CICS Transaction Server for z/OS



CICSPlex SM Web User Interface Guide

Version 5 Release 4

CICS Transaction Server for z/OS



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Note
Before using this information and the product it supports, read the information in "Notices" on page 159.

This edition applies to the IBM CICS Transaction Server for z/OS Version 5 Release 4 (product number 5655-Y04) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this PDF

This PDF describes how to use the CICSPlex SM Web User Interface. It includes information useful for system designers, programmers and those responsible for setting up, administering, and maintaining the interface.

For details of the terms and notation used, see Conventions and terminology used in the CICS documentation in IBM Knowledge Center.

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Chapter 1. CICSPlex SM overview

The CICSPlex® System Manager element of CICS® Transaction Server for z/OS® is a system management tool that enables you to manage multiple CICS systems from a single control point.

Enterprises in which CICSPlex SM might be needed range from those running 10 or 15 CICS regions, to those running two or three hundred (or more) CICS regions: in the latest z/OS sysplex environment, having such large numbers of CICS regions to support a transaction processing workload is becoming increasingly common.

CICSPlex SM has the following key aspects:

CICSPlex SM conforms to the IBM® strategy for system management

- It provides consistent creation and management of system management data.
- It is an enterprise-wide system management application.
- It supports increased automation of system management tasks.
- It is structured into manager and agent components, has an enterprise information base, a coordination information base, and is based on a data model.

CICSPlex SM has many reliability, availability, and serviceability (RAS) features

For example:

- User application CICS regions are managed by a discrete controlling region that has no associated terminals or use application elements or components. There can be multiple instances of this managing region.
- User access to CICSPlex SM functions is provided using a separate address space, of which there can also be multiple instances in an enterprise.
- System management data is held separately in data-space caches, so that it is unaffected by what happens in both managing and managed CICS systems.

CICSPlex SM is secure

Even though CICSPlex SM has the potential to allow access to all of an enterprise's CICS resources from a single session, it ensures that security is not compromised. You can use a SAF-compliant external security manager to prevent unauthorized access to:

- CICSPlex SM procedures and data
- CICSPlex SM system management functions and the CICS resources they manage

Security checks that are usually performed by CICS (that is, CICS command checking and CICS resource checking) are performed instead by CICSPlex SM.

"The CICSPlex SM environment" on page 5 provides an overview of the basic CICSPlex SM features and functions.

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Features of CICSPlex SM

CICSPlex SM incorporates a number of system management functions, including a real-time single-system image, a single point of control, business application management, and operations for the entire CICSplex.

- **A real-time, single-system image (SSI)**

  CICSPlex SM provides a real-time, single-system image (SSI) of all CICS regions and resources that make up the transaction processing environment of your enterprise. CICSPlex SM creates an inventory of the CICS systems and resources and maps the relationships between them; this process is called the CICSPlex SM *topology*. The operator no longer needs to know the location of a resource before working with it. The SSI is provided by the CICSPlex SM *operating* function and applies to all CICSPlex SM applications: operations, monitoring, real-time analysis (RTA), and workload management (WLM).

- **A single point of control**

  The CICSPlex SM operator can manage all of the enterprise CICS systems and their resources from a single session. That is, CICSPlex SM can provide a *single point of control* for the enterprise, which in turn means that the CICSPlex SM operator is able to manage large and complex configurations of CICS resources. Furthermore, you can have *multiple* points of control, so that multiple CICS operators in multiple locations can each have a complete view of the enterprise CICS systems and resources, or a view of those systems and resources that is tailored to their individual requirements. Finally, because the physical location of these points of control is irrelevant, you have total flexibility in appointing control locations.

- **Management of your business applications**

  CICSPlex SM enables you to manage your enterprise in terms of your business applications rather than your CICS systems. **Business Application Services (BAS)** enables you to manage your resources at the application level, by providing:

  – A *single point of definition* for your resources. All the resources for the CICSplex, and the relationships between them, are held in one place, on the CICSPlex SM data repository, giving a single-system image for the CICSplex. CICSPlex SM produces local and remote instances of a resource from a single definition.

  – *Logical scoping*, which enables you to link and manage your resources according to their business relationship, rather than by their physical location in a CICS system.

  – *Installation* of those resources, either automatically when the CICS system is started, or dynamically, as required, into a running CICSplex.

  BAS provides an alternative to resource definition online (RDO). RDO is based on a structure in which definitions are tied to a single group, and groups are processed sequentially from a group list. BAS frees resource definitions from associations with only one group. You can reuse a resource definition and associate it with more than one group as needed. BAS enables you to associate your resources according to their use in your enterprise. You can manage individual resources, rather than a group. For example, you could disable all the files associated with your payroll system, without affecting any other files in the CICSplex.

  See Managing resources using Business Application Services (BAS).

- **Operations for the entire CICSplex**

  From any point of control, the operator can take advantage of the SSI to perform tasks, either across the entire CICSplex or across a selected subset. You can

display information about the status of one or more instances of a CICS resource in an enterprise, and you can also change the status of the resources with a single entry.

You use the Web User Interface *action buttons* to affect the status of the displayed resources. The responses are displayed in panels known as *operations views*, that can summarize related facts and provide access, using links, to other, related information. The operations views mirror the functionality currently provided for CICS systems. Operators can therefore work in essentially the same way as they are used to, without any change to their basic approach to daily system activities.

See CICS operations views and CICSPlex SM Web User Interface overview for more information about operations views.

- **Management of your workloads**

  CICSPlex SMworkload management (WLM) uses the dynamic routing program EYU9XLOP to route eligible work requests from a requesting region to a suitable target region selected at the time the transaction is initiated.

  EYU9XLOP handles the dynamic routing of:

  – Transactions initiated at a terminal
  – Eligible EXEC CICS START requests that are associated with a terminal
  – Eligible EXEC CICS START requests that are not associated with a terminal
  – Dynamic program link (DPL) requests that are received using:
    - The CICS Web Interface
    - The CICS Gateway for Java
    - External CICS interface (EXCI) client programs
    - Any CICS client workstation products using the External Call Interface (ECI)
    - Distributed Computing Environment (DCE) remote procedure calls (RPCs)
    - Open Network Computing (ONC) RPCs
    - Any function that issues an EXEC CICS LINK PROGRAM request
  – Transactions associated with CICS business transaction services (BTS) activities

    CICSPlex SM provides management support for BTS by dynamically routing BTS work across a BTS-set, and by monitoring the management of data in a distributed environment. For full details, see Overview of BTS.

    You do not have to use CICSPlex SM workload management to route BTS activities, but using CICSPlex SM can offer many benefits:
    - Management of distributed data
    - Workload separation and workload routing functions of workload management
    - User replaceable dynamic routing program EYU9XLOP
    - Reduction in link definitions if you also use BAS
    - Cooperation between BAS and BTS in the management of your business environment

  You can write your own program to replace EYU9XLOP, and use it with the CICS-supplied user-replaceable programs DFHDYP and DFHDSRP, to handle your dynamic routing requirements.

  See Managing workloads through CICSPlex SM for more information about dynamic routing and workload management.

- **Automated exception reporting for CICS resources**

CICSPlex SM Real Time Analysis (RTA) function provides automatic, external notification of conditions in which you have expressed an interest. The notification can take the form of a console message, or of a generic alert to NetView®, or both. Real time analysis is not concerned solely with commonly recognized error conditions: you can ask to be notified about any aspect of the status of a resource. With real time analysis you can take actions without having to use a separate automation product.

The RTA functions of CICSPlex SM are described in greater detail in . For full details, see Real-time analysis in Monitoring.

- **Monitoring functions for the collection of statistical data for CICS resources**

  The CICSPlex SM *monitoring* functions support the collection of performance-related data, at user-defined intervals, for named resource instances in a set of CICS systems.

  The monitoring functions of CICSPlex SM are described in more detail in Collecting statistics using CICSPlex SM monitoring. For full details, see Real-time analysis in Monitoring.

- **An application programming interface (API)**

  CICSPlex SM provides an application programming interface (API) that enables applications to:

  – Access information about CICS and CICSPlex SM resources. For details of system connectivity, see the *Upgrading CPSM* information in Upgrading.
  – Invoke the services of CICSPlex SM.

  A command-level interface is available to programs that are written in these languages:

  – Assembly
  – PL/I
  – COBOL
  – C

  In addition, a REXX runtime interface is available.

  You can use the CICSPlex SM API to write external programs that automate the management of CICSPlex SM and CICS resource definitions. Such programs could be used to integrate the CICSPlex SM system management functions into your enterprise-wide change management process. For example, you could write an API program to coordinate resource definition changes with database or file updates, or the standard life cycle of an application. For a complete description of the API, see CICSPlex SM commands overview.

- **Management of the CICSPlex SM environment**

  You manage the CICSPlex SM environment using:

  – **CICSPlex SM objects**

    To define the configuration of your CICS systems to CICSPlex SM (and to define your BAS, WLM, RTA, and monitoring requirements), you create *CICSPlex SM objects*, and associate them with each other. For each object, and for each association or link between them, a record is created in a CICSPlex SM data repository. CICSPlex SM objects are described in "CICSPlex SM objects" on page 10.

  – **Data repository**

    The data repository contains the objects that define the CICSPlex SM components, resources, system management requirements, and the

relationships between them. The definitions can be created using the Web User Interface, the CICSPlex SM API, or the batched repository-update facility.

  – **The batched repository-update facility**

    With the batched repository-update facility you can create and update large numbers of CICSPlex SM and CICS resource definitions by submitting one command that is used as the template for other definitions. The batched repository-update facility is also used for migrating your definitions from one platform to another, and for backing up the data repository. For more information see "The batched repository-update facility" on page 12. For details, see Administering CICSPlex SM.

- **Management of time-dependent activity**

  Much of CICSPlex SM activity is time-dependent. For example, you can specify on your RTA and monitoring definitions when you want the definition to be active. Also, you might want CICS systems running in the same CICSplex but different time zones to run as if they were in the same time zone. You are able to create time-period definitions that control:

  – Exactly when any part of your enterprise is operational, regardless of the local time zone
  – The times you want certain system management functions to be operational

  The international standard for time zones is used, based on Greenwich Mean Time (GMT). You select the time zone in which you want your CICSplex to run. You can then make adjustments, either for locations that have implemented times that are not different from GMT by 60 minute multiples, and for daylight saving.

  Details of time-period definition are in Administering CICSPlex SM.

The CICSPlex SM environment

Before you begin to define your CICSPlex SM environment, you must understand the components of CICSPlex SM, either because you have to define them or because they can affect the design of your environment.

Each CICS region that is managed by CICSPlex SM is called a *managed application system* (MAS). You define and manage MASs as part of a *CICSplex*. Every MAS in a CICSplex is managed by a *CICSPlex SM address space* (CMAS). More than one CMAS can manage the MASs in a CICSplex, but a MAS can connect only to one CMAS at any given time.

All CICSPlex SM components, resources, system management requirements, and the relationships between them, are held as *objects* in a *data repository*. You can manage these objects using one or more of the provided interfaces:

- The CICS Explorer® is an Eclipse-based tool that you can use to create, install, and manage the objects in the data repository.
- The Web User Interface (WUI) provides a Web interface to create, install, and manage the objects in the data repository.
- The batched repository-update facility provides a batch job to create CICSPlex SM resource definition objects.

In every CICSplex there is one CMAS that is defined as the *maintenance point*. The CMAS maintenance point is responsible for maintaining the data integrity of the objects in every data repository by synchronizing its data repository with the data

repository of other CMASs. It performs this synchronization by using CMAS-to-CMAS links, which are typically used for routing management commands and data between CMASs.

The Web User Interface (WUI) server runs on a dedicated MAS. The Web User Interface server code must be at the same release level as the CICS region on which it runs and the CMAS to which it is connected.

You manage resource definition through Business Application Services (BAS). You can also use workload management (WLM), real-time analysis (RTA), and monitoring services to manage the CICSPlex SM configuration and gather statistical information.

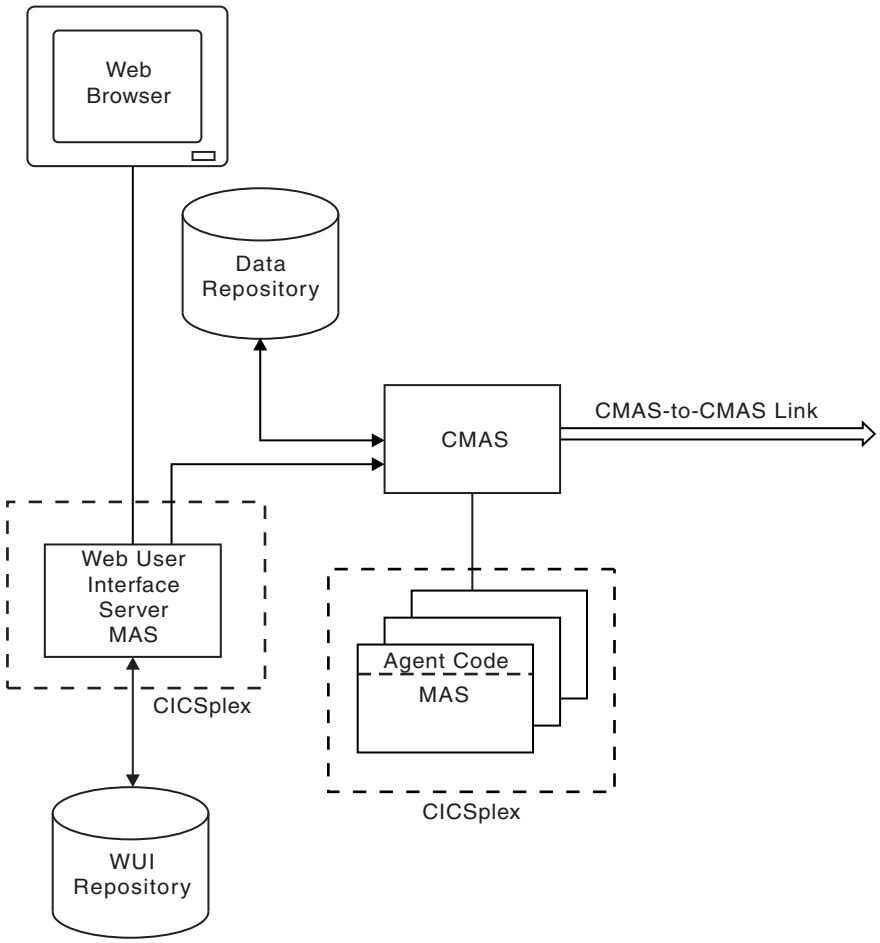


Figure 1. Key components of a CICSPlex SM configuration

The CICSplex

A *CICSplex* is any grouping of CICS systems that you want to manage and manipulate as if they were a single entity. That is, a CICSplex is a management domain, made up of those CICS systems for which you want to establish a single system image (SSI).

A CICSplex managed by CICSPlex SM could include every CICS system in your enterprise. Alternatively, you could define multiple CICSplexes, each of which would include a logical grouping of CICS systems. For example, a CICSplex could

comprise all CICS systems on a particular MVS image, or all CICS systems accessible by a subset of your users, or all CICS systems serving a particular geographical area. Furthermore, the composition of a CICSplex can be altered without affecting the functions of the underlying CICS systems. The CICS systems in a single CICSplex managed by CICSPlex SM do not have to be explicitly connected to each other for management purposes.

The most significant facts about a CICSplex managed by CICSPlex SM are:

- The CICSplex is the largest unit you can work with. That is, you cannot group CICSplexes and manipulate such a group as a single entity.
- You cannot copy CICSPlex SM data from one CICSplex to another. For system management purposes, the CICSplex is "sealed" against other CICSplexes.
- CICSplexes are mutually exclusive, so no CICS system can belong to more than one CICSplex.

CICSPlex SM enables you to define subsets of a CICSplex, which are known as *CICS system groups*. CICS system groups are not mutually exclusive, and can reference the same CICS systems. Thus, if you decide to include every CICS system in your enterprise in a single CICSplex, there are mechanisms for managing groups of CICS systems within the CICSplex in a single system image manner.

You can assign an unlimited number of CICS systems and CICS system groups to an existing CICSplex.

Although you can define a CICS system to only one CICSplex, you can assign a CICS system to multiple CICS system groups within the CICSplex. You can also assign the CICS system group to any number of other CICS system groups.

The managed application system (MAS)

Each running CICS system that is being managed by CICSPlex SM is known as a *managed application system* (MAS).

For details of the supported CICS releases that CICSPlex SM can manage, see the information about upgrading CICSPlex SM in Upgrading.

All the MASs within a CICSplex are managed by the same *CICSPlex SM Address Space (CMAS)* or the same group of CMASs.

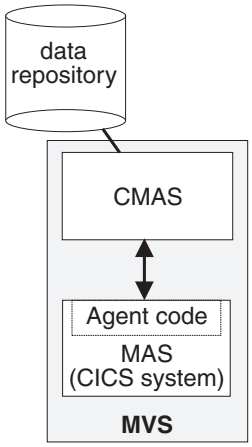


Figure 2. MASs and their CMAS. Each of these components is described in this section.

Each MAS contains CICSPlex SM *agent code* that implements CICSPlex SM function, such as data collection, for the CMAS by which it is managed. For example, if resource monitoring is active for a particular MAS, agent code in the MAS monitors the selected resources and feeds the resulting data to the CMAS.

The MASs within a single CICSplex do not have to be explicitly connected to each other for CICSPlex SM-specific communication. However, CICS connections required in support of transaction routing and function shipping are still required.

MASs can be defined and managed as individual CICS systems or grouped into *system groups* within the CICSplex. Each system group is one or more CICS systems that you want to manage as a unit subset of the CICSplex. System groups are described in Identifying system groups.

All MASs are local, that is they run on the same MVS image as the CMAS by which they are managed. You do not need to define an explicit link between the CMAS and the local MAS. For local MASs, system-management data is accumulated in data-space caches (as shown in Figure 1 on page 6) and is communicated to the CMAS via the Environment Services System Services (ESSS) address space (which is described in Environment Services System Services (ESSS)).

A MAS can be set up as a CICSPlex SM Web User Interface server. In this case, the CICS release level of the MAS and the CICSPlex SM Web User Interface server must be the same.

CICSPlex SM address space (CMAS)

The CICSPlex SM address space (CMAS) is the hub of any CICSPlex SM configuration, because it is responsible for most of the work involved in managing and reporting on CICS systems and their resources. Every CICSplex is managed by at least one CMAS. The CMAS is responsible for the *single system image (SSI)* that enables the operator to manage a CICSplex as if it were a single CICS system, regardless of the number of CICS systems defined as belonging to the CICSplex, and regardless of their physical location.

The CMAS implements the BAS, WLM, RTA, and monitoring functions of CICSPlex SM, and maintains configuration information about the CICSplexes it is managing. It also holds information about its own links with other CMASs. It stores this information in its *data repository*. (See Figure 2 on page 7).

A CMAS is a full-function CICS Transaction Server for z/OS system. Most CMAS components run as CICS tasks, and CMAS connections to other components are implemented using CICS intercommunication methods.

Note: The CMAS does not support user applications or terminals, and its resources should not be considered available for non-CMAS tasks, including (without limitation) the use of any monitoring and performance tool other than those supplied as a part of CICSPlex SM.

A CMAS cannot be running a lower release of CICS than its MASs. Also, both the CMAS and the MASs must be running the same release of CICSPlex SM.

A CMAS is not part of any CICSplex: a single CMAS can participate in the management of multiple CICSplexes, but belongs to none of them.

If a CICSplex is managed by multiple CMASs:

- The CMASs are connected to each other by *CMAS-to-CMAS* links defined to CICSPlex SM. These links ensure that each CMAS can access data held by other CMASs, and a single-system image can be presented to the operators.
- One of the CMASs is designated the *maintenance point* CMAS. That CMAS is responsible for maintaining all the CICSPlex SM definitions relating to a CICSplex and keeping all the data repositories in synchronization.

CICSPlex SM can issue SNA generic alerts to NetView, provided that a CMAS is installed on the same MVS™ image as the NetView instance with which CICSPlex SM is working.

Environment Services System Services (ESSS)

Environment Services System Services (ESSS) is a limited-function, MVS system address space that provides z/OS services to CICSPlex SM components. In particular, ESSS owns all of the MVS/ESA data spaces on an z/OS image, so that they can exist independently of CMASs and MASs, yet remain accessible by both. The benefit of this arrangement is that the CICSPlex SM data accumulating in the data spaces is not vulnerable to events in the MAS and CMAS components. ESSS also plays a part in some aspects of communication between a CMAS and any NetView instance on the same z/OS image as the CMAS.

There is one instance of ESSS for each version or level of CMAS on any z/OS image.

The CICSPlex SM Web User Interface

The CICSPlex SM Web User Interface (WUI) is a customizable, platform-independent interface for your Web browser.

The Web User Interface is used:

- By the CICSPlex SM operator, who uses it to monitor and control the resources of their CICS systems.
- By the system administrator, who uses the interface to define and maintain the CICSPlex SM configuration, and to specify BAS, WLM, RTA, and monitoring requirements.

You can link to the Web User Interface from any location that can launch a Web browser.

The server component of the Web User Interface runs on a dedicated CICSPlex SM local MAS connected to a CMAS at the same release level.

The Web User Interface is supplied with a set of linked menus and views but can also be customized to reflect your business procedures and to suit the needs of individual users.

Information about your enterprise is displayed in formatted displays called *views*. An example view is shown in Figure 3 on page 10.

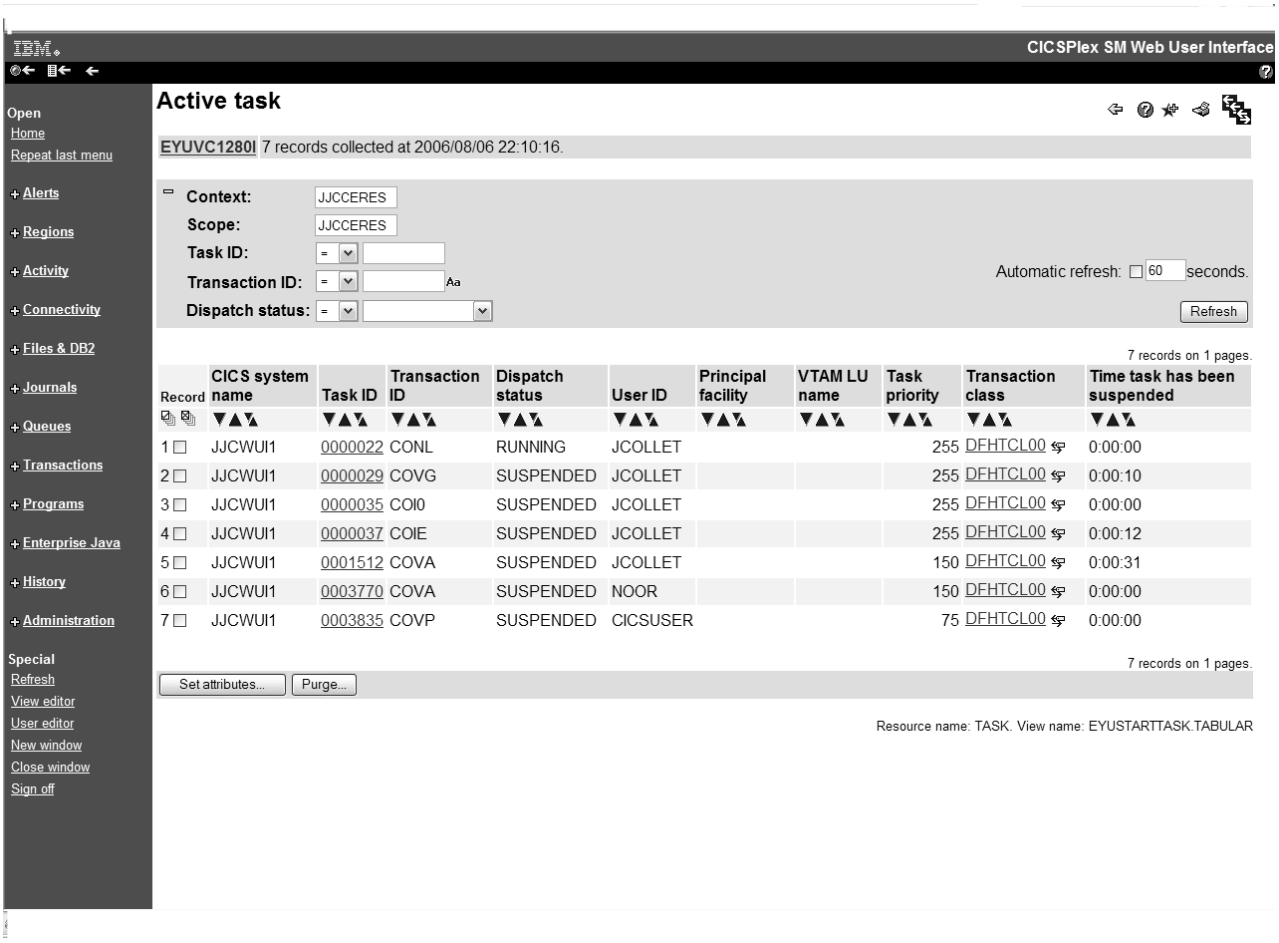


Figure 3. A tabular view

The title of the view is displayed at the top of the view and is descriptive of the view. The resource name is the name of the resource associated with the view; each resource is represented by a resource table. All WUI views supplied with CICSPlex SM by IBM are named EYUSTAR`object.viewtype` where `object` is the name of the associated resource and `viewtype` describes the type of view. In Figure 3, the view title is **Active task**, the resource name is TASK, and the view name is EYUSTARTTASK.TABULAR. Throughout this document, views are referred to by view names with the resource names in parentheses.

