



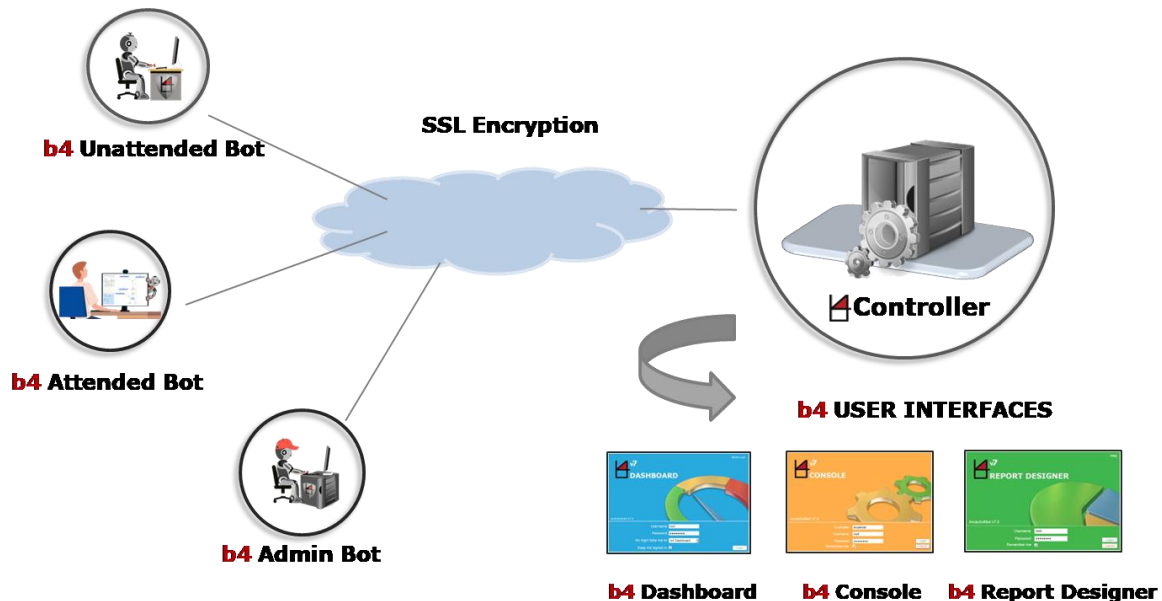
# White Paper

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## AmdoSoft/b4 Architecture

AmdoSoft/b4 is a comprehensive, holistic monitoring and automation tool, delivering a robust and adaptive technology to automate repetitive business processes and meet the challenges of managing a complicated IT infrastructure.



While b4 Admin Bots ensure system security and provide a wide range of monitoring and background automation possibilities (**IT Automation**), b4 Bots provide true end-to-end visibility into digital employee experience (**Synthetic Monitoring**) and can capture and interpret applications for processing a transaction, manipulating data, triggering responses and communicating with other digital systems (**Robotic Process Automation - RPA**).

b4/RPA is governed by business logic and structured inputs, aimed at automating business processes. RPA scenarios range from something as simple as generating an automatic response to an email to deploying thousands of bots, each programmed to automate jobs in an ERP system.

b4 Bots emulate human actions of repetitive computer inputs and use any existing system to login and perform manual tasks – automatically. They have the ability to read from various data sources and manipulate the User Interface and functions within and across, for example, Citrix, web applications, CRMs and ERP systems.

## b4 Controller

The b4 Controller is the centralized engine to which b4 Bots are connected.

- Operate IT and business processes from one workflow in parallel
- Access and management from any location
- Real-time overview and control



## b4 Unattended Bot

The b4 Unattended Bot works like a clerk frontend on user interfaces (with mouse click and keyboard).

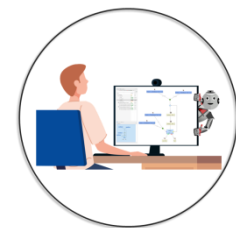
- Operates independently of human intervention
- Works on his own dedicated system
- Used for tasks that are repetitive and/or data intensive
- Can be scheduled to run at specific times or triggered automatically based on specific events or conditions



## b4 Attended Bot

The b4 Attended Bot operates on the user's machine in conjunction with a human operator.

- Works like a frontend assistant on user interfaces (with mouse click and keyboard)
- Used to assist the user with specific tasks, such as data entry or data retrieval
- Activated manually by the user, or triggered automatically based on specific events or conditions



## b4 Admin Bot

The b4 Admin Bot ensures system security and provides a wide range of monitoring and background automation possibilities.

- Used for IT Automation tasks
- Runs scripts centrally managed on b4 Controller
- Supports Windows and Linux systems

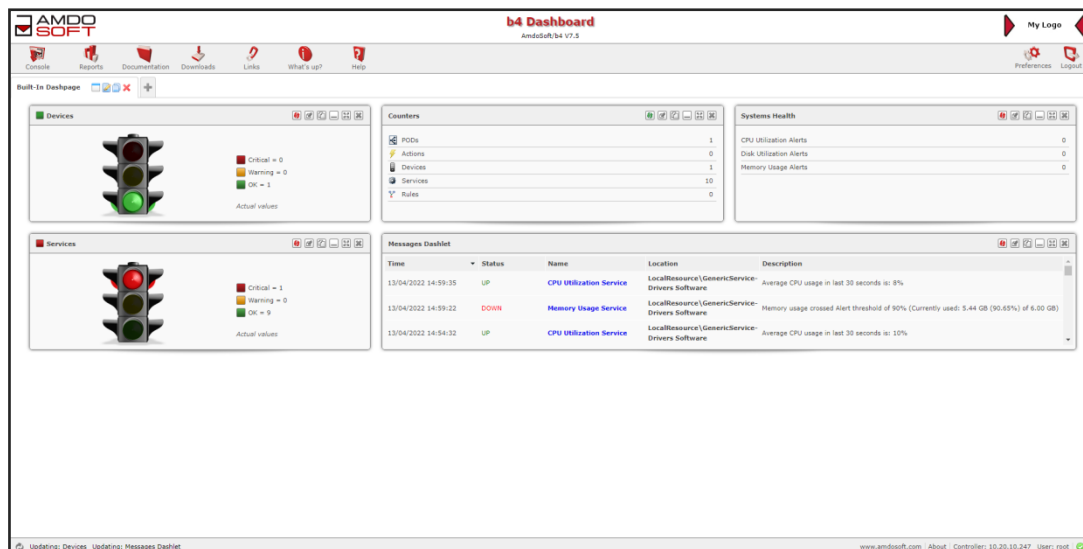


# AmdoSoft/b4 User Interface

## b4 Dashboard



The b4 Dashboard is a web based component of the b4 software. It is an easy to use and customizable interface designed to provide the users with an overview of respective b4 processes and objects, as well as the status of the RPA environment and the performance of the digital workforce at all times.



