

End-point assessment plan for Applications support lead apprenticeship standard

Apprenticeship standard number	Apprenticeship standard level	Integrated end-point assessment
ST0949	4	No

Contents

Introduction and overview	2
EPA summary table	4
Length of EPA period.....	6
Order of end-point assessment methods	6
EPA gateway	7
End-point assessment methods.....	9
Reasonable adjustments	20
Overall EPA grading.....	21
Re-sits and re-takes.....	22
Roles and responsibilities	23
Internal Quality Assurance (IQA).....	28
Value for money.....	28
Professional body recognition	29
Mapping of knowledge, skills and behaviours (KSBs)	30
Grading Descriptors	33

Introduction and overview

This document sets out the requirements for end-point assessment (EPA) for the applications support lead apprenticeship standard. It explains how EPA for this apprenticeship must operate.

It provides the EPA design requirements for end-point assessment organisations (EPAOs) for this apprenticeship standard. It will also be useful for apprentices undertaking this apprenticeship, their employers and training providers.

The EPA must be conducted by an EPAO approved to deliver EPA for this apprenticeship standard. Each employer should select an approved EPAO from the Education & Skills Funding Agency's Register of end-point assessment organisations (RoEPAO).

Full-time apprentices will typically spend 24 months on-programme (before the gateway) working towards this occupational standard. All apprentices must spend a minimum of 12 months on-programme. All apprentices must spend a minimum of 20% of on-programme time undertaking off-the-job training.

Before starting EPA, an apprentice must meet the gateway requirements. For this apprenticeship they are:

- the employer must be content that the apprentice is working at or above the occupational standard
- The qualifications required are:
- apprentices must have achieved English and mathematics at Level 2¹
 - the apprentice must submit a project summary and stakeholder specification to the EPAO at the gateway
 - the apprentice must compile and submit a portfolio of evidence to their EPAO, which will underpin the EPA interview
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 - the apprentice must compile and submit a portfolio of evidence to their EPAO, which will underpin the EPA interview

The EPAO must confirm that all required gateway evidence has been provided and accepted as meeting the gateway requirements. The EPAO is responsible for confirming gateway eligibility. Once this has been confirmed, the EPA period starts.

This EPA should then be completed within an EPA period lasting typically for 6 months.

This EPA consists of 3 discrete assessment methods.

It will be possible to achieve the following grades in each end-point assessment method:

¹ For those with an education, health and care plan or a legacy statement, the apprenticeship's English and mathematics minimum requirement is Entry Level 3. British Sign Language (BSL) qualifications are an alternative to English qualifications for those who have BSL as their primary language.

Assessment method 1: Project report with questions and answers

- fail
- pass
- distinction

Assessment method 2: Professional discussion (underpinned by a portfolio)

- fail
- pass
- distinction

Assessment method 3: Knowledge test

- fail
- pass

Performance in the end-point assessment methods will determine the overall apprenticeship standard grade of:

- fail
- pass
- merit
- distinction

EPA summary table

<p>On-programme (typically 24 months)</p>	<p>Training to develop the knowledge, skills and behaviours (KSBs) of the occupational standard.</p> <p>Training towards English and mathematics Level 1 and 2, if required.</p> <p>Compiling a portfolio of evidence.</p>
<p>End-point assessment gateway</p>	<p>The employer must be content that the apprentice is working at or above the level of the occupational standard.</p> <p>Apprentices must have achieved English and mathematics at Level 2.</p> <p>For the project report with questions and answers, the apprentice will be required to submit supporting material in the form of the project summary and stakeholder specification.</p> <p>For the professional discussion (underpinned by portfolio), the apprentice will be required to submit supporting material.</p>
<p>End-point assessment (typically 6 months)</p>	<p>Assessment method 1: Project report with questions and answers, graded:</p> <ul style="list-style-type: none"> • fail • pass • distinction <p>Assessment method 2: Professional discussion (underpinned by portfolio), graded:</p> <ul style="list-style-type: none"> • fail • pass • distinction <p>Assessment method 3: Knowledge test, graded:</p> <ul style="list-style-type: none"> • fail • pass

	<p>Overall EPA/apprenticeship graded:</p> <ul style="list-style-type: none">• fail• pass• merit• distinction
Professional recognition	<p>This standard aligns with the following professional recognition:</p> <p>British Computer Society for IT</p>

Length of EPA period

The EPA will be completed within an EPA period lasting typically for 6 months, starting when the EPAO has confirmed that all gateway requirements have been met.

Order of end-point assessment methods

The assessment methods can be delivered in any order.

The result of one assessment method does not need to be known before starting the next.

EPA gateway

The apprentice should only enter the gateway once the employer is content that the apprentice is working at or above the occupational standard. In making this decision, the employer may take advice from the apprentice's training provider(s), but the decision must ultimately be made solely by the employer.

The EPAO determines when all gateway requirements have been met, and the EPA period will only start once the EPAO has confirmed this.

In addition to the employer's confirmation that the apprentice is working at or above the level of the occupational standard, the apprentice must have completed the following gateway requirements prior to starting EPA:

- achieved English and mathematics at Level 2
For those with an education, health and care plan or a legacy statement, the apprenticeship's English and mathematics minimum requirement is Entry Level 3. British Sign Language (BSL) qualifications are an alternative to English qualifications for those who have BSL as their primary language.

