

European Approaches to the Roman Limes Between Heritage and Tourism: Examples of Good Practices for the Transylvanian Limes

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Abstract

Archaeological tourism has developed unevenly across Europe, with Western countries demonstrating more advanced models of heritage valorisation compared to Romania. This study examines the potential of the Transylvanian sector of the former Roman province of Dacia Porolissensis to be integrated into sustainable archaeological tourism systems. The research employs a qualitative and comparative approach, combining spatial analysis of the north-western Limes (between Bologa and Porolissum) with the evaluation of established European models, including Hadrian's Wall and the German Limes system within the Frontiers of the Roman Empire. The analysis focuses on site distribution, accessibility, and the degree of integration into tourism networks. The results indicate that, despite a high density of archaeological resources, the Transylvanian Limes lacks functional integration, coordinated management, and tourism infrastructure. In contrast, international examples demonstrate that route-based organisation, institutional cooperation, and diversified visitor experiences generate significant economic benefits, including increased visitor flows and regional development. The study concludes that the archaeological heritage of Transylvania represents a substantial yet underutilised resource. Its valorisation requires the transition from a predominantly descriptive and archaeological perspective to an integrated, tourism-oriented framework capable of supporting sustainable economic growth..

Keywords: archaeotourism, development, roman roads, Transylvania

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Introduction

Frontiers, although filled with military structures of all types and serving as the base of armies whose primary role was to defend the Empire, had as their main function the control of movements into and out of the Empire, including the prevention of raids. The buildings—walls, small forts, and towers—were complemented by scouts, whose role was to monitor the surrounding territories, and by fleets, whose sailors supervised the riverine and maritime frontiers of the Empire. The legions represented the core of the provincial armies. At any given time, there were no more than approximately 30 legions. These were deployed along the frontiers of the Empire, sometimes directly on the frontier line, and at other times within the interior, at a certain distance from it. The main body of the provincial army was formed by the auxiliary troops—literally “support troops”—which occupied forts much smaller than those of the legions. During the turbulent period following the fall of the Roman Empire, the walls of the forts provided a certain degree of protection. Many of today’s major cities have at their core a former legionary fort (Breeze, Marcu & Cupcea, 2021). The role of the limes within the defensive system was extremely important. Everywhere, it constituted the outer line, the first line of contact with the enemy. The principle underlying the functioning of the limes was the ability to ensure the rapid concentration of troops at any threatened or attacked point. This capability was made possible through the road network.



Figure 1 Map of Roman Empire in 125BC

The development of the limes reached its peak during the period of prosperity and glory of the Roman Empire and exemplifies both the administrative organization and the geopolitical strategies of Rome at that time. The frontier extended for more than 5,000 km, beginning at the Atlantic Ocean (the Limes Germanicus), crossing what is today the European continent, reaching as far as the Red Sea (Limes Tripolitanus) and North Africa (Limes Arabicus). The construction of roads and fortification systems throughout the Roman Empire served multiple purposes: defining territorial limits and asserting territorial control; monitoring movements in border areas; enabling immediate communication—visual and acoustic—in the event of imminent danger; ensuring the rapid and safe movement of troops; repelling groups that threatened the frontiers; and supplying the army. The development of the limes illustrates the organizational principles, spatial planning, administrative practices, and the geopolitical and military strategies of the Roman Empire (Coșofret, 2017).

The Limes of Dacia did not constitute a linear defensive system; rather, it was composed of multiple elements organized in depth: roads—forts—advanced lines of surveillance and observation. From a strictly theoretical perspective, and disregarding the road network, the limes can be studied as consisting of two distinct yet interconnected components: the forts and the advanced line of towers as fixed elements, and the troops stationed within them as mobile elements.

Due to the characteristics of the terrain, the Dacian limes presents specific features that distinguish it from what is generally understood as a limes. Its particularity is most evident in the Transylvanian Plateau, where classical elements were placed within a new context imposed by local topographic realities. The main elements of the limes—the forts—were positioned inland, in front of mountain passes or at observation points, in order to block any possibility of penetration. Forts were located along rivers (such as the Mureș and the Olt), along road networks, or, in some cases, a 235-kilometer-long earthen rampart was constructed, reinforced by a series of forts.

