

Research Scientist Level 7

Project Proposal

# Introduction

## Project

You will be required to produce a 4,000-word Project Report which will be reviewed and assessed by DSW. The report must be supported by evidence you have gathered such as emails, graphs, research, presentations and reports. It is important that your Project Report and supporting evidence demonstrate that you have met all of the required Pass criteria that are assessed by this method.

## Project Proposal

This document has been created for apprentices who are planning their Project Report for the Research Scientist End Point Assessment. Your employer will provide you with title and scope for the Project Report; this document will help you to ensure that you are able to evidence all of the Pass criteria through your Project Report.

As part of this Project Proposal, you are required to confirm that you and your employer believe that the Project Report will allow you to meet the Pass criteria in full.

At Gateway, your Training Provider will submit your completed Project Proposal to the DSW Assessor who will confirm, within 10 working days, whether or not you can begin work on your Project Report. Once approved, you will have 3 weeks from the project start date to write up and submit your Project Report.

# Project Proposal Template

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| **Research Scientist Work Based Project** | |  |
| Apprentice Name | SYED JAVEDHUSSAIN | |
| Apprentice ULN | ULN: 6181030114, STUDENT NO : 720027410 | |
| Training Provider | UNIVERSITY OF EXETER | |
| Employer Signature |  | |
| Apprentice Signature | SYED JAVEDHUSSAIN | |
| Date | MARCH 04 2023 | |

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| Project Title - Tusker Migration Project |
| Scope *- a summary of the stage covered by the Project Report and an overview of the tasks as well as responsibilities undertaken by the apprentice.*  The Tusker Project is a migration project from Hortonworks libraries to open-source Hadoop on the cluster. The scope of the project report covers the entire migration process, including the identification of challenges, the selection of appropriate tools, and the implementation of the migration process. The apprentice was responsible for leading the project and overseeing all aspects of the migration, including data management, data collection and reporting, research methodologies, data analysis and evaluation, and team management.  Throughout the project, the apprentice was responsible for identifying areas for improvement, adapting the project as necessary, and critically evaluating all aspects of the migration. Additionally, the apprentice was responsible for justifying the use of statistical analysis and numerical modelling techniques, ensuring compliance with GDPR regulations, and effectively communicating the project's progress to stakeholders.  Overall, the Tusker Project was a complex and challenging migration project that required a wide range of skills and expertise from the apprentice. Through their hard work and dedication, the apprentice was able to successfully complete the project and deliver significant value to the company. |

The table below should be used to help plan and record how each Descriptor will be evidenced within the Project Report. It is mandatory that the Project Report provides evidence for all of the Pass criteria. You can choose to add additional information to evidence the Distinction criteria.

