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| 1. **JOB IDENTIFICATION**

**Job Title:** eHealth Solutions Architect (Innovation)**Responsible to:** Regional Programme Manager – West of Scotland**Department:** Strategy, Programmes and Innovation**Directorate:** eHealth |
| **2. JOB PURPOSE** |
| Responsible for innovation IT architecture related services including cloud hosted as well as on-prem in-house applications development, infrastructure and integrations / interfaces development across NHS Greater Glasgow & Clyde (NHSGGC) and other West of Scotland (WoS) Boards in collaboration with the West of Scotland Innovation Hub (WoSIH).Develop and be custodian for the overall innovations solutions architecture within NHSGGC and wider WoS Boards in collaboration with WoSIH.Develop and manage the implementation of the IT policies required to support the delivery of projects and solutions architecture, specifically:* To review and manage the requests for development and delivery of new and existing applications, database systems, integrations, interfaces and infrastructure, support processes and service improvements, which support both the clinical and administrative functions of NHSGGC and WoSIH Partners, ensuring requirements are prioritised in line with the strategic aims of NHSGGC and WoSIH.
* Act as a Senior Programme Manager across the team’s projects primarily focused on eHealth support and authorised projects, growing delivery of NHSGGC and other WoS Board services and technologies.
* To influence, through analysis and negotiation, the introduction of new solutions and technologies within NHSGGC and other WoS Boards in collaboration with WoSIH
* Work across all IT teams to develop and influence overall solutions architecture for NHSGGC and other WoS Boards in collaboration with WoSIH
* To improve the cost effectiveness and resilience of the existing underpinning NHSGGC and other WoS Board IT infrastructure, especially in light of changes in technology and business requirements.
* To work closely with eHealth Senior Managers and WoSIH to scope, prioritise and develop these services.
* To take a lead role in managing IT investment projects.
* Across all areas to consider a range of approaches, from innovative use of new technologies to rationalisation of existing systems, and be a source of expertise / consultancy on IT solutions for eHealth and WoSIH.
* To advise on the management and governance of information technology solutions and end to end service delivery.