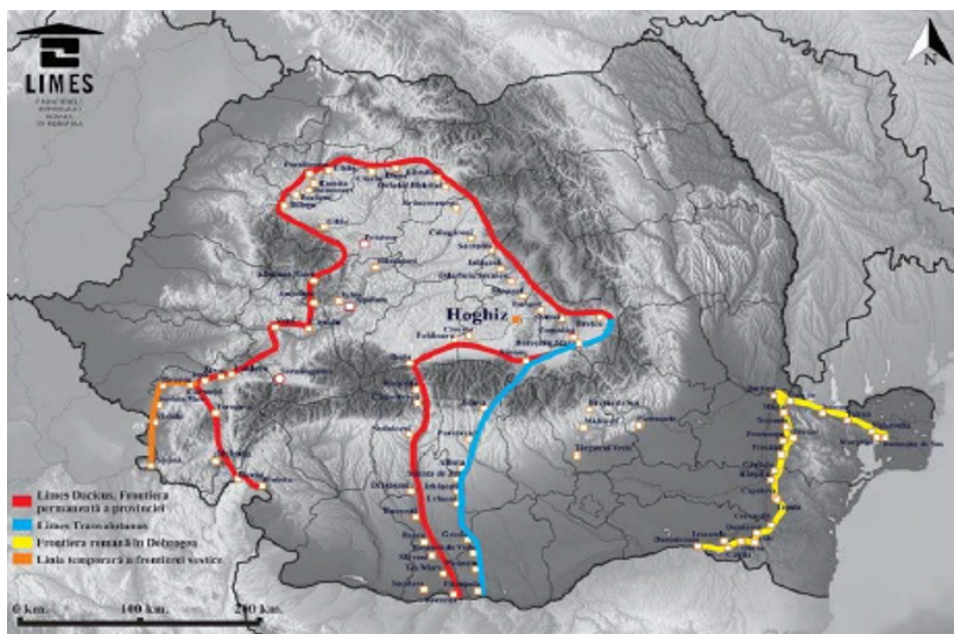


Figure 2. Map of Roman Frontiers in Romania

The analysis of good practice models through the promotion and valorization of archaeological heritage in other European countries provides a general framework and a perspective for possible national developments of the Limes of Dacia Porolissensis. The Limes on the territory of Romania is discontinuous in the field and represents the least well-preserved section among the other segments of the Roman Limes. Most portions of the Limes in northern Dacia are located in forested areas and are affected by forestry activities.

The Frontiers of the Roman Empire – Dacia were inscribed on the UNESCO World Heritage List in 2024, during the 46th session of the World Heritage Committee, held on 27 July this year in New Delhi, India. Through this decision, the Outstanding Universal Value and the historical and cultural importance of the Limes of the Roman province of Dacia for all humanity are formally recognized.

Methodology

This study adopts a qualitative and comparative research approach aimed at evaluating the potential of the north-western sector of the Limes of Dacia Porolissensis for integration into sustainable archaeological tourism systems.

The analysis focuses on the north-western Limes axis between Bologa and Porolissum, a sector characterized by a high density of Roman military structures, including forts, watchtowers, and associated infrastructure. The selection of this area is justified by its strategic geomorphological position within the intra-Carpathian region and by the significant volume of archaeological research conducted since the 19th century.

Rather than treating geomorphological characteristics as descriptive elements, the study interprets them as determinants of spatial organization and accessibility, with direct relevance for tourism planning. Features such as mountain ridges (e.g., Meseş), corridors (e.g., the Someş Valley), and terrace systems are analyzed in terms of their role in shaping both ancient defensive strategies and contemporary mobility patterns. The research is based on multiple categories of data:

- archaeological and historical sources, including published excavation reports and syntheses;
- geographical and geomorphological data, used to assess spatial distribution and accessibility;
- secondary tourism-related information, concerning infrastructure and valorisation practices in comparable European contexts.

