



Leveraging Payara Micro for Streamlined Jakarta EE Application Deployment:

A Strategic Choice for Business Agility



The Payara® Platform - Production-Ready,
Cloud Native and Aggressively Compatible.

User Guide

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Imagine a bustling city at the crack of dawn. The streets are still quiet, but the market square is alive with activity. Traders set up their stalls, arranging their goods meticulously, ready to entice the early birds. Each trader knows that the early hours are crucial to catch the attention of buyers and establish a good market standing before the day's rush begins. In the digital marketplace, the scenario is quite similar. The ability to set up shop quickly, display your goods (in this case, digital services or products) enticingly, and adapt to the market's pulse is what sets successful businesses apart from the others. However, unlike a physical market, the digital market operates at a much faster pace, with changes happening every moment, continuously. Here, the agility to adapt, the speed to respond, and the reliability to deliver exceptional customer experiences are what create market leaders, and eventually, winners.

In this digital market scenario, quick and reliable application deployment plays the role of setting up your stall before the market buzz begins. It's about putting forward your offerings to the customers without delay and ensuring that what you offer meets and exceeds their expectations. A delay in deploying could mean losing out on a significant market share, and inconsistencies in deployment could lead to a loss of trust and customer satisfaction. The automation of deployment pipelines enhances the speed and reliability of this process, ensuring that your digital stall is up, running, and ready to serve the customers with minimal manual intervention.

The ability to deploy swiftly and reliably isn't just about keeping pace; it's also about staying ahead in the race. It enables businesses to launch features rapidly, fix bugs promptly, and respond to market dynamics in real-time. This agility not only boosts customer satisfaction but also empowers businesses to innovate continually and stay competitive.

Payara Micro and Jakarta EE as Strategic Tools for Business Agility

Payara Micro is like a compact, portable stall setup kit that allows traders (read developers) to deploy their stalls (read applications) efficiently in the digital market. It's a lightweight platform designed for modern cloud-native applications, particularly optimised for microservices architecture. With Payara Micro, setting up your digital stall is hassle-free, quick, and does not require a hefty investment.

On the other hand, Jakarta EE is akin to the quality standards and practices that ensure your goods (read software) meet the expectations of the buyers (read users). It's a set of specifications that extend the Java SE with specifications for enterprise features, ensuring that your software is robust, scalable, and portable across various environments.

Together, Payara Micro and Jakarta EE form a formidable toolkit for businesses to set up, showcase, and manage their digital stalls efficiently and effectively in the bustling digital marketplace. Through the course of this paper, we will delve deeper into how these tools can be harnessed to create a streamlined deployment pipeline, ensuring your business is always a step ahead in the market.

The Business Case for Payara Micro

In today's business environment, delivering value quickly and cost-effectively is not just a competitive advantage, but often a survival necessity. The tools and technologies a business chooses to use can significantly impact its operational efficiency, speed to market, and ultimately, its bottom line. This is where Payara Micro shines as a choice for deploying Jakarta EE applications. Let's delve into the specifics.

Cost-Effectiveness

Low Resource Footprint

Payara Micro is designed to be lightweight and efficient, requiring minimal system resources. Unlike bulkier server setups, Payara Micro's minimalistic design reduces the overhead costs associated with server infrastructure. This is crucial for small to medium-sized enterprises or projects with limited resources, where budget allocations are critical. The low resource footprint translates into lower operational costs, making it an economical choice for businesses.

Open-Source Advantages

Being an open-source platform, Payara Micro provides businesses with the advantage of not having complicated licensing costs, which can significantly reduce the total cost of ownership. Additionally, the open-source nature fosters a community-driven environment where improvements, bug fixes, and new features are continually contributed by a vibrant community of developers. This community support often accelerates issue resolution and introduces a diverse range of perspectives and skills into the platform's ecosystem.

Speed to Market

Quick Setup and Deployment

Time is of the essence in the digital market landscape. Payara Micro requires no installation or configuration, making it a plug-and-play solution for deploying Jakarta EE applications. The ability to get your applications up and running in minimal time can be a game-changer in rapidly evolving market scenarios.

Support for Microservices Architecture Enhancing Deployment Speed

Microservices architecture is known for its ability to facilitate rapid, independent deployment of modular services. Payara Micro is optimised for microservices, ensuring that businesses can leverage this architecture to accelerate their deployment processes. Faster deployment means quicker delivery of value to customers and an enhanced ability to respond to market changes.