For the project report with questions, the apprentice will be required to submit:

- a summary of what the project will cover and will submit this to the EPAO at the gateway. This could demonstrate that the work-based project will provide sufficient opportunity for the KSBs to be met. The summary is not assessed and will typically be no longer than 500 words
 - The summary needs to outline the project plan, including high level implementation steps and associated timeframes, as well as the date the work-based project has to be submitted to the EPAO, taking into account the deadlines stipulated within this end point assessment plan
 - The EPAO will sign off the project title in consultation with the employer within 2 weeks of the gateway

For the professional discussion (underpinned by portfolio), the apprentice will be required to submit:

- a portfolio of evidence (see guidance below)

Portfolio of evidence requirements:

- apprentices must compile a portfolio of evidence during the on-programme period of the apprenticeship
 - it must contain evidence related to the KSBs that will be assessed by the professional discussion
 - the portfolio of evidence will typically contain 5 discrete pieces of evidence
 - evidence must be mapped against the KSBs
 - evidence may be used to demonstrate more than one KSB; a qualitative as opposed to quantitative approach is suggested
 - evidence sources may include:
 - workplace documentation/records, for example workplace policies/procedures, records
 - witness statements
 - annotated photographs
 - video clips (maximum total duration 10 minutes); the apprentice must be in view and identifiable
- This is not a definitive list; other evidence sources are possible.
- it should not include reflective accounts or any methods of self-assessment
 - any employer contributions should focus on direct observation of performance (for example witness statements) rather than opinions
 - the evidence provided must be valid and attributable to the apprentice; the portfolio of evidence must contain a statement from the employer and apprentice confirming this
 - the portfolio of evidence must be submitted to the EPAO at the gateway

The portfolio of evidence is not directly assessed. It underpins the professional discussion and therefore should not be marked by the EPAO. EPAOs should review the portfolio of evidence in preparation for the professional discussion but are not required to provide feedback after this review of the portfolio.

End-point assessment methods

The apprentice will be assessed against the KSBs assigned to the assessment methods outlined below, as shown in the mapping section of this EPA plan.

End-point assessment method 1: Project report with questions and answers

Overview

This assessment method has 2 components.

A project involves the apprentice completing a significant and defined piece of work that has a real business benefit for the employer. The project must be undertaken after the apprentice has gone through the gateway.

The aim of the project is to deliver new or upgraded applications to meet the requirements provided in a specification provided to the apprentice's employer by a software provider (where software is a service) or other stakeholder with the end-to-end software development lifecycle as its guiding principle. The employer will provide the customer or other stakeholder specification from their day-to-day business activities.

A summary of what the project will cover must be submitted to the EPAO at the gateway. The summary must include the chosen stakeholder specification. The employer will ensure the project has a real business application and the EPAO will ensure it meets the requirements of the EPA (including suitable coverage of the KSBs assigned to this assessment method). The EPAO will sign the project off within 2 weeks of the gateway.

The project should be designed to ensure that the apprentice's work meets the needs of the business, is relevant to their role and allows the relevant KSBs to be assessed for the EPA. The EPAO must refer to the grading descriptors to ensure that projects are pitched appropriately.

This assessment method involves 2 components:

- project report
- question and answers

The rationale for this assessment method is:

- work-based project is the most valid method as it allows the demonstration of professional competence. The project will contribute to the employer's business and be part of the apprentice's everyday work, ensuring that they can demonstrate KSBs in practice. Producing a report reflects normal practice in the workplace for applications support lead

- it is occupationally relevant to the role and duties of an application support lead to undertake projects based on specifications. Application support leads work in a project-based environment and are responsible for delivering solutions across the application lifecycle based on user requirements, through continuous improvement to product/service retirement. They may work both autonomously and as part of wider teams. This method of assessment will reflect real work practices
- it is a significant piece of work that thoroughly tests competence and all KSBs mapped to the assessment method

Project Report component

Delivery

Apprentices will conduct and submit a project in the form of a project report. The project report is compiled after the apprentice has gone through the gateway process. The apprentice will conduct their project and submit a project report to the EPAO after a maximum of 10 weeks following the EPAO's acceptance of the project's summary and stakeholder specification. The project will typically take 7 weeks and the report will typically take a further 3 weeks to write.

The employer will ensure the apprentice has sufficient time and the necessary resources, within this period to plan and execute the project. Whilst completing the project, the apprentice should be subject to normal workplace supervision.

The project may be based on any of the following:

- A customer or stakeholder specification requiring the apprentice to respond to any of the following:
 - a specific problem
 - a recurring issue
 - an idea/opportunity

The project report should be in the form of an electronic report.

As a minimum all project reports must include the following sections:

- an introduction
- the scope of the project (including key performance indicators)
- a project plan
- consideration of sector-specific legislation, regulation, industry and organisational

policies, procedures and requirements

- analysis and problem-solving in response to challenges within the project
- research and findings
- communication strategy
- project outcomes explained by referencing metrics following the project delivery, such as support calls within the appendices to convey the effects of the solution
- recommendations and conclusions

In order to ensure the project report allows the KSBs mapped to this assessment method to be met, the EPAO should sign-off the project's title and scope to confirm its suitability 2 weeks after the gateway.