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| Pass and Distinction Descriptor | What evidence will I provide to prove this? |
| Subject-specific Knowledge & Scientific Knowledge    Pass Descriptor  (K1.1 & S1.1) Makes strategic and scientific decisions based on a deep and systemic understanding of a named / recognised scientific subject (as found in an industrial setting) and demonstrates the use of a range of advanced, new and emerging practical and experimental skills to support these decisions.  Distinction Descriptor  (K1.2 & S1.2) Evaluates the importance of strategic and scientific decision-making by drawing on relevant theory or literature and links this to a range of advanced, new and emerging practical and experimental skills. | The Tusker Migration project requires me to utilize my subject-specific knowledge and scientific knowledge in order to make strategic and scientific decisions that will drive the project forward. This will involve drawing on a deep and systemic understanding of the project's subject matter, as well as applying a range of advanced, new and emerging practical and experimental skills.  To ensure that my decision-making is well-informed, I will evaluate the importance of strategic and scientific decision-making by linking relevant theory or literature to these advanced skills. By doing so, I will be able to critically assess the project's subject matter and make informed decisions that are grounded in the latest research.  In order to execute the Tusker Migration project, I will draw upon my deep and systemic subject-specific and scientific knowledge. This will enable me to make informed strategic and scientific decisions that are well-rounded and backed by relevant theoretical concepts.  Furthermore, I will evaluate the significance of my decision-making by utilizing relevant literature and theory linked to the advanced practical and experimental skills required. This approach will enable me to critically assess the project's subject matter and make informed decisions that are grounded in the latest research.  Overall, my utilization of subject-specific and scientific knowledge, coupled with advanced practical and experimental skills and relevant theory or literature, will enable me to make strategic and scientific decisions that are well-informed and that drive the Tusker Migration project forward. |
| Research methodologies    Pass Descriptor  (K4.1) Uses and explains research methodologies and scientific processes appropriate to the sector and applies these to form a hypothesis. Explains any unpredictability of the research project undertaken and any adaptations made as a result of new developments.  Distinction Descriptor  (K4.2) Critically evaluates all aspects of the research project undertaken and the identified adaptations and/or improvements. Describes the anticipated impact of these on future projects and the wider business in terms of colleagues and finance. | As the leader of the Tusker Migration project, I utilized appropriate research methodologies and scientific processes to form a hypothesis and guide the project's direction. In addition to this, I critically evaluated all aspects of the project and identified areas where adaptations and improvements were necessary.  One significant challenge we faced was transitioning from the Hortonworks platform to the Hadoop open source platform. Through my evaluation, I gained a deeper understanding of the challenges and opportunities presented by this migration, and I was able to identify the most effective strategies for overcoming these challenges and achieving our goals.  Throughout this process, I carefully considered the anticipated impact of these changes on future projects and on the wider business as a whole. I analyzed the effects of the migration on my colleagues and on the company's finances, and I identified potential areas for growth and development.  By taking a comprehensive and analytical approach to the Tusker Migration project, I was able to ensure that all aspects of the project were well-considered and that we were able to achieve our goals effectively. My critical evaluation of the project and its adaptations and improvements allowed me to identify areas for growth and development, which will be invaluable in future projects. Ultimately, this approach led to a successful migration to the new platform and a stronger, more capable organization. |
| Data analysis and evaluation  Pass Descriptor  (K5.1) Uses statistical analysis and numerical modelling techniques and explains how they were applied. Explains the application of this analysis clearly and coherently, including how data interpretation informed decisions against the goals and targets of the project and company objectives.  Distinction Descriptor  (K5.2) Justifies the use of statistical analysis and numerical modelling techniques used explaining why the techniques used were most appropriate to the project. | As the leader of the Tusker Migration project, I recognized the importance of utilizing appropriate statistical analysis and numerical modelling techniques to evaluate the project's progress. I applied a range of these techniques, including regression analysis and predictive modelling, to analyze and interpret the data generated throughout the migration process.  To ensure that my approach was appropriate, I carefully considered the nature of the data and the project's objectives, as well as the potential limitations of the techniques I used. Through this evaluation, I was able to justify the use of these techniques and explain why they were the most appropriate for the project.  I clearly documented the results of the data analysis and evaluation and presented them in a way that was easily understandable to both technical and non-technical stakeholders. I also explained how the interpretation of the resulting data informed the project's decision-making process, and how it contributed to achieving the project's goals and targets.  By effectively utilizing these techniques, I was able to identify potential areas for improvement and optimization, which ultimately led to a successful migration to the new platform. The justifications and explanations I provided have helped to build confidence in the project's outcomes and its alignment with the wider business objectives. |
| Data management  Pass Descriptor  (K6.1) Explains how they have handled data in the project in-line with GDPR and the employer’s processes, including how to create a data management plan.  Distinction Descriptor  (K6.2) Explains the consequences of not following employer processes and not working in-line with GDPR. | Data management is a crucial aspect of any project that involves handling sensitive information, such as the Tusker Migration project. Failure to adhere to proper data management processes can result in severe consequences for the company, including hefty fines, loss of reputation, and even legal action. Therefore, it is essential to understand the potential risks associated with non-compliance and ensure that all team members are aware of the importance of proper data management.  As the lead data analyst on the project, I will take responsibility for ensuring that all data is managed appropriately throughout the migration process. This includes identifying and categorizing sensitive data, ensuring that data quality is maintained, and implementing proper security measures to protect against unauthorized access.  To achieve this, I will work closely with the project team to ensure that we are following the employer's processes for data management. This includes establishing clear data classification and access controls, implementing data retention policies, and ensuring that all team members are aware of their responsibilities for handling sensitive data.  In addition, I will educate team members on GDPR regulations and the potential risks associated with non-compliance. By doing so, we can ensure that everyone involved in the Tusker Migration project understands the importance of proper data management and is committed to following the relevant processes and regulations.  Ultimately, by implementing proper data management processes and adhering to GDPR regulations, we can ensure that the Tusker Migration project is successful and that the company's data is protected. |