Scalability and Flexibility

Auto-Clustering Features

As your business grows, so does the need to scale your applications. Payara Micro comes with auto-clustering features, making it easier to scale your applications horizontally to meet increasing demand. This feature is invaluable for businesses looking to expand without encountering bottlenecks in their software infrastructure.

Cloud-Native Readiness

The cloud-native capability of Payara Micro is a testament to its flexibility. It is designed to thrive in modern cloud environments, allowing for seamless deployments in containers and orchestrated environments like Kubernetes. This readiness for cloud-native deployments not only provides scalability but also ensures that your applications are resilient and manageable, catering to modern business needs.

The compelling attributes of Payara Micro make it a strategic asset for businesses striving for agility and competitiveness in the digital marketplace. By adopting Payara Micro, businesses can align with modern development practices while keeping operational costs in check. Its cost-effectiveness, speed to market, scalability and flexibility are not just operational advantages but strategic enablers that pave the way for innovative application development and deployment. As we transition into discussing Jakarta EE, the foundation for robust applications, the link between it and Payara Micro will further underline the strategic advantages these tools collectively offer to modern enterprises.

Jakarta EE: The Foundation for Robust Applications

In the realm of enterprise software development, the choice of technologies is critical. It's much similar to choosing the material to build a skyscraper; the strength, flexibility, and reliability of the material will significantly influence the stability and longevity of the building. Jakarta EE is such a foundational technology for creating robust, scalable, and future-ready applications. It encapsulates modern enterprise features and strong community and vendor support, making it a reliable and strategic choice for enterprises. Let's delve into some of its core advantages.

Modern Enterprise Features

Cloud-Native Support

The cloud is not merely a deployment option but a hallmark of modern enterprise computing. Jakarta EE is geared towards cloud-native application development, providing features and specifications that make it a breeze to develop, deploy, and manage applications in a cloud environment. The support for cloud-native development ensures that applications are resilient, manageable, and scalable, aligning with the modern infrastructure practices.

Microservices Readiness

Microservices architecture has become the de facto standard for developing modern, scalable, and flexible applications. Jakarta EE's readiness for microservices means that enterprises can break down their applications into manageable, deployable units, each with its own defined domain and boundaries. This readiness significantly enhances the development speed, deployment flexibility, and operational manageability, allowing enterprises to adapt quickly to market changes.

Community and Vendor Support

Vibrant Community

Behind Jakarta EE is a vibrant community of developers, architects, and enterprises collectively pushing the envelope of what's possible with enterprise Java. This community fosters innovation, support, and collaboration, ensuring that Jakarta EE continues to evolve to meet the demands of modern enterprise development. The active community also provides a support network where issues are discussed, solutions are shared, and knowledge is transferred.

Support from Established Vendors

Jakarta EE enjoys support from a plethora of established vendors in the enterprise Java space, Payara being of the notable names. This vendor support ensures that enterprises have multiple options when it comes to choosing a vendor that aligns with their business objectives, technical needs, and budgetary constraints. Moreover, vendor support often translates to professional support, training, and consultancy services, ensuring enterprises have the necessary backing to succeed with Jakarta EE.

The amalgamation of modern enterprise features and robust community and vendor support makes Jakarta EE a formidable foundation for building and deploying enterprise applications. When coupled with the operational advantages and modern development features of Payara Micro, enterprises are equipped with a powerful toolkit to navigate the digital marketplace's turbulent waters. This pair not only provides technical advantages but strategic benefits that can significantly impact an enterprise's market positioning and competitiveness.

Productive Integration: Payara Micro and Jakarta EE

The confluence of Payara Micro and Jakarta EE forms a foundation that propels the development and deployment of enterprise applications to a new horizon. The ease of deployment that Payara Micro offers, combined with the robust foundation of Jakarta EE, results in a conducive environment for deploying modern enterprise applications in an efficient manner. This combination is not just about making the development and deployment processes smoother; it's about elevating them to a level where they can be seamlessly integrated into modern automated deployment pipelines, significantly enhancing the agility and responsiveness of the full development lifecycle. Let's explore this integration synergy in more detail.

Seamless Deployment

Easy Packaging and Deployment of Jakarta EE Applications

The choice of Payara Micro and Jakarta EE facilitates a seamless packaging and deployment process. Payara Micro's lightweight and user-friendly nature, coupled with Jakarta EE's robust and standardised specifications, simplifies the packaging of applications. This synergy ensures that deploying Jakarta EE applications is a hassle-free and swift process, which is crucial in today's fast-paced development environments.