You navigate between views to control the type of information that is displayed using hyperlinks on views and menus. Typically, hyperlinks are highlighted and underlined. In the example view, Task ID is a hyperlink. From a view, you use *action buttons* to manage the displayed data. In Figure 3, Set attributes and Purge are action buttons.

The general principles of the WUI, and other details of the menus and views, are described in CICSPlex SM Web User Interface overview. Resource tables are described in CICSPlex SM resource tables in Reference.

CICSPlex SM objects

To define the configuration of your CICS systems to CICSPlex SM, and to define your BAS, WLM, RTA, and monitoring requirements, you create *CICSPlex SM objects*, and associate them with each other.

For each object, and for each association or link between them, a record is created in a CMAS data repository. Figure 4 shows how the CICSPlex SM objects relate to each other.

This figure contains a high-resolution graphic that is not supported in this display format. To view the graphic, please use the CICS Information Center.

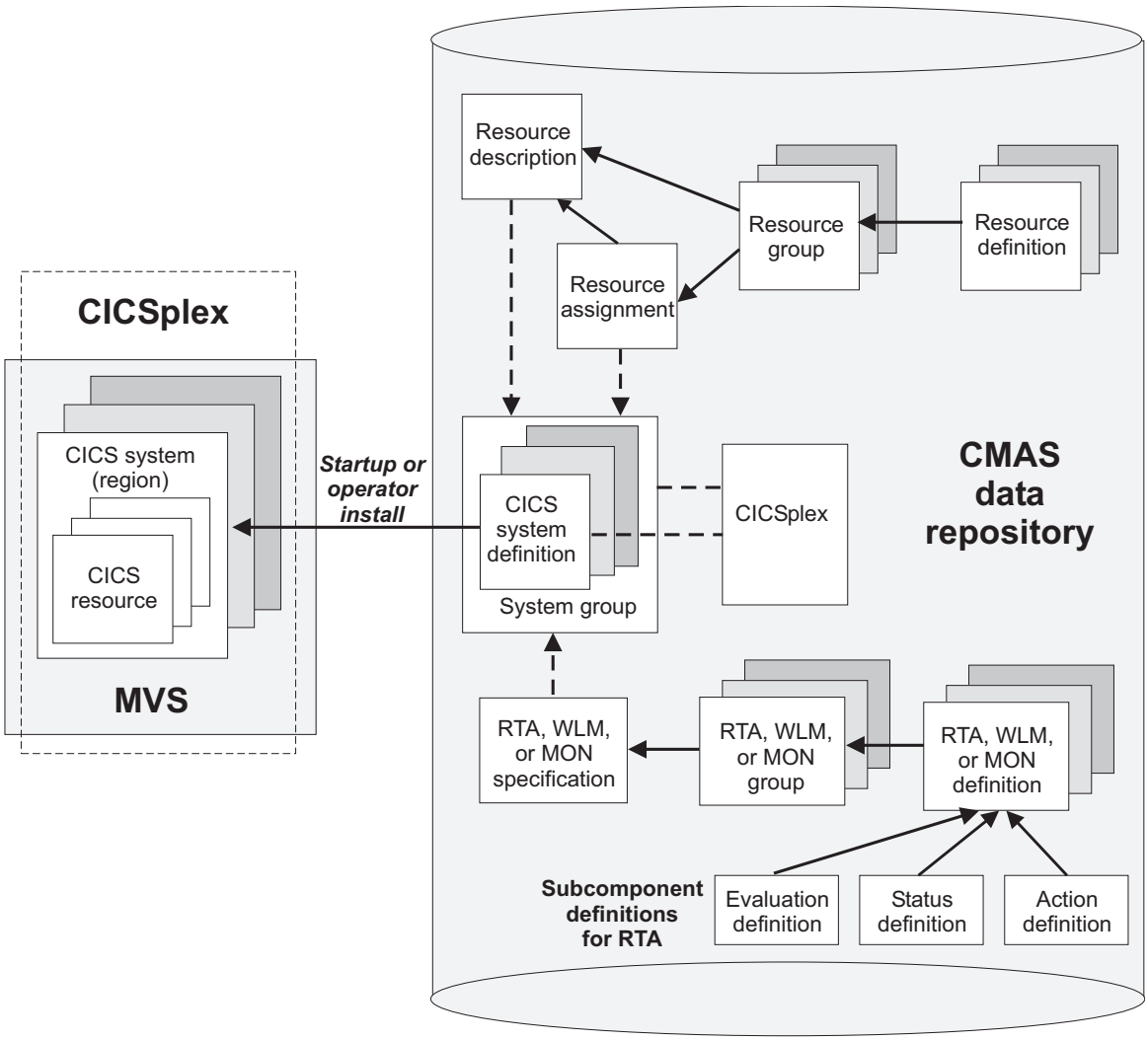


Figure 4. The CICSPlex SM object model

These objects can be split into three categories:

1. *CICSplex and CICS system* objects, used for defining the CICSplexes and CICS systems to be managed by CICSPlex SM. This includes defining the links between CICS systems and creating CICS system groups. These objects are described in Designing your CICSPlex SM environment; information on defining these objects is in Defining the CICSPlex SM configuration and topology.
2. *BAS* objects, used for logical scoping and managing the CICS resource definition and installation processes. You can look on the objects in this category as defining what resources you want your CICS systems to use. These CICSPlex SM objects are described in Multiple versions of a resource definition. Information on defining BAS objects is in Using full-function form BAS.

3. *Operation* objects are those objects used for operating the CICS resources that exist in running CICS systems. You can look on the objects in this category as identifying the resources you want to monitor at run-time, for automated workload management, automated exception reporting, and collection of statistical data. These CICSPlex SM objects are described in Managing monitoring functions, Workload management resources, and Managing RTA.

The data repository

The single-system image of a CICS system or group of CICS systems is provided by the CMAS using the CICSPlex SM and resource definitions held on the *data repository*.

Each CMAS has its own data repository. The data repository is a VSAM KSDS that is created using a CICSPlex SM post-installation job. As with all data sets, you need to take regular backups of each data repository in your environment.

CICSPlex SM definitions and CICS resource definitions held on the data repository can be managed in the following ways:

- Using WUI views; see "The CICSPlex SM Web User Interface" on page 9.
- Using the EYU9XDBT CICSPlex SM definition utility.
- Using the batched repository-update facility (BATCHREP); see "The batched repository-update facility."
- Using the API

You can generate a visual map of the definitions in your data repository. The map can be of business application services, resource monitoring, real-time analysis, or workload monitoring. You select a starting point for the map, which might be for example, a CICS system group or an individual resource, from a WUI detail or tabular view. CICSPlex SM displays the starting point and all the definitions that either refer to that definition or are referred to by it. See How to map CICSPlex SM definitions.

The batched repository-update facility

To help you in the migration of your CICS definitions to CICSPlex SM, you can use the EXTRACT command of the CICS DFHCSDUP utility to read CSD records.

CICSPlex SM provides an exit routine EYU9BCSD that generates, from the DFHCSDUP output, equivalent resource definitions for input to the batched repository-update facility.

The batched repository-update facility is also useful for migrating your definitions from one platform to another. You can use it to retrieve existing resource definitions from the CICSPlex SM data repository then, after making any required changes to the definitions, input the changes to another batched repository-update facility run that creates resource definitions on the new platform.

The CICSPlex SM Web User Interface

The CICSPlex SM Web User Interface (WUI) is a customizable, platform-independent interface for your web browser.

Functions and features of the Web User Interface

The CICSPlex SM Web User Interface (WUI) offers an easy-to-use interface that you can use to carry out all of the operational and administrative tasks necessary to monitor and control CICS resources. You can link to the Web User Interface from any location that can launch a Web browser.

The WUI is supplied with a set of linked menus and views to facilitate all your system management tasks.

You can also customize the WUI to reflect your business procedures and to suit the needs of individual users.

The CICSPlex SM Web User Interface allows you to:

- Create clear, uncluttered menus and displays (called *views*), that present only the information that you want the user to see.
- Structure your data in a task-oriented way. You can:
  - Organize the user interface by resource category, by user task, or by application.
  - Define the links between views.
  - Define the buttons that will appear on a display and what they will do.
- Customize the layout of data. You can:
  - Have as many views of the same object as you like, each one showing a different selection of data depending on the user task.
  - If you have a Java-enabled Web browser, you can use graphical presentations of your data: you can have either a bar gauge that shows, for example, the number of tasks active in a CICS region, or a warning light that can be configured to change color or flash, depending on the threshold values you define for the field.
- Customize the text and appearance of views to suit your business needs. You can:
  - Use terminology appropriate to your business.
  - Use your national language for annotations and customized help.
  - Limit the data that is displayed using filters, so that users see only the data relevant to their task.
  - Include information for the user's guidance, for example, contact names and telephone numbers.
  - Define text that is written on action buttons.
  - For each menu choice, add explanatory text to help the user in the task.
  - For each view, provide buttons that accomplish the task, for example, a shutdown button on a CICS regions view.
- Assign views to a set of favorites for quick and easy access. This allows you to reach frequently used views with just one click. Administrators have the additional authority to update the favorites of other users.
- Present the data the users want to see in order to complete a task. You can:
  - Create profiles for groups of users. These profiles contain information such as default context, scope, CMAS context, menu and result set warning count. In this way administrators can configure the WUI in different ways to suit different groups of users in order to present an interface that is more tailored to individual needs.
  - Display only the information you want the user to see.

  - Control what information can be amended, and where and how these amendments are made. For example, you can make sure that the user has to confirm that an operation is required, or that data has to be changed. You can restrict entry fields to display-only or to preset values.
  - Add safety by providing a confirmation panel asking the user to confirm that an action is to be performed.
  - Set the WUI to issue warnings before it opens a view that will generate large numbers of records. This improves performance by reducing unnecessary waits.
- Develop menus that guide the user through a task. For each of the tasks being performed in your enterprise, you know which CICSPlex SM objects are involved in the task, and so you can create a menu for the task that contains those objects. In this way, you can create menus that reflect your business procedures.
- Provide your own customized help information for each view and menu in your national language. For example, you could describe the task to be performed, or provide contact names and telephone numbers that are specific to your location. The help documents may be located on the CICS system that you have selected to act as your Web User Interface server, or each menu and view could be linked to an existing Web-based procedures manual on an external server.
- Protect the view editor, user editor and specific menus, views and help panels from unauthorized access.

National language support

The CICSPlex SM Web User Interface provides globalization support for Japanese, simplified Chinese, and US English.

Example interactive procedure

An example of an interactive procedure may consist of a menu that contains the steps in the procedure to shut down a target region in an active workload.

1. View the active target region for a workload.

   From this view, select a target region and quiesce it.
2. View affinities for the selected workload.

   Check that there are no active affinities that will be affected by shutting down the target region.
3. View active tasks in the region.

   Check active tasks in the target region.
4. View CICS target regions.

   Shut down the target region.

The main components of the CICSPlex SM Web User Interface

This section provides a brief overview of the main components and common features of the CICSPlex Web User Interface.

It includes the following topics:

The CICSPlex SM Web User Interface frames:

The WUI exploits a frame-based interface.

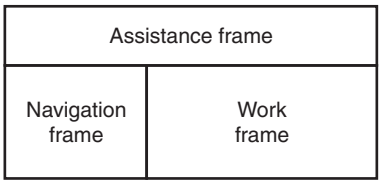


Figure 5. Frame-based display used by the CICSPlex SM Web User Interface

The CICSPlex SM Web User Interface display consists of three frames:

- The Navigation Frame
- The Work Frame
- The Assistance Frame

The CICSPlex Web User Interface frames may contain **icons** and **links** to allow you to navigate around the Web User Interface, access Web User Interface facilities such as Help, and manage Web User Interface sessions.

Web User Interface icons:

The WUI uses icons to initiate actions or convey extra information.

Icons may be:

- Graphic symbols that a user can point to with a device such as a mouse, to select a particular function. Selecting a graphic symbol icon results in an action being performed. For example, selecting the **Go back** icon results in the previous menu or view being displayed. The icons shown in Table 1 are examples of graphic symbols.
- Graphical representations of an object (for example, a file or field) that consists of an image. Selecting this type of icon has no effect but the icon may convey extra information.

The Web User Interface uses the following icons:

Table 1. WUI icons

Icons	Description	Meaning
	Add view to favorites	Add the current view to the list of user favorites.
	Case sensitive field	Mark an entry field that is case sensitive.
	Collapse	• Collapse a group on the navigation frame • Collapse the filter area
	Collapse all	Close all of the collapsible elements on a map view
	Deselect all records	Deselect all records on a tabular view
	Dynamic selection list	Mark a field capable of generating a dynamic selection list

Table 1. WUI icons (continued)

Icons	Description	Meaning
	Expand	• Expand a group on the navigation frame • Expand the filter area
	Expand all	Open all of the expandable elements on a map view
	Go back	Return to the previous menu or view. There is a Go back icon on both the work frame and the assistance frame.
	Go back to last menu	Return to the last menu that was displayed in this window
	Go back to start	Return to the first page you saw in this window
	General help	Open the Web User Interface help contents page
	Help for this display	Open specific help for the current view or menu
	Map left	Display a map of related up-level resources
	Map right	Display a map of related down-level resources
	Print preview	Display a printable version of the view in a new window
	Required parameter or attribute	Mark a field that must be completed
	Select all records	Select all records on a tabular view
	Sort ascending	Sort the data in the column in ascending order
	Sort descending	Sort the data in the column in descending order
	Summarize	Summarize the data in the view based on the selected column

The navigation frame:

The navigation frame appears on the left of the display and contains items that allow you to display a menu or view or to perform an action

The navigation frame appears on the left of the display and contains items that allow you to display a menu or view or to perform an action. The items that are displayed depend on your configuration and authority. For example, if you do not

have authority to customize the display, you will not have a link to the View Editor. For information about the View Editor, see "The view editor" on page 30.

The types of links in the navigation frame are:

Menus and views
Links that when selected can set the contents of the work frame to another menu or view.

External links
Links to external URLs that launch a new Web browser instance.

Standard links
These appear automatically and cannot be customized.

Open links

Home
Opens your home menu using the current context and scope. You may return to the current display using the Go back icon.

Repeat Last Menu
Open the last menu that was displayed using the current context and scope. You may return to the current display using the Go back icon.

Special links

Favorites editor link
Open a new window containing the Web User Interface customization tool, the favorites editor. This is available only to users who have created one or more favorites.

View editor link
Open a new window containing the Web User Interface customization tool, the view editor. This is available only to users with the appropriate authority.

User editor link
Open a new window containing the Web User Interface customization tool, the user editor. This is available only to users with the appropriate authority.

New window link
Open a new Web browser window containing an independent Web User Interface display of the current view or menu using the current selection criteria.

Close window link
Close a Web browser window.

Sign off link
Sign off your Web User Interface session.

Some items in the navigation frame may be in groups, that can be expanded or collapsed independently of other groups, using the expand and collapse icons shown in Table 1 on page 15.

The work frame:

The work frame is the area in which data is presented to the user for interaction.

The work frame can display:

- A title for the information being displayed.
- A link to your customizable view and menu help for the display.
- A message area, containing one or more messages and links to the explanation of the message or messages being displayed.
- A selection criteria and refresh area that allows you to set the context, scope and filters and refresh the menu or view currently being displayed.
- The results of your work requests, in one of the following formats:
  - Menu, that is, a list of related topics from which you can select one or more links.
  - Tabular view, showing formatted information about multiple records for a resource type.
  - Detail view, showing information about a single resource instance.
  - Confirmation panel, allowing the option of committing or cancelling an action, or providing additional input.
  - A signon panel, that is, an interactive panel asking you for your signon information.
  - A simple message display that contains a title and an information message, with no additional data.

The assistance frame:

The assistance frame contains the product name, an icon linking to the Web User Interface Help, the IBM logo, and the Go back to start, Go back to last menu, and Go back icons.

Views:

A **view** is a display format that is used to interact in a particular way with the specified managed object. A view exists within a view set. Views can display information about CICS resources or CICSPlex SM definitions.

The different types of views are:

Tabular
: displaying data from multiple records

Detail
: displaying data from one record

Map
: displaying the relationship between a group of associated resource definitions.

See "How to map CICSPlex SM definitions" on page 56 for more information about maps.

Views consist of a number of possible components:

- Title
- Message area
- Selection criteria and refresh area
- Form
- Links
- Annotation
- Action and confirmation buttons
- Help link

- Resource name and view name.

A **view set** is a number of related views that are used together to manage one object. View sets normally consist of a single tabular view linked to one or more detail views with associated confirmation panels.

A **map** is a special type of view that displays the relationship between a group of associated resource definitions. See "How to map CICSPlex SM definitions" on page 56 for more information.

Title:

The view title is displayed at the top of the page and is the descriptive name of the view.

This title is similar but not always identical to the link on the associated menu. The title area includes the link to the customizable help for this display, print preview icon, and a resource icon.

This area is always present.

If your web browser supports JavaScript, subject to the capabilities of the web browser and operating system, the title might also be shown in the web browser window title as follows:

***<view title>* - *<userid>* - *<applid>* - CICSPlex SM WUI**

where:

- *<applid>* is the CICS application identifier of the WUI server.
- *<userid>* is the signed on user identifier.
- *<view title>* is the title displayed at the top of the work frame.

If JavaScript is not active, *<view title>* is not displayed in the window title.

View name and resource name:

This information is displayed at the bottom of a view below the work frame. It is always present.

The resource name is the name of the resource object associated with the view. Each resource object is represented by a resource table.

All WUI views supplied with CICSPlex SM by IBM are named EYUSTART`object`.`viewtype` where `object` is the name of the associated resource object and `viewtype` describes the type of view. For example, the view named EYUSTARTTASK.TABULAR is a tabular view listing active tasks. It is derived from a resource table named TASK. EYUSTARTCSYSDEF.CREATE is a definitional view used to create a new CICS system definition. It is derived from a resource table called CSYSDEF.

Throughout this document views are referred to by menu names rather than file or resource names.

Message area:

This area displays WUI messages. You can click the message number to view an explanation of the message being displayed.

The message area appears automatically when required.

Selection criteria and refresh area:

This area allows you to set the context and scope and refresh the view currently displayed.

You can refresh views in two ways:

- Refresh on demand
- Automatic refresh

For information about setting the selection criteria, see "Selection criteria in the WUI" on page 44.

This area appears automatically, as applicable, but the contents may be customized using the View Editor. For information about the View Editor, see Customizing the WUI interface.

Refresh on demand:

You can refresh the view displayed at any time by selecting the **Refresh** button in the selection criteria and refresh area, when available.

Automatic Refresh:

The automatic refresh function is available only if you are using a Javascript-enabled web browser. The automatic refresh function allows you to control how frequently the data in a view is updated.

For information about automatic refresh, see "Refreshing views" on page 48.

Form:

This is the information that is displayed in the work frame. A form is always present if there is data.

The contents of the form depends on the type of view being displayed:

Tabular
: A display that shows selected attributes from multiple instances of the resource type, or summarized records. The view may consist of a number of pages. You can jump to any of the available pages by entering the required page number or use **Next** and **Previous** buttons to step through the available pages one at a time.

  Each attribute in a tabular view is displayed in a separate column. The

  (select all) and

(deselect all) icons at the top of the **Record** column allow you to select one or more records for an action. You can use these icons to select or deselect all of the records that matched your selection criteria. You can also combine the select all icon and the check boxes in the **Record** column to select all, then deselect a few.

On a summarized display, which is a special form of the tabular view, the number in the Record count column indicates the number of records combined into the single line of summary information. The total number of records and the number of display pages in the summary is indicated above and below the summary table. You can perform actions on all the items in a summary line by selecting the check box in the left-hand column.

The up and down arrow icons (see Table 1 on page 15) in a column title box indicate that the contents of the columns can be sorted in either ascending or descending order. For information about sorting a tabular view, see "Sorting a view" on page 46.

The summarize icon (see Table 1 on page 15) in a column title box indicates that the column can be used to summarize the data in the view.

The fields to be used for sorting and summarizing a tabular view are defined when the view is created using the Web User Interface View Editor. See "Summarizing a view" on page 47 for details.

Some attribute values may appear as links to other views. Selecting a link displays related information.

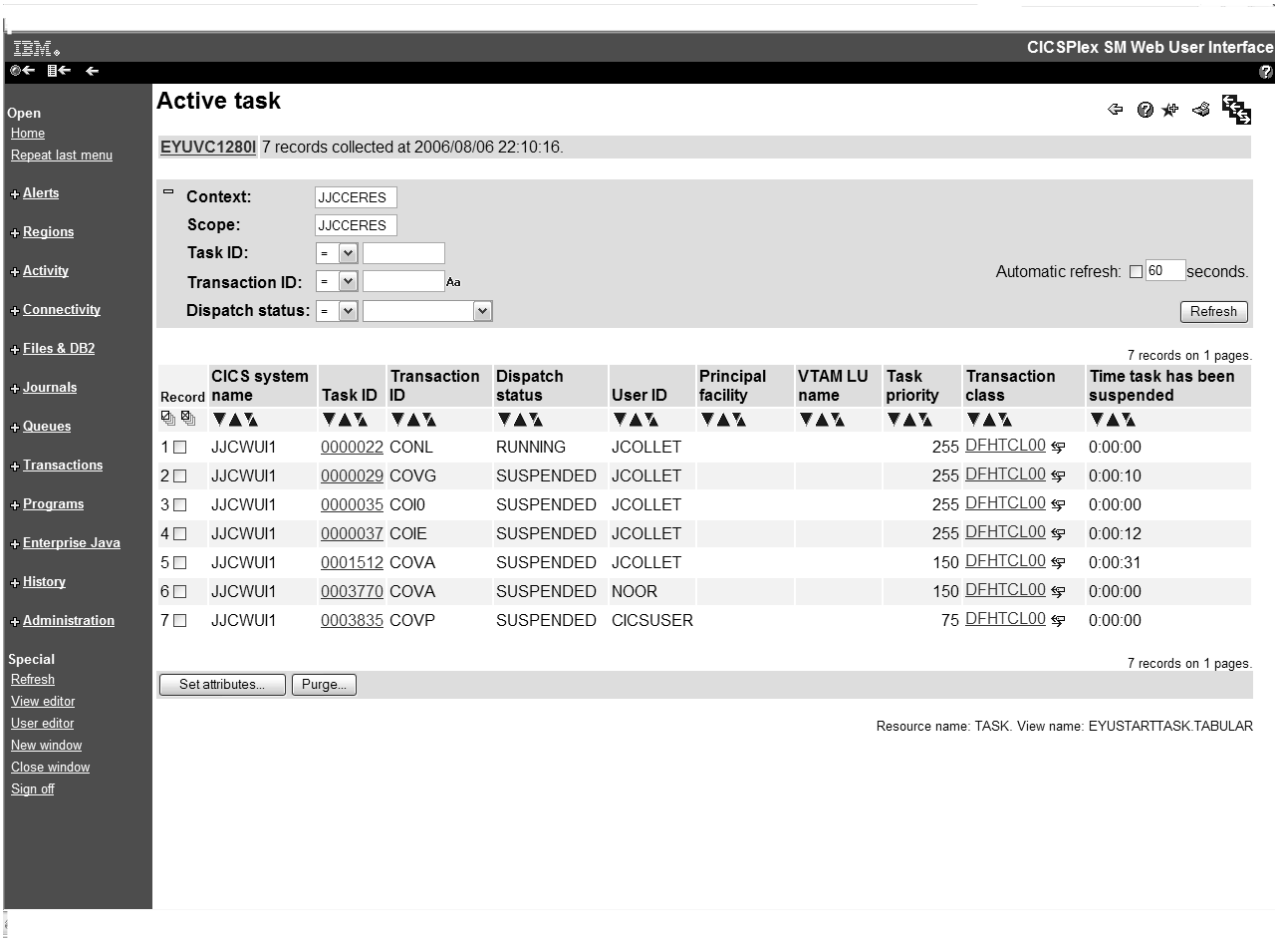


Figure 6. A tabular view

Detail A display showing a selection of detailed attribute information for a particular instance of a resource in one or two-column form. Attributes may be displayed in input fields so that the fields can be altered. In a detail display the information consists of attribute label, attribute value, and optional annotation.