Methods of analysis:

- Spatial analysis. The distribution of forts, towers, and roads is examined in relation to natural features such as relief, corridors, and altitude variations. This allows the identification of potential geo-archaeological axes that could be integrated into tourism routes.
- Comparative analysis. The Romanian case is evaluated in relation to European models developed within the framework of the UNESCO heritage system, particularly the Frontiers of the Roman Empire. This comparison focuses on levels of preservation, accessibility, and tourism integration.
- Functional assessment of heritage sites. Archaeological sites are analyzed as potential nodes within a tourism network, considering factors such as proximity to transport corridors (e.g., the Someş Valley), spatial clustering, and connection to existing settlements.
- Qualitative synthesis of best practices. Selected European examples (e.g., Hadrian's Wall) are used to identify transferable strategies for heritage valorisation, including route development, interpretation, and visitor engagement.

The methodology is guided by an interdisciplinary perspective, combining elements of geography, archaeology, and tourism studies. The emphasis is placed on the transformation of archaeological landscapes into functional tourism systems, rather than on purely descriptive analysis.

Results

The German Limes Route

In Germany, several distinct segments of the Roman Limes are preserved, crossing different regions of the country:

- Lower Germanic Limes: approximately 400 kilometers long, stretching from the Vinxtbach stream near Bad Breisig to the mouth of the Rhine into the North Sea.
- Upper Germanic–Raetian Limes: about 550 kilometers long, extending from the Rhine near Bad Hönningen–Rheinbrohl to the Danube near Regensburg.
- Danube Limes: follows the course of the Danube for approximately 600 kilometers, from Bad Gögging, through Germany, Austria, and Slovakia, to Iža (Slovakia).

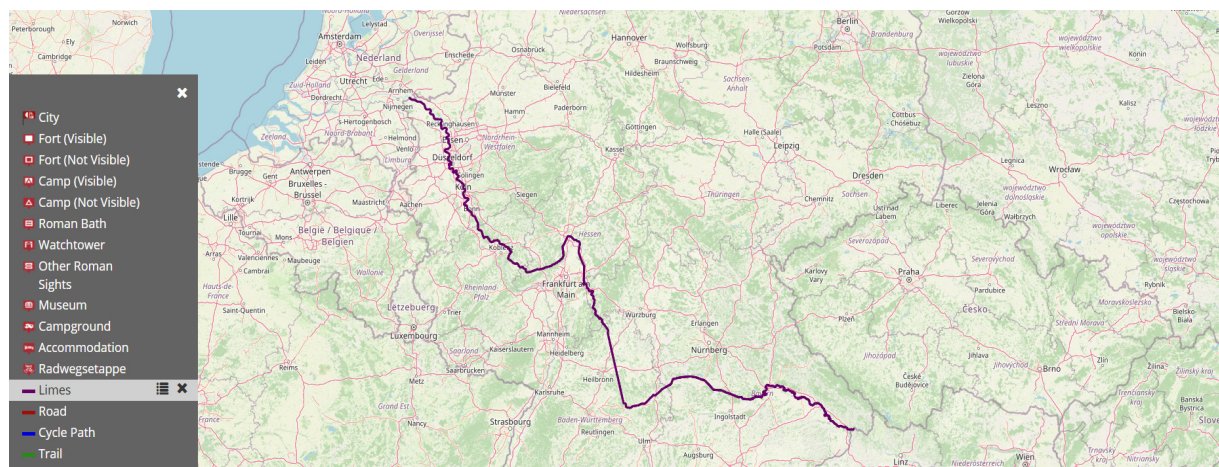


Figure 3. The German Limes Route

The German Limes represents one of the most advanced models of integration between archaeological heritage and tourism development within the UNESCO framework, being part of the Frontiers of the Roman Empire. Structurally, it consists of several segments—Lower Germanic, Upper Germanic–Raetian, and Danube Limes—covering over 1,000 km and crossing multiple federal states.

From a tourism perspective, the key feature of the German model is the transformation of a fragmented archaeological system into a coherent territorial product. The creation of the “Deutsche Limes-Straße” association in 1995, bringing together over 90 local administrative units, enabled coordinated management, branding, and promotion. This institutional framework plays a central role in ensuring continuity along the route.

The German Limes Route demonstrates a high level of functional integration, combining archaeological sites with tourism infrastructure such as cycling routes, hiking trails, museums, and visitor facilities. The existence of a continuous cycling route of over 1,100 km illustrates the conversion of historical infrastructure into a modern mobility corridor, accessible to diverse categories of tourists.