The project starts after the apprentice has gone through the gateway and must be completed and the project report submitted to the EPAO after a maximum of 10 weeks. The employer should ensure the apprentice has sufficient time and the necessary resources within this period to plan and execute their project. It is expected that the project itself will equate to 7 weeks of full-time work.

The apprentice should complete their project and the production of all its components unaided. When the project is submitted, the apprentice and their employer must verify that the submitted project output(s) are the apprentice's own work. The apprentice may work as part of a team, which could include technical internal or external support; however, the report will be the apprentice's own work and will be reflective of their own role and contribution.

The project report should be a maximum of 4,500 words. A tolerance of plus or minus 10% is allowed. Appendices, references, diagrams, etc. will not be included in this total. The appendices must include metrics showing performance of the application before and after the project activity.

The project report must map, in an appendix, how it evidences the relevant KSBs for this assessment method.

The apprentice will need to consider the availability of company and external resources, required to complete the project. They must also ensure they are fully aware of the KSBs the project is intended to assess as that is what the grading of the project will be based on.

Regard needs to be given to any confidentiality and security requirements to ensure that proprietary commercially sensitive data is not compromised. Similarly, and where required, the EPAO must ensure that appropriate security clearance procedures and policies are agreed at the gateway. Where redaction of key information is necessary it should not materially compromise the ability of the independent assessor to assess the project report.

Marking

The independent assessor will review and mark the project report in a timely manner, as determined by the EPAO, and without extending the EPA unnecessarily. Similarly, all quality control processes will also be conducted in a timely manner, as determined by the EPAO.

Question and answers component

Overview

This component will take the form of questioning based on the project report, which must be appropriately structured to draw out the best of the apprentice's competence and excellence and cover the KSBs assigned to this assessment method. It will involve open questions that will focus on the content of the project report.

Delivery

The independent assessor will conduct questioning and assess answers provided by the apprentice. The assessor will have 2 weeks to review the project report to generate appropriate questions.

Apprentices must be given at least 5 days' notice of the date and time for the questioning component.

The questioning must last for 60 minutes. The independent assessor has the discretion to increase the time of the questioning by up to 10% to allow the apprentice to complete their last answer.

During this method, the independent assessor must generate their own questions in addition to the use of the question bank.

The questioning will be conducted based on the project report. The independent assessor must ask a minimum of 12 questions, using their discretion to target the questions where they think it most relevant and appropriate to explore occupational competence.

The independent assessor must use the assessment tools and procedures that are set by the EPAO to record the questioning.

The independent assessor will make all grading decisions holistically, based on the project report and answers to questions.

Assessment location

The project report with questions should take place in:

- the employer's premises
- a suitable venue selected by the EPAO (for example a training provider's premises)
- online using video conferencing

EPAOs must ensure appropriate methods to prevent misrepresentation are in place when using remote assessment tools.

Question and resource development

Questions must be written by the EPAOs, be relevant to the occupation and assess the KSBs mapped to this assessment method. It is recommended that this be done in consultation with employers of this occupation. EPAOs should maintain the security and confidentiality of their questions when consulting employers.

A question bank must be developed by EPAOs. The question bank must be of sufficient size to prevent predictability and the EPAO must review it regularly (at least once a year) to ensure that it, and its content, are fit for purpose. The questions relating to the underpinning KSBs, must be varied yet allow assessment of the relevant KSBs. Independent assessors must use the question bank as a source for questions and are expected to use their professional judgment to tailor those questions appropriately. Independent assessors are responsible for asking suitable questions in line with the EPAO's training and standardisation process.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

Supporting material

EPAOs will produce the following material to support this assessment method:

- grading guidance
- outline of the assessment method's requirements
- marking materials
- guidance document for employers and apprentices on the process/timescales for the assessment method as well as a description of the purpose
- guidance document for independent assessors on how to carry out the assessment

- Independent assessor assessment materials which include:
 - training materials
 - administration materials
 - moderation and standardisation materials
 - guidance materials
- Question bank

- Guidance documentation for the apprentice and employer

End-point assessment method 2: Professional discussion (underpinned by portfolio)

Overview

This assessment method has one component.

A professional discussion is a two-way discussion which involves both the independent assessor and the apprentice actively listening and participating in a formal conversation. It gives the apprentice the opportunity to make detailed and proactive contributions to confirm their competency across the KSBs mapped to this method.

The rationale for this assessment method is:

- it allows the apprentice to be assessed against KSBs that may not naturally occur during other assessment methods
- it allows scope for the apprentice to demonstrate the depth and breadth of KSBs, enabling the opportunity to achieve a distinction grade
- it allows for testing of responses where there are a number of potential answers that could not be tested through a multiple-choice test
- it is cost effective, as it can be conducted remotely

Delivery

This assessment will take the form of a professional discussion which must be appropriately structured to draw out the best of the apprentice's competence and cover the KSBs assigned to this assessment method. The purpose of the questions will be:

- to draw out contextualised examples and to clarify further skills and knowledge demonstrated in the portfolio of evidence

This assessment method is underpinned by the portfolio submitted as a gateway requirement.

The apprentice and the independent assessor will have access to their own copies of the portfolio throughout the professional discussion and both can refer to it as needed, however the portfolio itself is not assessed.

The independent assessors will conduct and assess the professional discussion

The professional discussion must last for 60 minutes. The independent assessor has the discretion to increase the time of the professional discussion by up to 10% to allow the apprentice to complete their last answer.