The post-holder will also:* Lead and participate in all aspects of these objectives.
* Direct and ensure the successful delivery of Programmes, Projects and Work Packages for application, interface and infrastructure design within their lead area.
* Manage and develop all staff within their team where applicable.
* Contribute to the design, development and implementation of the NHSGGC and other WoS Boards eHealth Strategy, in keeping with the WoSIH strategic aims.
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| **3. ROLE OF DEPARTMENT** |
| The overall aim of the eHealth Directorate is to deliver and maintain a comprehensive integrated information, technology and record management strategy in order to ensure that the right information is provided in the right place at the right time, to support highest possible levels of diagnosis, treatment and care of patients and clients, to support continuous improvement of the health of the populations we serve and to achieve more effective integration between Health and the care services of our Local Authority partners. This includes patients’ case notes and other information for clinicians working in the community and primary care, in outpatient clinics, on the point of admission for inpatients/day cases and for review after discharge: it includes developing and supporting electronic information systems for clinical and management use: and it includes collection and analysis of data required by the Scottish Government Health Department, for local monitoring of activity or performance, and for surveillance and protection of the health of our populations. The eHealth Directorate has approximately 1,700 staff, a revenue budget of approximately £80.m (incl annual Scottish Government ring fenced funding), annual capital budget ranging between £2-4m and non-recurring eHealth budget of approximately £10m. The eHealth Directorate comprises the following departments:* **Operations** – responsible for the overall IT and Telecommunication service delivery to NHSGGC including the delivery of the underpinning technical infrastructure and applications to support the health and corporate directorates across NHSGGC to agreed KPI’s and SLA’s. In addition, Information security and compliance.
* **Strategy, Programmes and Innovation** - responsible for the development of the medium to long term eHealth Strategy and enabled Innovation Programmes, linking with Innovators such as clinicians, R&D, industry and SME's within NHSGGC, West of Scotland, and the broader Innovation community and the delivery of a large number of highly complex programmes and projects including significant service reconfiguration and System development,
* **Information Management** – responsible for the collection and analysis of information, information governance and delivery of knowledge management services. This service comprises Knowledge Services (Libraries), Clinical Coding and Business Intelligence.
* **Health Records** – delivery of Health Records services across NHSGGC, including provision of outpatient clinics and ward clerk services
* **Business and Resource Management** – responsible for financial management, procurement & contract management, audit, risk management, Programme Management Office (PMO), Information Governance, FOI responses and overarching aspects of staff governance and organisational development, Health & Safety, general Directorate wide governance and facilities management activities.
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| **4. ORGANISATIONAL POSITION** |
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| **5. SCOPE AND RANGE** |
| The post-holder will be a senior member and team / area / specialism lead within eHealth.The post-holder is responsible for the overall solutions architecture within WoSIH. This covers 100s of applications, >100 data interfaces and highly complex data flows; plus 10s of significant developments and projects each year and works in conjunction with other teams to deliver cross boundary requirements for HSCPs, cross Boards (nationally and regional) and local authorities (where information needs to be shared). This often requires very highly complex workflows.The exact mix of systems, technologies, focus and projects will change over time in line with NHSGGC’s and wider WoS Boards’ evolving strategic objectives, local business requirements and technology developments.Application and Service Developments require the job holder to understand complex working practices across a wide range of medical, clinical and administrative professions, translate them into solutions to facilitate the flow of information to support the healthcare practitioner and the patient, and implement these through managed projects. These systems and services directly impact the care provided to patients.Advises and influences business clients and IT professionals at senior management level regarding the delivery, costs, availability and functionality of services and systems and develops effective relationships whilst at the same time acting as internal service delivery manager for the services covered. Proactively seeks and manages development requests and provides implementation services for new and existing third party applications and solutions which enhance the deliverables of the NHSGGC and other WoS Boards clinical practice which forms a key part of the NHSGGC and wider WoS Boards’ eHealth strategy.Takes overall responsibility for the financial and staffing aspects of assigned programmes of work, service and project management as well as the full range of technical considerations involved. Possesses the confidence of the highest level of management in the ability to deliver an efficient and effective service within agreed time and cost constraints of the programme. Significant contribution and influence to policy making at a high level with respect to the full range of matters in relation to solutions architecture including strategic planning, application and software procurement. Leads contributions and direction to national / regional system & application developments and projects, responsible for the implementation within NHSGGC and other WoS Boards in collaboration with WoSIH and provides advice on national data Sets.Ensures that the delivery of systems and services are monitored and maintained to the high levels of quality, standards and operability as defined within negotiated and agreed service level agreements, parameters or contracts. Ensures that service level agreements, contracts and negotiations with both internal and external suppliers are always aimed at meeting the business needs of the organisations in terms of operability, standards, quality, efficiency, performance and cost effectiveness.Ensures that the necessary arrangements are in place to maintain or recover the delivery of systems and services in the event of any physical, technical or environmental disaster or major outage providing continuity of service to the client organisations. |
| **6. MAIN TASKS, DUTIES AND RESPONSIBILITIES** |
| **Solutions architecture and development services (primary role)**1. To work with IT Strategic Development & Programme Managers, IT Senior Managers, service general managers, clinical colleagues and WoSIH staff to develop end-to-end solutions.
2. To work with colleagues in IT and service departments to achieve optimal integration between applications; and to achieve savings and/or better use of resources through economies of scale, different ways of working, better integration etc.
3. Maintain and develop working relationships with key customers to foster feedback from previous project implementations and develop interests and stakeholders for future developments.
4. To lead or support the procurement and/or development of new solutions, in line with national, regional and local strategy
5. To maintain appropriate contact with Scottish Government eHealth and other Boards’ staff concerned with solution development and/or with eHealth strategy and to participate in local, regional and national groups helping to develop and implement new systems and national policies
6. To maintain and develop specialist skills and expertise in the area of responsibility for the benefit of the organisation
7. To prepare and maintain a rolling four/five year plan for application and integration development, and solutions architecture.
8. To identify gaps in information systems and to make recommendations as to how these gaps might be filled in terms of national and local applications strategy.
9. To work with client/user departments to identify unmet needs and to recommend how best such needs can be met.
10. Ensure that the information, systems and processes which support the strategic eHealth objectives of NHSGGC and other WoS Boards are successfully scoped, developed and implemented.
11. Develop and be custodian for the overall solutions architecture within WoSIH, particularly taking account of data quality, data completeness and resilience; and including roadmap, classification and standards for applications and data.
12. Ensure safe and accurate recording, processing and sharing of data/information in all developments, and ensure solutions minimise data exceptions and maximise data quality for the immediate systems and for all systems with which they share data (including the full ‘Electronic Patient Record’).
13. Provide advice and recommendations on solutions architecture matters to senior operational management, Directors, etc

