

Client Requirements

Ziel-Release	Geben Sie // ein, um das angepeilte Releasedatum hinzuzufügen.
Document state	ENTWURF
Document owner	@Jan Degen @Philipp Kramer

Goals

Success metrics

Ziel	Metrik

Assumptions

Milestones

 <https://github.com/amosproj/amos2023ss04-kubernetes-inventory-taker/milestones>

Requirements

Id	Requirement	GitHub Issue	Comment
Architecture			
REQ.2	The proxy should run within a Kubernetes cluster.	<div>1 Open 0 Closed</div> <div>Query: labels=REQ.2</div> <div>Deploy proxy in Kubernetes feature REQ.2 0 comments</div> <div>#42 opened at 04/23/2023 by jandegen</div>	
REQ.8	Each proxy should write into its dedicated database.	<div>0 Open 0 Closed</div> <div>Query: labels=REQ.8</div>	
REQ.12	The frontend should retrieve the information directly from the database.	<div>0 Open 0 Closed</div> <div>Query: labels=REQ.12</div>	
REQ.5	The user can access the information via a web application.	<div>0 Open 0 Closed</div> <div>Query: labels=REQ.5</div>	

Logging			
REQ.1	The proxy should be able to gather resource & configuration insights from it's current Kubernetes cluster.	<div>1 Open 0 Closed</div> <div>Query: labels=REQ.1</div> <div>Collect deployments from cluster feature REQ.1 0 comments</div> <div>REQ.10 REQ.11</div> <div>#56 opened at 04/23/2023 by jandegen</div>	
REQ.6	Each resource shall have a health indicator displaying the current state.	<div>1 Open 0 Closed</div> <div>Query: labels=REQ.6</div> <div>Display deployment health state feature REQ.6 0 comments</div> <div>REQ.7 blocked</div> <div>#59 opened at 04/23/2023 by jandegen</div>	
REQ.3	Changes to resources and configurations are tracked and persisted.	<div>0 Open 0 Closed</div> <div>Query: labels=REQ.3</div>	
REQ.20	The logs of unhealthy resources can be viewed. These should contain the information shortly before the crash and right after the recovery to ensure correct startup behaviour.	<div>0 Open 0 Closed</div> <div>Query: labels=REQ.20</div>	27.04: Initial priority: LOW
REQ.15	Changes in resources shall be displayed in a changelog.	<div>0 Open 0 Closed</div> <div>Query: labels=REQ.15</div>	27.04: Initial priority: Out of scope
User Interface (UI)			
REQ.13	Resources can be displayed in a list view.	<div>6 Open 0 Closed</div> <div>Query: labels=REQ.13</div> <div>Show available nodes as list feature REQ.4 0 comments</div> <div>REQ.13</div> <div>#189 opened at 06/28/2023 by jandegen</div> <div>Tables should use pagination feature REQ.7 0 comments</div> <div>REQ.13</div> <div>#176 opened at 06/21/2023 by jandegen</div> <div>View all stateful sets as list feature REQ.13 0 comments</div> <div>blocked REQ.21</div> <div>#147 opened at 06/13/2023 by jandegen</div> <div>View all replica sets as list feature REQ.13 0 comments</div> <div>blocked REQ.24</div> <div>#146 opened at 06/13/2023 by jandegen</div> <div>View all deployments feature REQ.10 REQ.13 0 comments</div> <div>blocked</div> <div>#55 opened at 04/23/2023 by jandegen</div>	

		<div>Auto-update list to show the current state feature 0 comments</div> <div>REQ.7 REQ.13</div> <div>#50 opened at 04/23/2023 by jandegen</div>	
REQ.16	The list view shall display the health state of each resource.	<div>0 Open 0 Closed</div> <div>Query: labels=REQ.16</div>	
REQ.18	Each logical group has a health indicator which is based on it's children.	<div>0 Open 0 Closed</div> <div>Query: labels=REQ.18</div>	
REQ.17	Overall status of the application's resources shall be visible on the landing page/dashboard.	<div>0 Open 0 Closed</div> <div>Query: labels=REQ.17</div>	
REQ.11	Resources can be viewed in a detailed single view with logical connections (egress, volumes, nodes,...).	<div>4 Open 0 Closed</div> <div>Query: labels=REQ.11</div> <div>View nodes detail page feature REQ.4 REQ.11 0 comments</div> <div>REQ.22</div> <div>#190 opened at 06/28/2023 by jandegen</div> <div>Add deployment to the container details page feature REQ.10 REQ.11 blocked 0 comments</div> <div>#58 opened at 04/23/2023 by jandegen</div> <div>View deployment detail page feature REQ.11 blocked 0 comments</div> <div>#57 opened at 04/23/2023 by jandegen</div> <div>Collect deployments from cluster feature REQ.1 0 comments</div> <div>REQ.10 REQ.11</div> <div>#56 opened at 04/23/2023 by jandegen</div>	
REQ.19	The user can gather information about volumes. All volumes can be viewed in a list, indicating if a volume is used(attached) or not.	<div>0 Open 0 Closed</div> <div>Query: labels=REQ.19</div>	
REQ.4	The application should display information about nodes and the running pods on a node.	<div>3 Open 0 Closed</div> <div>Query: labels=REQ.4</div> <div>View nodes detail page feature REQ.4 REQ.11 0 comments</div> <div>REQ.22</div> <div>#190 opened at 06/28/2023 by jandegen</div> <div>Show available nodes as list feature REQ.4 0 comments</div> <div>REQ.13</div> <div>#189 opened at 06/28/2023 by jandegen</div> <div>Collect metadata about nodes feature REQ.4 0 comments</div> <div>#156 opened at 06/14/2023 by jandegen</div>	
REQ.22	Nodes should display information about the absolute and currently used capacity.	<div>1 Open 0 Closed</div> <div>Query: labels=REQ.22</div>	27.04: Initial priority: LOW

