Document name	Code	Segment	Created by
Bainomugisha2022-Crane_cloud_A_resilient_multicloud_service_abs	LEGACY ARCHITECTURE > Monolithic application	In an incremental migration and ar-chitectural refactoring of a commercial mobile backend (mono-lithic application) as a service, Balalaie et al.	Ivon Miranda Santos
Bainomugisha2022-Crane_cloud_A_resilient_multicloud_service_abs	LEGACY ARCHITECTURE > Monolithic application	Monitoring is a critical and essential aspect of managing any IT infrastructure. Systems are susceptible to failure and without monitor-ing, it is difficult to ascertain the causes of failure and even anticipate for future ones. Compared to traditional monolithic applications, moni-toring of microservice applications requires intensive service reporting features especially given their distributed nature (services run as in-dependent processes on possibly geographically different	Ivon Miranda Santos
deCarvalho2018-Pacificclouds_A_flexible_microservices_based_arc	LEGACY ARCHITECTURE > Monolithic application	Microservices can aid in obtaining the native cloud application's characteristics; therefore, they fo-cus on aspects as componentization of small and lig-htweight services, agile and DevOps practices, in-frastructure automation with continuous delivery fe-atures, decentralized data management, and decen-tralized governance among services. The microser-vices promise more agility, more delivery speed, and more scalability compared with traditional monolithic applications, resulting in less overall cost (Newman, 2015), (RV, 2016). In Section 3, we describe, present	Ivon Miranda Santos
Gholami2016-Cloud_migration_process—a_survey__evaluation_framew	LEGACY ARCHITECTURE > Monolithic application	The complexity of migration is exacerbated by the fact that some legacy applications may have been developed without taking into account the unique requirements attributed to cloud environments such as elasticity, multi-tenancy, interoperability, and refactoring. Such requirements raise new challenges to the migration of applications to the cloud and hence needs improving conventional software development methodologies to address these specific requirements. Various projects and studies in cloud computing community define migration approaches in order to enable legacy applications to take benefit from cloud services	Ivon Miranda Santos
Haugeland2021-Migrating_monoliths_to_microservices-based_custom	LEGACY ARCHITECTURE > Monolithic application	Monolithic applications have been the prevailing archi-tecture for enterprise applications after the emergence of frameworks like J2EE around 2000.	Ivon Miranda Santos
Haugeland2021-Migrating_monoliths_to_microservices-based_custom	LEGACY ARCHITECTURE > Monolithic application	Many companies today still have applications following monolithic architecture where all functions are coupled and built together as a	Ivon Miranda Santos
Haugeland2021-Migrating_monoliths_to_microservices-based_custom	LEGACY ARCHITECTURE > Monolithic application	A. Monolithic Applications Monolithic application architecture is a common pattern that software applications follow.	Ivon Miranda Santos
Haugeland2021-Migrating_monoliths_to_microservices-based_custom	LEGACY ARCHITECTURE > Monolithic application	We rather focus on how to logically migrate a monolithic application to become customizable in a multi-tenant context.	Ivon Miranda Santos
Haugeland2021-Migrating_monoliths_to_microservices-based_custom	LEGACY ARCHITECTURE > Monolithic application	The monolithic application	Ivon Miranda Santos
Haugeland2021-Migrating_monoliths_to_microservices-based_custom	LEGACY ARCHITECTURE > Monolithic application	To validate the approach, we applied it to the SportStore application [22], whose monolithic architecture is simplified in Fig.	Ivon Miranda Santos
Haugeland2021-Migrating_monoliths_to_microservices-based_custom	LEGACY ARCHITECTURE > Monolithic application	The initial phase of the migration consists of the analysis and reverse engineering of the pre-existing application. During phase one, the application is still in a single monolithic piece. At this stage, the application consists of three different layers typically found in MVC applications. A user-interface that represents the view, controllers that contain the application logic, and a persistent storage layer that handles the	Ivon Miranda Santos
Haugeland2021-Migrating_monoliths_to_microservices-based_custom	LEGACY ARCHITECTURE > Monolithic application	The second phase of the migration starts by picking a service or some functionality for migration. Ideally, this func-tionality should already be loosely coupled to the rest of the code in the monolithic application to limit any dependency back to the monolith. For this phase, we chose to focus on the product module of the SportsStore application. The product module contains all the logic associated with displaying prod-ucts from the database, adding and updating products in the	Ivon Miranda Santos
Jambunathan2018-Architecture_decision_on_using_microservices_or	LEGACY ARCHITECTURE > Monolithic application	Hence in our analysis and observation, containers are the key for hosting the applications – whether it is monolithic, microservices or serverless and many framework provides complete support in managing containers –	Ivon Miranda Santos