**Programme delivery**1. To manage the successful delivery of developed or procured solutions over multiple independent project work streams.
2. Plan schedule and reschedule as necessitated, complex interdependent projects within a governed, risk minimal manner ensuring projects deliverables are aligned with other project dependencies.
3. Monitoring and reporting of programme progress, risk and expectations to programme steering groups.
4. To deliver projects on time, in scope and on assigned project budget with the ability to address any implementation ‘drift’ and ‘manage out’ any associated risks.
5. To develop comprehensive plans compliant with standard frameworks applied within NHSGGC and other WoS Boards.
6. To develop and implement robust and appropriate communications plans for all stakeholders ensuring ownership and maximum take up of new clinical / administrative solutions, thus ensuring maximum benefits achievement.
7. To ensure that the database aspects of developments are in line with current industry and NHS Scotland standards and support business requirements and needs.
8. Business analysis, process mapping, re-engineering and re-design of existing and proposed operational environments for clinical and administrative settings
9. Definition of clinical and professional requirements, identification and evaluation of technologies to meet service needs.
10. Management of project staff and external vendors and consultants as required, as well as defined budget management for assigned projects.
11. Definition and implementation of support requirements necessary to sustain the service during and post project go live.

**Management of Staff (including HR & Payroll Responsibilities)**1. Schedule and direct the activities of the project teams , directly or via Team Leads, taking account of individual’s abilities and the requirements of the organisation.
2. Guide staff on the interpretation and application of eHealth strategies and project governance arrangements.
3. Ensure all work is carried out and documented in accordance with required and agreed standards, methods and procedures (leading in specific areas of standard or processes as directed by the Strategic Development & Programme Manager).
4. Motivate project staff through the provision of appropriate development opportunities, training and objective setting and maintain a Personal Development Plan for each team member.
5. Maintain records of attendance, sickness or other absence and leave for team members.
6. Communicate with HR and Occupational Health advisors to notify them of any staffing issues or to work with Recruitment on any vacancies
7. Responsible for the recruitment and selection of potential new staff within Teams
8. Encourage and support staff to develop their individual skills and to reach their full potential.

**In All Work**1. Develop and apply analytical approaches and best practices in the formulation of solutions and implementation of services.
2. Work to broad priorities agreed with the eHealth and WoSIH Senior Management Team.
3. Maintain an in-depth, highly technical and up-to-date knowledge of the very wide range of applications, environments, systems, software and hardware used within the Division.
4. Keep abreast of the changing technical environment, in terms of both hardware and software, ensuring NHSGGC and other WoS Boards in collaboration with WoSIH is making best use of available technologies.
5. Work within Directorate policies, procedures and guidelines, including Information Security, Information Governance, IT asset management, inventory and software management policies; Network Connection Policy; Network Administration Accounts Policy; Network Share and Security Management Procedures; Health & Safety procedures, etc.
6. Comply with the requirements of Freedom of Information, Data Protection and Access to Health Records, and other appropriate legislation.
7. Be familiar with the NHSGGC’s, divisions, departments, directorates, management structures and operational environments and have a broad appreciation of these for other WoS Boards.
8. Ensure that stakeholders are kept fully informed of progress throughout all work and escalate problems in a timely manner.