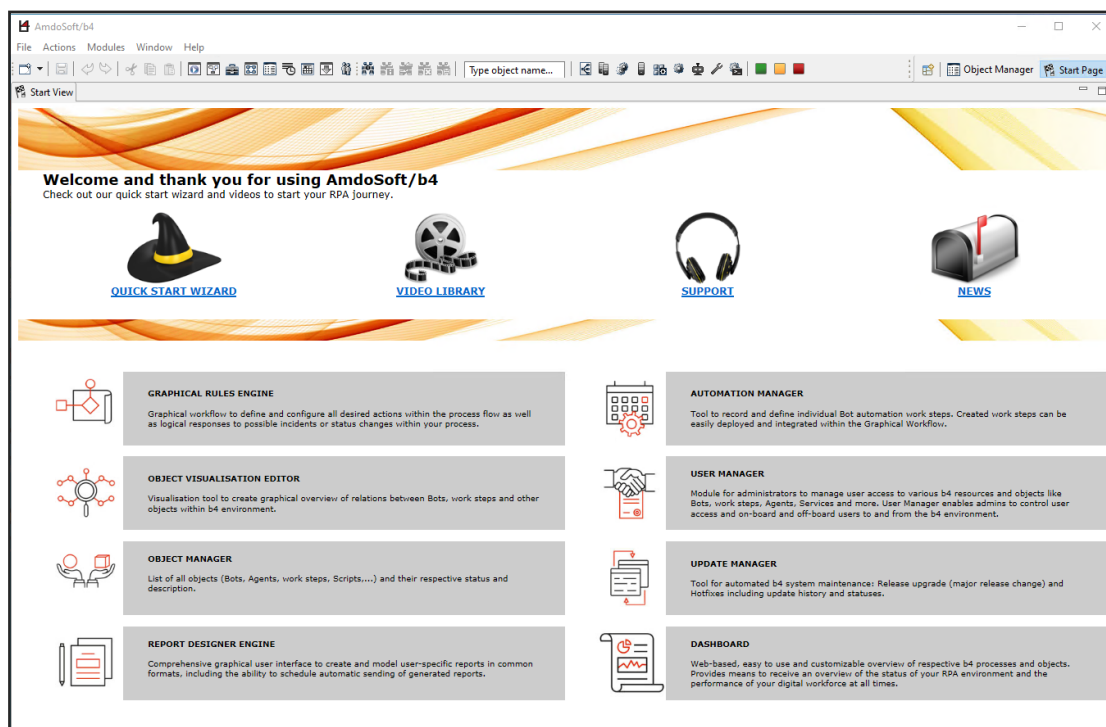
b4 Dashboard Screen

## b4 Console

The b4 Console is a GUI management component designed to accommodate user's tasks. It is the starting point of the b4 software from where the user creates his own process or IT Automation. The b4 Console provides several preselected sets of views arranged in a predetermined way. These are called *Perspectives*, and they can be customized to suit your needs. Every perspective is designed to perform a specific task, such as managing objects, rules and users. Each of the views in the perspective is chosen to allow you to deal with different aspects of that task.

b4 Console perspectives:

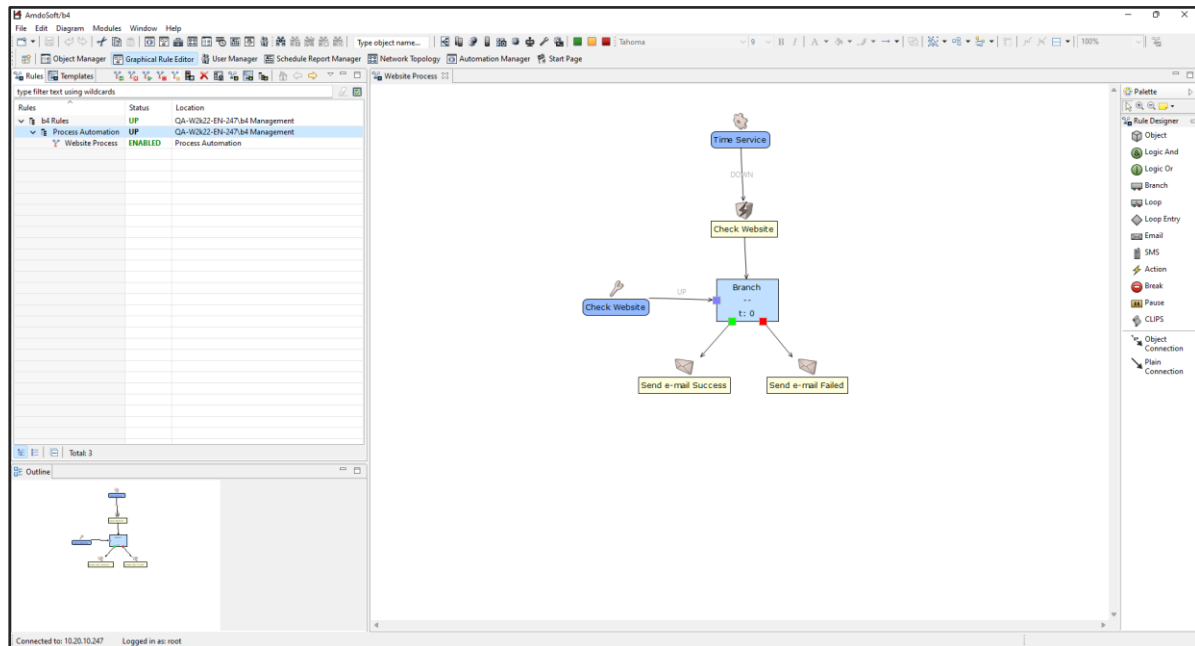
- Graphical Rules Editor
- Automation Manager
- Object Manager
- User Manager
- Object Visualization Editor
- Scheduled Jobs Manager
- Update Manager
- Maintenance



b4 Console Screen

## Graphical Rules Editor

The *Graphical Rules Editor (GRE)* is a pre-defined perspective used by AmdoSoft/b4 for the definition of automation rules. In this module you define and configure all desired actions within the process flow as well as logical responses to possible incidents or status changes within your network.