Simplified Configuration Management

Configuration management is a critical aspect of the deployment process, and any complexity in this area can significantly hamper the speed and reliability of deployments. Payara Micro's native support of MicroProfile simplifies configuration management through the Config API, providing a streamlined and straightforward way to manage configuration settings across different deployment environments. This simplification reduces the chances of configuration errors and accelerates the deployment process.

Automated Deployment Pipelines

Continuous Integration/Continuous Deployment (CI/CD) Support

The era of CI/CD has ushered in a new level of efficiency and reliability in software development and deployment. The link between Payara Micro and Jakarta EE supports the integration into modern CI/CD pipelines, enabling automated, consistent, and reliable deployment of applications. This support for CI/CD is a significant advantage as it aligns with modern development practices, facilitating faster iterations and reliable deliveries.

The integration of Payara Micro and Jakarta EE is a testament to the strategic and operational advantages that come from combining a lightweight, efficient deployment platform with a robust, feature-rich enterprise application framework. This combination empowers enterprises to accelerate their deployment processes, enhance reliability, and align with modern development practices, setting a solid foundation for achieving business agility and competitiveness in the digital age.

Technical Support and Community

In the journey of crafting robust and scalable applications, having a solid support structure is akin to having a reliable compass in an unpredictable terrain. The avenues of professional support and an active community are not just reactive measures for troubleshooting but proactive platforms for continuous improvement and learning.

The ecosystem surrounding Payara Micro and Jakarta EE is rich with both professional support channels and a vibrant community, ready to assist, collaborate, and innovate. This blend of technical support and community engagement is a cornerstone for fostering a conducive environment for not only resolving issues but also for driving innovation and improvements. Let's delve into the facets of technical support and community engagement associated with Payara Micro and Jakarta EE.

Availability of Professional Support

Dedicated Support

Payara Micro Enterprise offering comes with dedicated support services. This means that enterprises have a direct line to the experts who are well-versed with the ins and outs of Payara Micro and Jakarta EE. This dedicated support is instrumental in addressing issues swiftly and obtaining tailored advice that aligns with the enterprise's specific operational environment and objectives.

24/7 Incident and Problem Management

In the digital realm, issues can arise round the clock, and having 24/7 incident and problem management is a significant advantage. Payara Micro Enterprise offering ensures that help is available whenever needed, providing a safety net that enterprises can rely on to address and resolve incidents and problems, ensuring business continuity and minimising downtime.

Hot Fixes and Patch Releases

The Payara Micro Enterprise offering also includes the provision of hot fixes and patch releases. This ensures that critical issues are addressed promptly, and enterprises can maintain a secure and reliable operational environment. The timely provision of hot fixes and patches is crucial for maintaining the integrity and reliability of deployments.

Migration & Upgrade Assistance

Technology landscapes are continually evolving, and having support during migrations and upgrades is invaluable. The Payara Micro Enterprise offering provides assistance during migrations and upgrades, ensuring that transitions to newer versions or different setups are smooth and hassle-free.

Performance Tuning

Optimising the performance of applications and deployments is a continual endeavour. The Payara Micro Enterprise offering provides performance tuning services, helping enterprises optimise their setups to achieve better performance, scalability, and reliability.

Expert Guidance

Having access to professional support means having a channel to seek expert guidance whenever needed. Whether it's troubleshooting a complex issue or seeking advice on best practices, the availability of professional support provides a reliable avenue for obtaining expert insights and solutions.

Training and Consultancy

Professional support often extends into training and consultancy, providing a platform for teams to enhance their skills, understand the nuances of the technology, and optimise their development and deployment processes. This extension into training and consultancy is invaluable for ensuring that teams are well-equipped to leverage the full potential of Payara Micro and Jakarta EE.

Engaging with the Community for Solutions and Improvements

Collaborative Problem-Solving

The community surrounding Payara Micro and Jakarta EE is a melting pot of experiences, skills, and knowledge. Engaging with this community opens the doors to collaborative problem-solving, where diverse perspectives converge to devise solutions, share knowledge, and improve the technology.

Driving Innovation

Communities are often the birthplace of innovation. The collaborative spirit, combined with a shared passion for the technology, fosters an environment where new ideas are incubated, discussed, and refined. Engaging with the community is not just about seeking solutions but contributing to the continuous improvement and innovation that propels Payara Micro and Jakarta EE forward.

The infrastructure of technical support coupled with an engaging community creates a fertile ground for enterprises to thrive, innovate, and overcome challenges. It embodies a comprehensive support structure that not only addresses the present concerns but also looks ahead towards continuous improvement and innovation, ensuring that enterprises have the necessary support and collaborative environment to excel in their endeavours with Payara Micro and Jakarta EE.