The above is not exhaustive, and the post-holder may be required to fulfil other reasonable requests for support whilst working with integrity and following best practice guidelines.  |
| **7a&b. EQUIPMENT, MACHINERY & SYSTEMS** |
| The post holder will provide wide knowledge of all aspects of highly complex IT applications, integration / interface platforms (including the National Digital Platform and the National Integration Platform), development environments and infrastructure (both on premise and Cloud), plus complex data structures with an emphasis on InterSystems Cache, Ensemble and Microsoft SQL Server environments, and highly specialise in certain areas. These areas will vary across the teams and roles, and will change over time in line with business requirements and technology developments. The post holder will be required to develop / redevelop skills as part of this process.The post holder will lead developments within a wide range of technical environments:* Server environments (including Unix and Microsoft Windows Server systems) both on premise and Cloud
* Database systems (including Microsoft SQL Server)
* Web Servers (including Microsoft IIS)
* Desktop/Laptop/Tablet PC’s

And the team’s in-house development work will focus on the following technologies:* Ensemble
* Rhapsody
* Sharepoint Online
* SQL
* Microsoft.NET
* JavaScript
* XML
* XSL
* Modelling Tools (Archimate, UML)
* JSON
* Azure services

This environments supports the delivery of both clinical care and NHS GGC and other WoS Board operational requirements. The post holder will be required to maintain an operational awareness of these and further develop such systems as part of new / upgrade / rollout projects. Typical systems include:* Realtime clinical care systems such as CareVue Intensive Care charting
* Clinical support systems such as Pharmacy, Radiology, electronic prescribing, digital dictation
* Clinical admin systems such as A&E, PAS.
* Business admin systems such as HR.

In delivering major projects and new-builds the post-holder will also use:* PC spreadsheets, word-processing and email
* Presentation packages (Powerpoint, Visio, Project)
* Complex databases (creating and using)
* IT Help Desk / call logging systems

The post holder will use a range of manual recording and reporting systems.* Files (contracts, personnel, technical and supplier literature, professional docs)
* Key and room access systems

The post holder will use a range of office machinery and equipment, including PCs, peripherals, scanners, faxes, telephony and photocopiers. |
| **8. DECISIONS AND JUDGEMENTS** |
| The post-holder is required to exercise a high level of autonomy in progressing objectives agreed with the Regional Programme Manager – West of Scotland (to whom the post-holder reports), but working in close conjunction with other members of the WoSIH, eHealth management team and Clinical Service Teams both within NHSGGC and wider WoS Boards. Regular meetings on policy and strategy implementation will take place with these stakeholder groups and others as appropriate.This is a senior IT post and the post holder is expected to deputise for both Regional Programme Manager – West of Scotland and peer Consultants /Managers at meetings or in periods of absence as and when required.The majority of the post holder’s activity will be self-initiated and proactive in response to meeting objectives of the job with freedom to act/autonomy in areas, including:* Management of staff, including disciplinary issues.
* Interpretation and response to customer requests for areas of work
* Resolution of highly complex problems, taking into account their impact on a wide range of project issues, design issues, IT services, systems, users and patient-facing processes.
* Guiding business project teams on many areas of eHealth strategy and best practices.
* Ensuring all systems designed, procured and implemented fit with eHealth infrastructure strategies and support capabilities.
* Developing and recommending proposals to change / develop existing eHealth policies and strategies.
* Advising IT colleagues and customers on highly complex IT infrastructure and system issues.
* Determining how limited project budgets can provide the most appropriate and resilient technical solutions, balancing and assessing complex risks to the availability and functionality of the overall system and IT infrastructure.
* Assessing and determining whether IT colleagues, customers, and third parties should progress with system installations work potentially impacting other NHSGGC and wider WoS Boards’ IT systems.