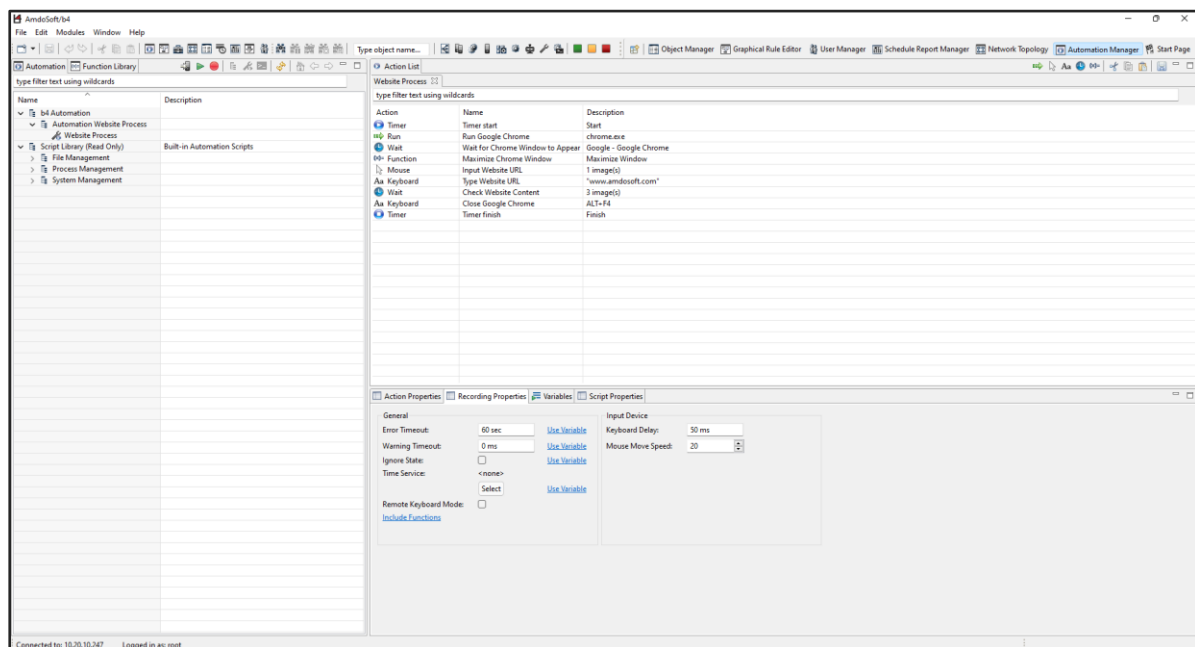
Graphical Rules Editor View

## Automation Manager

The *Automation Manager* is a tool to record and define individual Bot automation work steps. Created work steps can be easily deployed and integrated within the graphical workflow.

### SCRIPT MANAGEMENT

Already existing scripts can be incorporated. Any script language that can be used on the local machine can be integrated in the graphical rules workflow and executed on the target system.

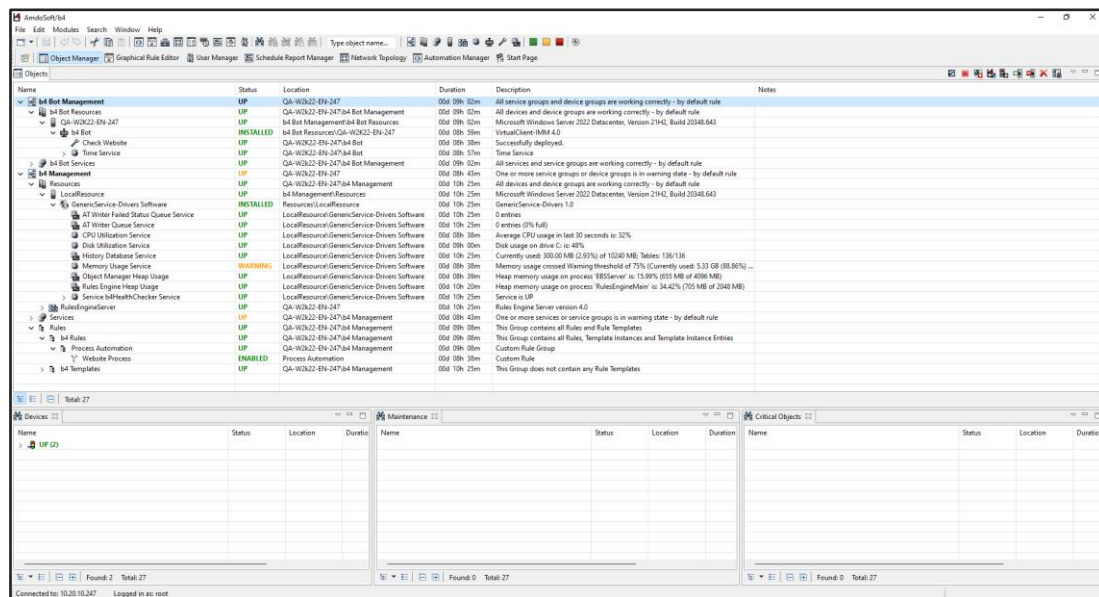


Automation Manager View

## Object Manager

The *Object Manager* is one of the main perspectives in the b4 Console giving possibility to manage b4 objects.

It shows the object's hierarchy structure with their respective status and description, as well as couple of built-in search views.



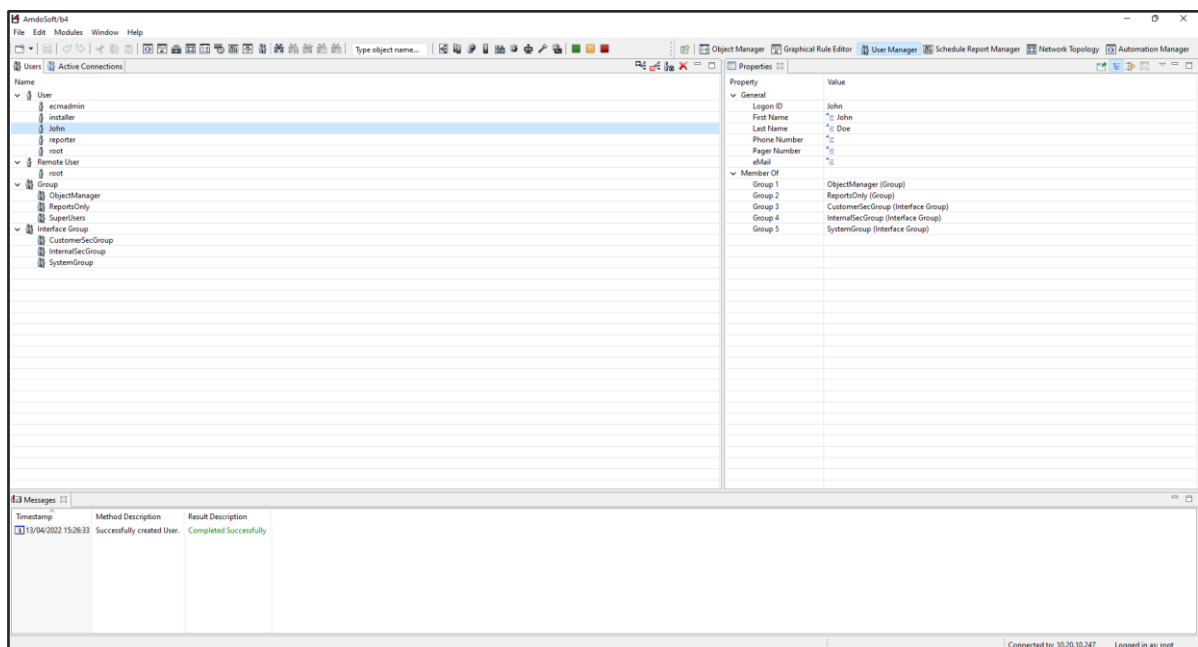
## Object Manager View

## User Manager

The *User Manager* is a module for administrators to manage user access to various b4 resources and objects like Bots, services and more. The User Manager enables administrators to control user access and on-board/off-board users to and from b4 environment.

