

Requirements for Completion of Initialisation Phase

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Purpose

This document serves as a **common framework** for the initialisation phase of your basic service. For a better overview, the initialisation phase is divided into five thematic areas and the documentation to be created.

The notes on the five areas are to be understood as suggestions in the form of a guide and not as tasks to be (fully) completed: Adopt what you need for your work and utilise the support offered by the Base4NFDI team (TA1, Service Stewards) if you encounter difficulties.

However, it is necessary to **document the results** of three of the five areas. The documentation corresponds to deliverables **1.4.1**, **1.4.2** and **1.4.3**, plus the service prototype (1.4.4) and the test phase (1.4.5). The numbers of these deliverables correspond to the scheme (Measures) of Task Area 1 of Base4NFDI - not to be confused with your own deliverables, which have their own numbers.

Requirements Analysis

- Assess the needs of your community in a two-part **in-depth analysis**:
 - a) What needs are being met by existing services in relation to the proposed basic service (with regard to relevant consortia's working group)? What are the expectations of a basic service?
Present the results to the NFDI section(s) involved (and their corresponding working groups, if applicable). What issues have the sections/working groups already identified?
 - b) Bring together all the services in the consortia regarding this topic and explore possible commonalities (in addition to the issues already identified).
Be aware of dependencies between services (user services, basic services), of inconsistencies and blind spots and how this can lead to problems for a basic service. Will a basic service work well within the overall architecture of a consortium?
- Identify **contacts in the consortia** on this issue and, if possible, work together to collect information. Consider both qualitative and quantitative methods. Share your findings.
 - Where appropriate, use surveys (TA4 has already provided you with feedback from the consortia), interviews and/or workshops to gather information and ask Section Liaison Officers, Section Co-Spokespersons or Service Stewards about surveys/interviews/workshops that have already taken place. Document your process and/or methodology.
 - Create user stories, epics and/or personas as appropriate.

- **TA1 team** can support this step (requirements analysis and/or its documentation) through the use of a standardised toolkit, and the **Service Stewards** can assist by liaising with the consortia and their user bases, and by gathering the needs of the sections and the working groups.
 - If deemed necessary, TA1 team can support the requirements analysis by offering events (e.g. workshops or community meetings).
- Complete your analysis and its documentation (summary of findings and methodology used) within **3 months** of the start date (see Deliverable 1.4.1 below).
 - We encourage you to publish your survey/interview data and workshop results.

Software Evaluation

- Collect **existing software solutions** that are possible candidates for a basic service.
 - What software/services on this topic are available on the market?
 - What software/services on this topic already exist within the consortia? Do they need a basic service? (include TA4 feedback)
- Compare the collected solutions with the requirements (see previous objective) using appropriate **evaluation criteria**.
 - Which solutions meet the requirements and to what extent?
- The aim of the comparison is to **identify solutions** for a stable, secure, sustainable and sufficiently scalable basic service.
 - Open licences are mandatory to ensure transparency and to avoid lock-in scenarios (for services and technologies used).
 - A typical scenario could be to take an existing domain-specific service or a basic service deployed in one or just a few consortia and to promote it as a new basic service for NFDI.
 - Note that in the initialisation phase the compliance with a [Technical Readiness Level](#) of TRL 3-4 (minimum) is mandatory.
- **TA1 team** can support this step (software evaluation and/or its documentation) with a software evaluation plan to guide you through the process, and by monitoring the service landscape and ensuring that there are no blind spots.
Service Stewards can assist you, in particular by identifying current technology trends within the consortia and their user bases.
- Complete your evaluation and its documentation (summary of findings) within **6 months** of the start date (see Deliverable 1.4.2 below).

Service Design

- Based on the results of the software evaluation (see previous objective), **select a service design** (including tools, frameworks, technologies).
 - The service design includes meeting and, if necessary, improving the requirements for the basic services.

- The service design also includes the architecture of the basic service (technology, APIs, user experience) and its connection/interaction with the services in the consortia (interfaces, workflows).
- The **costing** of the initialisation and integration phase (duration, number of staff etc.) should also be taken into account.
- **TA1 team** can support this step (service design and/or its documentation) with a service design template to guide you through the process, and by monitoring the service landscape and ensuring that there are no blind spots.
Service Stewards can assist you, in particular by identifying current technology trends within the consortia and their user bases.
- Complete your service design and its documentation within **6 months** of the start date (see Deliverable 1.4.3 below).