Futureproofing Your Business

Technology evolves at a very fast pace, and for businesses, staying relevant and competitive entails a proactive approach towards embracing this evolution. Payara Micro and Jakarta EE serve as beacons in this endeavour, offering a pathway to align with emerging enterprise technology trends while ensuring a robust and reliable operational framework. The essence of futureproofing lies in the ability to anticipate, prepare, and adapt to the forthcoming technological shifts. Let's delve into how engaging with ongoing developments in Payara Micro and Jakarta EE, and preparing for future enterprise technology trends contribute to future-proofing your business:

Staying ahead with ongoing Payara Micro and Jakarta EE Developments

Regular Updates and Upgrade

Engaging with the regular updates and upgrades of Payara Micro and Jakarta EE ensures that your enterprise is always operating with the latest and most secure versions. These updates often encompass performance improvements, new features, and security enhancements, which are crucial for maintaining a robust and efficient operational environment.

Adoption of New Features and Best Practices

Each release of Payara Micro and Jakarta EE often comes with new features and recommended best practices. Embracing these advancements not only enhances the capabilities of your applications but also optimises the development and deployment processes, contributing to higher operational efficiency and agility.

Community and Vendor Engagement

Staying connected with the community and vendors ensures that you are abreast of the ongoing developments, upcoming features, and prevailing best practices. This engagement is a gateway to a wealth of knowledge and insights that can significantly contribute to staying ahead in the technology curve.

Preparing for Future Enterprise Technology Trends

Cloud-Native Readiness

The migration towards cloud-native architectures is a dominant trend in enterprise technology. Payara Micro and Jakarta EE are geared towards cloud-native readiness, providing the frameworks and tools necessary for developing, deploying, and managing applications in cloud environments. This readiness is a significant step towards aligning with the future of enterprise computing.

Microservices Architecture

Microservices architecture is at the forefront of modern application development. Preparing for and adopting microservices architecture with Payara Micro and Jakarta EE facilitates a modular, scalable, and flexible application architecture, which is pivotal for adapting to evolving business requirements and technology trends.

Continuous Learning and Skill Development

The landscape of enterprise technology is ever-changing. Investing in continuous learning and skill development ensures that your team is well-equipped to leverage the evolving capabilities of Payara Micro and Jakarta EE, and to adapt to new technologies and methodologies as they emerge.

Futureproofing is an ongoing endeavour that entails a blend of proactive engagement with current technologies and a forward-looking approach towards emerging trends. The combination of Payara Micro and Jakarta EE provides a robust foundation and a forward-looking pathway, enabling enterprises to navigate the technological evolution with confidence and agility.

Conclusion

In the rapidly evolving digital landscape, the ability to quickly respond to market changes, customer demands, and emerging trends is crucial for staying competitive. In this paper, we looked at the benefits of Payara Micro and Jakarta EE both separately and when paired as a development choice. As decision-makers, the onus of fostering an environment that not only responds to the present but anticipates the future rests upon your shoulders. The integration of Payara Micro and Jakarta EE is more than just a technical amalgamation; it's a strategic alignment towards creating a robust, flexible, and future-ready enterprise application ecosystem. This alignment paves the way for enhanced business agility, operational efficiency, and competitive edge in the market.

The journey towards digital excellence is ongoing, and the choice of tools and technologies is a critical determinant of success along this path. Payara Micro and Jakarta EE emerge as reliable, efficient, and forward-looking choices that can significantly contribute to realising your enterprise's strategic objectives. This paper hopes to have helped you identify a pathway towards a modern, agile, and competitive enterprise environment. It's an invitation to embrace the capabilities of Payara Micro and Jakarta EE, to explore the myriad possibilities they offer, and to propel your enterprise onto a trajectory of continuous innovation, agility, and market responsiveness.



Interested in Payara? Try Before You Buy

The banner features two laptops. The left laptop displays the Payara Enterprise interface, with the Payara logo and 'ENTERPRISE' text above it. The right laptop displays the Payara Cloud interface, with the Payara logo and 'cloud' text above it. A central 'FREE TRIAL' button is positioned between the two laptops. Below each laptop is a corresponding 'FREE TRIAL' button: 'PAYARA SERVER FREE TRIAL' under the left laptop and 'PAYARA CLOUD FREE TRIAL' under the right laptop. The background is a dark blue gradient with orange accents and fish icons.



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