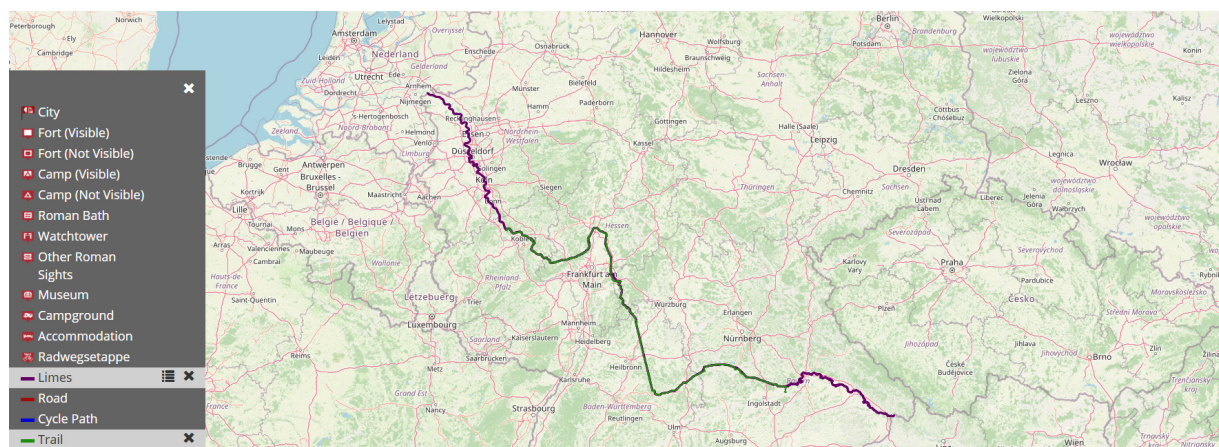


Figure 4. The German Limes Cycling Route

Economically, this model is oriented toward increasing visitor numbers, extending length of stay, and strengthening regional identity. Although statistical data varies regionally, the presence of well-developed infrastructure, accommodation services, and complementary attractions indicates a mature tourism system. The density of heritage elements along the route supports the development of multi-day itineraries, which is a key factor in tourism profitability.

Another defining characteristic is the emphasis on visitor engagement and diversification of experiences. Museums and archaeological parks integrate interactive and educational components, targeting multiple audiences (families, schools, cultural tourists). This diversification contributes to repeat visitation and enhances the overall attractiveness of the route.

Overall, the German Limes model highlights the importance of institutional coordination, route continuity, and diversification of tourism products as essential factors in successful heritage valorisation.



Figure 5. Image from Göglingen Museum

Hadrian's Wall

Emperor Hadrian decided to construct a wall in northern England as a demonstration of the power and strength of the Roman army. Through this act, the site acquired major strategic importance, becoming the northernmost frontier of the Roman Empire. Hadrian's Wall is an ancient archaeological monument that crosses northern England from Wallsend, near Newcastle upon Tyne in the east, to the Solway Firth in the west.

In contrast to the German model, Hadrian's Wall represents a more linear and landscape-oriented approach to heritage tourism. Extending across northern England, the site has been included in the UNESCO World Heritage List since 1987 and benefits from a high degree of international recognition. The British model is characterized by the integration of archaeological remains into a continuous cultural landscape, where natural scenery plays a central role in the visitor experience. Accessibility is ensured through multiple transport options (walking, cycling, road, rail), and the route is structured into distinct sections that combine rural and urban environments.

A key strength of this model lies in its interpretive infrastructure, including visitor centers, marked trails, digital applications, and educational resources. These elements facilitate a deeper understanding of Roman military life and enhance the experiential dimension of tourism. Compared to the German model, where diversification is achieved through multiple attractions, the British approach relies more heavily on narrative coherence and landscape immersion.

From an economic perspective, Hadrian's Wall functions as a major cultural tourism axis, generating consistent visitor flows and supporting local economies. The availability of digital tools, guided tours, and thematic routes contributes to extending visitor engagement and improving accessibility.

The route of this section of the limes is also spectacular from a landscape perspective. Numerous viewpoints offer panoramic vistas of the surrounding area, while the presence of remarkable artifact collec-

tions discovered along the route—such as weapons, jewelry, ceramics, and glass objects—enhances the visitor's understanding of Roman military life. The archaeological site is open to the public, and many points along the route are visitable, accessible, and equipped with tourism facilities. The tourism infrastructure is well developed, including visitor centers, interpretive panels, and marked trails for various hiking routes. Digital support for visitors is also available, through interactive audio guides, trip-planning tools, and ticket-purchasing platforms.