Attribute labels can be links to other views.

Attribute values can be modifiable to allow you to enter your own values.

See Figure 7 on page 23 for an example of a single-column detail view.

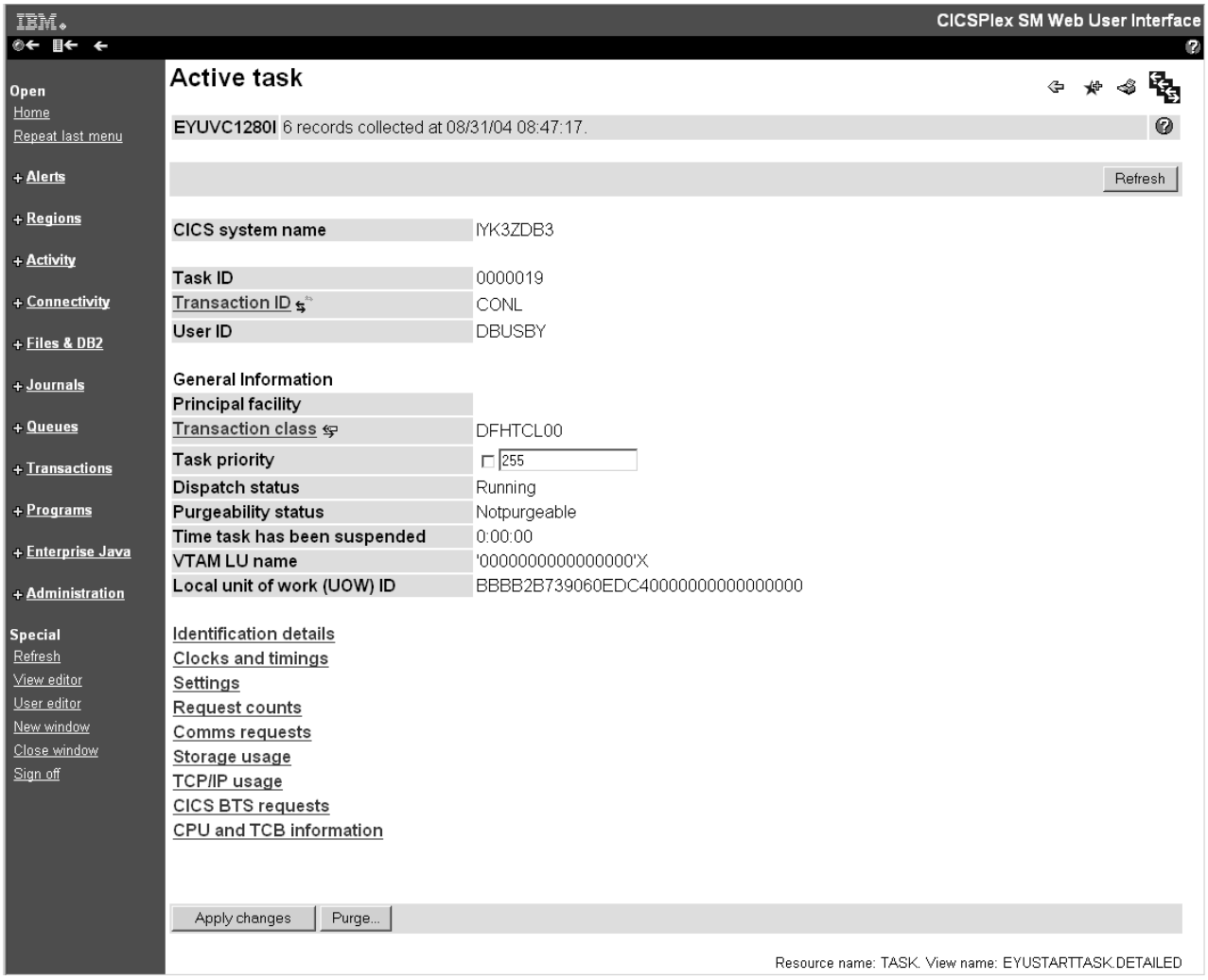


Figure 7. A detail view

Confirmation Panel

This display is similar to a detail display and asks you to confirm that you want the action you requested to be applied to the selected resources.

The confirmation panel may contain the following buttons:

Table 2. Confirmation panel buttons

Button	Meaning
Yes to **n** remaining	Perform the action for this and all the remaining resources in the selection list; where **n** is the number of records remaining.
Yes	Perform the action for this resource only and display the details of the next resource in the selection list
No to **n** remaining	Cancel the operation for this and for all remaining resources in the selection list; where **n** is the number of records remaining.
No	Do not perform the action for this resource and display the details of the next resource in the selection list

A confirmation panel may include parameters for some actions. It may be possible to select check boxes or radio buttons, or type a value into an input field to specify parameters for an action. Required parameters are

marked with the icon . Figure 8 shows an example of a confirmation panel.

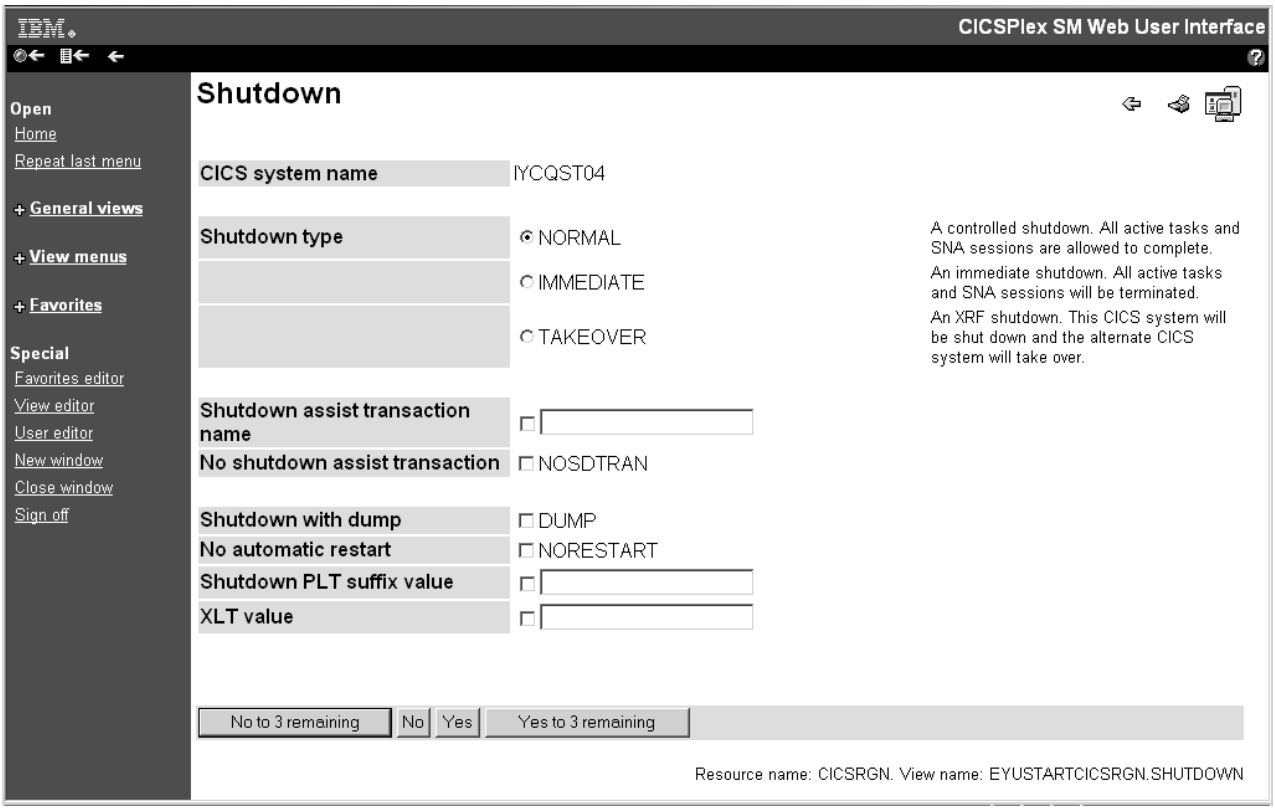


Figure 8. A confirmation panel

Attributes:

The various types of forms may contain *attributes* that appear mainly as a simple textual representation of the information contained in an instance of a CICSPlex SM resource. Attributes may also appear as graphical presentations, for example, as warning lights or bar gauges.

All the attributes on tabular displays are display only, but detail forms can contain interactive controls that allow you to enter your own values.

For example, you may want to change the priority of a local transaction. You could select the transaction name from your view of local transactions. This may take you to the detail view of the transaction. You can now enter the priority in the Priority entry field if available, select the check box next to the entry field, then select the **Set** button or the button that you use to apply your changes, to change the value.

For more information see “Modifying attributes and entering parameters” on page 50.

Parameters:

Parameters appear only on confirmation panels and may be specified for an action.

For example, on a CICS region shutdown confirmation panel, see Figure 8 on page 24, you may have the opportunity to specify the normal, immediate or takeover parameters for the shutdown action. For more information see “Modifying attributes and entering parameters” on page 50.

Selection lists and entry fields:

Attribute and parameter values are entered on views using selection lists and entry fields.

Selection lists

Selection lists contain a complete list of values available to the user for a given attribute or parameter, on a view. A selection list enables you to select the appropriate attribute or parameter value from a list.

Dynamic selection lists

Certain attributes and parameters in entry fields in task guides, tabular and detail views are capable of generating dynamic selection lists. Fields capable of generating a selection list, are marked with the icon



to the right of the text input box. For resource input fields clicking the icon opens a screen like this:

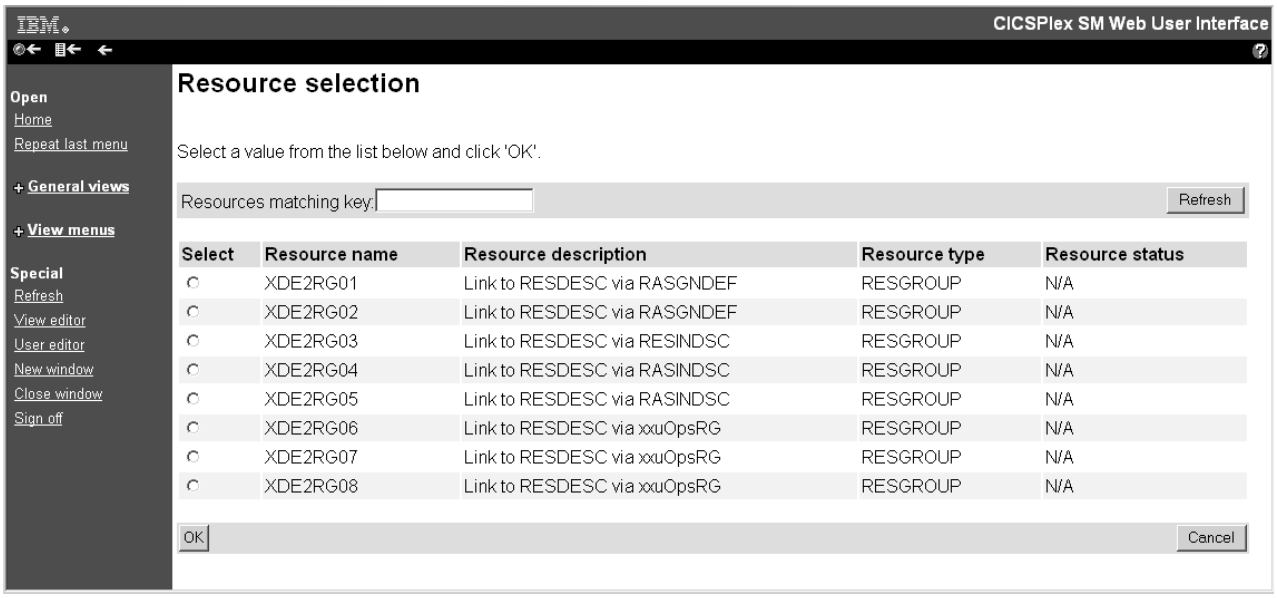


Figure 9. Resource selection list screen

The valid values are displayed on the screen in tabular form sorted by resource type. To make a selection from the list you just select a radio button and click OK.

Selection list screens include an entry field containing the value currently being used to filter the list. To use a new filter, type a new value in the entry field and click **Refresh**.

Filters and context and scope fields are not able to generate dynamic selection lists.

Attribute selection list screens show all, or a filtered subset, of the attributes for a base table sorted by attribute name. They are used mainly for evaluation definition creation.

You can reduce the number of values displayed in a selection list by specifying filter values. These filters differ from filters as they normally occur in the WUI as they use only the = (equals) operator. You can type a generic value as the value for the attribute using the wildcard symbols * (asterisk) and + (plus sign) in the usual way, for example `DW*`. On a selection list screen you can then alter the values displayed in the list by modifying the filter value that appears in the box at the top of the screen.

Note: If you type in a value that does not contain generic characters, this value is still used as the filter regardless of whether any values will be displayed in the selection list.

Entry fields
Entry fields allow the user to type in an attribute or parameter value.

Fields that are case sensitive are marked with the icon .

Links:

Links allow you to connect a field in one view with related information in another view.

Links can originate from the following locations:
- Attribute values on tabular form displays
- Attribute labels on detail form displays
- Static text on detail form displays

There are two types of links:
- Links to alternative details for a specific resource within the same view set. The data displayed is not updated.
- Links to related resources, for example, from task to transaction, in another view set. These result in new data being collected. This type of link is marked with an icon representing the target resource.

Link fields are highlighted in the normal manner for your Web browser.

Annotation:

At various places on a display, extra information can be shown in the form of a fixed annotation. Annotations may be used to show any brief notes you require.

View and menu annotations
These are applicable on any view or menu and appear below the data display for views or above the items of a menu.

For example, in the menu shown in Figure 10 on page 28 the menu annotation is, 'Welcome to your Home menu. Please select a task from the following list. Use the 'Help' link for further information.'.

Attribute annotation
On detail views and confirm panels there may be a brief note about each individual attribute or parameter. The attribute annotation appears to the right of the attribute concerned.

Menu choice annotation
A menu choice annotation appears below the menu choice.

For example, in the menu shown in Figure 10 on page 28 the sentence 'Display list of active CICS regions.' under menu choice 'CICS regions', is the menu choice annotation.

Buttons:

Buttons are displayed on views at the bottom of the work area.

These include:

- Action buttons that initiate actions on resources, such as **Disable**, or **Purge**.
- Buttons that generate special types of view such as **Map**. These are displayed on both detail and tabular forms.
- Buttons that confirm or cancel the completion of a task (for example, **No to n remaining**, **No**, **Yes**, and **Yes to n remaining**). These are displayed on confirmation panels.

Buttons can:

- Issue an appropriate command and display the same or a different view without any interim panel. This is in the case of a direct action which requires no confirmation, or a map command, which generates a resource map.
- Display a panel to confirm the action, with perhaps fields for further input. These action buttons automatically have an ellipsis (...) appended to the end of their label.

For detail views, the action is performed on the resource displayed on the view. However, for tabular views, you can mark multiple records for an action, by selecting the check boxes displayed in the first column. If you prefer to perform the action on all the records, you can use the **Select all** icon. You can also use the **Deselect all** icon to clear your selection. The number of records selected on tabular and summary views is displayed above the tabular information as ' **n** records on **n** pages'.

If you mark more than one record for an action, the behavior depends on the type of action as follows:

Direct action requiring no confirmation
The action is carried out for all marked records. When the operation is complete, the view is redisplayed with all the check marks reset.

Actions requiring confirmation panel
The confirmation panel is displayed for the first marked record, containing at least one of the **Yes**, **No**, **Yes to n remaining**, and **No to n remaining** buttons. If the **Yes** or **No** buttons are selected the action is performed or not, as appropriate, and the confirmation panel is displayed for the next marked record, and so on. If the **Yes to n remaining** action is selected the action is carried out for all remaining marked records.

When the operation is complete, all check marks are reset.

Menus:

A menu is a list of related topics from which you can select an item.

Items can be optionally organized into groups. For an example of a menu see Figure 10, which shows the Web User Interface main menu. This is the default menu displayed after successfully logging on to the Web User Interface. You can get back to it by selecting **Home** on the navigation frame.

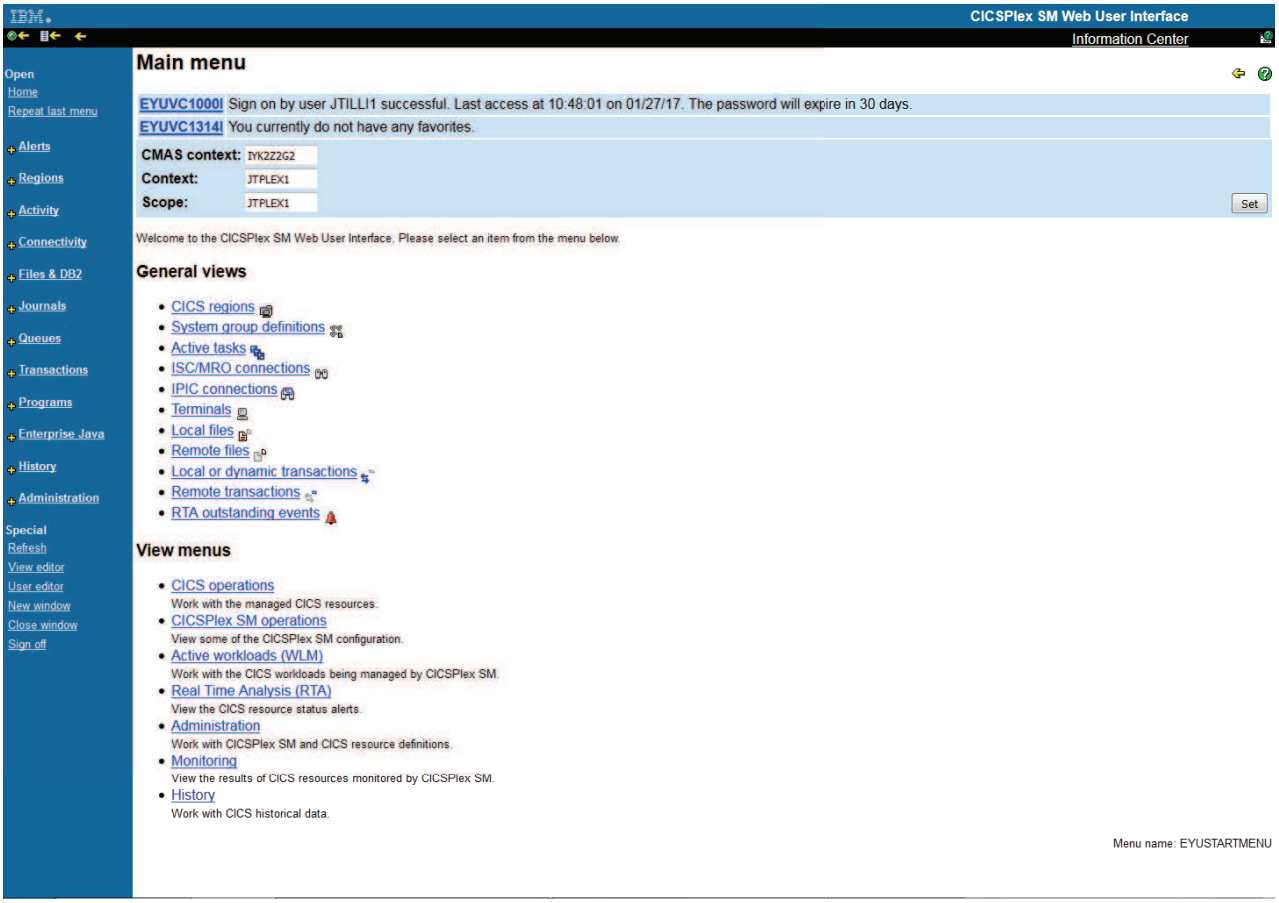


Figure 10. The Web User Interface main menu

Message area:

This area displays messages and contains a link to the explanation of the message being displayed.

This area appears automatically as required.

Selection criteria area:

This area allows you to set the context and scope to be used when you navigate from the current menu.

This area appears automatically, as applicable, but the contents may be customized.

Menu choices:

Menu choices link to views, menus or, in some cases, external web pages

The different types of choices are:

- **Menu links**

These are links to other menus.

- **View links**

  These are links to views of data, possibly setting specific selection criteria.
- **External links**

  These are links to pages served by an external web server (the contents of which are displayed in a separate web browser window).

In addition to the type and destination of a link, there may also be selection criteria defined. For example, you could:

- Build a menu of CICSplexes (each item going to the same menu but with a different hard-coded context).
- Build a menu of applications (again, each item going to the same menu but with different logical scopes).
- Build a link to an active target region view for a specific workload.

User favorites:

User favorites give all WUI users the ability to save tabular and detail views on an ad-hoc basis to an easily-accessible and editable menu of favorites.

This allows you to reach frequently used views with just one click. Administrators have the additional authority to update the favorites of other users.

Hyperlinks to user favorites are displayed under the heading **Favorites** in the navigation frame of WUI views and menus.

There are two ways of managing user favorites:

- You can create update and delete your own list of user favorites using the favorites editor. See Managing favorites with the favorites editor for guidance.
- If you are a system administrator with the necessary authority, you can manage the favorites of other users using the user editor. See Creating and managing favorites for other WUI users for guidance.

Context, CMAS context and scope:

You can set the context, CMAS context and scope to be used when you navigate from the current menu in the selection criteria area of a menu and the selection criteria and refresh area of a view. Either the context or the CMAS context is used for all operations.

Context, CMAS context and scope are:

- **Context**

  This is the CICSplex name and is used for almost all views.
- **CMAS context**

  This is the CMAS name. This is used only when you are viewing CMAS level configuration data such as CMAS status and the CICSplexes connected to a CMAS.
- **Scope**

  This is a CICSplex, CICS group MAS or logical scope name. The scope is a subset of the context, and limits the effects of CICSPlex SM commands to particular CICS systems or resources. If the CMAS context is being used, the scope is ignored. The scope is only used for certain resource types.

The view editor:

The CICSPlex SM Web User Interface view editor allows you to create customized views, menus and maps. You can create your own version using a supplied view or menu as a model, or you can start from scratch. For example, you might want to create views that apply to a specific task or set of data.

If your Web User Interface server is running with security active, the view editor can be restricted to nominated users. You only see the link to the view editor in the navigation frame if you have the relevant authority.

Each view that you create has to be based on a single CICSPlex SM managed object. You can choose which attributes you want to display, and the format in which they are to be displayed.

The CICSPlex SM Web User Interface includes a set of views that you can use either as supplied or as the basis from which to create your own customized views.