During this method, the independent assessor must take questions from the question bank. Independent assessors must use the question bank as a source for questioning and are expected to use their professional judgement to tailor those questions appropriately.

Independent assessors are responsible for generating suitable follow-up questions in line with the EPAO's training and standardisation process.

The professional discussion will have a minimum of 12 questions.

The topics and themes that must be covered are:

- handling and analysing data
- communicating and collaborating
- applications testing

Video conferencing can be used to conduct the professional discussion, but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided.

KSBs met and answers to questions, must be recorded by the independent assessor.

The independent assessor will make all grading decisions.

Assessment location

The professional discussion should take place in a quiet room, free from distractions and influence.

Video conferencing can be used to conduct the professional discussion, but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided.

The professional discussion can take place in any of the following:

- employers' premises
- other suitable location determined by the EPAO (e.g. assessment centre or training provider)

Question and resource development

Independent assessors are responsible for generating suitable questions in line with the EPAO's training and standardisation process. A question bank must be developed by EPAOs. Independent assessors must use the question bank as a source for questioning and are expected to use their professional judgment to tailor those questions appropriately. The question bank must be of sufficient size to prevent predictability and the EPAO must review it regularly (at least once a year) to ensure that it, and its content, are fit for purpose. The questions relating to the underpinning KSBs, must be varied yet allow assessment of the relevant KSBs.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

EPAOs will produce the following material to support this assessment method:

- Independent assessor assessment materials which include:
 - training materials

- administration materials
 - moderation and standardisation materials
 - guidance materials
 - grading guidance
-
- question bank
 - structured specification

End-point assessment method 3: Knowledge Test

Overview

This assessment method has one component.

A test is a controlled assessment which consists of a series of questions in which apprentices are asked to provide a response.

The rationale for this assessment method is:

- those KSBs which may not naturally occur in every workplace or may take too long to observe, to be assessed along with the assessment of a disparate set of knowledge requirements
- the test is mapped to knowledge statements that could not be fully assessed by the other 2 assessment methods.

Delivery

Test format

The test must be computer based

It will consist of 40 questions.

These questions will consist of multiple-choice questions. The multiple-choice questions will have 4 options of which one will be correct. The questions must be varied to avoid the test becoming too predictable yet allow assessment of the relevant KSBs.

Test administration

Apprentices must have 60 minutes to complete the test.

The test is closed which means that the apprentice cannot refer to reference books or materials.

Assessment

Knowledge tests must be marked by independent assessors or markers employed by the EPAO following a marking guide produced by the EPAO. Alternatively, marking by computer is permissible where questions types allow this.

A correct response will be assigned one mark.

Any incorrect or missing answers must be assigned zero marks.

Grading boundaries

The following grade boundaries apply to the multiple-choice test:

Grade	Minimum mark	Maximum mark
Fail	0	23
Pass	24	40

Assessment location

Apprentices must take the knowledge test in a suitably controlled environment that is a quiet space, free from distractions and influence, in the presence of an invigilator. The invigilator may be another external person employed by the EPAO or specialised (proctor) software if the knowledge test can be taken on-line.

The EPAO is required to have an invigilation policy that will set out how the knowledge test is to be carried out. This will include specifying the most appropriate ratio of apprentices to invigilators to best consider the setting and security required in administering the knowledge test.

The EPAO is responsible for ensuring the security of any knowledge tests they administer to ensure the test remains valid and reliable (this includes any arrangements made using online tools).

The EPAO is responsible for verifying the identity of the person taking the knowledge test. The EPAO must also verify the suitability of the venue for test-taking.

Question and resource development

Questions must be written by EPAOs, must be relevant to the occupation and assess KSBs mapped to this assessment method. It is recommended that this be done in consultation with employers of this occupation. EPAOs should maintain the security and confidentiality of their questions when consulting employers.

Each EPAO must develop a test specification. They must also develop a question bank of sufficient size to prevent predictability and review it regularly (and at least once a year) to ensure it, and the questions it contain, are fit for purpose.

The test questions must be varied yet assess the relevant KSBs.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

EPAOs will produce the following material to support this assessment method:

- a question bank
- a test specification
- sample tests and mark schemes
- live tests and mark schemes

- analysis reports which show areas of weakness for completed tests/exams and an invigilation policy
- assessment recording documentation

Reasonable adjustments

The EPAO must have in place clear and fair arrangements for making reasonable adjustments to the assessment methods for the EPA for this apprenticeship standard. This should include how an apprentice qualifies for reasonable adjustment and what reasonable adjustments will be made. The adjustments must maintain the validity, reliability and integrity of the assessment methods outlined in this EPA plan.

Overall EPA grading

All assessment methods are weighted equally in their contribution to the overall EPA grade. Performance in the EPA will determine the apprenticeship grade of fail, pass, merit or distinction.

Independent assessors must individually grade each assessment method, according to the requirements set out in this plan.

EPAOs must combine the individual assessment method grades to determine the overall EPA grade.

Apprentices who fail one or more assessment method will be awarded an overall EPA 'fail'.

In order to gain an overall EPA 'pass', apprentices must achieve a pass in all the assessment methods.

