*. Cham: Springer International Publishing, 2020. doi: 10.1007/978-3-030-50405-2.
[36] M. B. Yassein, M. Q. Shatnawi, S. Aljwarneh, dan R. Al-Hatmi, "Internet of Things: Survey and open issues of MQTT protocol," dalam *2017 International Conference on Engineering & MIS (ICEMIS)*, Monastir: IEEE, Mei 2017, hlm. 1–6. doi: 10.1109/ICEMIS.2017.8273112.
[37] D. Parikh, *Raspberry Pi and MQTT Essentials*, 1 ed. Birmingham: Packt Publishing Ltd., 2022.
[38] W. Mahnke, S.-H. Leitner, dan M. Damm, *OPC Unified Architecture*. Berlin, Heidelberg: Springer Berlin Heidelberg, 2009. doi: 10.1007/978-3-540-68899-0.
[39] M. H. Schwarz dan J. Borcsok, "A survey on OPC and OPC-UA: About the standard, developments and investigations," dalam *2013 XXIV International Conference on Information, Communication and Automation Technologies (ICAT)*, Sarajevo, Bosnia and Herzegovina: IEEE, Okt 2013, hlm. 1–6. doi: 10.1109/ICAT.2013.6684065.

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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

[40] F. D. Petruzella, *Programmable Logic Controllers*, Fifth edition. New York, NY: McGraw-Hill Education, 2017.

[41] R. H, S. J. Fusic, J. Cornelius K S R, S. M, dan A. M, "Case study on Integrating Legacy Devices in Industry 4.0 framework using OPC UA," dalam *2023 International Conference on Energy, Materials and Communication Engineering (ICEMCE)*, Madurai, India: IEEE, Des 2023, hlm. 1–6. doi: 10.1109/ICEMCE57940.2023.10434133.

[42] A. Mappuji, N. Effendy, M. Mustaghfirin, F. Sondok, R. P. Yuniar, dan S. P. Pangesti, "Study of Raspberry Pi 2 quad-core Cortex-A7 CPU cluster as a mini supercomputer," dalam *2016 8th International Conference on Information Technology and Electrical Engineering (ICITEE)*, Yogyakarta, Indonesia: IEEE, Okt 2016, hlm. 1–4. doi: 10.1109/ICITEED.2016.7863250.

[43] S. Monk, *Raspberry Pi cookbook: software and hardware problems and solutions*, Fourth edition. Beijing Boston Farnham Sebastopol Tokyo: O'Reilly, 2023.

[44] T. Hagino, *Practical Node-RED Programming: Learn powerful visual programming techniques and best practices for the web and IoT*. Birmingham: Packt Publishing, 2021.

[45] S. Alessandria dan B. Kayfitz, *Flutter cookbook: over 100 proven techniques and solutions for app development with Flutter 2.2 and Dart*. Birmingham: Packt Publishing Ltd., 2021.

[46] Sugiyono, *Metode penelitian kuantitatif, kualitatif, dan R&D*. Bandung: Alfabeta, 2019.