Maintaining individual user accounts allows you to control access to different parts of the AmdoSoft/b4 Console as well as keeping track of the actions that each user performs.

From here you can add or delete users and groups, add users to groups, set user passwords and group access.



User Manager View

Users and groups are organized into pre-defined categories, shown as top-level elements in the main view (Users):

- User**  
 All user accounts belong to this category.  
 If a user has been added to a group, click on that group to see the user account.
- Group**  
 All user groups belong to this category.  
 The Group category includes three groups by default: 'ReportsOnly'; 'ObjectManager' and 'SuperUsers', defining different access privileges.  
 All users must be added to a Group as well as to an *Interface group*.

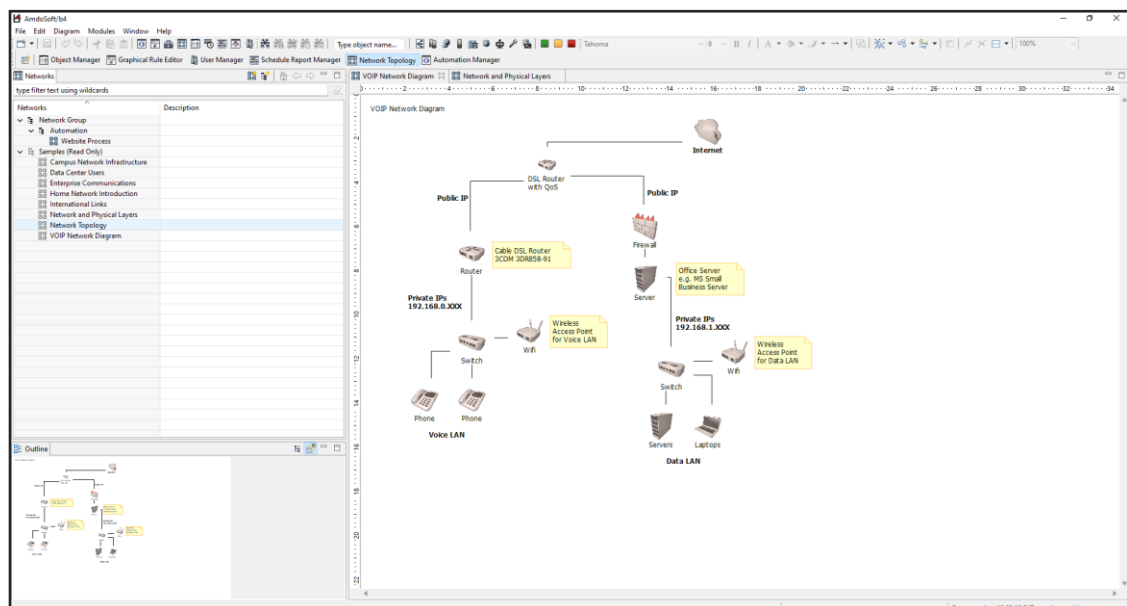
## Object Visualization Editor

The *Object Visualization Editor* is a pre-defined perspective (module) that allows users to create own graphs – a custom topological arrangement of the various process elements with possibility to see real-time status information. This visualization tool enables to create a graphical overview of relations between bots, work steps and other objects within the b4 environment.

An Object Visualization Graph may include:

- **AmdoSoft/b4 Objects**  
AmdoSoft/b4 objects in a Visualization Editor Graph are presented with default b4 icons that can be customized. The real time status of objects is visible in the graph and it is possible to invoke standard object methods just like in the Object Manager. In addition, it is possible to switch to the Object Manager and locate this object directly in the Object Hierarchy.
- **Object Visualization Editor elements**  
The Visualization Editor Graph provides a palette of elements representing various IT network components; Firewall, Router, Server, Printer, UPS etc.
- **Connections**  
Connections are elements that are used for physical or logical connections among graph elements.

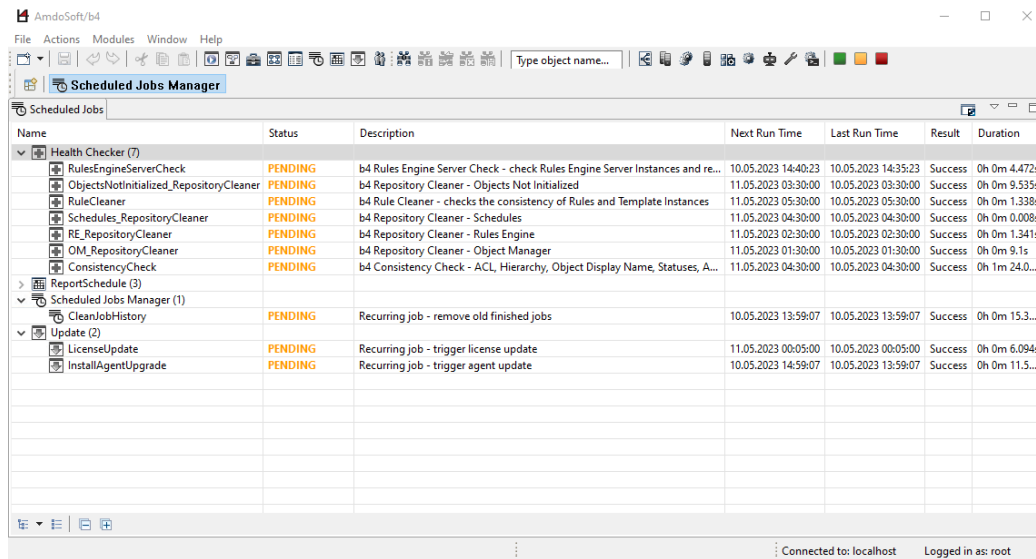
Example of a Visualization Editor Graph displaying a complex network infrastructure:



Visualization Editor Graph

## Scheduled Jobs Manager

The *Scheduled Jobs Manager* allows you to view all jobs scheduled for the b4 environment. For example, if you set up a Future report schedule for Bot executions, the Scheduled Job Manager will display the job and will run it at the required date and time.



The screenshot shows the 'Scheduled Jobs Manager' window in the AmdoSoft/b4 application. The window has a menu bar (File, Actions, Modules, Window, Help) and a toolbar. Below the toolbar is a search bar labeled 'Type object name...'. The main area displays a table of scheduled jobs, grouped by category. The table columns are: Name, Status, Description, Next Run Time, Last Run Time, Result, and Duration.