For more information about the view editor, see Customizing the Web User Interface.

The user editor:

The user editor enables administrators to create user group profiles for WUI users.

What individual users see and do when they log on to the WUI can be controlled by the user group profile to which they belong enabling the WUI to be tailored to the needs of various groups of users. You can, for example, use the view editor to create a new WUI menu containing only operations views and make this the default menu for a group of users. This would provide a simplified operational WUI for users who only need to carry out this kind of task.

A user group profile can contain the following information:

- Result set warning count
- Name of the default main menu
- Name of the default navigation menu
- Default context
- Default scope
- Default CMAS context
- Default map objects
- Force filter confirmation flag
- Map collapse count

If a profile does not have some of these values specified; for example if the default menu value is blank, the corresponding WUI server initialization parameter value is used. This is also the case for any invalid values set in the profile, for example if the specified default menu does not exist.

WUI system overview

The Web User Interface is accessed using standard web browser software that contacts a WUI server, which is a dedicated CICS region.

You can have more than one WUI server active; for example, you may have a requirement for different languages to be used or different systems available to different servers. The web browser client contacts the Web server by an HTTP request via the CICS Web Interface.

The WUI server runs as a CICSPlex SM local MAS and communicates with the managed resources via the CMAS to which it is connected.

All the menu and view definitions are stored on a server repository. There is one repository for each WUI server. The menu and view definitions can be exported for backup purposes, for distributing definitions to other servers, and for transferring menus and views when upgrading to a new product release.

Controlling the Web User Interface

You need to consider administration, security and customization when deciding on how to control the WUI.

Administration

The WUI provides the administration transaction COVC.

COVC that allows you to:

- Start and shut down the Web User Interface server
- View the server status
- View current user activity and terminate active user sessions
- Import and export repository definitions
- Set trace flags

Security

The Web User Interface uses your existing RACF® (or other external security manager) security profiles for CICSPlex SM.

Access is controlled by user ID and password at sign on time.

You can set up additional security to control access to specific Web User Interface menus, views and help panels, and to the View Editor.

You can also use the Secure Sockets Layer (SSL) support to provide encryption on the connection.

See CICSPlex SM Web User Interface security access overview for guidance on setting up these security features.

Creating your customized Web User Interface

The WUI is designed to be customized to match your business needs.

The creation of your customized interface covers:

- Analysis of your business tasks and the relationships between the tasks.
- Creating user group profiles for groups of users with particular requirements such as operators or system programmers.
- Tailoring the menus and views, and adding any additional documentation.

As the Web User Interface is designed to accompany your existing procedures, the main task in the creation of your interface is the tailoring of the menus and views

for particular user groups, then adding any additional documentation you require. To help in this task, you can use the set of supplied views and menus as a starting point.

Using the CICSPlex SM Web User Interface

This section describes how to use the CICSPlex SM Web User Interface.

It includes the following topics:

Accessing the CICSPlex SM Web User Interface

In order to access the CICSPlex SM Web User Interface, you must supply a valid URL on your Web browser. This is supplied by your system administrator.

All URLs accessing the Web User Interface server begin with one of three formats:

- http://*hostname:port*/
- http://*hostname:port*/CICSPlexSM
- https://*hostname:port* /CICSPlexSM
  if you are using SSL (Secure Sockets Layer)

where *hostname* and *port* represent the IP address of the CICS Web Interface listener or the secure server.

Note that your system administrator may provide you with a URL that is different.

If you entered a valid URL you should now be presented with the **Welcome** panel containing a **Begin Signon** button. At this point, you might want to bookmark the URL to avoid having to type in the URL every time you want to access the Web User Interface server.

Web User Interface help

Help information is accessible from all WUI views and menus. Three levels of help are available.

General WUI help.

To display this help, click the help icon () on the right of the assistance frame on the view or menu. This opens the **Web User Interface Help Contents Page** in a new web browser window. This contains links to introductory information about the interface. It also includes a glossary. The help information can be customized. The contents and organization of the customizable view and menu help is site specific.

The CICS Information Center

To access this information center directly from the WUI, click the **Information Center** link on the assistance frame just to the left of the WUI general help icon. This function is available only if you specify the CICS system initialization parameter INFOCENTER in your WUI startup configuration.

View-specific help

Each WUI view and menu has its own specific page of help information.

To display a help page, click the help icon () located beneath the assistance frame in the work frame, opposite the view or menu title. The help is displayed in a separate web browser window.

For a view, the help page contains a general description of the view itself and specific information on the fields, filters and actions that the view contains in tabular form.

For a menu, the help page contains general information on the menu itself and on each menu filter, group and item.

By default help pages present each item of information in the same order that they are displayed on the view or menu. However if there are more than nine items in a table, it is possible to filter the information so that only those rows that contain a specified string in a specified column are displayed. This function is available only when using Microsoft Internet Explorer, or Mozilla-based web browsers, such as Firefox, at version 5.0 or higher. JavaScript must be enabled.

Help is also available for views and menus you create yourself with the view editor. Each resource table is supplied with a general description for its derived views as well as help text for each attribute and action. You can replace the supplied general descriptions with text you have rewritten yourself, which is then displayed in preference to the supplied help. The supplied help text for individual fields, filters and other items on a help page is not editable. Supplied help is available for all resource table attributes, whether or not a particular attribute is present in a supplied view.

Help with WUI messages

The Web User Interface Message Help explains messages issued by the Web User Interface.

You can obtain help with messages in two ways:

- When a message appears on a Web User Interface view, click the message number to see the explanation of the displayed message in the Web User Interface Message Help
- Access the contents page of the Web User Interface Message Help and select the group of messages that you are interested in by selecting the appropriate link. You can access the Web User Interface Message Help Contents Page by selecting the Message link in the Web User Interface Help or by selecting the Messages Contents Page link at the bottom of a Web User Interface messages group.

Signing on with the WUI

In the WUI Welcome panel, select **Begin Signon** to open the WUI Signon panel.

If your Web browser supports multiple windows, the Signon panel is displayed in a new window. Enter the following information:

- **User:**

  Type in your user ID.

- **Password**:

  If security is enabled, type in your password or password phrase. Your password is not displayed. This field is displayed only if your Web User Interface is secured by an external security manager (ESM). If the ESM supports mixed case passwords, and this support is active, an icon is displayed next to the password field indicating that you can enter a password in mixed case. If the password you enter is between 1 and 8 characters, it is treated as a standard password. If the length is between 9 and 100 characters, it is treated as a password phrase.

- **New Password**:

If you want to change your password, type in your new password or password phrase. Your new password or password phrase is not displayed. This field is displayed only if your Web User Interface is secured by an ESM. You cannot use a 1- to 8-character password to change a password phrase. Similarly, you cannot use a 9- to 100-character password phrase to change a 1- to 8-character password.

If you use multiple user interfaces for entering password phrases, you must ensure that you use only those characters supported by all interfaces. If you use RACF, you can use the RACF installation exit for password phrases to limit the character set.

Note: The minimum length of a password phrase can be controlled by the RACF password phrase exit ICHPWX11. When ICHPWX11 is present and allows it, the password phrase can be between 9 and 100 characters. When ICHPWX11 is not present, the password phrase must be between 14 and 100 characters.

- **Verify New Password:**

  Type in your new password or password phrase again when changing your password. Note your password is not displayed. This field is displayed only if your Web User Interface is secured by an ESM.
- **Group:**

  Type in the name of a group as defined in the ESM that is used as the name of the Web User Interface user group profile. The user ID must be connected to the group in the ESM, otherwise the value is ignored.

  This field is displayed only if your Web User Interface is secured by an ESM and the Web User Interface system parameter SIGNONPANEL(ENHANCED), the default value, is specified.

  If JavaScript is active, this field might be pre-filled with the previously used value.
- **Reconnect**:

  Select the check box if you already have an active session running on this server but want to terminate the existing session and sign on again.
- **Signon** button

  Select this button when you have filled in the appropriate fields to sign on.
- **Clear** button

  Select this button to clear all the fields on the Signon panel.

If you select the **Signon** button and you do not have an active session running on this server, your requested display (normally your home menu) is displayed.

If you are already signed on to this server but have not selected the **Reconnect** box, the sign-on process fails with a message warning you that you are already signed on. The **Signon** panel is redisplayed for you to try again.

If you have an active session running on this server and have selected the **Reconnect** check box, the active session is stopped and a new session is created. Your requested display (normally your home menu) is displayed.

If your Web User Interface is not secured by an external security manager, the **Password**, **New Password**, and **Verify New Password** fields are not displayed on the Signon panel.

Changing your Password:

You can change your password or password phrase when you sign on to the Web User Interface. You can change your password only if your Web User Interface is secured using an external security manager (ESM), such as RACF.

About this task

When you change your password or password phrase using the Web User Interface, it is changed for all your other host interfaces such as TSO, CICS, and CMCI, that share the same external security manager user ID. If you use multiple user interfaces for entering password phrases, ensure that you use only those characters supported by all interfaces.

To change your password or password phrase when you sign on:

Procedure

1. Open the WUI sign-on panel by selecting **Begin Signon** at the WUI Welcome panel.
2. Type in your user ID.
3. Type in your current password or password phrase in the **Password** field. If the password you enter is between 1 and 8 characters, the ESM validates the new password with the standard password associated with your user ID. If the length is between 9 and 100 characters, the ESM validates the new password with the password phrase associated with your user ID.
4. Type in your new password or password phrase in the **New Password** field. If you entered your standard password in the **Password** field, you must enter a standard password between 1 and 8 characters in this field. If you entered your password phrase in the **Password** field, you must enter a new password phrase between 9 and 100 characters in this field.
5. Type in your new password or password phrase again in the **Verify New Password** field.
6. If you already have a session running on this Web User Interface server, select the **Reconnect** check box.
7. Click **Signon**. You are signed on to the Web User Interface server with your new password or password phrase.

The WUI main menu

On successfully signing on you are presented with your home menu and navigation frame that contains all available links.

The main menu displays the selection criteria and refresh area that allows you to set the CMAS context, context and scope, if applicable, and it can contain links to other menus, views, and even external web pages. The Web User Interface main menu is the default menu that is displayed after successfully logging on to the Web User Interface. You can get back to it by selecting **Home** on the navigation frame.

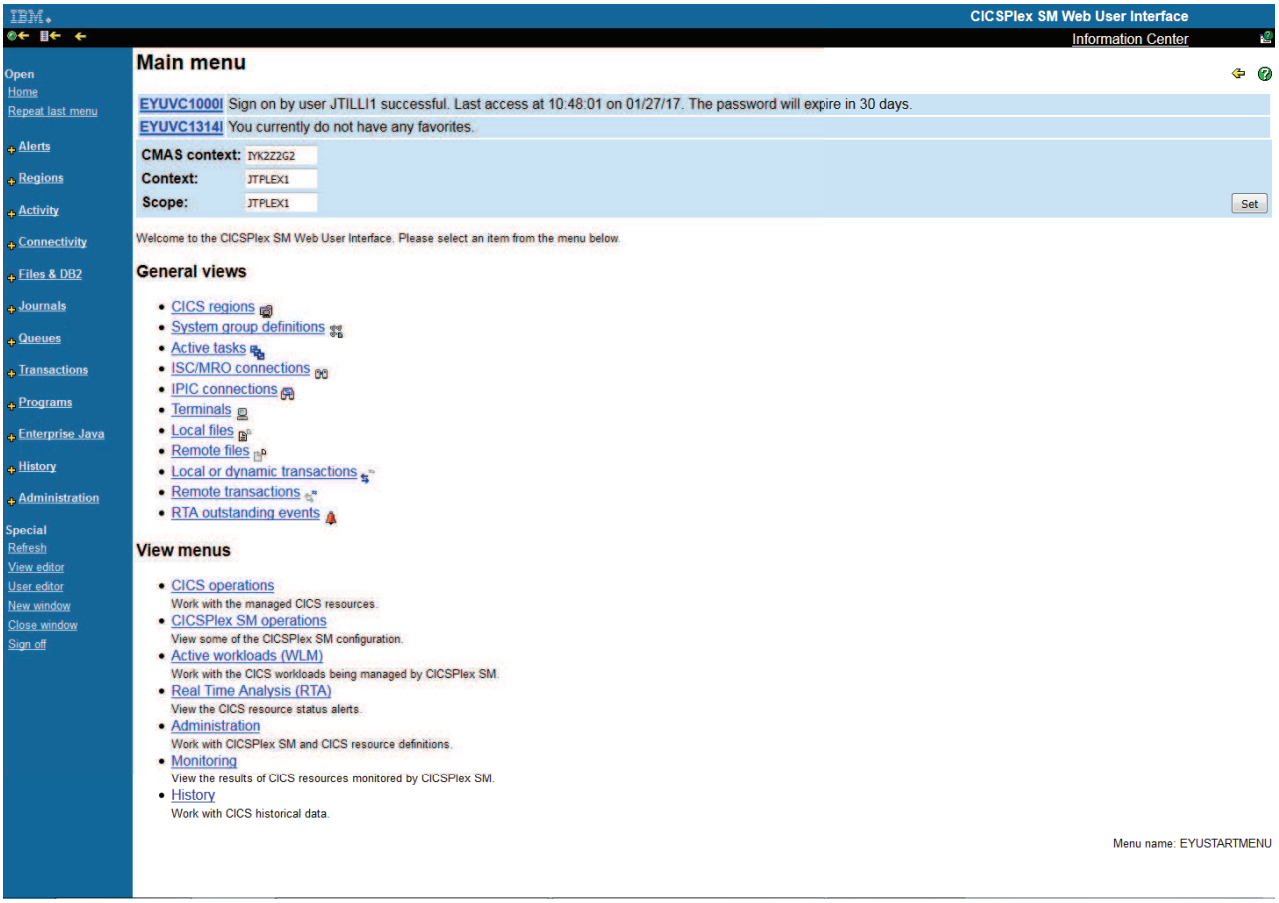


Figure 11. The Web User Interface main menu

For guidance on creating a customized main menu, see Customized WUI menus, views and maps.

Returning to a previous display

Three icons in the assistance allow you to return to previous displays.



Go back to start. Return to the first page you saw in this window.



Go back to last menu. Return to the last menu, if any, that was displayed in this window.



Go back. Return to the previous menu or view.

Open links

Open links appear in the navigation frame.

Home Opens your home menu using the current context and scope. You may return to the current display using the Go back icon.

Repeat Last Menu
Open the last menu that was displayed using the current context and scope. You may return to the current display using the Go back icon.

Expanding and collapsing the items of a navigation frame

Some of the menu choices in the navigation frame may be organized into groups and displayed as a single item with a title (collapsed) in the navigation frame.

The expand icon () is displayed next to the title. If you select the expand icon or the title of a group the menu choices within that group is expanded and the expand icon is replaced with the collapse icon (). An example of this is shown in "Context and Scope" on page 45. Selecting the collapse icon or the title of the group collapses the list of menu choices again.

You organize menu choices into groups using the View Editor. For information about the View Editor see Customizing the Web User Interface.

Opening a new window

You can select the New Window link in the navigation frame to open a new window.

If your web browser allows you to have more than one window open at any one time, a new window is opened showing a new instance of the data in your work frame. The two instances of the data are independent of each other; any operation you perform in one of the windows does not affect the data displayed in the other window, until you refresh the data.

The number of windows that a user can have open at any one time is limited to 63.

If your web browser does not support multiple windows, a new window is opened but the existing window is hidden.

Closing a window

You can close a window in the normal way, for example by selecting the close box on the title bar of the window, if available, or you can use the Close window link in the navigation frame.

You may need to close one or more windows in order to avoid exceeding the limit on the number of windows you are allowed to have open at any one time.

Signing off

Signing off from the WUI is a two-stage process.

You sign off from the Web User Interface by:

1. Selecting the Sign off link in the navigation frame of one of your windows, then
2. Closing all windows in the normal way or exiting the web browser

Using hyperlinks

A hyperlink connects a field in one display with related information in another display. They are displayed in the normal style for your web browser.

A hyperlink performs one of the following functions:

- A link from a menu choice to another menu.
- A link from a menu choice to a view.
- A link to alternative details for a specific resource within the same view set.
- A link to related resources, for example, from task to transaction in another view set.
- A link displaying data from another web server in a new window.

Hyperlink fields can be defined using the View editor. For details about the View Editor, see Customizing the Web User Interface.

Links are displayed and actioned in the normal way for your web browser.

Selecting a WUI view or a menu

You can select a view or a menu by selecting a link in either the navigation frame or the work frame. You may need to select choices from more than one menu before reaching the view or the menu that you are interested in.

For example, if you are interested in looking at the status of CorbaServers, select **CICS operations views** to display the menu illustrated in Figure 12 on page 39.

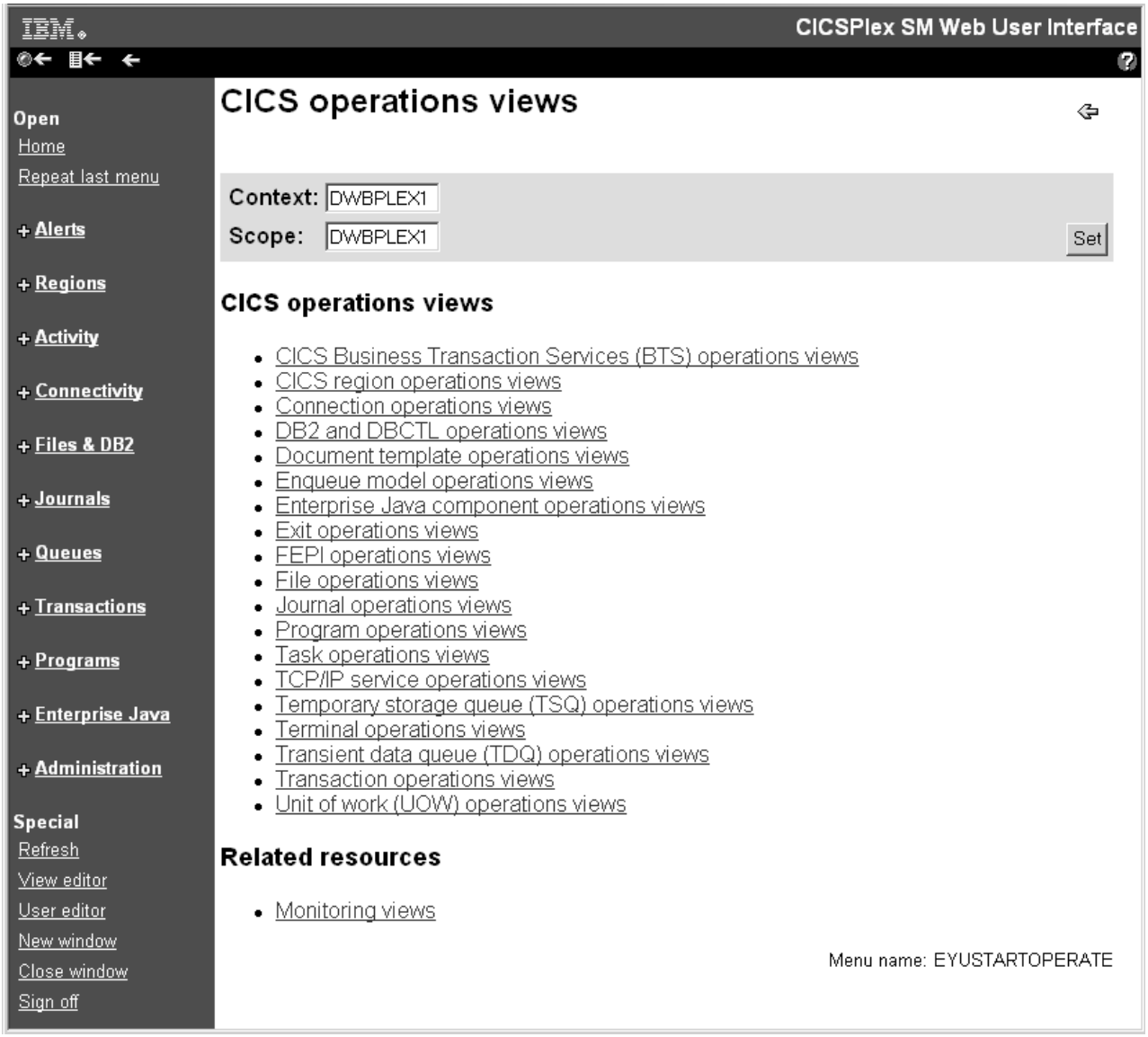


Figure 12. Example operations menu

From here, select **Enterprise Java™ component operations views** to open the menu shown in Figure 13 on page 40.

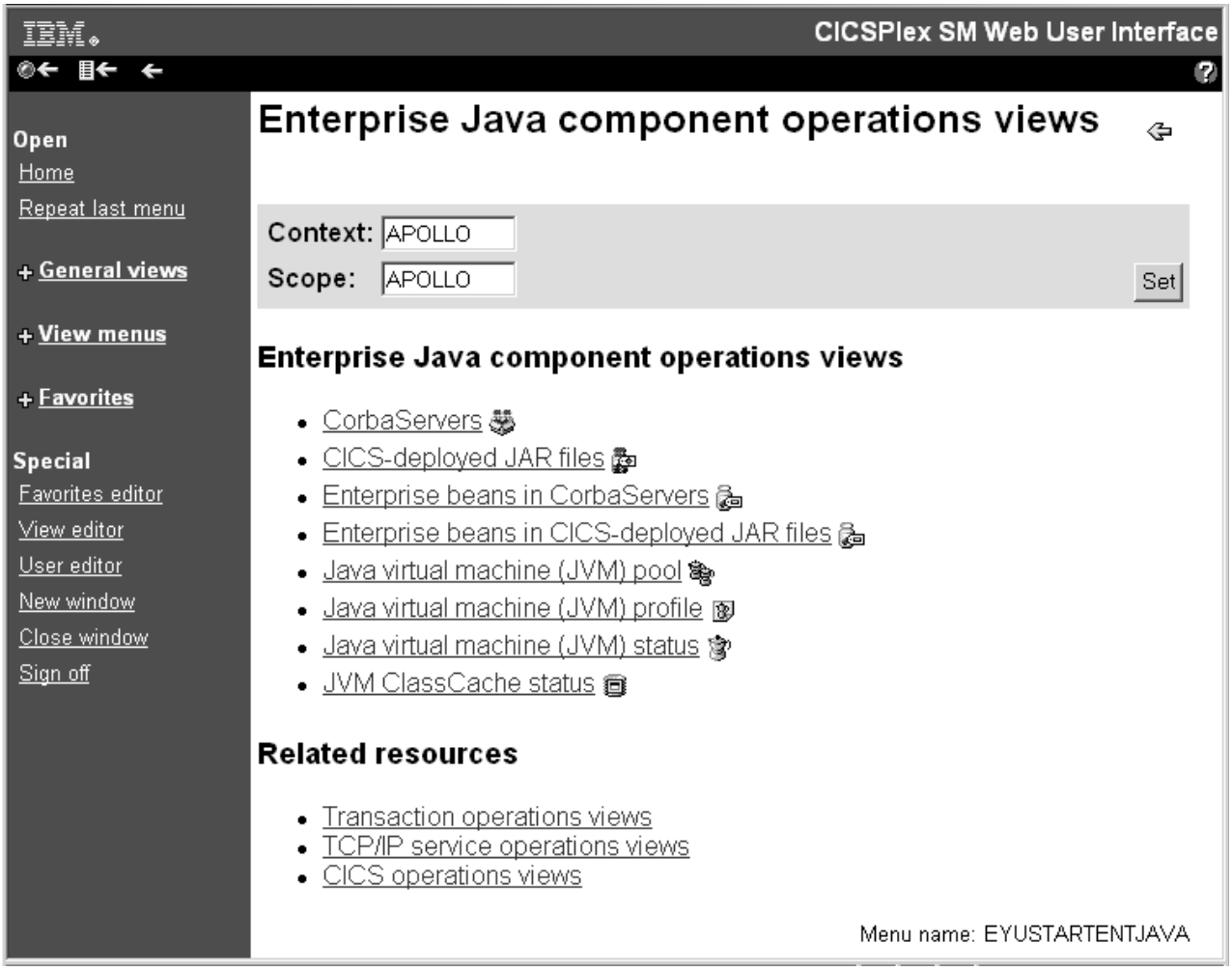


Figure 13. Enterprise Java component operations views menu

Now click the **CorbaServers** link to display the tabular view shown in Figure 14 on page 41.