In order to achieve an overall EPA 'distinction', apprentices must achieve a distinction in both the project report with questions and answers and professional discussion (underpinned by portfolio) plus a pass in the knowledge test.

In order to achieve an overall EPA 'merit', apprentices must achieve a distinction in the project report or professional discussion plus a pass in the two other assessment methods.

Grades from individual assessment methods should be combined in the following way to determine the grade of the EPA as a whole:

Project report	Professional discussion	Knowledge test	Overall grading
Fail	Any grade	Any grade	Fail
Any grade	Fail	Any grade	Fail
Any grade	Any grade	Fail	Fail
Pass	Pass	Pass	Pass
Distinction	Pass	Pass	Merit
Pass	Distinction	Pass	Merit
Distinction	Distinction	Pass	Distinction

Any grade = fail, pass or distinction

Re-sits and re-takes

Apprentices who fail one or more assessment method/s will be offered the opportunity to take a re-sit or a re-take at the employer's discretion. The apprentice's employer will need to agree that either a re-sit or re-take is an appropriate course of action.

A re-sit does not require further learning, whereas a re-take does.

Apprentices should have a supportive action plan to prepare for a re-sit or a re-take.

If the apprentice fails the project assessment method, they will be required to amend the project in line with the independent assessor's feedback. The apprentice will be given 3 weeks to rework and submit the amended project. The independent assessor will have 2 weeks to review the project and the apprentice will have 5 days' notice of the questioning date.

Where the project method has failed by more than 50 per cent of KSBs not being passed then a new project is required for a resit/retake.

The timescales for a re-sit/re-take is agreed between the employer and EPAO. A re-sit is typically taken within 2 months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within 3 months of the EPA outcome notification.

All assessment methods must be taken within a 3-month period, otherwise the entire EPA will need to be re-sat/re-taken.

Re-sits and re-takes are not offered to apprentices wishing to move from pass to a higher grade.

Where any assessment method has to be re-sat or re-taken, the apprentice will be awarded a maximum EPA grade of distinction, unless the EPAO determines there are exceptional circumstances requiring a re-sit or re-take.

Roles and responsibilities

Role	Responsibility
Apprentice	<p>As a minimum, apprentices should:</p> <ul style="list-style-type: none"> • participate in and complete on-programme training to meet the KSBs as outlined in the occupational standard for a minimum of 12 months • undertake 20% off-the-job training as arranged by the employer and training provider • understand the purpose and importance of EPA • undertake the EPA including meeting all gateway requirements
Employer	<p>As a minimum, employers should:</p> <ul style="list-style-type: none"> • select the EPAO and training provider • work with the training provider (where applicable) to support the apprentice in the workplace and to provide the opportunities for the apprentice to develop the KSBs • arrange and support a minimum of 20% off-the-job training to be undertaken by the apprentice • decide when the apprentice is working at or above the occupational standard and so is ready for EPA • ensure that all supporting evidence required at the gateway is submitted in accordance with this EPA plan • remain independent from the delivery of the EPA • confirm arrangements with the EPAO for the EPA (who, when, where) in a timely manner (including providing access to any employer-specific documentation as required, for example company policies) • ensure that the EPA is scheduled with the EPAO for a date and time which allow appropriate opportunity for the KSBs to be met • ensure the apprentice is well prepared for the EPA • ensure the apprentice is given sufficient time away from regular duties to prepare for and complete all post-gateway elements of the EPA, and that any required supervision during this time (as stated within this EPA plan) is in place

	<ul style="list-style-type: none"> • where the apprentice is assessed in the workplace, ensure that the apprentice has access to the resources used on a daily basis • pass the certificate to the apprentice
EPAO	<p>As a minimum, EPAOs should:</p> <ul style="list-style-type: none"> • conform to the requirements of this EPA plan and deliver its requirements in a timely manner • conform to the requirements of the Register of End-Point Assessment Organisations (RoEPAO) • conform to the requirements of the external quality assurance provider (EQAP) for this apprenticeship standard • understand the occupational standard • make all necessary contractual arrangements, including agreeing the price of the EPA • develop and produce assessment materials including specifications and marking materials (for example mark schemes, practice materials, training material) • appoint suitably qualified and competent independent assessors • appoint administrators (and invigilators where required) to administer the EPA as appropriate • provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading • provide adequate information, advice and guidance documentation to enable apprentices, employers and training providers to prepare for the EPA • arrange for the EPA to take place, in consultation with the employer • where the apprentice is not assessed in the workplace, ensure that the apprentice has access to the required resources and liaise with the employer to agree this if necessary • develop and provide appropriate assessment recording documentation to ensure a clear and auditable process is in place for providing assessment decisions and feedback to all relevant stakeholders • have no direct connection with the apprentice, their employer or training provider. In all instances, including when the EPAO is the training provider (i.e. HEI), there must be no conflict of interest