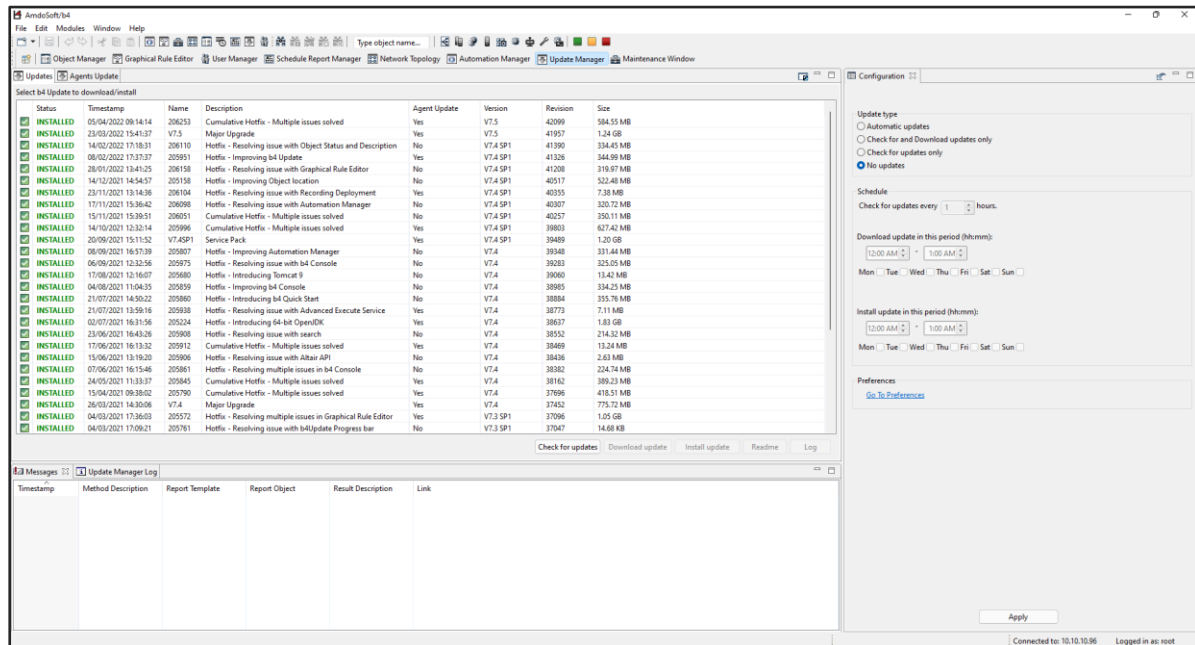
| Name                                    | Status  | Description  | Next Run Time       | Last Run Time       | Result  | Duration      |
|---|---------|--|---------------------|---------------------|---------|---------------|
| <b>Health Checker (7)</b>               |         |  |                     |                     |         |               |
| RulesEngineServerCheck                  | PENDING | b4 Rules Engine Server Check - check Rules Engine Server Instances and re... | 10.05.2023 14:40:23 | 10.05.2023 14:35:23 | Success | 0h 0m 4.472s  |
| ObjectsNotInitialized_RepositoryCleaner | PENDING | b4 Repository Cleaner - Objects Not Initialized                              | 11.05.2023 03:30:00 | 10.05.2023 03:30:00 | Success | 0h 0m 9.535s  |
| RuleCleaner                             | PENDING | b4 Rule Cleaner - checks the consistency of Rules and Template Instances     | 11.05.2023 05:30:00 | 10.05.2023 05:30:00 | Success | 0h 0m 1.338s  |
| Schedules_RepositoryCleaner             | PENDING | b4 Repository Cleaner - Schedules  | 11.05.2023 04:30:00 | 10.05.2023 04:30:00 | Success | 0h 0m 0.008s  |
| RE_RepositoryCleaner                    | PENDING | b4 Repository Cleaner - Rules Engine   | 11.05.2023 02:30:00 | 10.05.2023 02:30:00 | Success | 0h 0m 1.341s  |
| OM_RepositoryCleaner                    | PENDING | b4 Repository Cleaner - Object Manager                                       | 11.05.2023 01:30:00 | 10.05.2023 01:30:00 | Success | 0h 0m 9.1s    |
| ConsistencyCheck                        | PENDING | b4 Consistency Check - ACL, Hierarchy, Object Display Name, Statuses, A...   | 11.05.2023 04:30:00 | 10.05.2023 04:30:00 | Success | 0h 1m 24.0... |
| <b>ReportSchedule (3)</b>               |         |  |                     |                     |         |               |
| <b>Scheduled Jobs Manager (1)</b>       |         |  |                     |                     |         |               |
| CleanJobHistory                         | PENDING | Recurring job - remove old finished jobs                                     | 10.05.2023 13:59:07 | 10.05.2023 13:59:07 | Success | 0h 0m 15.3... |
| <b>Update (2)</b>                       |         |  |                     |                     |         |               |
| LicenseUpdate                           | PENDING | Recurring job - trigger license update                                       | 11.05.2023 00:05:00 | 10.05.2023 00:05:00 | Success | 0h 0m 6.094s  |
| InstallAgentUpgrade                     | PENDING | Recurring job - trigger agent update   | 10.05.2023 14:59:07 | 10.05.2023 13:59:07 | Success | 0h 0m 11.5... |

At the bottom of the window, it shows 'Connected to: localhost' and 'Logged in as: root'.

### Scheduled Jobs Manager View

## Update Manager

The *Update Manager* allows you to check easily and securely for updates and configure automatically download as well as optionally automatically install updates from the AmdoSoft repository.



The screenshot displays the AmdoSoft b4 Update Manager application. The main window features a table of updates with columns for Status, Timestamp, Name, Description, Agent Update, Version, Revision, and Size. The table lists various updates, including Cumulative Hotfixes, Major Upgrades, and Service Packs, with their respective descriptions and sizes. On the right side, there is a Configuration panel with options for Update type (Automatic updates, Check for and Download updates only, Check for updates only, No updates), Schedule (Check for updates every 1 hours), Download update in this period (12:00 AM to 1:00 AM), and Install update in this period (12:00 AM to 1:00 AM). The bottom of the window shows a Messages pane with an Update Manager Log and a status bar indicating the connection to 10.10.10.96 and the user is logged in as root.