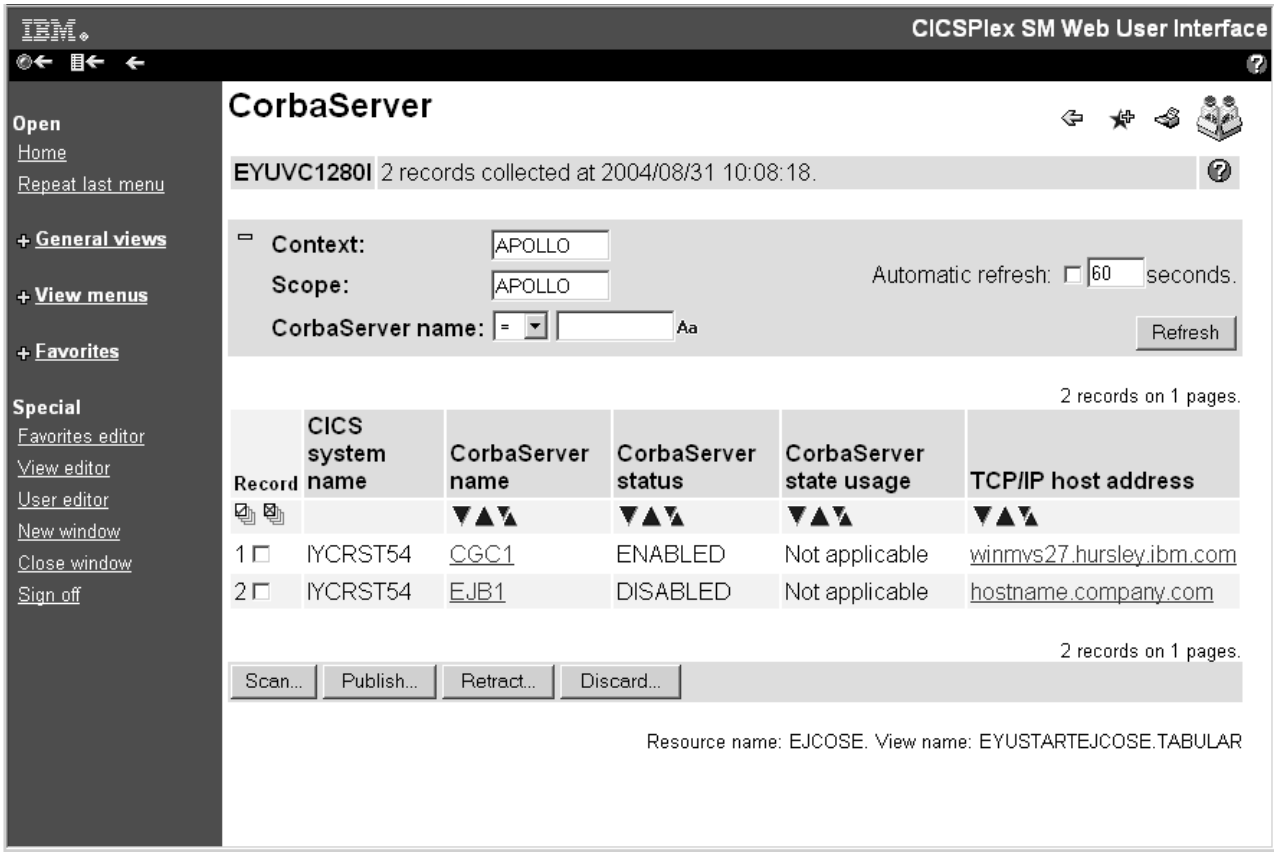


Figure 14. Example CorbaServer tabular view

You can display a detail view by selecting a link in a tabular view. For example, , select one of the links in the **CorbaServer name** column shown in Figure 14 to display the detail view shown in Figure 15 on page 42.



Figure 15. Detail of the CorbaServer EJB1

Entering data in the WUI

When you enter data you can type a value into an entry box, or choose an item from a selection list. For example you could select ENABLED or DISABLED from a selection list of file status values.

When you are modifying attributes or filtering data, you should be aware of the following conventions governing the entry of data into a WUI field.

Character values

A character value is represented directly but you should note the following points:

- Fields marked with the icon  are case sensitive, and therefore the values for these fields are also case sensitive. For example, in a case sensitive field transaction IDs PAY1, Pay1, and pay1 all represent different transactions.
- You may use generic characters in filters. See "Selection criteria in the WUI" on page 44.
- Special characters, that is quotes and non-printable characters, should be handled as follows:
  - If the character string includes a single quote, you should enclose the string in single quotes and repeat the character like this:

    ```
    'Transaction for ''Payroll'' Application'
    ```

  - Character fields containing non-printable characters should be typed in using hexadecimal notation enclosed in single quotes and followed by the character X. For example:

    ```
    'DDFF0400DDFF0400DDFF0400'X
    ```

  - Non-printable characters should be separated from printable segments of a string using a plus sign, '+'. For example:

    ```
    'HI'+'0000'X+'THERE'
    ```

    This does not apply to quotes.
  - If a non-printable segment contains a generic character such as an asterisk or plus sign, the character can be entered directly. For example:

    ```
    '00*'X is equivalent to '005C'X and
    '00+00'X is equivalent to '004E00'X
    ```

- Trailing spaces are removed. If the string starts or ends with a significant space, you should enclose the string in single quotes.

CVDA or EYUDA values

Type in the value. These values are not case sensitive and can be typed in any combination of upper and lower case.

Date

Type in the date using the format and date separator configured for your Web User Interface server. The format and date separator are defined using the DATEFORMAT and DATESEPARATOR Web User Interface server initialization parameters, respectively.

Note:

1. Leading zeroes may be used but are optional.
2. All date elements must be specified that is, day, month, and year.
3. If the 2–digit year format is specified on the DATEFORMAT parameter, the 2–digit input will be assumed to range between 1980 and 2079, inclusive.

Time

Type in the time using the time separator and decimal separator configured for your Web User Interface server. The time and decimal separators are defined using the TIMESEPARATOR and DECIMALSEPARATOR Web User Interface server initialization parameters, respectively.

Note:

1. Leading zeroes may be used but are optional.

2. Missing fields are assumed to be zero. For example, "9" means "9:00:00".

Numbers

Type in the required number in one of the following formats:

- As a decimal integer value. For example, 100000 would be displayed as 100000.
- As a decimal integer value , using the thousand separator configured for the server. If thousand separators are used, they must be exactly three digits apart. For example, 100000 would be displayed as 100,000.

  This format is applicable only for attributes with a length of 4-8 bytes.
- As a decimal value to one or three decimal places, using the decimal separator configured for the server. For example, 100000 would be displayed as 100000.0 to one decimal place and 100000.000 to three decimal places.
- As a decimal value to one or three decimal places, using the decimal separator and thousand separator configured for the server. If thousand separators are used, they must be exactly three digits apart. For example, 100000 would be displayed as 100,000.0 to one decimal place and 100,000.000 to three decimal places.

  This format is applicable only for attributes with a length of 4-8 bytes.
- Using a suffix such that the displayed integer will be the smallest non-zero value and the thousand separator configured for the server. Kilobytes (KB), megabytes (MB), and gigabytes (GB), terabyte (TB), petabytes (PB), and exabytes (EB) are supported. For example, 100000 would be displayed as 98KB.

  This format is applicable only for attributes with a length of 4-8 bytes.
- As a rounded value to one decimal place using the decimal separator configured for the server. Kilobytes (KB), megabytes (MB), gigabytes (GB), terabyte (TB), petabytes (PB), and exabytes (EB) are supported. For example, 100000 would be displayed as 97.7KB.

  This format is applicable only for attributes with a length of 4-8 bytes.
- As a rounded value to three decimal places using the decimal separator configured for the server. Kilobytes (KB), megabytes (MB), gigabytes (GB), terabyte (TB), petabytes (PB), and exabytes (EB) are supported. For example, 100000 would be displayed as 97.656KB.

  This format is applicable only for attributes with a length of 4-8 bytes.

Hexadecimal fields

There are two ways to deal with hexadecimal strings.

- Use the same method as used for non-printable characters in character strings
- If the first character is a single quote the field is displayed as a character string otherwise it is displayed in hexadecimal format.

See Table 5 on page 54 for examples of generic characters and their implications in character and hexadecimal filters.

Selection criteria in the WUI

Selection criteria specify the objects against which a query operates. They are displayed in the selection criteria and refresh area of a WUI view and the selection criteria area of a menu. The selection criteria are used to specify the objects against which a query operates.

These criteria are:

- **Context**

  This is the CICSplex name and is used for almost all views.
- **CMAS context**

  This is the CMAS name. This is used only when you are viewing CMAS level configuration data such as CMAS status and the CICSplexes connected to a CMAS.
- **Scope**

  This is a CICSplex, CICS group, MAS, or logical scope name. The scope is a subset of the context, and limits the effects of CICSPlex SM commands to particular CICS systems or resources. If the CMAS context is being used, the scope is ignored. The scope is only used for certain resource types.
- **Parameter filters**

  Parameter filters are only required for some resources. For each parameter you define a value. For example, you need to enter a workload name in order to access a view for the WLMAWTOR object.
- **Attribute filters**

  Attribute filters are optional for all resources. Attribute filters enable a comparison between a single attribute and a single value (or a pattern, if the attribute is a character string). Relational operators, such as equality or inequality can be used.

  Note: The Web User Interface does not support the use of generic characters such as the plus sign (+) and asterisk (*) in attribute filters in WLM active views. This applies to the following views:

  EYUSTARTWLMATAFF
  EYUSTARTWLMATGRP
  EYUSTARTWLMATRAN
  EYUSTARTWLMAWAOR
  EYUSTARTWLMAWDEF
  EYUSTARTWLMAWTOR

Either the context or CMAS context is used for all operations.

Selection criteria may be specified at a number of levels. As you navigate around the views and menus, the selection criteria are defined at each level and will be propagated down, if appropriate. Additionally, some views and menus allow you to dynamically change the selection criteria for the current display.

Note that changing the selection criteria (either explicitly or implicitly through a link) affects only the current view or menu and any subsequent views or menus. If you go back to a previous view or menu the selection criteria are restored.

Context and Scope

The CMAS context, context, and scope fields allow you to define the limits of the data to be displayed in any particular view.

The Web User Interface selects the appropriate context for the type of data being displayed in each view. You can use the View Editor to choose whether to display the CICSplex name, the CMAS name, or both, on a view.

You use the View Editor (see Customizing the Web User Interface for information about the View Editor) to define whether the context and scope fields are to be display only, modifiable, or hidden. For example you might have:

- Only the CMAS context field on configuration views.

- Both the Context and Scope fields in operations views.
- The CMAS context, Context and Scope fields on a top-level view to allow you to set initial values.

An example of the context and scope fields is shown in Figure 16.

You can change the context and scope on any views that allow it. To change the context and scope:

1. Type in the new context and scope values. You do not have to change both values.
2. Select the Refresh or Set button to enter the new values.

You cannot clear context and scope fields; if present they must always contain a value.

The context and scope settings are inherited by default but may be overridden by the link to a menu or view. The values, once set, are used by all subsequent views or menus until you change them. Changed context and scope settings apply only to the current view and all subsequent views. If you go back to a previous view or menu, the context and scope values are restored.

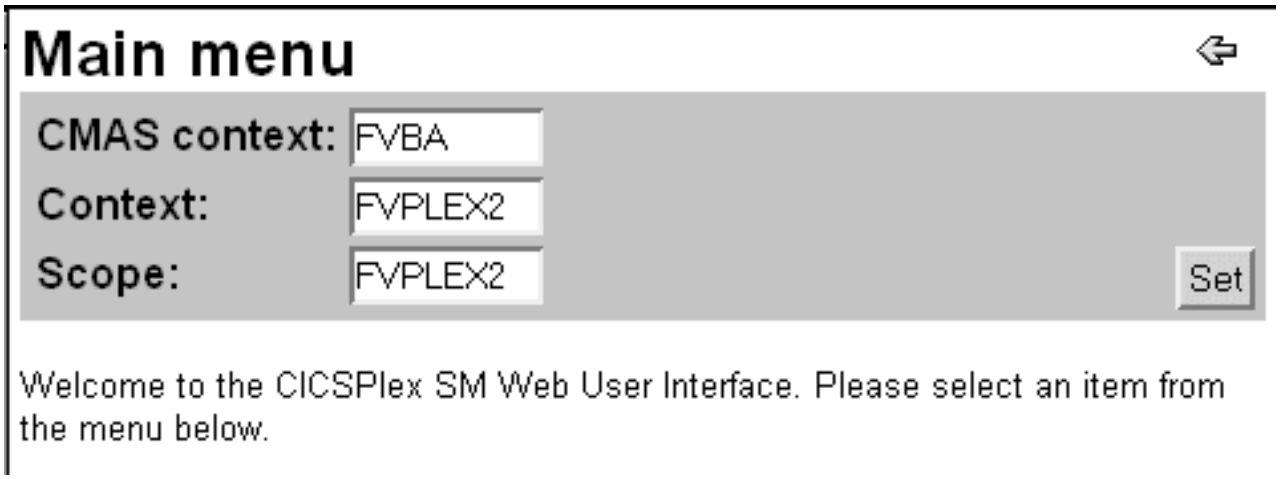


Figure 16. Part of a menu panel showing context and scope fields

Sorting a view

The data in a column of a tabular view can be sorted in either ascending or descending order. For EYUDA and CVDA values, the field is sorted on the numeric value rather than the character value displayed by the Web User Interface. Whether or not the data can be sorted is determined by the creator of the view using the View Editor.

For information about the View Editor, see Customizing the Web User Interface. If the data can be sorted, the column title field contains a sort ascending icon and a sort descending icon.

- To sort the data in ascending order, select the sort ascending icon ( ).
- To sort the data in descending order, select the sort descending icon ( ).

See Figure 14 on page 41 for an example of the sort ascending and descending icons.

Summarizing a view

Sometimes, data requests can result in many lines of information, possibly spreading over a number of display pages. You can summarize the amount of data displayed using any field that has been defined as a summarizing field.

Fields that can be used for summarizing data have a summarize icon () at the top of the column. Select the icon and the information for each item is amalgamated and a summarized view is displayed.

A summarized view is a special form of the tabular view, comprising one line for each discrete value in the result set. The **Record count** column on the summary view indicates the number of records from the preceding tabular view combined to form the line of summarized information. Entries in this column are hyperlinks. Clicking on one of these hyperlinks expands the record in a new tabular view.

The way the information is summarized depends upon choices made by the view designer and the type of data in each column. Supplied views all use the default summary types as follows:

- For character fields, the summarized data provides those characters that are common to all underlying records and displays an asterisk (*) for those that are not common. For example, a character field such as the transaction id field on the summary view for LOCTRAN objects might contain summarized values C*, DS*, ABCD, or ****.
- For CVDA and EYUDA values, the value is displayed, if there is a common value for all the records making up the summarized line. Otherwise, the text string `Summunlike` is displayed. `Summunlike` means that the values in this column vary and therefore cannot be summarized.
- For numeric and hexadecimal fields, the data is handled as specified for the field in the relevant CICSPlex SM resource table.

You can perform actions on all the items in a summary line by selecting the check box next to the record number in the left-hand Record column.

You can use only one field at a time to summarize data. To summarize the same data using another field, select the Go Back icon () to return to the current tabular display then select the summarize icon for the other field.

For example, to summarize transactions by transaction class, open the **Local or dynamic transaction** from the main menu, then click the summarize icon in the **Transaction class name** column to display a summarized view similar to Figure 17 on page 48.

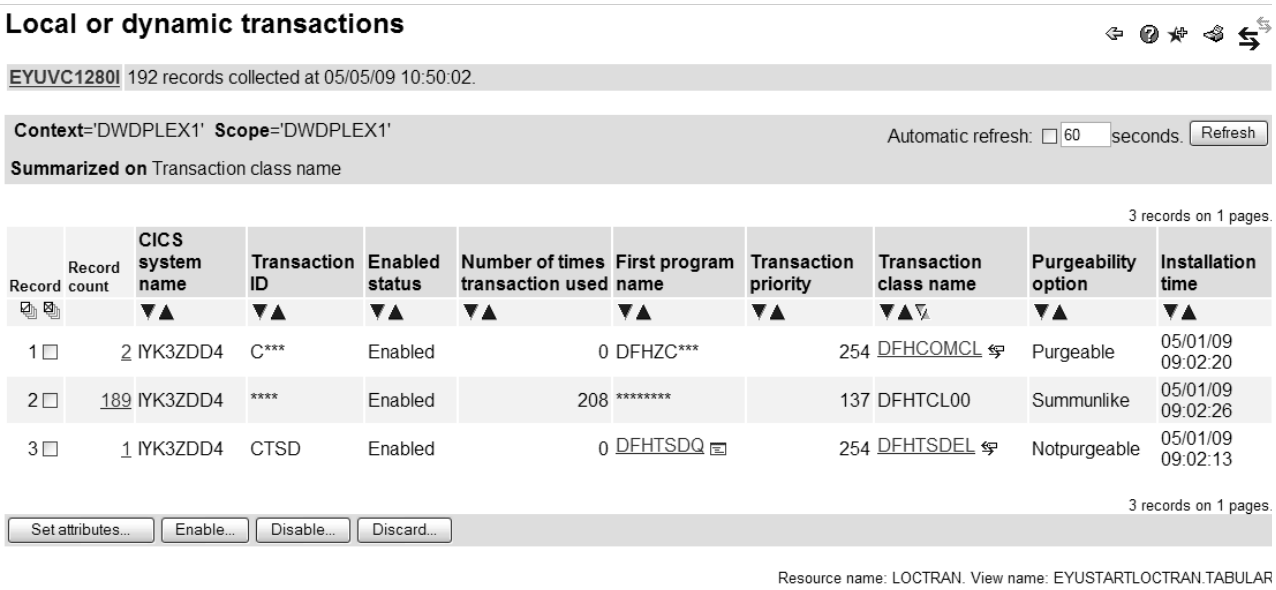


Figure 17. Detail of a summarized **Local or dynamic transactions** *view*

Expanding summarized records

You can expand selected summarized records in a summarized view by clicking on one of the numbers in the **Record count** column. This opens a new tabular view containing an entry for each of the summarized records. The view displays the state of the system as it was when the original summary took place. If you want to see a real time view, you can click **Refresh** or set the automatic refresh feature by clicking the adjacent radio button and setting the refresh interval (the default is sixty seconds).

The expanded tabular view shows the ordinary filters that have been defined for the view, plus the filter that has been used to expand the summary view. For example, in the case of a **Local or dynamic transactions** (EYUSTARTLOCTRAN) view summarized on the **Transaction class name** column, the use count filter and value would appear on the expanded view in addition to any previously applied filters.

The expanded view is a normal, filtered, tabular view. You can perform any further actions on it that you would normally be allowed to on a tabular view including additional summarizations. When you click the back button on the expanded view, you are returned to the summarized view from which the expanded view was launched.

Refreshing views

There are two ways in which you can refresh views. These are refresh on demand and automatic refresh

Refresh on demand:

You can refresh the data displayed at any time by selecting the **Refresh** button in the selection criteria and refresh area, when available.

The **Refresh** button is not available for a view of the data collected for a previous view. For example, to refresh the data for a detail view opened for one record shown on a tabular view:

- Select the **Go Back** icon to return to the original tabular view
- Select the **Refresh** button

Note: The **Refresh** button is never available on menus and confirmation panels.

Automatic Refresh:

With the automatic refresh function you can update the display automatically and control how frequently the data in a view is updated. It is available only if you are using a Javascript-enabled web browser.

The automatic refresh function is defined as either available with a default value, or not available for a view, using the View Editor. If automatic refresh is available, an entry field and a check box appear in the selection criteria and refresh area. You can:

- Turn on automatic refresh by selecting the check box to insert a check mark.
- Turn off automatic refresh by selecting the check box to remove the check mark.
- Change the refresh interval for a display:
  1. Type a new value, in seconds, into the entry field.
  2. Make sure that the check box contains a check mark.
  3. Select Refresh.

Note: Automatic refresh can be deactivated for a WUI server based on the AUTOREFRESH Web User Interface system parameter.

Operating on resources

With a detail view, you can perform an operation on one resource only. With a tabular view, you can perform an operation on one or more resources by selecting the relevant resources. You can select resources by selecting the check boxes beside each displayed resource or you can select or deselect all the resources matching your selection criteria using **Select all** and **Deselect all** icons located above the title box of the check box column. After selecting the resource or resources select the appropriate action button to perform the operation.

For some operations, for example, opening a file, the action is performed immediately for all the selected resources. For operations that may have a significant impact on users of the system, such as flushing a journal or shutting down a CICS region, a confirmation panel may be displayed.

To use a confirmation panel:

- You see a detail display for the first resource in your selection with a panel asking you to confirm the requested action. Check that you have the required resource. You might also be able to make parameter changes.
- Confirm or cancel the required action by selecting the appropriate button, which typically might be:

Table 3. Confirmation panel buttons

Button	Meaning
Yes to n remaining	Perform the action for this and all the remaining resources in the selection list

Table 3. Confirmation panel buttons (continued)

Button	Meaning
Yes	Perform the action for this resource only and display the next resource in the selection list
No to n remaining	Cancel the operation for this and for all remaining resources in the selection list
No	Do not perform the action for this resource and display the details of the next resource in the selection list

For example, say you want to flush journals DFHLOG (with an MVS log stream name of FVCPSM.IYK3Z8BC.DFHLOG) and DFHSHUNT (with an MVS log stream name of FVCPSM.IYK3Z8BC.DFHSHUNT), first select the check boxes beside both journals, then select the **Flush** action button.

You may first see the confirmation panel for the DFHLOG journal, as shown in Figure 18, on selecting the 'Yes' confirm button, you are presented with the confirmation panel for the DFHSHUNT journal. Alternatively, select the 'Yes to 2 remaining' confirm button on the DFHLOG confirmation panel, in which case you are not presented with the DFHSHUNT confirmation panel.

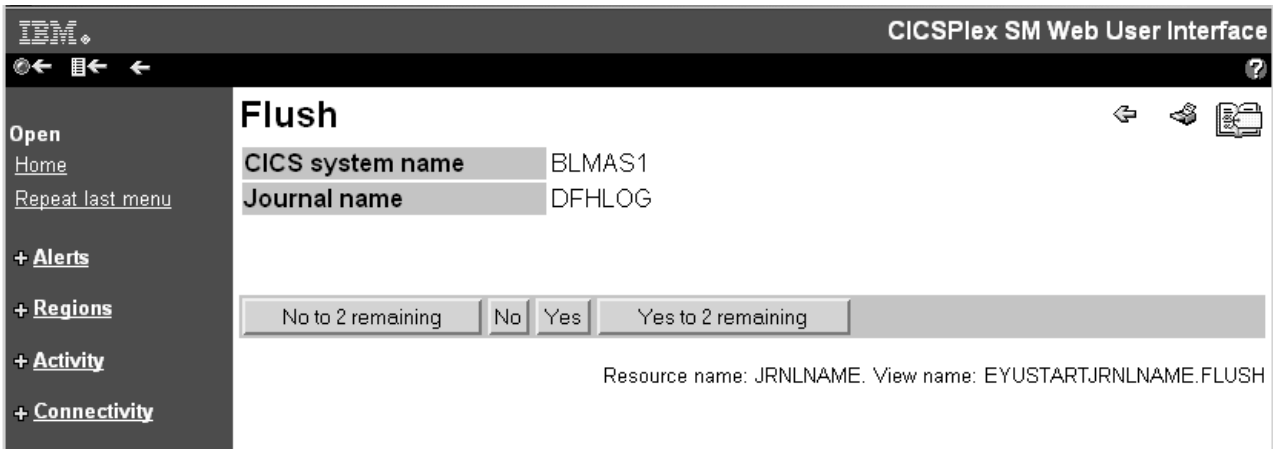


Figure 18. Confirmation panel for flushing the DFHLOG journal

Alternatively, you could work with a single resource at a time from its detail view. For example, you could first flush journal DFHLOG that has an MVS log stream name of CTS.V220.IYCRST16.DFHLOG by displaying its detail view as shown in Figure 15 on page 42. You could then select the Flush button and be presented with the confirmation panel shown in Figure 18. Here you could select the Yes button. Similarly for the appropriate DFHSHUNT journal.