The linear route of Hadrian's Wall is divided into four sections:

- The Roman Trail from Corbridge

This section of Hadrian's Wall leaves the rural landscape and heads toward the city of Newcastle upon Tyne. The combination of archaeological remains set within both rural and urban environments makes the eastern section of Hadrian's Wall a particularly attractive heritage route. The trail begins in the Roman town of Corbridge, home to some of the most significant Roman archaeological discoveries, including a well-preserved Roman main street. From here, the journey continues eastward toward the aptly named village of Heddon-on-the-Wall, and further through the suburbs of Newcastle—Denton and Benwell—where additional segments of the wall and Roman military structures can be explored.



Figure.6 Image from Hadrian's Wall

The Roman Trail at Birdoswald

The historic landscape at Birdoswald is dominated by the remains of the former Roman frontier. Picturesquely situated on the banks of the River Irthing, the site represents an ideal destination for a day trip, especially for those wishing to explore the eventful and conflict-filled history of Roman Britain.

Among the main attractions of this section of the UNESCO World Heritage Site are: the longest continuous surviving stretch of Hadrian's Wall; a well-preserved Roman fort; and a medieval monastery built using stones reclaimed from Hadrian's Wall.

The Roman Trail at Housesteads

The central section of Hadrian's Wall offers some of the most spectacular viewpoints along the entire 73-mile route. The most important Roman sites in this area are often located on elevated ground, providing impressive views over some of the most beautiful rural landscapes in Great Britain. Here, the wall descends, curves, and winds through a dramatic and wild landscape.

This trail passes through some of the most tranquil areas of Northumberland National Park and includes a remarkable sequence of Roman watchtowers, the imposing milecastle at Cawfields, as well as a fascinating collection of Roman artifacts at Housesteads Fort.



Figure 9. A route along Hadrian's Wall

The Roman Trail at Chesters

The Antonine Wall

The Antonine Wall provides a complementary example, illustrating a model with lower levels of reconstruction but strong interpretive potential. Unlike Hadrian's Wall, it is less monumental and more fragmented, yet it benefits from integration into broader cultural and recreational networks.

Tourism development along this route emphasizes accessibility, educational value, and landscape integration, rather than large-scale infrastructure. Sites such as Bearsden or Bar Hill demonstrate how

partial preservation can still support meaningful visitor experiences when combined with effective interpretation.

The analysis of these models highlights several key factors that contribute to successful archaeological tourism systems:

- Spatial continuity and route-based organization (strong in Germany and the UK)
- Institutional coordination and multi-level governance (particularly evident in Germany)
- Diversification of tourism products and visitor experiences
- Integration of heritage into broader cultural and natural landscapes
- Use of digital tools and interpretive strategies to enhance accessibility

In comparison, the Transylvanian Limes lacks these integrative mechanisms, despite having a comparable density of archaeological resources. The main gap is therefore not related to heritage availability, but to the absence of a structured tourism system and coordinated valorisation strategy.

The trail is accessible throughout the year and is suitable for all profiles of cultural tourists. It is appropriate for families with children, school and educational visits, as well as for visitors interested in extended walks along the wall. Key elements of the wall are visible and well preserved, and nearby museums further enhance the visitor experience. Among the most important and well-preserved points along the route is:

- **The Bearsden Site**

Bearsden is the location of a Roman fort with an associated annex (auxiliary area). The modern road known as “Roman Road” follows the same alignment as the main road of the Roman fort. The site is particularly renowned for its exceptionally well-preserved Roman bathhouse and latrine block, which offer valuable insight into the daily life and routines of Roman soldiers. Although the main fort area is today largely covered by modern streets and houses, the visible remains of the baths and latrines can still be visited in the area that once formed part of the fort’s annex.



Figure 10. Discoveries at the Bearsden Site

- Bar Hill Fort

Bar Hill Fort is unique along the Antonine Wall because it is not directly connected to the main line of the wall. Within the fort, traces of an earlier enclosure can be observed, likely representing a temporary camp used during the construction of the wall.