| Status    | Timestamp           | Name     | Description   | Agent Update | Version  | Revision | Size      |
|-----------|---------------------|----------|---|--------------|----------|----------|-----------|
| INSTALLED | 05/04/2022 09:14:14 | 206253   | Cumulative Hotfix - Multiple issues solved                  | Yes          | V7.5     | 42099    | 584.55 MB |
| INSTALLED | 23/03/2022 15:41:37 | V7.5     | Major Upgrade   | Yes          | V7.5     | 41957    | 1.24 GB   |
| INSTALLED | 14/02/2022 17:18:31 | 206110   | Hotfix - Resolving issue with Object Status and Description | No           | V7.4 SP1 | 41390    | 334.45 MB |
| INSTALLED | 08/02/2022 17:37:37 | 205951   | Hotfix - Improving b4 Update                                | Yes          | V7.4 SP1 | 41326    | 344.99 MB |
| INSTALLED | 28/01/2022 13:41:25 | 206158   | Hotfix - Resolving issue with Graphical Rule Editor         | No           | V7.4 SP1 | 41208    | 319.97 MB |
| INSTALLED | 14/12/2021 14:54:37 | 205158   | Hotfix - Improving Object location                          | No           | V7.4 SP1 | 40517    | 522.48 MB |
| INSTALLED | 23/11/2021 13:14:36 | 200104   | Hotfix - Resolving issue with Recording Deployment          | Yes          | V7.4 SP1 | 40355    | 7.38 MB   |
| INSTALLED | 17/11/2021 13:36:42 | 206098   | Hotfix - Resolving issue with Automation Manager            | No           | V7.4 SP1 | 40307    | 320.72 MB |
| INSTALLED | 15/11/2021 15:39:51 | 206051   | Cumulative Hotfix - Multiple issues solved                  | No           | V7.4 SP1 | 40257    | 350.11 MB |
| INSTALLED | 14/10/2021 12:32:14 | 205996   | Cumulative Hotfix - Multiple issues solved                  | Yes          | V7.4 SP1 | 39803    | 627.42 MB |
| INSTALLED | 20/09/2021 15:11:52 | V7.4 SP1 | Service Pack  | Yes          | V7.4 SP1 | 39489    | 1.20 GB   |
| INSTALLED | 08/09/2021 16:57:39 | 205907   | Hotfix - Improving Automation Manager                       | No           | V7.4     | 39348    | 331.44 MB |
| INSTALLED | 06/09/2021 12:32:56 | 205975   | Hotfix - Resolving issue with b4 Console                    | No           | V7.4     | 39283    | 325.05 MB |
| INSTALLED | 17/08/2021 12:16:07 | 205860   | Hotfix - Introducing Tomcat 9                               | No           | V7.4     | 39060    | 13.42 MB  |
| INSTALLED | 04/08/2021 11:04:35 | 205859   | Hotfix - Improving b4 Console                               | No           | V7.4     | 38985    | 334.25 MB |
| INSTALLED | 21/07/2021 14:50:22 | 205860   | Hotfix - Introducing b4 Quick Start                         | No           | V7.4     | 38884    | 355.76 MB |
| INSTALLED | 21/07/2021 13:59:16 | 205938   | Hotfix - Resolving issue with Advanced Execute Service      | Yes          | V7.4     | 38773    | 7.11 MB   |
| INSTALLED | 02/07/2021 16:31:56 | 205234   | Hotfix - Introducing b4-b4 OpenDK                           | Yes          | V7.4     | 38637    | 1.85 GB   |
| INSTALLED | 23/06/2021 16:43:26 | 205908   | Hotfix - Resolving issue with search                        | No           | V7.4     | 38552    | 214.32 MB |
| INSTALLED | 17/06/2021 16:13:32 | 205912   | Cumulative Hotfix - Multiple issues solved                  | Yes          | V7.4     | 38489    | 13.24 MB  |
| INSTALLED | 15/06/2021 13:19:20 | 205908   | Hotfix - Resolving issue with Altair API                    | No           | V7.4     | 38436    | 2.63 MB   |
| INSTALLED | 07/06/2021 16:15:46 | 205961   | Hotfix - Resolving multiple issues in b4 Console            | No           | V7.4     | 38382    | 244.74 MB |
| INSTALLED | 24/05/2021 11:33:37 | 205845   | Cumulative Hotfix - Multiple issues solved                  | Yes          | V7.4     | 38162    | 389.23 MB |
| INSTALLED | 15/04/2021 09:38:02 | 205790   | Cumulative Hotfix - Multiple issues solved                  | Yes          | V7.4     | 37996    | 418.51 MB |
| INSTALLED | 26/03/2021 14:30:08 | V7.4     | Major Upgrade   | Yes          | V7.4     | 37452    | 775.72 MB |
| INSTALLED | 04/03/2021 17:36:03 | 205572   | Hotfix - Resolving multiple issues in Graphical Rule Editor | Yes          | V7.3 SP1 | 37096    | 1.05 GB   |
| INSTALLED | 04/03/2021 17:09:21 | 205761   | Hotfix - Resolving issue with b4Update Progress bar         | No           | V7.3 SP1 | 37047    | 14.68 KB  |

## Update Manager View

## Maintenance

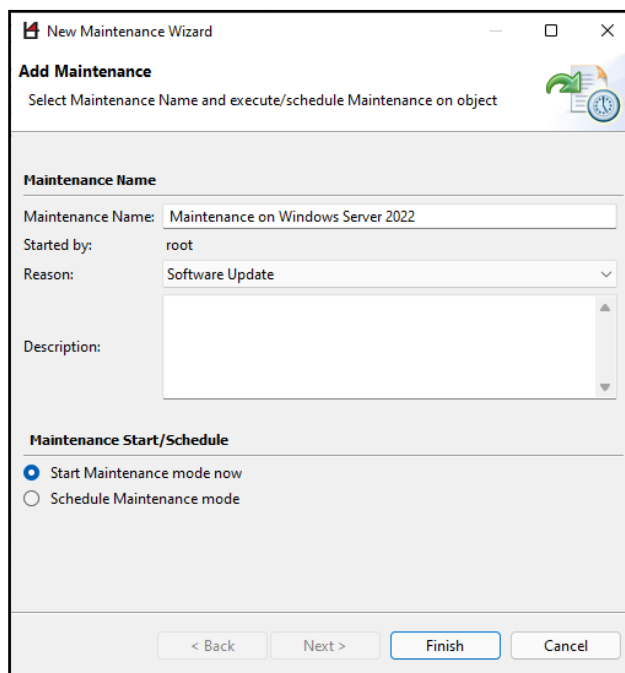
Maintenance Module provides the possibility to define maintenance periods on objects in AmdoSoft/b4 Console, in order to avoid b4 automation mechanisms (such as status changing, rules executing, propagating statuses to b4 reports, monitors sending emails and performing actions...), in the case you need to perform some maintenance tasks on the monitored resources.

By setting Maintenance, object will go to Maintenance state and stay in that state regardless of any event, such as stopping Agent, network disconnection, power outage...

During maintenance it is not possible to execute methods on objects such as editing properties, copying objects, adding/removing members etc.