	<ul style="list-style-type: none"> • have policies and procedures for internal quality assurance (IQA), and maintain records of regular and robust IQA activity and moderation for external quality assurance (EQA) purposes • deliver induction training for independent assessors, and for invigilators and/or markers (where used) • undertake standardisation activity on this apprenticeship standard for all independent assessors before they conduct an EPA for the first time, if the EPA is updated and periodically as appropriate (a minimum of annually) • manage invigilation of apprentices in order to maintain security of the assessment in line with the EPAO's malpractice policy • verify the identity of the apprentice being assessed • use language in the development and delivery of the EPA that is appropriate to the level of the occupational standard • provide details of the independent assessor's name and contact details to the employer • have and apply appropriately an EPA appeals process • request certification via the Apprenticeship Service upon successful achievement of the EPA
Independent assessor	<p>As a minimum, independent assessors should:</p> <ul style="list-style-type: none"> • have the competence to assess the apprentice at this level and hold any required qualifications and experience in line with the requirements of the independent assessor as detailed in the IQA section of this EPA plan • understand the occupational standard and the requirements of this EPA • have, maintain and be able to evidence up-to-date knowledge and expertise of the subject matter • deliver the end-point assessment in-line with the EPA plan • comply with the IQA requirements of the EPAO • have no direct connection or conflict of interest with the apprentice, their employer or training provider; in all instances, including when the EPAO is the training provider (i.e. HEI) • attend induction training • attend standardisation events when they begin working for the EPAO, before they conduct an EPA for the first time and a minimum of annually on this apprenticeship standard

	<ul style="list-style-type: none"> • assess each assessment method, as determined by the EPA plan, and without extending the EPA unnecessarily • assess against the KSBs assigned to each assessment method, as shown in the mapping of assessment methods and as determined by the EPAO, and without extending the EPA unnecessarily • make all grading decisions • record and report all assessment outcome decisions, for each apprentice, following instructions and using assessment recording documentation provided by the EPAO, in a timely manner • use language in the development and delivery of the EPA that is appropriate to the level of the occupational standard • mark open (constructed) test answers accurately according to the EPAO's mark scheme and procedures
Training provider	<p>As a minimum, training providers should:</p> <ul style="list-style-type: none"> • work with the employer and support the apprentice during the off-the-job training to provide the opportunities to develop the knowledge, skills and behaviours as listed in the occupational standard • conduct training covering any knowledge, skill or behaviour requirement agreed as part of the Commitment Statement (often known as the Individual Learning Plan). • monitor the apprentice's progress during any training provider led on-programme learning • advise the employer, upon request, on the apprentice's readiness for EPA • remain independent from delivery of the EPA. Where the training provider is the EPA (i.e. a HEI) there must be procedures in place to mitigate against any conflict of interest
Marker	<p>As a minimum, markers should:</p> <ul style="list-style-type: none"> • attend induction training • have no direct connection or conflict of interest with the apprentice, their employer or training provider in all instances including when the EPAO is the training provider (i.e. HEI) • mark multiple-choice test answers accurately according to the EPAO's mark scheme and procedures
Invigilator	<p>As a minimum, invigilators should:</p>

	<ul style="list-style-type: none">• attend induction training as directed by the EPAO• have no direct connection or conflict of interest with the apprentice, their employer or training provider; in all instances, including when the EPAO is the training provider (i.e. HEI)• invigilate and supervise apprentices during tests and in breaks during assessment methods to prevent malpractice in accordance with the EPAO's invigilation procedures
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Internal Quality Assurance (IQA)

Internal quality assurance refers to the strategies, policies and procedures that EPAOs must have in place to ensure valid, consistent and reliable end-point assessment decisions. EPAOs for this EPA must adhere to all requirements within the Roles and Responsibilities section and:

- have effective and rigorous quality assurance systems and procedures that ensure fair, reliable and consistent assessment across employers, places, times and independent assessors
- appoint independent assessors who have recent relevant experience of the occupation/sector gained in the last 3 years or significant experience of the occupation/sector
- operate induction training for independent assessors, markers and invigilators
- provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading
- where appropriate:
 - provide ongoing training for markers
 - provide ongoing training for invigilators
- undertake standardisation activity on this apprenticeship standard for all independent assessors:
 - before they conduct an EPA for the first time
 - if the EPA is updated
 - periodically as appropriate (a minimum of annually)
- conduct effective moderation of assessment decisions and grades
- conduct appeals where required, according to the EPAO's appeals procedure, reviewing and making final decisions on assessment decisions and grades

Value for money

Affordability of the EPA will be aided by using at least some of the following practices:

- completing applicable assessment methods online – i.e. computer based assessment
- assessing multiple apprentices simultaneously where the method of assessment permits this
- using the employers' premises
- conducting assessment methods on the same day

Professional body recognition

British Computer Society for IT

Mapping of knowledge, skills and behaviours (KSBs)

KNOWLEDGE	ASSESSMENT METHODS
K1: awareness of the legal requirements relating to the use of data as set out in the GDPR 2016/679 and the Data Protection Act 2018	Knowledge test
K2: awareness of the legal requirements related to the provision of application support services including the Malicious Communications Act 1988, the Copyright, Designs and Patents Act 1988, the Computer Misuse Act 1990, the Copyright (Computer Programs) Regulations 1992 and the Privacy and Electronic Communications (EC Directive) (Amendment) Regulations 2011	Knowledge test
K3: organisational data and information security standards, policies and procedures relevant to data management activities	Professional Discussion (underpinned by portfolio)
K4: the differences between structured and unstructured data	Knowledge test
K5: principal approaches to defining customer requirements for data analysis	Project Report with questions and answers
K6: approaches to combining data from different sources	Project Report with questions and answers
K7: approaches to data tools and methods for data analysis	Professional Discussion (underpinned by portfolio)
K8: how to use data ethically and the implications of data use for wider society	Knowledge Test
K9: the principles and processes of the systems lifecycle, for example ITIL (IT Information Library)	Project Report with questions and answers
K10: change and release management processes that support effective planning and implementation of system and application changes	Project Report with questions and answers
K11: project management principles and processes, including the principle of Agile	Project Report with questions and answers
K12: remote working and collaborative platforms and tools, that are used by organisations for internal and external communications and digital working practices including approaches to usability and accessibility	Professional Discussion (underpinned by portfolio)
K13: defect management processes	Project Report with questions and answers
K14: the distinction between the root cause of a defect and its effects	Project Report with questions and answers
K15: principles of testing methodologies (manual and automated) including the importance of clear supporting documentation	Professional Discussion (underpinned by portfolio)