		<div>View nodes detail page feature REQ.4 REQ.11 REQ.22 0 comments</div> <div>#190 opened at 06/28/2023 by jandegen</div>	
REQ.24	The user should be able to gather information on replica sets and related resources.	<div>4 Open 0 Closed Query: labels=REQ.24</div> <div> <div>Research failure stories of Kubernetes documentation REQ.24 4 comments</div> <div>#191 opened at 06/28/2023 by jandegen</div> </div> <div> <div>Collect metadata about stateful sets feature REQ.24 0 comments</div> <div>#155 opened at 06/14/2023 by jandegen</div> </div> <div> <div>Collect metadata about replica sets feature REQ.24 0 comments</div> <div>#154 opened at 06/14/2023 by jandegen</div> </div> <div> <div>View all replica sets as list feature REQ.13 blocked REQ.24 0 comments</div> <div>#146 opened at 06/13/2023 by jandegen</div> </div>	
User Experience (UX)			
REQ.7	The application should be comfortable to use from the desktop browser.	<div>4 Open 0 Closed Query: labels=REQ.7</div> <div> <div>Tables should use pagination feature REQ.7 REQ.13 0 comments</div> <div>#176 opened at 06/21/2023 by jandegen</div> </div> <div> <div>Search deployments by name feature REQ.7 REQ.9 blocked 0 comments</div> <div>#61 opened at 04/23/2023 by jandegen</div> </div> <div> <div>Display deployment health state feature REQ.6 REQ.7 blocked 0 comments</div> <div>#59 opened at 04/23/2023 by jandegen</div> </div> <div> <div>Auto-update list to show the current state feature REQ.7 REQ.13 0 comments</div> <div>#50 opened at 04/23/2023 by jandegen</div> </div>	
REQ.9	Resources should be searchable by name within the Web-UI.	<div>1 Open 0 Closed Query: labels=REQ.9</div> <div> <div>Search deployments by name feature REQ.7 REQ.9 blocked 0 comments</div> <div>#61 opened at 04/23/2023 by jandegen</div> </div>	
REQ.23	The resource lists shall be sortable by its attributes.	<div>0 Open 0 Closed Query: labels=REQ.23</div>	
REQ.10	The resources should be assigned to logical groups reasonably.	<div>3 Open 0 Closed Query: labels=REQ.10</div>	

		<div> Add deployment to the container details page 0 comments </div> <div> feature REQ.10 REQ.11 blocked </div> <div> #58 opened at 04/23/2023 by jandegen </div> <div> Collect deployments from cluster 0 comments </div> <div> REQ.10 REQ.11 </div> <div> #56 opened at 04/23/2023 by jandegen </div> <div> View all deployments 0 comments </div> <div> feature REQ.10 REQ.13 blocked </div> <div> #55 opened at 04/23/2023 by jandegen </div>	
REQ.14	A resource's detail view is accessible from the list view item.	<div> 0 Open 0 Closed Query: labels=REQ.14 </div>	
REQ.21	Stateful sets should be available as logical groups.	<div> 1 Open 0 Closed Query: labels=REQ.21 </div> <div> View all stateful sets as list 0 comments </div> <div> blocked REQ.21 </div> <div> #147 opened at 06/13/2023 by jandegen </div>	27.04: Initial priority: LOW

🎨 User Interactions & -diagrams

? Open Questions

Question	Answer
Who is the end-user?	Dekstop main focus, no mobile responsiveness requirement
Do we need to support specific devices? (Mobile, Desktop)	
Where should the Web-UI be running? (Static hosting, Docker, ...)	Docker container are fine for everything
Should the Web-UI only report information or should changes also possible?	No
Do we need user profiles?	No
If yes: <ul style="list-style-type: none"> Should we use some existing user management? (AD with LDAP, ...) 	
Do we need authentication?	No
Do we need authorization?	No
If yes: <ul style="list-style-type: none"> Which roles do we need? What permissions are assigned to which roles? 	
What information should be displayed about resources? (everything or just selected fields)	More ore less
For the change history should we display complete change e.g. configuration file or just the specific changed parameter	Very complex, like SQL versioning

Should we support multiple Kubernetes cluster?	Would be cool but not required, one proxy per cluster reporting to DB More DBs for more clusters
Should the Web-UI provide a search for resources, configurations? Should values also be included in this search?	Yes, name for starting
Where will the database be running? (Within the cluster or externally)	Doesn't matter
Are there any resources for dev, test and production environments available?	Would be possible, Consider kubernetes mocking bitnami helmcharts
Should displayed resources be grouped by some field? (cluster, pod,...)	Grouped by deployment, single view of resources
Compatibility to Icinga interface	No, not required
Techstack	Frontend php not required, Framework not important, Techniques and visualization more important Go preferred due to ease of use (Kubernetes written in Go)
Should items be sortable? If yes: by what field	

Out of Scope

-