A Maintenance period option is available for any type of object including Devices, Services and Monitors. Clicking on *Start Maintenance* opens Maintenance Wizard which provides two modes for setting maintenance:

- Start Maintenance mode now
- Schedule Maintenance mode

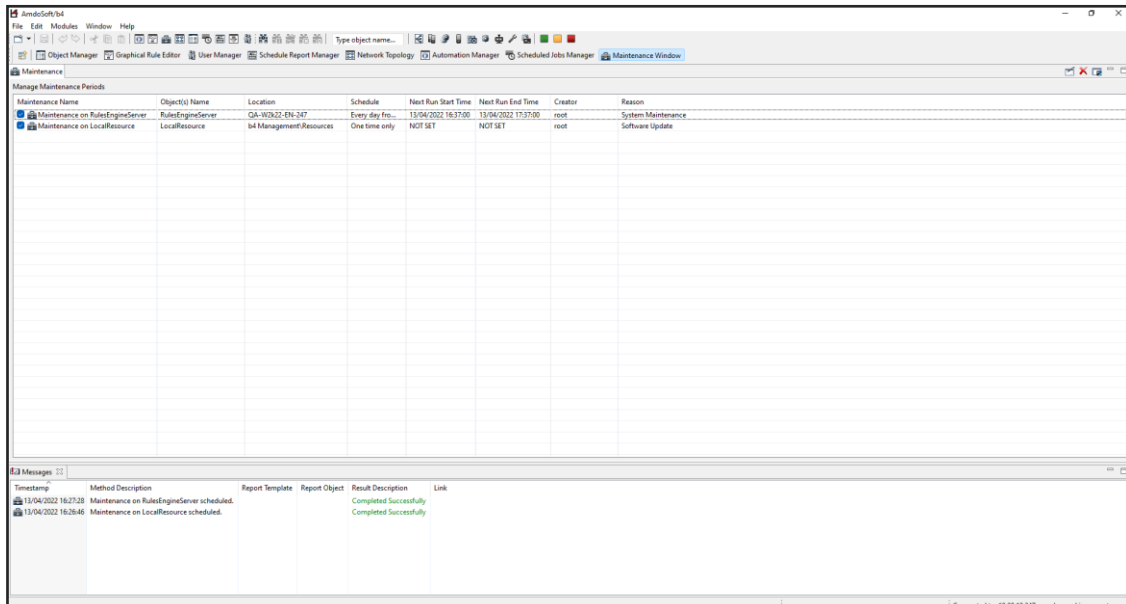
The image shows a screenshot of the 'New Maintenance Wizard' dialog box. The title bar reads 'New Maintenance Wizard'. The main heading is 'Add Maintenance' with a subtitle 'Select Maintenance Name and execute/schedule Maintenance on object'. There is a green arrow icon and a clock icon in the top right corner. The dialog is divided into two main sections. The first section, 'Maintenance Name', contains a text field for 'Maintenance Name' with the value 'Maintenance on Windows Server 2022', a 'Started by:' field with the value 'root', a 'Reason:' dropdown menu with 'Software Update' selected, and a 'Description:' text area. The second section, 'Maintenance Start/Schedule', contains two radio buttons: 'Start Maintenance mode now' (which is selected) and 'Schedule Maintenance mode'. At the bottom of the dialog are four buttons: '< Back', 'Next >', 'Finish', and 'Cancel'.

Maintenance Wizard

*Start Maintenance mode now*, the selected object and all its children go to maintenance state instantly (and a new *One time only* scheduled Maintenance period with no end time appears in Maintenance View).

Choosing the option *Schedule Maintenance mode* provides four different types of scheduling: *Daily*, *Weekly*, *Monthly* and *One time only* scheduling. Setting these options is done in the second page of Maintenance Wizard.

All Maintenance periods created through Maintenance Wizard can be managed from Maintenance View. Maintenance View stores the list of all scheduled Maintenance periods.



| Maintenance Name                | Object(s) Name   | Location                | Schedule        | Next Run Start Time | Next Run End Time   | Creator | Reason             |
|---------------------------------|------------------|-------------------------|-----------------|---------------------|---------------------|---------|--------------------|
| Maintenance on RuleEngineServer | RuleEngineServer | QA-WIN32-EN-247         | Every day fr... | 13/04/2022 16:37:00 | 13/04/2022 17:37:00 | root    | System Maintenance |
| Maintenance on LocalResource    | LocalResource    | Int Management/Resource | One time only   | NEXT SET            | NEXT SET            | root    | Software Update    |

| Timestamp           | Method Description                         | Report Template | Report Object | Result Description     | Link |
|---------------------|--|-----------------|---------------|------------------------|------|
| 13/04/2022 16:27:28 | Maintenance on RuleEngineServer scheduled. |                 |               | Completed Successfully |      |
| 13/04/2022 16:26:46 | Maintenance on LocalResource scheduled.    |                 |               | Completed Successfully |      |