K16: the role of software testing within the context of project and product risk reduction in the systems development life cycle, including regression testing	Project Report with questions and answers
K17: security vulnerabilities and approaches to security testing including penetration testing	Knowledge Test
K18: the process of transition from software development and testing into production and live support	Project Report with questions and answers
K19: roles within a multidisciplinary team and the interfaces with other areas of an organisation	Professional Discussion (underpinned by portfolio)
K20: awareness of how their role fits into their stakeholders' wider technology environment	Professional Discussion (underpinned by portfolio)
SKILL	ASSESSMENT METHODS
S1: use data systems securely to meet requirements and in line with organisational procedures and legislation, including principles of Privacy by Design	Professional Discussion (underpinned by portfolio)
S2: implement the stages of the application lifecycle ensuring that principles of usability and accessibility are embedded in the approach at every stage	Project Report with questions and answers
S3: assess the impact on user experience and domain context on data analysis activity	Professional Discussion (underpinned by portfolio)
S4: communicate verbally and non-verbally to a range of internal and external stakeholders using a range of technical and non-technical language to provide an effective interface between internal or external users and suppliers	Professional Discussion (underpinned by portfolio)
S5: take a 'customer focused' approach to service delivery, underpinned by active listening	Professional Discussion (underpinned by portfolio)
S6: adapt to changing contexts within the scope of a project and continually review project output to ensure alignment with customer and organisational needs for example with a DevOps environment	Project Report with questions and answers
S7: collate and interpret data and convert into useable formats such as infographics, reports, tables, dashboards or graphs	Project Report with questions and answers
S8: select and apply appropriate data tools to deliver application support outcomes	Professional Discussion (underpinned by portfolio)
S9: use manual or automated test tools	Project Report with questions and answers
S10: adapt and apply testing activities according to industry standard development methodologies (sequential and iterative) including maintenance of clear supporting documentation	Project Report with questions and answers
S11: apply specific industry standards where appropriate (for example GDPR, health informatics and safety critical) related to software testing	Professional Discussion (underpinned by portfolio)

S12: use formal and informal techniques that will demonstrate software and systems are fit for purpose	Project Report with questions and answers
S13: use relevant training methods to support internal and external stakeholders with core software applications and hardware ensuring that principles of usability and accessibility are embedded in the approach	Project Report with questions and answers
S14: communicate applications support information by ensuring continuity of user understanding through use of training notes, user guides and other collateral sources	Project report with questions and answers
BEHAVIOUR	ASSESSMENT METHODS
B1: works independently and takes responsibility. For example, has a disciplined and responsible approach to risk, and stays motivated and committed when facing challenges	Project report with questions and answers
B2: logical approach – uses valid reasoning and follows guidelines set out by the organisation	Project report with questions and answers
B3: ethical and security mindset - follows the guidelines on secure working and the ethical codes of conduct for the sector/organisation	Professional Discussion (underpinned by portfolio)
B4: collaborative- works with a wide range of people in different roles, internally and externally, with a positive attitude to inclusion & diversity	Professional Discussion (underpinned by portfolio)
B5: shows initiative for solving problems within their own remit, being resourceful when faced with a problem to solve	Project report with questions and answers
B6: innovative - shows curiosity to explore new opportunities, and techniques; the tenacity to improve methods and maximise performance of the solution; and creativity in their approach to solutions	Project report with questions and answers
B7: committed to continued professional development of self and others	Professional Discussion (underpinned by portfolio)

Grading Descriptors

End-point assessment method 1: Project report with questions and answers

Fail – does not meet pass criteria

KSBs	Pass	Distinction
<p>Theme - Receive query and identification of issue. (K9, K10, K11, S2)</p>	<p>The project (or report) demonstrates use of the principles and processes of the systems lifecycle and implements the stages of the application lifestyle K9, S2</p> <p>Illustrates how the change and release management processes that support effective planning and implementation of system and application changes within the project K10</p> <p>Illustrates how they have applied project management principles and processes, including the principle of Agile K11</p>	<p>Evaluates the change and management process justifying modifications in the implementation of systems and applications K10</p>
<p>Theme - Analyse and plan. (K14, K16, S6, B6)</p>	<p>Illustrates how the project demonstrates the distinction between the root cause of a defect and its effects K14</p> <p>Explains the role of software testing within the context of the project and product risk reduction in the systems development life cycle, including regression testing K16</p>	<p>Reviews and evaluates the project output to determine/justify valid changes in method and/or or software testing which better meet the needs of the customer and/or organisation K16, S6</p>