| Data Collection and Reporting  Pass Descriptor  (S2.1) Captures, analyses and critically evaluates data utilising at least one statistical tool or analytical technique to draw logical conclusions.  Distinction Descriptor  (S2.2) Captures, analyses and critically evaluates data utilising a range of statistical tools or analytical techniques to draw logical conclusions. | In the Tusker Migration project, I utilized a range of statistical tools and analytical techniques to capture, analyze, and critically evaluate data. By doing so, I was able to draw logical conclusions about the effectiveness of the migration process and its impact on our company objectives.  Specifically, I collected data throughout the migration process, using both qualitative and quantitative methods to gather information on factors such as cost, time, and performance. I then applied statistical analysis and other analytical techniques to the data, examining trends, patterns, and correlations to identify key insights and potential areas for improvement.  Through this process, I was able to identify several areas where the migration process could be optimized, such as streamlining certain workflows and adjusting resource allocation. Additionally, by capturing and analyzing data in a systematic and rigorous manner, I was able to provide clear and compelling reports to key stakeholders, enabling them to make more informed decisions about the migration process and its impact on our company goals.  In summary, by applying a range of statistical and analytical tools to the data collected during the Tusker Migration project, I was able to draw logical conclusions about its effectiveness and identify opportunities for improvement. This allowed us to make more informed decisions and achieve our company objectives more efficiently and effectively. |
| Communication Skills  Pass Descriptor  (S4.1) Structures the project report clearly and includes critique of others' work across a range of documentation. Explains how best to present and communicate key content and messages, whilst respecting and acknowledging the value of alternative views.  Distinction Descriptor  (S4.2) Analyses, evaluates and compares complex data across a broad range of documentation and presents complex scientific information to an appropriate target audience with insightful discussion, including clear and comprehensive interpretation. | When we migrate from Hortonworks to Hadoop Open Source, it's vital to have good communication skills to present complex scientific information to the right target audience.  I learned to analyze and evaluate complex data from various sources and compare them while presenting information in a clear and concise manner. In the Tusker Migration project, I used my communication skills to present technical information to both technical and non-technical stakeholders.  I was able to provide insightful discussions and comprehensive interpretation of the data, making sure that everyone understands the changes that are happening. This skill is crucial in ensuring that everyone is on the same page and working towards the same goals, leading to a successful migration project. |
| Research and dissemination  Pass Descriptor  (S7.1) Uses research methodology based on current sources and presents intellectual insight and innovations suitable for internal and external stakeholders.  Distinction Descriptor  (S7.2) Evidences sustained research of significant and relevant published literature with all key information cited. Presents intellectual insight and analyses, evaluates and compares complex data both within the research project and with the wider literature. | As part of the Tusker Migration project, I conducted sustained research of significant and relevant published literature, ensuring that all key information was properly cited. This helped me to develop intellectual insight and provided a basis for analyzing, evaluating, and comparing complex data both within the research project and with the wider literature.  By drawing upon a broad range of sources and analyzing them critically, I was able to gain a more nuanced understanding of the challenges involved in migrating from Hortonworks to Hadoop open source, and develop innovative solutions to those challenges. I also made sure to present my findings in a way that was accessible to a broad audience, explaining complex scientific information in clear and concise terms.  Throughout the research and dissemination process, I worked closely with my colleagues to ensure that our efforts were aligned with the goals and objectives of the company. By communicating our findings effectively and engaging with stakeholders at every stage of the project, we were able to build consensus around our recommendations and ensure that they were implemented successfully.  Overall, I believe that my research and dissemination skills were critical to the success of the Tusker Migration project, and that the insights and recommendations we developed will help to guide the company's strategic direction in the years to come. |
| Planning, Prioritisation and Organisation  Pass Descriptor  (B6.1) Presents the research project plan and explains how deadlines were achieved and how the project fits into business objectives.  Distinction Descriptor  (B6.2) Explains how they have worked to and met specific target timescales independently whilst prioritising tasks to meet business needs. | I'm really proud of is how I managed to keep things on track during the Tusker migration project. I had to work out a lot of deadlines and make sure everything was done on time, all while juggling different tasks that needed to be done.  But I managed to pull it off! I made sure I was always working on the most important things first, and made sure I wasn't getting bogged down in stuff that could wait. It was tough at times, but I knew that meeting those deadlines was really important for the success of the project and for the business as a whole. So yeah, I'm pretty happy with how I managed to plan, prioritize, and organize everything. |

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| **Project Proposal Review** | |  |
| Assessor Name |  | |
| Date Reviewed |  | |
| Assessor Comments |  | |
| Project Start Date |  | |
| Project Submission Date |  | |







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