Modifying attributes and entering parameters

On some detail views and confirmation panels, you can change attributes or specify parameters for an action.

It is possible to change attribute values for a resource as follows:

- If you have a selection box, select the attribute value from the pull down list. If necessary, select the check box beside the attribute to insert the check mark. If you are using a Javascript-enabled Web browser, the check mark is set

automatically in the check box. If you decide after selecting the attribute value that you do not want to change it, select the check box to remove the check mark.

- If you have a data entry field, type in the attribute value, using the rules in "Entering data in the WUI" on page 42. If necessary, select the check box beside the attribute to insert the check mark. If you are using a Javascript-enabled Web browser, the check mark is set automatically in the check box when you make a selection outside the field. If you decide after typing in the attribute value that you do not want to change it, select the check box to remove the check mark.
- Select the appropriate action button to perform the operation.

It is possible to specify or change a parameter value as follows:

- If you have a selection box, select the parameter value from the pull down list. If necessary, select the check box beside the parameter to insert the check mark. If you are using a Javascript-enabled Web browser, the check mark is set automatically in the check box when you change the attribute value. If you decide after selecting the parameter value that you do not want to supply it, select the check box to remove the check mark.
- If you have a data entry field, type in the parameter value, using the rules in "Entering data in the WUI" on page 42. If necessary, select the check box beside the parameter to insert the check mark. If you are using a Javascript-enabled Web browser, the check mark is set automatically in the check box when you select outside the field. If you decide after typing in the parameter value that you do not want to supply it, select the check box to remove the check mark.
- If you have radio buttons, select the required value. You must select one.
- If you have check boxes, select to insert a check mark or to remove a check mark.
- Select the appropriate action button to perform the operation.

Figure 15 on page 42 shows an example of a selection box which may allow you to Enable or Disable this DFHLOG journal.

Printing a view

WUI views include a **Print preview** icon to facilitate printing.

The recommended procedure for printing a view is:

- Select the Print preview icon (). A new window is opened showing a printable version of your display.
- Print the window contents using your normal Web browser print facility.

  Note: All the records matching the selection criteria are printed, not just the current page showing on your screen.
- Close the print preview window.

If you use the original window before you close the print preview window, a message indicating that data is no longer available in the print preview window may be issued.

Filtering data

A request for CICSPlex SM managed object data can produce a large number of managed object records. Without filters, the Web User Interface returns all of the

managed object records that exist within the current context and scope. You can use a filter to limit the number of resources retrieved by a request.

You use the View Editor (see Customizing the Web User Interface for information about the View Editor) to choose the filters that will be available on a view, and to determine the order in which the filters appear.

There are two types of filter:

- Parameters. For each parameter, you define a value.
- Attributes. For each attribute, you define two fields: a relational operator and a value.

There are some situations when filtering of attribute values can sometimes lead to unexpected results:

- Attribute values are rounded in Web User Interface views to a maximum of three decimal places. Internal values are often more precise than this and might not match the filter value. For example, consider an attribute with a value of 4000 bytes, which is 3.90625KB. Given that the most precise value you can set as a filter value is 3.906 (to three decimal places), an attribute with a value of 4000 bytes would not be displayed.
- Only one filter expression can be used for any particular attribute. If you specify multiple filter expressions for the same attribute, only one of these expressions is applied. The others are ignored.

To apply a filter, select the **Refresh** button.

To clear a filter, delete the contents of the field or select the blank option from a selection list and press the **Refresh** button.

Once the selection criteria have been set you are presented with an appropriate menu or the appropriate data in a view.

Expanding and collapsing filters:

Filters on tabular views can take up large amounts of screen space restricting the data that can be displayed. You can mitigate this by collapsing the filters when you are not altering them. You can expand them again when you want to change them.

To collapse the filter, click the collapse (minus sign) icon at the top left of the filter area.

To expand the filters, click the Expand filter (plus sign) icon.

In order to determine whether filters should be displayed in their expanded or collapsed state by default use the optional WUI server initialization parameter:
`FILTERSTYLE(EXPAND/COLLAPSE)`

If you do not specify this parameter, the WUI displays filters in the expanded state by default.

When you navigate away from a view with filters in a non-default state, the filter area in the new view reverts to the default filter setting as specified in the FILTERSTYLE parameter.

If you navigate away from a view and then return in the same WUI session, the filters remain in the state you left them when the view was last displayed.

Relational operators:

A relational operator is specified only for attributes.

Relational operators are shown in Table 4.

Table 4. Relational operators

Operator	Meaning
=	Equal to
<>	Not equal to
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to

Values:

A value may be specified for both parameters and attributes.

There are two types of values:

- Values that you choose from a selection list
- Values that you type into an entry field

Selection list values

You can choose a parameter or attribute value from a selection list. For example, an Enable status field may offer a choice of ENABLED or DISABLED.

Entry box values

You can type a parameter or attribute value into an entry box. A value typed into an entry box may be:

- A character string
  - Note that for character attributes that allow mixed case values, for example, transaction IDs, the filter character values are case sensitive.
  - Special characters, that is quotes and non-printable characters, may be used as described in "Entering data in the WUI" on page 42.
  - You can use generic characters, if necessary. The conventions for using generic characters in filters are:
    - An asterisk (*) represents any number of characters, including zero. It must be the last or only character in the string. For example:
      - ABC* means all values beginning with the characters ABC
      - * means all values
    - A plus sign (+) represents a single character and may occupy any position. For example:
      - TERM0+ means all six-character values beginning with TERM0

    - A+BC+DE means all seven-character values with any character in the second and fifth positions, A in the first position, B in the third, C in the fourth, D in the sixth, and E in the seventh position
- A hexadecimal string. If you use a terminating asterisk (*) as a filter character, it must be preceded by an even number of hexadecimal digits.

  Note: If a generic character is represented directly in the filter, this is considered to be a literal string. For example:

  ```
  'AB*'X is equivalent to AB5C.
  ```

  If the filter contains a generic character immediately following the hexadecimal string, this is considered to be a generic string. For example:

  ```
  'AB'X* is equivalent to AB*.
  ```

  You cannot use a plus sign (+) as a filter character in a hexadecimal string.

  See Table 5 for examples of generic characters and their implications in character and hexadecimal filters.
- For numeric data and CVDA or EYUDA values, follow the rules in "Entering data in the WUI" on page 42.

Table 5. Using generic characters

Generics and quotes	HEX attributes	Char attributes
Generic in quotes 'HELLO*' 'F1F2F3*'X 'F4+F5'X	**Literal match** C8C5D3D3D65C F1F2F35C F44EF5	**Generic match** HELLO* 123* 4+5
Generic outside quotes 'HELLO'* 'F1F2F3'X*	**Generic match** C8C5D3D3D6* F1F2F3*	**Not valid**
Generic without quotes HELLO* F1F2F3* F4+F5	**Generic match** HELLO invalid F1F2F3* + invalid	**Generic match** HELLO* F1F2F3* F4+F5

Note: If the combination of relational operators and generic characters is meaningless, you get an error. Generic characters only have meaning when used with the "=" and "<>" relational operators for character attributes. They cannot be used for parameters or numeric values.

Record count warnings in the WUI

Setting record count warnings causes the WUI to issue a warning if a request to open a view is likely to result in an unacceptably large amount of data.

You can use the record count warning mechanism to alter the filters on the view and confirm or cancel the request before the request is run.

This feature does not apply to all resources. You can set record count warnings for WUI views associated with the following resources:

Table 6. Resources and record count warnings

RESOURCE	RESOURCE	RESOURCE
ATOMSERV	EXITTRUE	PARTNER
BUNDLE	EXTRATDQ	PIPELINE
BUNDPART	FEPICONN	PROCTYP
CMDT	FEPINODE	PROFILE
CONNECT	FEPIPOOL	PROGRAM
DB2CONN	FEPITRGT	REMFILE
DB2ENTRY	INDTDQ	REMTDQ
DB2TRN	INTRATDQ	REMTRAN
DOCTEMP	IPCONN	RQMODEL
DSNAME	JRNLNAME	SYSDUMP
ENQMODEL	JVMSERV	TCPIPS
EPADAPT	LIBRARY	TERMNL
EVCSDATA	LOCFILE	TRANDUMP
EVCSINFO	LOCTRAN	TSMODEL
EVCSOPT	MODENAME	URIMAP
EVCSPEC	OSGIBUND	WEBSERV
EVNTBIND	OSGISERV	XMLTRANS
EXITGLUE		

Note: The warning count mechanism does not function for the following resources:

- PIPELINE, WEBSERV, URIMAP, LIBRARY if a CMAS at a release level earlier than CICS TS 4.1 is connected to the network.
- Private resources for applications that are deployed on platforms.

To specify the number of records that are required to trigger the warning mechanism:

- Set a value for the **DEFAULTWARNCNT** WUI server initialization parameter during WUI server configuration. **DEFAULTWARNCNT** can take an integer value in the range 0 - 99999999. This parameter is optional.
- Set a warning record count value in a user group profile to apply the same value for all the members of a WUI user group. See Creating and managing user group profiles for guidance.

The default value is 0, meaning that no warnings are issued.

A value set in a user group takes precedence over a value set in the **DEFAULTWARNCNT** parameter. Before a warning is issued, the WUI checks to determine whether the signed-on user is associated with a user group. This association can occur only if the WUI is running with security switched on. If so, the WUI uses any value for the warning count specified in that user group. If the user does not belong to a user group, or no maximum value is set, the WUI uses any value set in the **DEFAULTWARNCNT** parameter.

If the value for the warning count is greater than 0, the WUI checks the size of the potential set of records to be returned. This check gives an indication of the

maximum number of records that can be returned. It is not always accurate because any filters other than that associated with the first part of the primary key field are ignored.

For the WUI, if this potential value is greater than the value of the warning count, a warning screen like the one in Figure 19 is displayed.

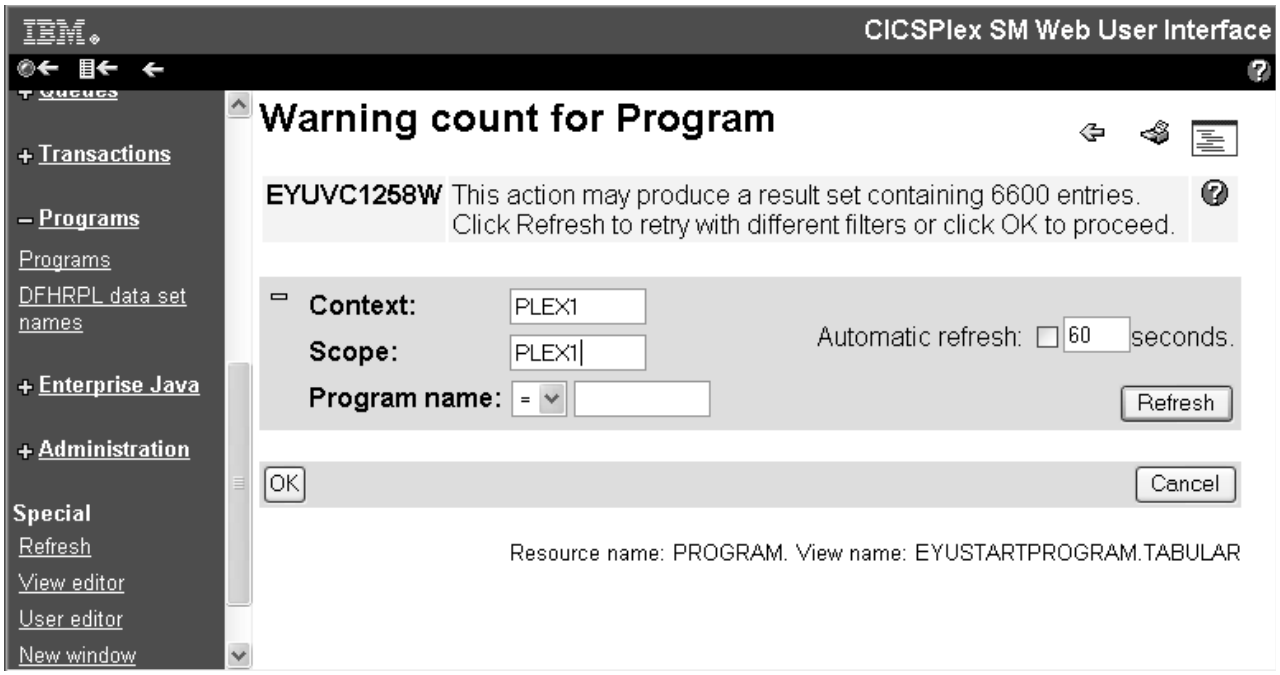


Figure 19. Warning count screen

Clicking **Refresh** drives a new request. Then you can alter the primary key field, which is included in the warning count screen, to test a new filter value to produce a smaller set of results. Any other filters remain in place from the original request. If the set of results returned is not below the warning count limit, the warning count screen is redisplayed with the original warning count message. If the size is below the warning count limit, the warning count screen is redisplayed.

Clicking **OK** at the bottom of the screen performs the current request regardless of the number of results to be returned.

Clicking **Cancel** is the equivalent of pressing the back link on the web browser; the previous screen is redisplayed.

Note: The **RESOURCELIMIT(WARNING|FAIL)** Web User Interface system parameter controls whether you can override the warning count.

If the returned value is less than or equal to the warning count value, the WUI view is displayed in the usual way.

How to map CICSPlex SM definitions

Use WUI maps to generate a visual representation of the relationships between resource definitions in the data repository.

The associations between CICS resource definitions defined to CICSPlex SM can be complex and difficult to visualize. For example, a CICS system can be associated

with a specification and a specification might contain one or more groups. In turn groups can contain definitions. This type of structure is often portrayed as the branches of a tree. WUI maps are a method of generating a visual representation of this tree structure for a selected resource. This representation can portray business application services (BAS), resource monitoring (MON), real-time analysis (RTA), or workload management (WLM) definitions. Maps allow you to verify that the relationships between your definitions are what you expect.

All IBM-supplied tabular and detail views that display resource definitions include a map button, which you click to generate a map. By default, the map displays definitions that are referred to by the selected definition, that is, it maps down-level. This operation is called a *map right* operation. For example, if the selected resource is a WLM specification, the map displays associated WLM groups, definitions and transaction groups. However, if your selected resource is already at the lowest level, for example a WLM transaction group or a BAS resource definition, the map displays all up-level relationships. In the case of a transaction group, the map displays associated definitions, groups and specifications. This operation is called *map left*.

How to interpret maps

A typical map is shown in Figure 20.

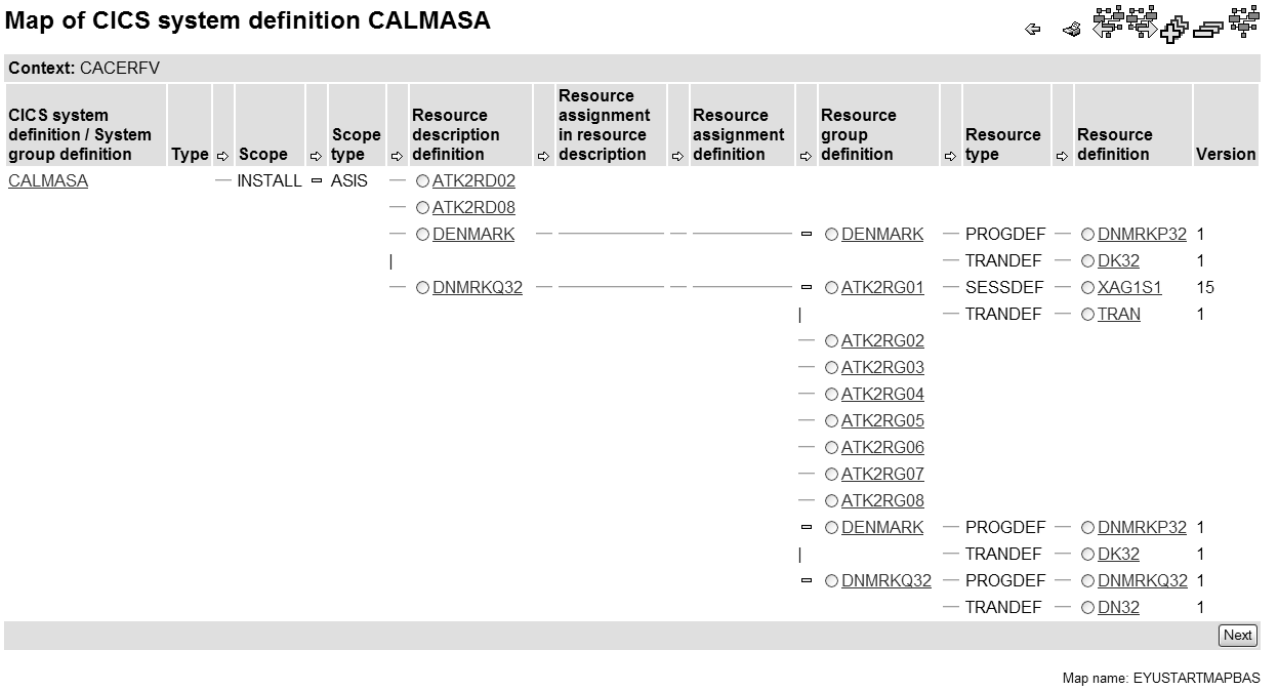


Figure 20. Diagram of a typical map view

At the top of the map view are icons enabling you to do the following, from left to right:

- Return to the previous detailed view.
- Display a printer-friendly map view.
- Switch to a map left view of the selected resource definition.
- Switch to a map right view of the selected resource definition.
- Expand all of the definitions on the map display.

- Collapse all of the definitions on the map display.

There is no  (add to favorites) icon on a map. You cannot bookmark a map as one of your favorites.

If you select more than one resource on a tabular view, you can click **Next** to display a map of the next selected resource.

By default, the map is normally displayed in the expanded state. However, you can alter this default behavior using the WUI server initialization parameter DEFAULTMAPCOLL, or for particular groups of users when specifying a user group profile.

The map is a table with between 4 and 18 columns. The map has two different types of columns; resource columns and connecting columns.

Resource columns contain the resource names of objects. The header shows the type of definition the column relates to; for example, WLM specification or WLM group. Resource names act as hyperlinks. If you click one, you open a detailed view of that resource.

Instead of a resource name, a resource column can contain one of the following symbols:

Horizontal line
: Indicates that there is a higher-level resource name that is directly connected. No resource name corresponds to it.

Asterisks
: Indicates that this row is in a collapsed state. This cell is at a lower level than the resource that performed the collapse.

Broken line (- - - - -)
: Displayed only in the RASINDSC column on a map of a BAS resource definition. It indicates that an association exists between the RESDESC and RESGROUP caused by the fields in a RASINDSC object. Without this symbol, it would imply that the association between the RESDESC and the RESGROUP was only a direct connection.

Connecting columns appear between resources on the map view. The header of a connecting column contains an icon showing the direction in which you must read the map, that is, an arrow pointing right for a map right (down-level) operation and an arrow pointing left for a map left (up-level) operation. Connecting columns contain one of the following symbols:

Horizontal bar
: Shows that the values in the columns on either side of this bar are connected together. The bar might connect a resource to a blank space and vertical bar character, in which case it means that the resource is related to the first proper resource name encountered when moving up the table. For example, in Figure 20 on page 57 resource group definition ATK2RG02 is connected to a cell with a bar character. This connection means that ATK2RG02 is associated with the first proper resource encountered when moving up the table, which is resource description DNMRKQ32.

Expand or collapse icon
: Shows a connection in the same way as a horizontal bar. However, these icons are also used to expand and collapse parts of the map. If a resource

has more than one lower-level resource associated with it, for example, a resource group with more than one resource definition, the connection column to the left of this resource contains a collapse icon (assuming it is in an expanded state). The collapse icon changes to an expand icon if you collapse the row.

Vertical bar
Indicates that a resource has a sibling and has more than one lower-level association. Each cell in the column displays a bar until the sibling resource name is rendered.

Some columns on a map, such as **Resource definition**, contain more than one resource type in the column. In such cases, an additional column is displayed containing the resource type of these resources.

You can initiate a map right or map left operation for most resources displayed on a map by selecting the adjacent radio button and clicking the map right or map left icon. The exceptions to this are CICS system or CICS group names because performing a further map operation on these resources does not result in any additional useful data. A map right command redisplays only the current data. A map left command produces a map with only the CICS system or CICS group name displayed.

Some columns on a map screen do not display true resources but provide additional information about relationships (for example **Scope type** on a BAS map). Because these are not true resources, it is not possible to perform a map left or map right operation on them.

Tip: If you are using a screen reader, you must ensure that it is properly configured to correctly interpret the information contained in the map. In particular note the following items:

- Set the screen reader's punctuation mode to voice or display all symbols. This is because the vertical bar symbol denotes relationships between elements on a map. If the screen reader is not set up to voice or display the vertical bar symbol, the screen reader cannot determine the relationships between map elements.
- Use the table mode option of the screen reader. This ensures that the map is read in its intended logical sequence.

The WUI supplies four default map objects. They are named as follows:

EYUSTARTMAPBAS for generating maps of business application services definitions

EYUSTARTMAPMON for generating maps of monitoring definitions

EYUSTARTMAPRTA for generating maps of real-time-analysis definitions

EYUSTARTMAPWLM for generating maps of workload management definitions.

Each map object includes links from the resource columns to detailed views of the named resource. In maps you create yourself in the view editor, you can customize links to point to different destinations including to your own customized views.

You can also use the map function on WUI views that you design yourself. The WUI view editor gives you the option of including a map button on tabular or detailed views for definitional objects and to create and edit customized maps.

How to interpret a map in full-function BAS

Maps in full-function BAS can be quite complex and require some further explanation.

In full function BAS you can specify a target scope in three places:

- On the resource assignment (RASGNDEF)
- On the link between the resource assignment and the resource description (RASINDSC)
- On the resource description itself (RESDESC).

If you specify a target scope on all 3, the resource assignment takes priority, followed by the link between the resource assignment and the resource description, and lastly the target scope on the resource description.

If you select a resource assignment in the Resource assignment definitions view and carry out a map left operation, this is portrayed as follow:

Table 7. Result of a map left operation on a resource assignment showing the resource description's scope overidden by the resource assignment

CICS system or system group	Scope		Scope type		Resource description		Resource assignment in resource description		Resource assignment
SYSTEM1	TARGET	__	ASIS	__	MYDESC	__	<----->	__	ASSIGN1
SYSTEM2	TARGET	__	FILEDEF	__	_____	__	_____	__	

This result indicates that FILEDEF resources in resource description MYDESC will not be installed in SYSTEM1 because the resource assignment ASSIGN1 has overriden it. It is instead installed into SYSTEM2. You can see that the association with SYSTEM1 is a simple physical relationship because of the **<----->** symbol. You can infer that the second line in the diagram is an override because ASSIGN1 is directly associated with SYSTEM2 and no physical relationship exists as indicated by the absence of the **<----->** symbol.

Duplication can occur in the system column as follows:

Table 8. Result of a map left operation on a resource assignment showing the resource description's scope not overidden by the resource assignment

CICS system or system group	Scope		Scope type			Resource description		Resource assignment in resource description		Resource assignment
SYSTEM1	TARGET	__	ASIS	__	__	MYDESC	__	<----->	__	ASSIGN1
SYSTEM1	TARGET	__	FILEDEF	__	__	_____	__	_____	__	

This result indicates that either the resource assignment has not overridden the target for the installation, or that the override is the same as MYDESCs target install.