The post holder will work on their own initiative to deliver within agreed timescales the relevant projects. The post holder is expected to anticipate problems and to resolve them. The post holder will plan and supervise the workload and deliverables of all the staff within the project teams they are responsible for. The post holder will have the discretion to identify solutions to application, interface, infrastructure, service support and process issues.The post holder requires skills in developing relationships and it is particularly important to work closely with other Senior eHealth/WoSIH Managers and other eHealth/WoSIH staff, clinicians, business managers & directors and project managers.Key areas of responsibility and agreed priorities and objectives will be agreed with the Regional Programme Manager – West of Scotland, in keeping with the National e-Health Strategy, NHSGGC’s eHealth Strategy and WoSIH Strategy. |
| **9. COMMUNICATIONS AND RELATIONSHIPS** |
| A wide range of communications and relationship skills are essential. The post holder will be expected to embrace hard negotiation around contracts, service levels, priorities for limited staff and resources, and the balancing of risks versus compromises in system architectures.The post holder will also have to deal with sensitive staff issues such as managing poor performance and sickness absence.In programme, project and technical architecture leadership it is essential that the post holder can effectively communicate highly complex multi-stranded technical issues and problems with conflicting solutions (often with no precedents) to all stakeholder groups in a method which can clearly and easily be understood so appropriate informed decisions can be made. They will have to seek compromise and persuade eHealth/WoSIH managers and colleagues, business project teams and stakeholders, suppliers, auditors and business / clinical management. They must also manage customer perception of IT services and issues and effectively manage supplier relationships, often in stressful time-critical situations.The post holder must effectively engage with external support organisations and strategic partners to progress strategy, programmes and business projects and negotiate the best utilisation of their resources to assist with work and effectively present technology issues to business stakeholders.The post-holder will be required to deliver technical training to team and department colleagues as part of handover of projects to support and development/mentoring of staff. Small-scale training of key end users (system administrators) is also occasionally required to facilitate this.The post holder is required to communicate with;* Other eHealth/WoSIH Department Professionals ensuring models of service delivery are achieved, negotiating the release of resources to perform areas of work, allied to this the post holder.
* When required, will negotiate with the 3rd Party suppliers ensuring their compliance with the service delivery needs of the eHealth Directorate and its Clients in collaboration with the WoSIH.
* Senior clinical staff to discuss information and data requirements during scoping and development phases of project, and throughout to implementation and sign off.
* Directors, senior managers, Business and Project Managers, both advising and negotiating the use of new and emerging technologies.
* Third party software Supplier Account Managers, negotiating changes to software and highlighting discrepancies within the product.
* Local, regional and national groups
* Local authorities and other public sector organisations
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| **10. PHYSICAL, MENTAL, EMOTIONAL AND ENVIRONMENTAL DEMANDS OF THE JOB** |
| The post holder is expected to deliver in line with project plans, unforeseen events can have an adverse effect on how time/resource is managed. As with any non-scheduled support environment, user expectation is of quick fix, which means post holder will react to situation. The job requires the juggling of large numbers of complex projects large and small to ensure that priorities are met for the clinical and business services in NHSGGC and other WoS Boards.Effort:* Ability to meet the demands of controlling and communicating complex programmes of work and continue to deliver initiative, proactiveness and subjectivity at times of high demand, pressure and stress.
* Ability to deal with complexity of IT infrastructure and systems (100s of different systems, many different skill-sets and legacies of many separate and different systems).
* Knowledge that major impact on clinical and medical services can be affected by initiative, decisiveness and promptness of reactions to loss of IT services can create high levels of stress, often requiring explosive effort.
* Lengthy periods of concentration are required whilst acknowledging interruptions and change of task are an unavoidable element of the role and working environment (e.g. many hours focused on developing solutions, but interruptions from customers and suppliers relating to many other projects and developments, or from operational issues associated with a system previously implemented).
* Maintaining knowledge in areas of expertise due to the constant rate of change and development in the IT industry and systems.
* Ability to frequently manipulate fine tools, including (logically) creating software packages, configuring software scripts and policies.
* Advanced keyboard use.

Working hours, and time management:* Occasional requirement to manage or directly participate in programmes of work being undertaken out-of-hours (evenings, weekend and holiday) work to minimise disruption to clinical services during IT system and infrastructure implementations and upgrades.
* Inter-site and intra-site mobility, including travelling anywhere as required (especially within NHSGGC sites)

Working environment:* Requirement to work in clinical areas where IT services are deployed, which on occasions may be in close proximity to sensitive patient/clinical situations.

Requirement to undertake additional out of hours (evening, weekends and holiday) work to minimise disruption to clinical services during IT upgrades, changes etcRegular exposure to confidential/sensitive data.Inter-site and intra-site mobility, including travelling anywhere as required. |
| **11. MOST CHALLENGING/DIFFICULT PARTS OF THE JOB** |
| Managing complex of interdependent programmes and projects, resolving the conflicts and managing their successful delivery within an environment of competing priorities and limited resources.Persuasively presenting and negotiating new architectures / solutions where no precedent exists and/or where conflicting opinions and priorities impinge across different eHealth areas.Working in an unpredictable and often highly stressful environment, where the post holder has to negotiate and manage the impact of:* Project work often being reprioritised as a result external factors including support issues, business-political issues and changing regional and national strategies.
* Demands for delivering new projects and infrastructure improvements exceeding funding and resources available for achieving them.
* Considerable periods of peaks in demand due to budget cycles, national targets, new-build developments.