Service Development

- Service development is mainly the **enhancement and adaptation of existing software solutions**. They should be extended within the NFDI for widest possible use by the services of the consortia (including e.g. user group specific adaptations, templates, customisation, metadata integration).
 - During the development phase, software architects can support the basic service providers in order to ensure high quality and scalability of the services according to recognised software development rules.
- The software of the service itself must be licensed under an **open source software licence**. A standardised and accessible repository is valued.
- **TA1 team** can support the development of the service by offering events if deemed necessary (e.g. workshops, hackathons, or community meetings, focusing on quality, sustainability and others).
 - Software development can also be supported by external coachings if deemed necessary; coaching will be provided by NFDI partners or external partners.

Software Piloting and Testing (Deliverables 1.4.4 & 1.4.5)

- The basic service in the initialisation phase should be **provided as a prototype** (Deliverable 1.4.4). Note that for completion of the initialisation phase the prototype has to be compliant with a [Technical Readiness Level](#) of TRL 5-6 (minimum).
- In addition, the prototype should be integrated into two or three services of the consortia as a **proof of concept**.
- The prototype should also be **tested with a selected (small) group of users** (end-users or service providers). (Deliverable 1.4.5)
- The aim of the piloting and testing phase is to **demonstrate the general applicability** of the basic service and to get an initial **response from the community** (in-depth user testing is reserved for the integration phase).
 - Piloting and user testing should be standardised and harmonised.
 - Note that Task Area 4 can provide training for user testing as early as appropriate.

- **TA1 team** can support piloting and testing by providing a toolkit for harmonising piloting and testing strategies.
For onboarding pilot users or administrators and community IT staff, training material will be required. The **Base4NFDI Training Manager** can support you in identifying target groups, learning goals and continuously develop training materials.
Service Stewards can assist you by establishing links with the consortia and their user bases.
 - If deemed necessary, TA1 team can support piloting and testing by offering events (e.g. workshops or community meetings). Events at this stage can encourage dialogue between existing and new service providers and promote service dissemination.
- Complete the service prototype deliverable (D1.4.4) and the piloting and user testing deliverable (D1.4.5) within **12 months** of the start date.

Documentation

What types of documentation are required for successful completion of the initialisation phase?

- Documentation of requirements analysis
- Documentation of software evaluation
- Documentation of service design

TA1 team will **assign specific tasks** to your team **in the project management tool** (OpenProject) to meet these documentation requirements. You can provide both your technical or user documentation (the publicly available part of your service documentation) and any internal/confidential parts; as a link or as text, as you see fit.

Requirements analysis (Deliverable 1.4.1)

- Provide a summary of requirements from the consortia for a basic service on your specific topic.
- Provide an overview of the expectations formulated by the consortia in the relevant working group on the topic and which part of these expectations the proposed solution fulfils.
 - If applicable, also indicate the methodology used (e.g. survey).
- Define the target group(s) for the service and their use cases. Describe the benefits for each target group.
- The report for this deliverable is due **3 months** after the start date.

Software evaluation (Deliverable 1.4.2)

- Provide an overview of the evaluation of the different aspects (e.g. functionality, performance, security, usability).
- The report for this deliverable is due **6 months** after the start date.

Service design (Deliverable 1.4.3)

- Document the technology stack used for the basic service: technologies, frameworks, and tools used to develop the service.
 - Explain the rationale for the choice of technology stack.

- Where appropriate, document the user interface and/or APIs depending on the target audience.
- Describe how the basic service is integrated into the NFDI service landscape.
- The report for this deliverable is due **6 months** after the start date.
 - As the documentation of the service design could be a starting point for the technical and user documentation of the basic service when it is completed and running, you should already consider a suitable way to host structured, versioned and collaboratively maintained service documentation (e.g. markdown based documentation hosted on GitHub, with a static site generator such as MkDocs, Docusaurus or Jekyll). Note: This refers to the publicly available part of your service documentation. See also the [Base4NFDI Service Documentation Guide](#).

Also remember to prepare your next basic service **proposal for the integration phase** as early as possible.

Deliverables and Milestone in TA1 for each basic service in initialisation phase

Milestone	Deliverable	Type	Description	Duration after start
	D1.4.1	Report	Documentation of requirements analysis	3M
	D1.4.2	Report	Documentation of software evaluation	6M
	D1.4.3	Report	Documentation of service design	6M
	D1.4.4	Service	Service prototype	12M
	D1.4.5	Service	Service piloting and user testing	12M
MS1.4.1			Service ready for integration	12M