Nearby lies Castle Hill, an Iron Age fort located immediately northeast of the Roman fort and south of the earthen rampart of the Antonine Wall, offering an interesting perspective on the superimposition of civilizations that have occupied the area over time. Today, visitors can see the fort platform, the eastern gate, as well as the ruins of the headquarters building (*principia*) and the Roman bathhouse.

Close by, at the Twechar Health Living & Enterprise Centre, a replica of a Roman distance slab is displayed near the original discovery site of the Eastermains slab—one of the commemorative inscriptions that marked constructed sections of the Antonine Wall and recorded the distances built by Roman legions during the works.



Figure 11. View of the Discoveries at Bar Hill

- The Kinneil Fortification

The fortification at Kinneil was discovered in the 1970s, together with sections of the rampart and ditch of the Antonine Wall. Following archaeological excavations, the small fort was partially conserved and adapted for public visitation. The path leading from Kinneil House to the fortification site guides visitors across the location of a medieval settlement that was dismantled at the end of the 17th century. Several times a year, Kinneil House opens to the public, offering exhibitions of Roman artifacts discovered in the area—providing an excellent opportunity to explore both the Roman and medieval history of the region. Today, the small fort at Kinneil is marked by the original stone edging of its defensive ramparts, while areas where masonry has not survived have been reconstructed using stone paving to indicate the original layout. Wooden posts mark the locations where Roman-period postholes were identified, indicating the

positions of the fort's gates and internal buildings. The ditch of the wall can be partially traced across the fields between Kinneil House and the Roman fortification, offering visitors a clear understanding of the original placement of the Roman frontier within the landscape.

Conclusion

European models from Germany and the United Kingdom provide a series of starting points and reference frameworks that archaeological sites in Romania can identify and apply in order to achieve sustainable and future-oriented development of archaeological tourism. These models require both national and transnational integration, as the Roman Limes has been well preserved across the territories of several countries and extends beyond present-day state borders. The cultural and educational functions of archaeological sites, combined with tourism activities, contribute to more efficient heritage management and facilitate their integration into thematic routes.

The archaeological heritage of Romania, particularly in large parts of Transylvania, can be regarded as a potential revenue-generating resource through archaeological tourism. This heritage carries a strong historical and symbolic value, allowing sites to evolve into cultural hubs.

The urban axis of Potaissa–Napoca–Porolissum can be integrated into a thematic tourist route, as each center is located within less than 20 kilometers of a representative history museum: the History Museum in Turda, the History Museum in Cluj-Napoca, and the History Museum in Zalău. Similar to museums along the Limes in Germany and the United Kingdom, which are directly connected to the routes of Roman roads, the museums located along the urban axis of Dacia Porolissensis can likewise highlight their cultural value. Beyond the visitation of archaeological sites—which in most cases requires less than one hour—the route can also be structured around museums. In this way, urban centers along the Limes axis become nuclei for the development of complementary activities.

The analysis demonstrates that positioning tourism as an economic phenomenon requires the adoption of a more comprehensive and integrated analytical framework. In this context, the perspective promoted by the Council of Europe through its Cultural Routes Programme—particularly initiatives related to Roman heritage, such as the Roman Routes Cultural Route and the Frontiers of the Roman Empire—provides a relevant model for transnational cooperation, heritage valorisation, and sustainable tourism development.

The comparative assessment of established case studies, including Hadrian's Wall and the German Limes system, confirms that integrated heritage routes can generate tangible economic benefits, such as increased visitor flows, extended lengths of stay, and the diversification of local economies. These findings highlight the importance of incorporating tourism indicators—such as visitor numbers, spatial distribution of flows, and revenue generation—into future research, in order to strengthen the empirical foundation of archaeological tourism studies.

At the same time, the adoption of best practices—ranging from digital interpretation tools and thematic events to participatory experiences and adaptive reuse of heritage sites—demonstrates the potential of archaeological landscapes to evolve into dynamic cultural and economic assets.

Overall, the Transylvanian Limes possesses significant potential for integration into international heritage networks, yet its development depends on the transition from a predominantly descriptive and archaeological approach to a strategically coordinated, tourism-oriented framework. Such a shift would enhance both the scientific relevance of future research and the practical contribution of the Limes to sustainable regional development.

Conclusion

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