Jamshidi2015-Cloud_migration_patterns_A_multi-cloud_service_arc	LEGACY ARCHITECTURE > Monolithic application	The key risk is that underlying architecture issues are not addressed. A monolithic legacy application in the cloud is still monolithic with limitations such as lack of scalability. Scalability is coarse-grained and cannot easily be achieved if, e.g., the architecture does not allow the database to be	Ivon Miranda Santos
Jamshidi2017-Pattern-based_multicloud_architecture_migration	LEGACY ARCHITECTURE > Monolithic application	A monolithic legacy application in the cloud is still monolithic with limitations such as lack of scalability.	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	With the emergence of cloud-native applications, the question arises how existing, often monolithic, applications can be migrated to this new	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	The key challenge of migrating an existing web-based application to a CNA is therefore, how to split a complex monolithic application into smaller components which adhere to the cloud-native	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	Requirements for a model-driven cloud-native migration of monolithic web-based applications 91	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	As a case study, we transformed a monolithic application to a serverless application1 based on the FaaS paradigm.	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	It has to be noted, that the goal of the project was not to improve the existing appli-cation considering performance, cost or maintainability, but to explore the migration process of transforming an existing monolithic application into a CNA.	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	For the monolithic appli-cation, we chose the REST version of the Spring Petclinic sample application.2 Although the application is compara-tively simple, it features typical characteristics of web-based applications and is therefore suited as a close to reality but still comprehensible example.	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	Because the existing monolithic application should be split up during the transformation, it is necessary to represent the application at a sufficient level of abstraction.	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	Requirements for a model-driven cloud-native migration of monolithic web-based applications 93	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	A monolithic application can therefore be represented as a single component consisting of subcomponents.	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	Requirements for a model-driven cloud-native migration of monolithic web-based applications 95	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	4 Reduced UML diagram of the existing monolithic PetClinic application	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	In the monolithic application authentication and the configuration of which user role is nec-essary to invoke a certain operation was handled by Spring using annotations and globally available.	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	Requirements for a model-driven cloud-native migration of monolithic web-based applications 97	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	If the technological heterogeneity is dealt with by hav-ing various PSMs for the technologies at hand, the question remains if the proposed approach works for all applications. Monolithic applications tend to be tightly integrated. We already proposed that an analysis of the existing system is necessary at the level of methods. But there might be sys-tems where even individual methods are complex and bundle various functionality which should ideally be split up into dif-ferent components. In these cases, it might be necessary to refactor the existing system before applying the proposed approach, if the application	Ivon Miranda Santos
Lichtenthaler2019-Requirements_for_a_model-driven_cloud-native_	LEGACY ARCHITECTURE > Monolithic application	Requirements for a model-driven cloud-native migration of monolithic web-based applications 99	Ivon Miranda Santos
Weerasinghe2022-Taxonomical_classification_and_systematic_revie	LEGACY ARCHITECTURE > Monolithic application	Software engineers use the SOA principle and the SOC concept to develop the application rather than going for monolithic architecture.	Ivon Miranda Santos
Weerasinghe2022-Taxonomical_classification_and_systematic_revie	LEGACY ARCHITECTURE > Monolithic application	Through this study, persons who are looking for converting a monolithic application to the microservice architecture can gain ample ideas to	Ivon Miranda Santos
Weerasinghe2022-Taxonomical_classification_and_systematic_revie	LEGACY ARCHITECTURE > Monolithic application	□ What are the main motivations to convert the monolithic application to microservice architecture?	Ivon Miranda Santos

Weerasinghe2022-Taxonomical_classification_and_systematic_revie	LEGACY ARCHITECTURE > Monolithic application	A. What are the Main Motivations to Convert the Monolithic Application to Microservice Architecture?	Ivon Miranda Santos
Weerasinghe2022-Taxonomical_classification_and_systematic_revie	LEGACY ARCHITECTURE > Monolithic application	C. What are the Main Motivations to Convert the Monolithic Application to Microservice Architecture?	Ivon Miranda Santos