The first example deals with the case in which the override is only on the resource assignment. You can also have an override on the link between the resource assignment and the resource description (RASINDSC). This can be portrayed as follows:

Table 9. Result of a map left operation on a resource assignment showing the scope specified on the RASINDSC overidden by the resource assignment

CICS system or system group	Scope		Scope type		Resource description		Resource assignment in resource description		Resource assignment
SYSTEM2	TARGET	__	FILEDEF	__	_____	__	<----->	__	ASSIGN1
SYSTEM1	TARGET	__	ASIS	__	MYDESC	__		__	
SYSTEM3	TARGET	__	FILEDEF		_____	__	_____	__	

In this case, the <-----> symbol shows that an override occurs in the RASINDSC resource. However, the last line, which indicates where the installation will take place, shows the resource assignment ASSIGN1 pointing to SYSTEM3. This line indicates that the target scope in the resource assignment is overriding the RASINDSC. If the override is removed, the result is as follows:

Table 10. Result of a map left operation on a resource assignment showing the RASINDSC not overidden by the resource assignment

CICS system or system group	Scope		Scope type		Resource description		Resource assignment in resource description		Resource assignment
SYSTEM2	TARGET	__	FILEDEF	__	_____	__	<----->	__	ASSIGN1
SYSTEM1	TARGET	__	ASIS	__	MYDESC	__			
SYSTEM2	TARGET	__	FILEDEF		_____	__	_____	__	

This arrangement can also be caused if the scopes in both the RASGNDEF and RASINDSC are the same.

Displaying a map of CICSPlex SM definitions:

You can generate a map of related resources from any WUI tabular or detailed definitional view that displays a map button on the button bar; including all IBM-supplied definitional views.

Before you begin

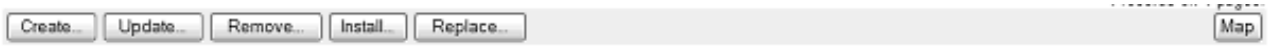


Figure 21. Detail from a definitional view showing the Map button

About this task

To generate a map for a resource, open an appropriate tabular view and follow these steps:

Procedure

1. Select a resource as your starting point. You can do this in two ways:
   - Select the check box next to the resource. If you select more than one check box, you have the option of displaying maps of each of the selected resources in sequence.
   - Click the resource name to open a detailed view of that resource.
2. Select the functional area that interests you. From a number of resources you can map more than one set of associated definitions.

For example, with CSYSGRP and CSYSDEF resources, you can map BAS, monitoring, RTA or WLM resources; with a PERIODEF resource you can map monitoring or RTA. Other resources such as RESGROUP, WLMDEF, or RTASPEC are restricted to a single set of associated definitions.

If a choice exists for your selected resource, a list is displayed next to the **Map** button as shown in Figure 22.

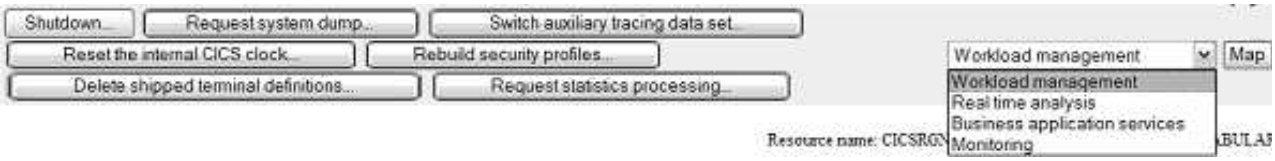


Figure 22. Detail from the CICSRGN tabular view showing the Map button and associated list

Make a selection by opening the list and highlighting your choice.

3. Click **Map** to generate a map of the selected resource.

Results

You have now opened a map screen displaying a representation of the selected resource and its related resources. If the selected resource is not already at the lowest level, the displayed map shows all of the resources down-level from the selected resource. By default, the map is normally in a fully expanded state. You can alter this default behavior using the WUI server initialization parameter DEFAULTMAPCOLL. You can control this state using the **Expand all** and **Collapse all** buttons at the top of the map view.

What to do next

You can now generate a map of any of the listed resources by selecting a resource as your starting point and clicking **Map left** or **Map right**.

If the map was launched from a tabular view with more than one check box selected, you can click **Next** to generate a map of the next resource from your selection.

Chapter 2. Administering the Web User Interface

This information provides guidance for administrators on managing the Web User Interface.

The CICSPlex SM Web User Interface transaction (COVC)

A CICSPlex SM Web User Interface server controller transaction (COVC) is supplied for use by an administrator with a terminal connected to the Web User Interface server CICS region.

The functions of this transaction are:

- To start up and shut down the Web User Interface environment
- To display a summary of Web User Interface status information
- To display details of active user sessions and allow termination of individual sessions
- To import and export Web User Interface repository information including supplied and customized view and menu definitions, map objects, user objects and user group profiles.
- To set trace flags dynamically.

If you run the COVC transaction, with no further input, that is by typing COVC followed by no other command, you are presented with the CICSPlex SM Web User Interface control panel, as shown in Figure 23.

```
 COVC               CICSPlex SM Web User Interface Control            EYUVCTR

                           1. Start Server
                           2. Stop Server
                           3. Status Details
                           4. User Sessions

                           5. Import
                           6. Export

                           7. Trace Flags

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Current Status : Ready                                    Time : 19:01:51
Applid         : IYCQSTGW                                 Date : 05/25/2007



PF   1 Help      3 Exit                                      12 Return
```

Figure 23. CICSPlex Web User Interface control panel

Starting and stopping the Web User Interface server

If the Web User Interface server is not already started during PLT processing, you can start it by selecting the **Start Server** option from the COVC control panel. Message EYUVS0900I is issued on the control panel indicating that the Web User Interface server start has been requested.

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To stop the Web User Interface server, select the **Stop Server** option from the COVC control panel. Message EYUVS0901I is issued on the control panel, indicating that the Web User Interface server Stop has been requested.

Note: Stopping the Web User Interface server using the COVC transaction shuts down the CICS system acting as the Web User Interface server on completion of the COVC transaction.

You can also start the Web User Interface server by issuing the following command:

```
COVC START
```

You can stop the Web User Interface server by issuing the following command:

```
COVC STOP
```

You can issue the COVC START and COVC STOP commands from the CICS terminal or from the console using the MVS Modify command.

If you attempt to start the Web User Interface server when it has already started, message EYUVS0902W is issued indicating that the Web User Interface server is currently active. Similarly, if you attempt to stop the Web User Interface server when it has already stopped, message EYUVS0903W is issued indicating that the Web User Interface server is currently inactive.

Do not use CEMT, the CICS Explorer, or the WUI CICSRGN view to shut down a WUI server region. If you use these methods, CICSPlex SM cleanup does not take place. In this situation, you might receive messages EYUXS0910I, EYUXS1014I, EYUXS1019W, and EYUXS1016E and an SVC dump with a title similar to the following example:

```
EYU9XSTR Dump,jobname,applid,sysname,LMAS,COVA,0000000,TRCV,EYU9XSTR,dd/mm/yyyy,hh:mm:ss
```

In addition to the SVC dump, API resources might be orphaned, as noted in the EYUXS1019W message.

Displaying status details

To display the Web User Interface server status details, select the **Status Details** option from the COVC control panel.

This option opens the **Status Details** panel, as shown in Figure 24 on page 65.

```
COVC               CICSPlex SM Web User Interface Control            EYUVCTS

                                Status Details

         CMAS Sysid            : QSTX
         Server Sysid          : QSGW
         CICSPlex SM Release   : 0320

         Secure Sockets        : No
         Port                  : 05126
         Hostname              : MVSXX.COMPANY.COM

         TCP/IP Service Name   : EYUWUI              TCP/IP Family : IPV4
         TCP/IP Service Status : Open
         TCP/IP Address        : 127.10.10.12

Current Status : Ready                                      Time : 19:04:49
Applid         : IYCQSTGW                                   Date : 02/27/2007




PF   1 Help      3 Exit                                        12 Return
```

Figure 24. Status Details panel

An explanation of some of the fields shown in Figure 24 follows:

- **CMAS Sysid**

  Is the system ID of the CMAS to which the Web User Interface server is connected.
- **Secure Sockets**

  Tells you if your Web User Interface server is using the secure sockets layer (SSL), as defined by the TCPIPSSL Web User Interface server initialization parameter.
- **Port**

  Is the TCP/IP port number specified on the TCPIPPORT Web User Interface server initialization parameter.
- **Hostname**

  Is the TCP/IP host name specified on the TCPIPHOSTNAME Web User Interface server initialization parameter.
- **TCP/IP Service Name**

  Is the name of TCPIPSERVICE being used by the Web User Interface.
- **TCP/IP Service Status**

  Is the status of TCPIPSERVICE being used by the Web User Interface.
- **TCP/IP Address**

  Is the colon hexadecimal or dotted decimal IP address of the TCPIPSERVICE being used by the Web User Interface, if you are using the CICSPlex SM element of CICS Transaction Server.
- **TCP/IP Family**

  Is the address format of the IP address of the TCPIPSERVICE being used by the Web User Interface, if you are using the CICSPlex SM element of CICS Transaction Server.

If you press PF12 to return to the control panel, message EYUVS0906I is displayed, indicating that the operation is complete.

Viewing user sessions

To view information about user sessions, select the **User Sessions** option from the COVC control panel.

This opens the **User Sessions** panel, as shown in Figure 25.

```
COVC               CICSPlex SM Web User Interface Control            EYUVCTU

                              User Sessions                   Page  1 of  1

 Current No. of Users :   1                    Inactive Timeout :    30 (mins)
 Maximum No. of Users :  20

    Userid    USERGrp   Inact  TimeA   Win D  ClientIp                  Status

    OPS1      OPSWUI1       4    3:17   7     10.10.10.25
    WUIADM    ADMWUIG       0    2:04   1     10.10.10.3
    MONCNSL   MONITOR       0    1:59   3     10.10.10.74               ENDING




 Current Status : Ready                                      Time : 11:29:05
 Applid         : IYCSZGW0                                   Date : 10/19/2006



 PF   1 Help      3 Exit                 7 Up        8 Down      12 Return
```

Figure 25. User sessions panel

An explanation of some of the fields shown in Figure 25 follows:

Maximum No. of Users
This is the maximum number of concurrent users allowed and is the value specified for the MAXUSERS initialization parameter.

Inactive Timeout
This is the period after which inactive user sessions are terminated and is the value specified for the INACTIVETIMEOUT initialization parameter. When inactive timeout is reached the user session is terminated.

Userid
The user ID of the user signed on to the Web User Interface.

UserGrp
The user group to which the user belongs.

Inact The period that the user session has been inactive.

TimeA
The period that the user has been logged on.

Win The number of windows that this user session currently has opened. This number is incremented every time the user selects the **New window** or **View Editor** button in the navigation frame, or the **New Editor** or **New Home window** button in the View Editor.

Note: This number is not necessarily decremented when the user closes a window. Closed windows remain active until the resources are reclaimed.

D The data interface used indicator.

ClientIP
The client web browser or proxy TCP/IP address. If the TCP/IP address an IPv6 address, the address extends over two lines, which reduces the number of users visible per page. IPv4 addresses are displayed on a single line.

Status The purge status indicator.

If you press PF12 to return to the control panel, message EYUVS0906I is issued.

Ending a user session

You can end a user session from the **User Sessions** COVC panel by typing **P** for purge, or **F** for force purge, against the user ID, then pressing the enter key.

Message EYUVS0912I is issued indicating that the purge request was successful. A message is also written to the EYULOG when the user session is terminated.

Note: Ending a user using the force purge command causes an AEXY abend and might also result in some resources not being reclaimed.

Importing and exporting WUI definitions

You can use COVC to back up and restore WUI definitions from the WUI data repository.

By using the COVC import and export functions, you can make safe copies of your WUI panel structures, and subsequently:

- Distribute them to other WUI servers.
- Apply service changes as a result of program temporary fixes (PTFs).
- Migrate definitions to other releases.

For more information about upgrading a WUI server and the contents of the WUI server repository, see Upgrade a WUI and the contents of the WUI server repository (EYUWREP).

Importing WUI definitions using COVC

Use the COVC import function to import WUI data repository definitions from an external file. The file can be either an MVS sequential data set, or an MVS partitioned data set member.

If the definitions are contained within a sequential file, then that data set must be associated with a CICS extrapartition data set, and imported via the CICS Transient Data Queue name that the file is linked to. You must use the `Import from a TDQ` option of the **Import command** panel. If the definitions are contained within members of an MVS partitioned data set, then the data set and member identifiers can be specified directly on the **Import from a data set** panel that follows the **Import command** panel.

The view definition data comprises:

- View sets and menus
- WUI map objects
- User objects
- User group profiles

The IBM supplied set of WUI view and menu definitions are in the SEYUVIEW partitioned data set, and so you need to specify the `Import from a data set` function from the **Import command** panel. The advantage of using this import option is that individual member names can be specified on this panel, and so you can selectively restore individual elements of the backed up view set content.

View sets that are exported and imported with COVC import function have specific file definition requirements:

- Sequential files must be defined as:

  ```
  Record format: VB
  Logical record length: 32000
  Block size: 32004
  ```

- Partitioned data sets must be defined as:

  ```
  Record format: VB
  Logical record length: 32000
  Block size: 32760
  ```

Standard transient data queue definitions are provided for the COVE and COVI TD queues, and they associate to the EYUCOVE and EYUCOVI DD names for inclusion in your WUI server JCL. You can use these TDQUEUE definitions as models for further import/export extrapartition queues.

To import definitions from a sequential file associated with an Extra-partition TDQ:

1. Select the `Import` option from the control panel or use the **COVC IMPORT** command to open the **Import** panel.
2. Select `Import from a TDQ` on the **Import** panel to open the **Import a TDQ** panel. The following illustration shows the Import from a TDQ panel:

```
COVC               CICSPlex SM Web User Interface Control            EYUVCTW

                             Import from a TDQ


     Input TDQ name  :           Name of extrapartition TDQ for import


     Type            :           MEnu | Viewset | USERGrp | User |MAp |  All

     Import option   :           Skip | Overwrite | DELETE


Current Status : Ready                                    Time : 08:53:57
Applid         : CICSHW61                                 Date : 03/27/2007



PF   1 Help      3 Exit                                      12 Return
```

Figure 26. Import from a TDQ panel

3. Type in the name of the extrapartition Transient Data queue where the definitions are currently held; for example, COVI.
4. Complete the other blank fields as follows:

   Type Type in one of the following Types:
   MEnu To import only menus.

Viewset
To import only view sets.
User To import only user objects.
USERGrp
To import only user group profiles.
MAp To import only map objects.
All To import all types of definitions.

Note: Importing any of the Types requires UPDATE access to the associated ESM profile:

- For MENUs : ESM profile EYUWUI.*.MENU.menuname
- For MAPs : ESM profile EYUWUI.*.MAP.mapname
- For VIEW sets : ESM profile EYUWUI.*.VIEW.viewsetname
- For USERs and USERGRPs : ESM profile EYUWUI.*.USER
- For ALL : All of the above profiles

Import option
Enter the action that you want the server to take if a duplicate definition is found in the input data set. That is, whether existing definitions are to be preserved, overwritten, or deleted:

Skip If you specify **Skip**, only the definitions that do not already exist in the input data set are imported.

Overwrite
If you specify **Overwrite**, definitions that already exist in the input data set are overwritten.

DELETE
Removes matching definitions of the selected type from the repository data set. For example, to selectively remove records from the repository, you can export the objects that you want to remove and then use the exported file with the import delete function to remove them.

Note: You can have a view set and menu with the same name.

5. Press **Enter** to start the operation.

To import definitions from a partitioned data set:

1. Select the `Import` option from the control panel or use the **`COVC IMPORT`** command to open the **Import** panel.
2. Select `Import from a data set` on the **Import** panel to open the **Import from a data set** panel. The following illustration shows the **Import from a data set** panel:

```
COVC               CICSPlex SM Web User Interface Control            EYUVCTI

                              Import from a data set


           Input data set name   :
                                  Name of data set for import

      Input data set member :      Member name, trailing * allowed

      Type            :            MEnu | Viewset | USERGrp | User |MAp |  All

      Import option   :            Skip | Overwrite | DELETE



Current Status : Readt                                      Time : 08:53:57
Applid         : CICSHW61                                   Date : 27/03/2007




PF   1 Help      3 Exit                                        12 Return
```

Figure 27. Import from a data set panel

3. Type in the name of the data set member that contains the supplied view and menu definitions to import. You can use an asterisk at the end of the input string to specify a group of data set members; for example, `EYUEA*` imports all of the members whose name begins with the characters EYUEA, which are all the English language menus and view sets from the IBM supplied SEYUVIEW data set.

   Note: You cannot leave the member name blank. If you do the panel dialog rejects your request. If your intention is to import from a sequential file, then that file must be associated with an extrapartition TD queue, and you must use the `Import from a TD Queue` subfunction to transfer the records into the WUI data repository.

4. Complete the other blank fields as follows:

   Type Type in one of the following Types:
   MEnu To import only menus.
   Viewset
   To import only view sets.
   User To import only user objects.
   USERGrp
   To import only user group profiles.
   MAp To import only map objects.
   All To import all types of definitions.

   Note: Importing any of the Types requires UPDATE access to the associated ESM profile:

   - For MENUs : ESM profile EYUWUI.*.MENU.menuname
   - For MAPs : ESM profile EYUWUI.*.MAP.mapname
   - For VIEW sets : ESM profile EYUWUI.*.VIEW.viewsetname
   - For USERs and USERGRPs : ESM profile EYUWUI.*.USER
   - For ALL : All of the above profiles

   Import option
   Enter the action that you want the server to take if a duplicate

definition is found in the input data set. That is, whether existing definitions are to be preserved, overwritten, or deleted:

Skip If you specify **Skip**, only the definitions that do not already exist in the input data set are imported.

Overwrite
If you specify **Overwrite**, definitions that already exist in the input data set are overwritten.

DELETE
Removes matching definitions of the selected type from the repository data set. For example, to selectively remove records from the repository, you can export the objects that you want to remove and then use the exported file with the import delete function to remove them.

Note: You can have a view set and menu with the same name.

5. Press **Enter** to start the operation.

Import completion:

Message EYUVS1016I is issued to mark the start of the import operation and EYUVS0916I is issued on the Import panel to indicate its successful completion.

If the import fails, complete view set and menu definitions that have already been read successfully remain in the repository but the failing definition and any that follow are not imported. Message EYUVS0917E is issued to indicate that the import has failed and a message is written to the EYULOG of the WUI server or the operator log.

You can import only those view sets and menus for which you have update access. Resources for which you do not have the necessary access are skipped and EYULOG message EYUVS1014W is issued. See Controlling access to Web User Interface resources for guidance on setting levels of access to view sets and menus.

If you press PF12 to return to the control panel, message EYUVS0906I is issued.

Exporting WUI definitions

Use the COVC export function to export WUI data repository definitions to an external file. The file can be used as a backup to the WUI from which it was extracted, and can also be distributed to other WUI regions for replicating your customized WUI environment around your CICSplex.

The file can be either an MVS sequential data set, or a member of an MVS partitioned data set (PDS).

If the export target is an MVS sequential data set, then it should have the definition attributes of:

```
Record format: VB
Logical record length: 32000
Block size: 32004
```

If the export target is a member of a PDS, then it should have the definition attributes of:

```
Record format: VB
Logical record length: 32000
Block size: 32760
```

When the export operation is complete, then the target file is an offline backup for the records that are exported, and can be used in subsequent import operations in other WUI regions to migrate your WUI definitions around your CICSplex.

Note: Unlike the import operation (where you can select to import from a PDS member or from an extrapartition TD queue), export operations must be only executed against a TD queue name.

If you customize your WUI panel configuration, and want to flow that configuration to other WUI regions in your CICSplex (for the purposes of view consistency or WUI version migration), you must use the COVC transaction to export WUI definitions so that you can distribute definitions to other WUI servers or transfer definitions when you upgrade to a new release.

Sample definitions are supplied for the COVI and COVE extrapartition TD queues. If you want to export different elements of your WUI definitions to different data sets, then you must provide alternative TD queues (and related data sets) as the targets for each export operation. If you execute consecutive export requests to the same target TD queue, then each operation overwrites the contents of the previous one.

To export definitions from the WUI repository select the `Export` option from the control panel or use the command **`COVC EXPORT`**. This opens the COVC **Export** panel, as shown in Figure 28.

```
COVC               CICSPlex SM Web User Interface Control            EYUVCTE

                                 Export


  Output TDQ Name :              Name of extrapartition TDQ for export

  Type            : MENU         MEnu | Viewset | USERGrp | MAp | User | All

  Name            : *            Specific or generic name of a
                                 definition to export

  Lock option     : NONE         None | LOCK



Current Status : Ready                                  Time : 08:58:55
Applid         : CICSHW61                               Date : 09/12/2004




PF   1 Help      3 Exit                                     12 Return
```

Figure 28. Export panel

Complete the blank fields in the **Export** panel as follows:

- The Output TDQ Name is the name of the extrapartition transient data queue where the definitions are be exported to, for example, COVE.
- Type in one of the following Types:
  MEnu to export only menus
  Viewset
  to export only view sets
  User to export only user objects
  MAp to export only map objects.

USERGrp
to export only user group profiles.
All to export all types of definitions.

Note: Exporting any of the Types requires READ or UPDATE access to the associated ESM profile:

- For MENUs : ESM profile EYUWUI.*.MENU.menuname
- For MAPs : ESM profile EYUWUI.*.MAP.mapname
- For VIEW sets : ESM profile EYUWUI.*.VIEW.viewsetname
- For USERs and USERGRPs : ESM profile EYUWUI.*.USER
- For ALL : All of the above profiles

- **Name** is the specific or generic name of the object that is to be exported. The convention for using generic names, when exporting, is:
  - An asterisk (*) represents any number of characters. It must be the last or only character in the string. For example:
    - EYU* means all definitions that have a name beginning with the characters EYU
    - * means all definitions

    If the object being exported contains an asterisk (*) as part of its name, then it can be exported only generically. For example, if there are 3 objects *GROUP1, GROUP*2 and GROUP3, a Name value of * must be used to export *GROUP1 (and objects GROUP*2 and GROUP3 are also exported).

    A Name value of GROUP* could be used to export object GROUP*2 (which also causes GROUP3 to be exported).
- The Lock option enables you to apply a lock to exported definitions. When locked definitions are subsequently imported into a repository, they cannot be modified or deleted by using the view editor. Locked definitions cannot be unlocked: they can be removed only by using the delete option on the **Import** panel:

  NONE
  Do not lock unlocked definitions. Existing locked definitions are exported as locked definitions.

  LOCK Lock all exported definitions.

  Note: If you overwrite a set of unlocked definitions with a locked set, the only way to remove the locks is to re-import a set of unlocked definitions to overwrite the locked set. For this reason, you might want to keep a backup set of unlocked definitions before you replace them with a locked set.

When all the fields are complete, press Enter to export the view or menu definitions.

Message EYUVS0919I is issued on the **Export** panel, which indicates that the export was successful, and how many objects were written across. If the export fails, the data in the TDQ that you were writing to is incomplete so must be discarded. Message EYUVS0920E is issued indicating that it has failed and a message is written to the EYULOG of the Web User Interface server.

You can export only those definitions for which you have read or update access. Resources for which you do not have the necessary access are skipped and EYULOG message EYUVS1015W is issued. See Controlling access to Web User Interface resources for more information.

If you press PF12 to return to the control panel, message EYUVS0906I is issued.

Setting trace flags

To set trace flags dynamically, select the Trace Flags option from the control panel.

Attention: It is recommended that you activate trace only at the request of IBM support center personnel.

You are presented with the Trace Flags panel, as shown in Figure 29.

```
COVC               CICSPlex SM Web User Interface Control            EYUVCTT

                                Trace Flags

Overtype the trace, enter to update.

                               1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 3 3
             1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
Trace Flags : Y Y N N N N Y N N N Y N Y N Y N N N N N N N N N N N N N N Y




Aux. Trace Status : Started

Current Status : Ready                                        Time : 08:26:46
Applid         : IYCQCTA5                                     Date : 02/27/2001



PF   1 Help      3 Exit                                         12 Return
```

Figure 29. Trace flags panel

You can control the amount of trace information produced by setting any of the appropriate trace flags. Thirty one independent trace flags are provided and you can overtype any of the flags, with Y or N, and press enter to change the settings.

Web User Interface server repository

The Web User Interface (WUI) server repository contains all the recoverable resources maintained by the WUI server.