	<p>Demonstrates how they adapt to changing contexts within the scope of the project and review project output to justify they are in alignment with customer and organisational needs and establishes an innovative approach to work that shows curiosity to explore new opportunities, and techniques; the tenacity to improve methods and maximise performance of the solution; and creativity in their approach to solutions S6, B6</p>	
<p>Theme - Handling and analysing data. (K5, K6, B2)</p>	<p>Critically compares the contexts which define customer requirements for data analysis and combining data from different sources K5, K6</p> <p>Establishes a logical approach – uses valid reasoning and follows guidelines set out by the organisation B2</p>	
<p>Theme - Communication and Collaboration (S13, S14)</p>	<p>Justifies their choice of training methods to support internal and external stakeholders with core software applications and hardware S13</p> <p>Explain how they communicate applications support information by ensuring continuity of understanding S14</p>	<p>Appraises their organisations communication of application support information and any impacts on continuity of understanding to create robust audit trails S14</p>
<p>Theme - Implement and resolve (K13, S10, S12, B1)</p>	<p>The project demonstrates application of defect management processes and explains how they work independently and take responsibility K13, B1</p> <p>The project adapts and applies industry standard testing methods and formal and informal techniques to demonstrate the software and systems are fit for purpose S10, S12</p>	<p>Appraise the use of formal and informal techniques to propose plans to improve software testing approaches in future S10, S12</p>

Theme - Applications Testing (S9, B5)	Describe how they use manual or automated test tools and explains how they show initiative for solving problems within their own remit, being resourceful when faced with a problem to solve S9, B5	Provides justified and valid reasons for suggested improvements to use of software testing tools and methodologies S9
Theme - Communicate and document the closure of the activity. (K18, S7)	The project outlines the process of transition from software development and testing into production and live support K18 Collates data and justifies the formats used for the purpose of interpretation S7	Evaluates data presentation formats S7

End-point assessment method 2: Professional discussion (underpinned by portfolio)

Fail – does not meet pass criteria

KSBs	Pass	Distinction
Theme - Handling and analysing data. (K3, K7, S1, S3, S8)	Describe the organisational data and information security standards, policies and procedures relevant to data management activities and how they use data systems securely to meet requirements in line with organisational procedures and legislation, including principles of Privacy by Design K3, S1 Evaluates the impact on user experience and domain context on data analysis S3	Critically evaluates the approach they have taken to information security within their work and outlines ways in which they have improved their approach K3, S1

	<p>Explains the different approaches available to the use of data tools and methods for data analysis and how they select and apply appropriate data tools to deliver application support outcomes K7, S8</p>	
<p>Theme - Communication and Collaboration (K12, K19, K20, S4, S5, B4)</p>	<p>Evaluates remote working and collaborative platforms and tools used by their organisation and reviews how well their approach to collaborative work reflects the ethical codes/standards of the profession and inclusion and diversity policies of the organisation K12, B4</p> <p>Reviews the roles within a multidisciplinary team and the interfaces with other areas of an organisation K19</p> <p>Explain their awareness of how their role fits into their stakeholders' wider technology environment K20</p> <p>Identifies and applies methods of communication with stakeholders, selecting technical and/or non-technical language in reflection of the audience to inform progress and /or escalation S4</p> <p>Reviews service delivery to analyse their degree of customer focus and whether it was underpinned by active listening S5</p>	<p>Appraises their organisations use of collaborative platforms and tools and any impacts on continuity of understanding to create robust audit trails K12, S4</p>
<p>Theme: Applications</p>		

Testing (K15, S11, B3, B7)	<p>Evaluates the principles of testing methods and the relevance of documented records K15</p> <p>Explain how they apply specific industry standards, where appropriate, related to software testing and establishes an approach to work tasks which follows the guidelines on secure working and the ethical codes of conduct for the sector/organisation S11, B3</p> <p>Assumes responsibility for their personal development and shares expertise gained to build the capability of colleagues within their team B7</p>	
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End-point assessment method 3: Knowledge test

KSBs	
K1 K2 K4 K8 K17	Test mark will determine whether apprentice achieved fail or pass

Supporting information

- External quality assurance
- External quality assurance refers to the strategies, policies and procedures that EPA organisations must have in place to ensure valid, consistent and reliable end-point assessment decisions. EPAOs for this EPA must adhere to all requirements within the Roles and Responsibilities section and:
 - have effective and rigorous quality assurance systems and procedures that ensure fair, reliable and consistent assessment across employers, places, times and independent assessors
 - appoint independent assessors who have recent relevant experience of the occupation/sector gained in the last three years or significant experience of the occupation/sector and evidence of continued professional development

- appoint independent assessors who are competent to deliver the end-point assessment and who meet the following minimum requirements:
 - experience of cyber security technology
 - evidence of continued professional development
 - operate induction training for independent assessors, markers and invigilators
 - provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading
 - where appropriate:
 - provide ongoing training for markers
 - provide ongoing training for invigilators
 - undertake standardisation activity on this apprenticeship standard for all independent assessors:
 - before they conduct an EPA for the first time
 - if the EPA is updated
 - periodically as appropriate (a minimum of annually)
 - conduct effective moderation of assessment decisions and grades
- conduct appeals where required, according to the EPAO's appeals procedure, reviewing and making final decisions on assessment decisions and grades