Connected to: 10.20.10.247 Logged in as: root

Maintenance Mode View

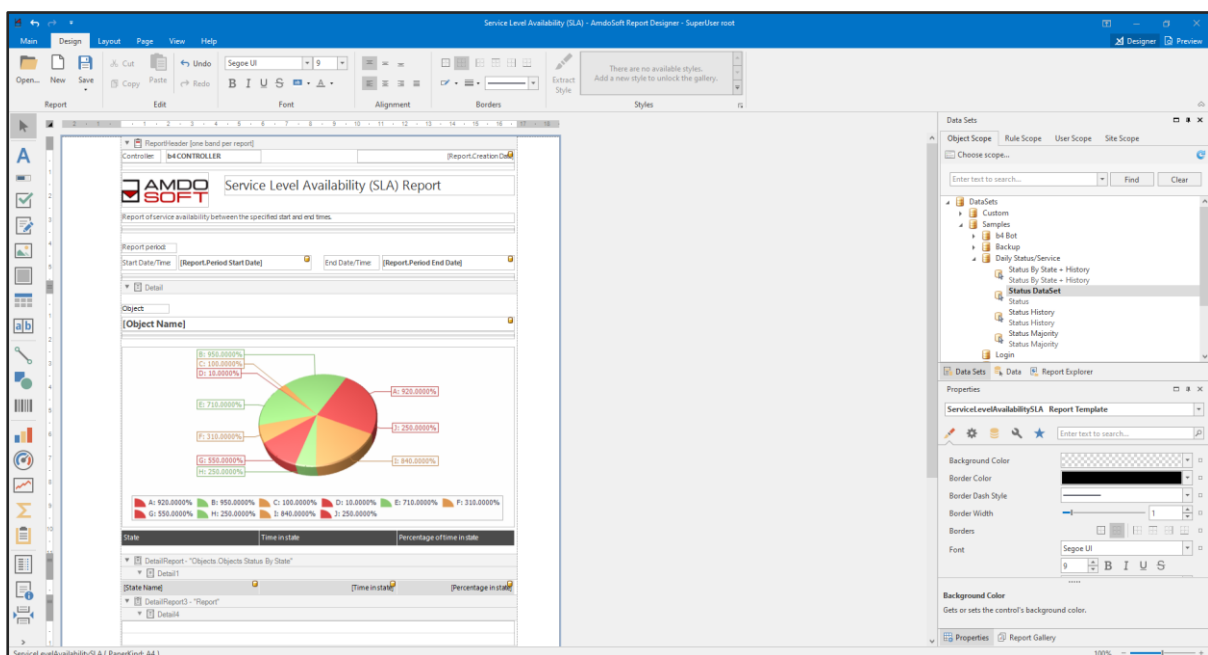
## b4 Report Designer



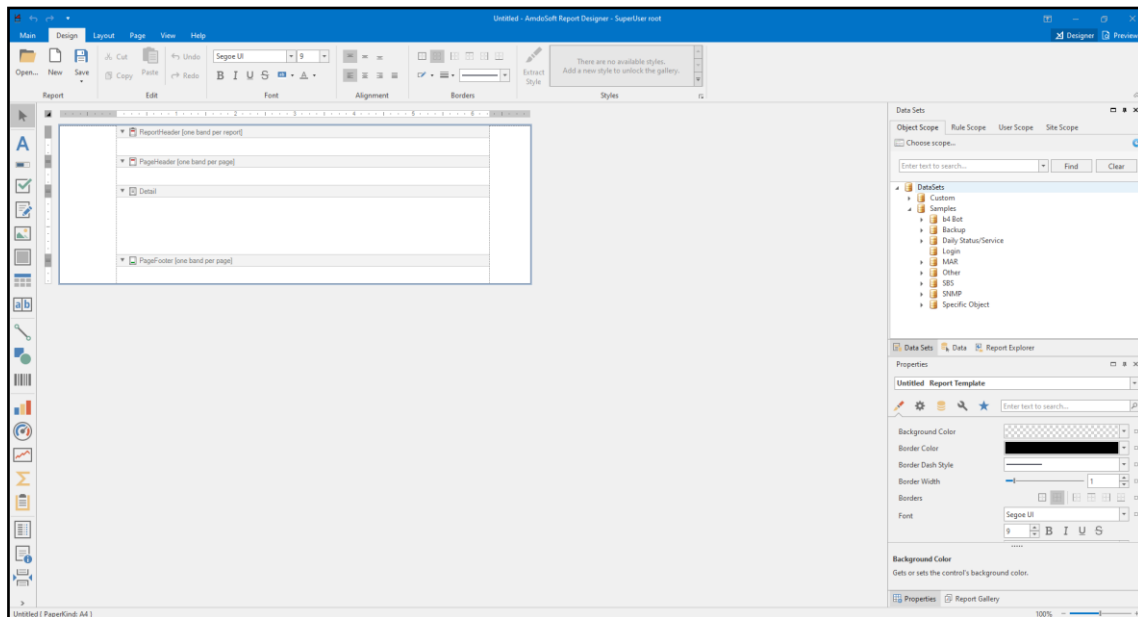
The b4 Report Designer is a standalone application that provides you with access to the AmdoSoft/b4 history data and the possibility to generate customized reports with these data. It provides a Report Data Sets pane to organize and individualize the data being used in your report and tabbed views for Design and Preview so that you can design a report interactively. That gives you the opportunity and necessary options to generate reports the way you want them to look like and whenever you need them. Furthermore, Report Designer includes a comprehensive list of pre-designed reports that are ready to be used. This means you can either create your own reports or edit existing reports according to your needs and standards.

Excerpt of b4 Report Designer features:

- ✓ Complete power to access data and generate custom reports
- ✓ Possibility to define AmdoSoft/b4 Object, Rule, User or Site scope for custom report
- ✓ Easy layout steps with WYSIWYG (What You See Is What You Get) design environment
- ✓ Useful layout objects including labels, barcodes, lines, shapes, graphics, rich text, etc.
- ✓ Flexible sorting with group headers and footers, title and summary bands
- ✓ Export files in favorite format: spreadsheet, pdf, word, html, jpg, etc.
- ✓ Include sub-reports within reports for maximum flexibility
- ✓ Custom field expressions and aggregate calculations (Pivots, ...)



Report Designer Screen



Report Designer – Design View

The *Report Designer* comes along with an additionally developed AmdoSoft/b4 tool – the *Schedule Report Manager*. This tool provides you with the possibility to schedule and automate the generation of reports that have previously been defined in the Report Designer. By using this tool you can select the exact time and frequency when you want a specific report to be generated (one time or recurring), in which format (pdf, xls, rtf, html, ...) and to which email address (or multiple addresses) the report should automatically be sent to.

## b4 Mobile

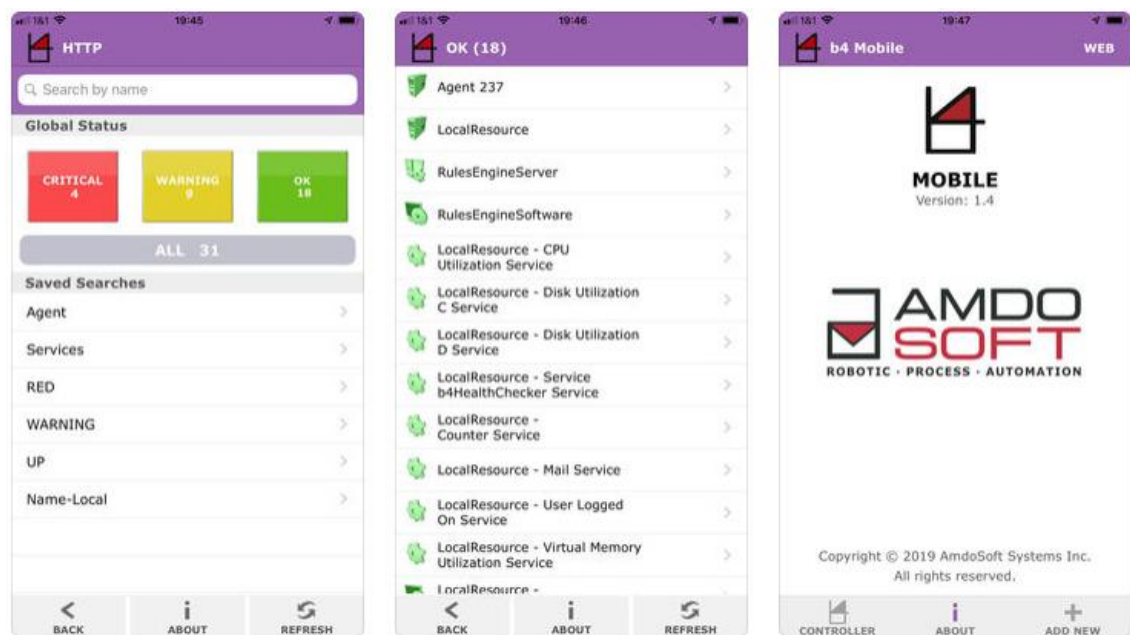
b4 Mobile is an iOS app that allows you to check the status of your most important components on the go. b4 Mobile extends the b4 Automation software reachability and flexibility by providing immediate access to information about your IT infrastructure health on your mobile phone, anytime and from anywhere.

### Functionality overview:

- provides quick access to b4 objects based on their status or name
- object status summary
- immediate access to information about critical objects
- possibility to search for objects by name
- using advanced saved search criteria defined in b4 Console
- filter search and view results by object type

### Requirements:

- iOS version 9.1 or above
- b4 Mobile app downloaded from Apple App Store
- network connection (3G, EDGE, or WIFI)



b4 Mobile App