Working within an increasingly technical, complex, rapidly evolving and growing environment; gaining, retaining and expanding appropriate technical knowledge and skills to support and develop this environment; and clearly communicating these highly complex issues to colleagues, project teams and customers in an easy to understand fashion.Understanding and succinctly presenting the complexity of the current applications, integrations, data flows and data architecture to a wide and varying stakeholder base.Persuasively presenting problems and solutions appropriate to the scale and complexity of NHSGGC and wider WoS Boards; to suppliers, local and national project teams, and other NHS organisations; where they are not accustomed or do not understand the impact of such issues on a large-scale organisation and a large and complex IT infrastructure.Balancing best working practices, industry standards and designing solutions appropriate to NHSGGC and wider WoS Board organisation(s), while at the same time being cognisant of the legacy systems and their impact on the solution.Maintaining a working knowledge of 100’s of clinical IT applications and 100’s of customer departments and services.Keeping abreast of rapidly evolving and increasingly complex IT industry, technical and security matters.Working within limited staff resources (when compared to many commercial organisations), so compounding all the challenges and stresses summarised above, and having to accordingly manage customers’ and suppliers’ expectationsMaintaining a working knowledge of the vast number of clinical IT solutions and being aware of National and Regional IT / eHealth developments within the NHS.Providing service improvements necessary to meet the aspirations of users that have an ever-increasing dependence on continually evolving eHealth services, whilst managing limited available resources. |
| **12. KNOWLEDGE, TRAINING AND EXPERIENCE REQUIRED TO DO THE JOB** |
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| **Qualifications and Skills** | **Essential** | **Desirable** |
| Degree in computing or information management or similar numerate subject: or degree in any subject plus post graduate qualification in information/computing | **✓** |  |
| Professional qualifications or equivalent certified training relating to Solutions Architecture, Development, Integration or Testing | **✓** |  |
| Preferably qualified in, ITIL IT Service Management (International standard for Best Practice in IT Service Management) or equivalent. |  | **✓** |
| **Experience**  | **Essential** | **Desirable** |
| IT professional with significant operational experience and demonstrable managerial experience.  | **✓** |  |
| A theoretical knowledge of systems architecture gained through past implementations of product sets. | **✓** |  |
| Wide Industry technical knowledge and interests. | **✓** |  |
| Proficient in the role of IT support, and service delivery management with exceptional problem solving abilities and firm logical grounding. Familiar with the concepts, standards, technologies, tools, procedures, hardware and software in use for delivering IT services. | **✓** |  |
| Practical project management experience and knowledge and exposure to IT project management methodologies (ELMP, Six Sigma, PRINCE2). |  | **✓** |
| Financial, resource and performance management experience. | **✓** |  |
| **Behavioural Competencies** | **Essential** | **Desirable** |
| Managerial competencies including excellent team-working and communication skills, written as well as verbal, leadership and organisational skills, commercial awareness, customer focus, diagnostic analytical and planning skills;  | **✓** |  |
| Ability to understand the business aspects of information systems and supported applications. | **✓** |  |
| Highly developed knowledge of technical aspects of systems; hardware, database, software and hardware integration environments and associated knowledge of legislation, best practices and procedures surrounding IT. | **✓** |  |
| High level of communication and negotiating skills within complex environment and situations and the ability to diplomatically deal with all levels of users, senior management and clinical staff, allowing post holder to influence decision making. | **✓** |  |
| Organised approach to administration, workloads and prioritisation.  | **✓** |  |
| Ability to prioritise and meet deadlines in a time constrained environment.  | **✓** |  |
| Ability to exercise initiative and work independently. | **✓** |  |
| **Other** | **Essential** | **Desirable** |
| Ability to travel around NHSGGC and partners sites. | **✓** |  |

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