This includes:

- View and menu definitions
- Map object definitions
- User profiles
- User group profiles.

The WUI server repository consists of a variable length record, key sequenced VSAM file created before using the WUI. By default you have one repository, which is not shared, for each WUI server.

The DDname of the WUI server repository must be included in the start-up JCL for the WUI server.

Definitions from the data repository can be imported and exported so that you can back up or distribute definitions to other Web User Interface servers, apply service

changes as a result of program temporary fixes (PTFs), or migrate definitions to other releases. Exporting is carried out using the COVC transaction. Importing is carried out either using COVC or by specifying auto-import initialization parameters when you start a WUI server.

The IBM-supplied set of view set and menu definitions

The supplied set of view set and menu definitions including default map objects is supplied in CICSTS54.CPSM.SEYUVIEW data set.

The data set comprises a number of members. Each member contains one of the following:

- A map object definition.
- A user object definition.
- A user group profile definition.
- A menu object.
- All of the view set definitions associated with one CICSPlex SM object.

There are separate members for each of the supplied languages of which there are currently three.

The data set members are named **EYU**`ltccc`, where:

- `l` specifies the language; currently **E** for English, **S** for simplified Chinese and **K** for Japanese.
- `t` identifies a set of views. The current supplied WUI views and menus are all identified by the letter **A**.
- `ccc` identifies the resource with which the views are associated.

The member names match the 3-letter language identifiers that you specified on the **INITPARM** CICS system initialization parameter. These are as follows:

Table 11. Supported languages for the supplied set of views

Language	Language identifier
US English	ENU
Japanese	JPN
Simplified Chinese	CHS

Supplied views' naming conventions

The names of all supplied views begin with the characters EYUSTART.

The naming convention for the supplied set of view and menu definitions is as follows:

Views EYUSTART*objectname.viewtype* , where *objectname* is the name of a resource, and *viewtype* can be one of the following:

- TABULAR

  A tabular view.
- DETAILED

  A detail view. In some cases, when there is more than one associated with a tabular view, detail views are named DETAIL1, DETAIL2, and so on.
- *Name of an action*

  A data input panel for an action such as Create, or a confirmation panel

Menus

EYUSTART*menuname*

where *menuname* is the name of a menu. For example, EYUSTARTMENU displays the supplied home menu and navigation frame.

Map objects

EYUSTARTMAP*type*, where *type* is one of the following:

BAS
MON
RTA
WLM

The output log (EYULOG)

The Web User Interface uses the CICSPlex SM EYULOG of the Web User Interface server (and not of the CMAS) to record most of its operator messages. Other messages are written to the operator log.

An EYULOG message (either EYUVS1101I or EYUVS1102I) is issued each time a view set or menu is created, modified or deleted. Message EYUVS1016I is issued to record the start of an import, and includes the user ID and source transient data queue. This provides a useful audit trail to track Web User Interface update activity.

In addition, each view set and menu definition records details of the last change including the user ID and time. This information is preserved when view sets are exported or imported.

Source of customizable help

The customizable view and menu help is help that you can write if you want to provide additional help for your views and menus.

The customizable view and menu help can be served in two ways:

- By the Web User Interface server. If served by the Web User Interface the customizable view and menu help consists of a set of arbitrary HTML members stored as members in a partitioned data set. The CICS Web Interface template manager is used to serve members of this partitioned data set for delivery to the web browser.
- By an arbitrary external web server.

The DDname of the partitioned data set must have been specified in the start-up JCL for the Web User Interface server.

Access from the Web User Interface to an external server

The Web User Interface can access other web-based tools.

You can do this by:

- Linking to the customizable view and menu help served by an external web server
- A menu choice link to pages served by an external web server

See Customizing the Web User Interface for more information.

Providing access to WUI views and menus

The Web User Interface is accessed using standard Web browser software. Users can link to the WUI from any location that can launch a Web browser by supplying a valid URL.

Every time you access the Web User Interface, a new window is opened showing a new instance of the data. The different instances of the data are independent of each other. See Opening a new window for information about the maximum number of windows you can have open at any one time.

The URL must be correctly formatted for a HTTP or HTTPS request using escaping for reserved and unsafe characters with standard HTTP '%nn' notation, where nn is the hexadecimal representation of a character from the ISO–8859–1 code page. For example, '%7E' represents the tilda ('~') character. Except for the 'http' or 'https' prefix, the URL, in general, is not case sensitive unless the value of any query variables is case sensitive.

For information about the HTTP standard refer to RFC2068 - Hypertext Transfer Protocol - HTTP/1.1.

The URL is constructed as follows:

```
prefix:path?selection criteria
```

Note: The path and the selection criteria, which are specified as HTTP query variables, are separated by a question mark (?). If selection criteria are not present, the '?' should not be specified.

Prefix

The prefix depends on the configuration of your WUI server. It is either http, or https, if SSL is in use.

Path

There are several possible configurations for the WUI server path.

The path can be one of the following:

- //*hostname:port*/CICSPlexSM

  This takes you to the Welcome panel that contains a Begin Signon button.
- //*hostname:port*/CICSPlexSM/*code page*

  This takes you to the Welcome panel that contains a Begin Signon button. The code page that you specify here overrides the code page specified on the INITPARM system initialization parameter in the start-up JCL of the Web User Interface server.

  You can specify the default code page by leaving *code page* blank. For example:

  //*hostname:port*/CICSPlexSM//
- //*hostname:port*/CICSPlexSM/*code page*/*userid*

  This takes you directly to your home menu (which is the menu specified on the DEFAULTMENU system initialization parameter), if you are already signed on in the current web browser session.

  If you are not signed on in the current web browser session, you are taken through the process described in Signing on with the WUI.
- //*hostname:port*/CICSPlexSM/*code page*/*userid*/MENU/*menuname*

This takes you directly to the menu called *menuname*, if you are already signed on in the current web browser session.

If you are not signed on in the current web browser session, you are taken through the signon process described in Signing on with the WUI, before the menu specified in the URL is displayed.

- *//hostname:port*/CICSPlexSM/*code page*/*userid*/VIEW/*viewsetname*

  This takes you directly to the default view within the view set called *viewsetname*, if you are already signed on in the current web browser session.

  If you are not signed on in the current web browser session, you are taken through the process described in Signing on with the WUI, before the default view within the viewset specified in the URL is displayed.

- *//hostname:port*/CICSPlexSM/*code page*/*userid*/VIEW/*viewsetname.viewname*

  This takes you directly to the view called *viewname* contained within the view set called *viewsetname*, if you are already signed on in the current web browser session.

  If you are not signed on in the current web browser session you will be taken through the signon process described in Signing on with the WUI, before the view specified in the URL is displayed.

- *//hostname:port*/CICSPlexSM/*code page*/*userid*/OBJECT/*objectname*

  This takes you directly to the default view set for object *objectname*, if you are already signed on in the current web browser session.

  If you are not signed on in the current web browser session, you are taken through the signon process described in Signing on with the WUI, before the default view for the object specified in the URL is displayed.

  You can specify any object name for object, and the default view set is EYUSTAR`objectname`, where `objectname` is the value of the URL. Note however that not all CICSPlex SM objects have starter set view sets.

  You can change the default view set for a subset of CPSM objects using the following Web User Interface server system parameters:

WUI server system parameter	**Objectname**
DEFAULTCICSPLEX	CICSPLEX
DEFAULTCICSRGN	CICSRGN
DEFAULTCONNECT	CONNECT
DEFAULTCSYSGRP	CSYSGRP
DEFAULTDB2SS	DB2SS
DEFAULTEJCOBEAN	EJCOBEAN
DEFAULTEJDJBEAN	EJDJBEAN
DEFAULTEVENT	EVENT
DEFAULTLOCFILE	LOCFILE
DEFAULTLOCTRAN	LOCTRAN
DEFAULTPROGRAM	PROGRAM
DEFAULTREMFILE	REMFILE
DEFAULTREMTRAN	REMTRAN
DEFAULTTASK	TASK

Note:

1. The *hostname* and *port* represent the IP address of the CICS Web Interface listener or the secure server, and are specified on the TCPIPHOSTNAME and TCPIPPORT Web User Interface server initialization parameters, respectively.
2. You need to specify *code page* only if you want to override the code page specified on the INITPARM system initialization parameter.

Selection criteria

In URLs, the selection criteria are specified as HTTP query variables.

Each query variable is specified as a variable name followed by '=' then a value. The variable names and values must be escaped using the HTTP standard notation, where necessary. Multiple query variables should be separated by an ampersand (&) character.

The Web User Interface supports query variables as follows:

- Query variables that can be used for menus and views
- Query variables that can be used for views only

Query variables that can be used for menus and views

You can use certain query variables for both menus and views.

These are:

- CONTEXT

  This is the CICSplex name.
- CMASCONTEXT

  This is the CMAS name.
- SCOPE

  This is the CICSplex, CICS group, MAS or logical scope name.

Query variables that can be used for views only

Some query variables can be used for views only.

These additional query variables are as follows:

- A_attrname, where attrname is the name of an attribute.

  This is an attribute filter. You can specify any number of attributes on a URL. You can specify characters, numbers, CVDA or EYUDA values. The default operator for an attribute filter is equality (=). If you want to use a different operator you can specify the operator value on the O_attrname query variable. See Table 12 on page 80 for a list of operators and their values.
- FILTERC, when set to 1, the request will force filter confirmation processing when the view is displayed.

  If FILTERC is not present, or is not set to 1, filter confirmation might still occur depending on the GLOBALPREFILTER Web User Interface system parameter or the user group option **`Force filter confirmation`**.
- P_parmname, where parmname is the name of a parameter.

  This is a parameter filter, as used for a CICSPlex SM API GET command.
- O_attrname, where attrname is the name of an attribute.

  This is specified with the A_attrname query variable to change the equality (=) default operator. For a list of operator values that you can specify on the O_attrname query variable see Table 12 on page 80.

Note: When using generic values only the equal to (=) and not equal to (<>) operators are valid.

Table 12. Operator values for the O_attrname query variable

Operator value (mnemonic)	Operator value (numeric)	Meaning
EQ	1	Equal to
NE	2	Not equal to
GT	3	Greater than
LT	4	Less than
GE	5	Greater than or equal to
LE	6	Less than or equal to

Specifying WUI object names

If you do not specify a view set name but specify an object name, the view set named on the Web User Interface server initialization operation options parameter, that represents the specified object, is opened.

If a view set has not been named to represent the specified object, the default view set, EYUSTART*objectname* is opened.

Examples of valid URL formats

The following examples show valid URL formats.

1.
```
http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/MENU/OURHOME?
       CONTEXT=FRED&SCOPE=FRED
```
This is a request for a user to be directly presented with a home menu called OURHOME using context FRED and scope FRED.

2.
```
http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/VIEW/OURLOCTRAN?
       CONTEXT=FRED&SCOPE=FRED&A_TRANID=PAY*
```
This is a request for a user to be directly presented with the default view, in view set OURLOCTRAN, displaying all the local transactions with a TRANID beginning with the characters PAY, using context FRED and scope FRED.

3.
```
http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/VIEW/OURWLMAWAOR.TABLE1?
       P_WORKLOAD=WLDPAY01
```
This is a request for a user to be directly presented with the TABLE1 view, in view set OURWLMAWAOR, displaying active workload information about workload WLDPAY01, using the default context as specified in the DEFAULTCONTEXT Web User Interface server initialization parameter.

4.
```
http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/VIEW/OURLOCTRAN?
       A_TRANID=P*&O_TRANID=NE
```
This is a request for a user to be directly presented with the default view, in view set OURLOCTRAN, displaying all the local transactions with a TRANID that does not begin with the character P.

5.
```
http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/VIEW/OURTASK?
       A_PRIORITY=200&O_PRIORITY=GT
```

This is a request for a user to be directly presented with the default view, in view set OURTASK, displaying all the tasks with a PRIORITY greater than 200.

6. `http://MVSXX.COMPANY.COM:44455/CICSPLEXSM//TOXTETH/VIEW/EYUSTARTPROGRAM.TABULAR ?FILTERC=1`

   This is a request for a user to be presented with the filter confirmation screen of the EYUSTARTPROGRAM TABULAR view.

Security considerations

User authentication and authorization to browse and manipulate individual host resources is controlled by an existing external security manager (ESM), such as RACF.

Running your Web User Interface server with security active

If the Web User Interface server is running with the CICS system initialization parameter **SEC** set to YES, you can control who can access the Web User Interface, what resources they can see, what actions they can perform, and the use of the view editor.

If you have already set up CICSPlex SM security for use with the CICSPlex SM API, users have the same level of access with the Web User Interface as they do with the API.

When you attempt to connect to a Web User Interface server, the CICSPlex SM Web User Interface Signon Panel is displayed. The user ID and password entered in this panel are passed to the Web User Interface server, in plain text over the TCP/IP connection, unless you are using SSL support, and then verified by the external security manager. If the external security manager supports mixed case passwords, and this feature is active, an icon is displayed next to the password field when you sign on.

All users who are successfully signed on to the Web User Interface have access to all of the customizable view and menu help pages, if the customizable view and menu help is served by the Web User Interface.

If security is active, messages produced by auditing system programming interface commands contain the user ID used to log on to the WUI. See SPI commands that can be audited .

To control who is allowed to sign onto the Web User Interface server, you can protect the Web User Interface CICS application ID by using RACF APPL checking. See RACF classes for protecting system resources.

Access to managed resources uses standard CICSPlex SM security using profiles in the CPSMOBJ class. For example, to see a CICS region view, the Web User Interface user needs READ authority through the CPSMOBJ class profile OPERATE.REGION.context.scope.

Access to CICS resources, and actions on resources in a view, use the simulated CICS security checking of CICSPlex SM, which uses the normal CICS RACF resource and command security profiles. For example, to issue the shutdown action against a CICS region, if command security is active in the target CICS region, the Web User Interface user would need UPDATE authority to the SHUTDOWN command in the CCICSCMD class.

Controlling access to Web User Interface resources

You can use your external security manager to control user access to views, menus, editors, and help information and control the import and export of views, menus, maps, user groups and user objects using COVC.

The navigation frame is exempt from security checks. In order to control user access, you need to create the appropriate profiles in the FACILITY class. The following ESM FACILITY profiles are available:

EYUWUI.wui_server_applid.VIEW.viewsetname
- used to protect view sets.

EYUWUI.wui_server_applid.MENU.menuname
- used to protect menus.

EYUWUI.wui_server_applid.MAP.mapname
- used to protect maps.

EYUWUI.wui_server_applid.HELP.helpmembername
- used to protect help pages.

EYUWUI.wui_server_applid.EDITOR
- used to protect the View Editor.

EYUWUI.wui_server_applid.USER
- used to protect the User Editor as well as user and user group objects.

where `wui_server_applid` is the CICS APPLID of the server.

Users can be given read or update access to WUI resources:

- Read -- to use the views, menus, maps and Help information in the main interface, or to export views, menus, maps, user groups, or user objects using COVC
- Update -- to access the editors and create, update, or remove items using them, or to import views, menus, maps, user groups, or user objects using COVC

If the ESM that you are using, neither grants nor refuses access to a profile (for example, if no RACF profile is defined), all users who are successfully signed on to the Web User Interface have access to the resources. You can make `not authorized` the default by setting up a generic profile.

Note: This security is designed to protect the views and menus themselves and not the objects they manage, which is covered by normal CICSPlex SM security.

When selecting a view set, map or menu to edit or delete within the view editor, only items for which you have update access are listed. However, when selecting an item to copy, all items for which you have read access are shown. This allows you to copy any object for which you have read only access to a private copy in your updateable name space.

When browsing for views that are accessible, no security exceptions are logged. Users are presented with a list that has been filtered to remove the views that are not accessible. However, when a user attempts an unauthorized action; for example creating a view in a denied name space, the EYULOG security exception message EYUVS1100E is issued.

Examples of WUI security profiles

The following examples use the RACF TSO command syntax and assume that the default CICS RACF classes and no security prefixing is in use.

This is not the only way that suitable profiles can be defined. These examples can be adapted to suit the installations requirements and standards.

In the examples, lower case strings should be replaced with the appropriate use ID or resource.

- Example 1

  Create Web User Interface user groups:

  ```
  ADDGROUP (WUISERV,WUIADM,WUIUSER,WUIEDIT)
  ```

- Example 2

  Define profiles to protect Web User Interface transactions:

  ```
  RDEFINE GCICSTRN WUISYS UACC(NONE) ADDMEM(COVP,COVU,COVE)
  RDEFINE GCICSTRN WUIADMIN UACC(NONE) ADDMEM(COVG,COVC)
  RDEFINE TCICSTRN COVA UACC(NONE)
  ```

- Example 3

  Authorize user groups to appropriate profiles:

  ```
  PERMIT WUISYS CLASS(GCICSTRN) ID(WUISERV) ACCESS(READ)
  PERMIT WUIADMIN CLASS(GCICSTRN) ID(WUIADM) ACCESS(READ)
  PERMIT COVA CLASS(TCICSTRN) ID(WUIUSER,WUIEDIT) ACCESS(READ)
  ```

- Example 4

  Refresh transaction security profiles:

  ```
  SETROPTS RACLIST(TCICSTRN) REFRESH
  ```

- Example 5

  Define View Editor profile and give user group appropriate access:

  ```
  RDEFINE FACILITY EYUWUI.wui_server_applid.EDITOR UACC(NONE)
  PERMIT EYUWUI.wui_server_applid.EDITOR CLASS(FACILITY) ID(WUIEDIT) ACCESS(UPDATE)
  ```

- Example 6

  Define view set profile and give user group appropriate access:

  ```
  RDEFINE FACILITY EYUWUI.wui_server_applid.VIEW.viewsetname UACC(NONE)
  PERMIT EYUWUI.wui_server_applid.VIEW.viewsetname CLASS(FACILITY) ID(WUIUSER)
  ACCESS(READ)
  ```

- Example 7

  Connect users to appropriate Web User Interface groups:

  ```
  CONNECT wui_server_dfltuser GROUP(WUISERV)
  CONNECT (wui_server_pltpiusr,wui_administrator) GROUP(WUIADM)
  CONNECT (wui_administrator,wui_view_designer) GROUP(WUIEDIT)
  CONNECT (wui_operator1,wui_operator2...) GROUP(WUIUSER)
  ```

- Example 8

  If CICS surrogate user security is active in the Web User Interface region, definitions similar to the following are required:

  ```
  DEFINE SURROGAT wui_administrator.DFHSTART UACC(NONE)
  PERMIT wui_administrator.DFHSTART CLASS(SURROGAT) ID(WUIADM) ACCESS(READ)
  DEFINE SURROGAT wui_view_designer.DFHSTART UACC(NONE)
  PERMIT wui_view_designer.DFHSTART CLASS(SURROGAT) ID(WUIADM) ACCESS(READ)
  DEFINE SURROGAT wui_operator1.DFHSTART UACC(NONE)
  PERMIT wui_operator1.DFHSTART CLASS(SURROGAT) ID(WUIADM) ACCESS(READ)
  DEFINE SURROGAT wui_operator2.DFHSTART UACC(NONE)
  PERMIT wui_operator2.DFHSTART CLASS(SURROGAT) ID(WUIADM) ACCESS(READ)

  SETROPTS RACLIST(SURROGAT) REFRESH
  ```

Running your Web User Interface server with security not active

If the Web User Interface server is running with the CICS system initialization parameter **SEC=NO**, users of the Web User Interface must provide a user ID to identify 'sessions' in the COVC transaction. Users are not required to provide a password.

The user ID does not need to be defined to the external security manager. Access checking of access to views, and CICS resources are based on the **DFLTUSER** for the Web User Interface server CICS region. All Web User Interface users have access to the View Editor and all menus, view sets and help members.

If security is not active, messages produced by auditing system programming interface commands contain the default user ID of either the CMAS or the MAS. See Changes to the SPI in the Upgrading documentation.

Setting CMAS and MAS trace flags

You can use the WUI to set CMAS and MAS trace flags.

You use the **CMAS detail** (EYUSTARTCMAS.TRACE) view to set CMAS trace flags and the **MASs known to CICSplex** (EYUSTARTMAS.TRACE) view to set MAS trace flags.

Chapter 3. Customizing the Web User Interface

The WUI offers a number of customization facilities.

You should be familiar with the operation of the Web User Interface menus and views before customizing the menus and views.

Managing user favorites

User favorites gives all WUI users the ability to save tabular and detail views on an ad hoc basis to an easily-accessible and editable menu of favorites. This allows you to reach frequently used views with just one click. Administrators have the additional authority to update the favorites of other users.

Hyperlinks to user favorites are displayed under the heading **Favorites** in the navigation frame of WUI views and menus.

The favorites function is available on WUI tabular and detailed views but not on map screens. You cannot hyperlink to a map screen directly.

To create a new user favorite item, click the **Add to favorites**  icon at the top right of the work frame. The Add to favorites screen opens. Optionally, type a title for the new favorite, then click **OK** to add it to your favorites list.

Note: If you open another WUI window for the same user ID, locking problems might prevent you from updating your favorites in either session.

You can perform more operations on your favorites using the favorites editor. This allows you to specify opening context and scope settings and to update other information such as link titles. To access the favorites editor, click the hyperlink in the navigation frame. See "Managing favorites with the favorites editor" for guidance on using the favorites editor to manage your own user favorites. See "Creating and managing favorites for other WUI users" on page 88 for guidance on managing the favorites of other WUI users.

The information for user favorites is held in an object called user. The user object holds a menu group that contains hyperlinks for the favorites of a user. There are two ways of creating a user object:

- It can be created the first time a user creates a favorite. When a user creates a favorite, the WUI searches for a user object that has an ID matching the user's ID. If a matching user object cannot be found, the WUI server automatically creates a matching user object for that user.
- It can be created by an administrator in the user editor.

Managing favorites with the favorites editor

As well as being able to add views to your own favorites list using the add to favorites () icon, you can also work with your favorites using the favorites editor.

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To open this editor, click **Favorites editor** under **Special** in the WUI navigation frame.

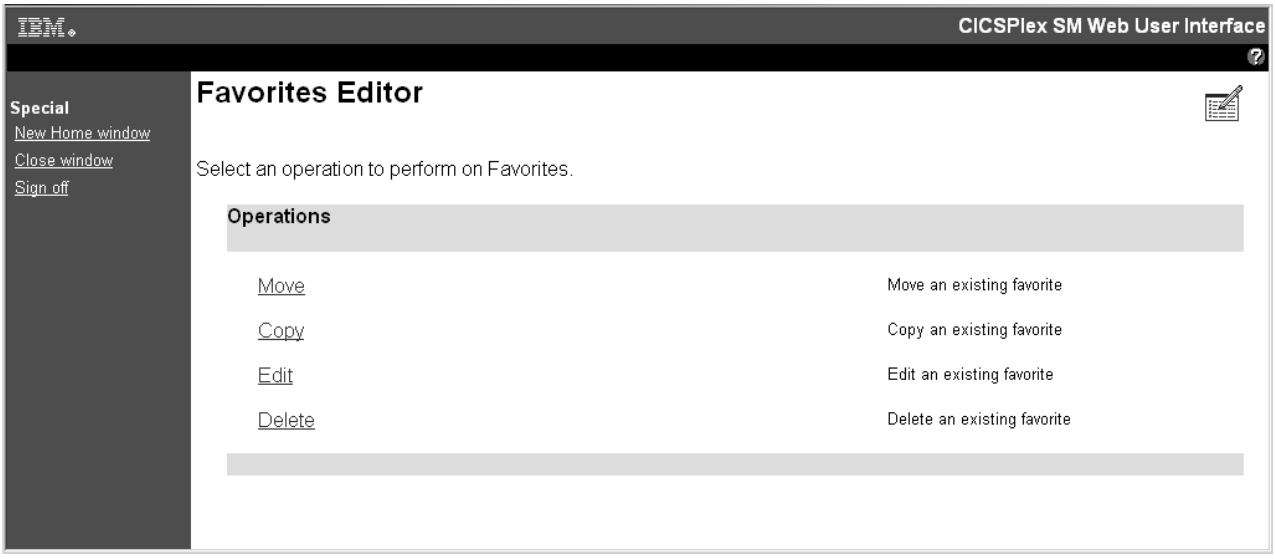


Figure 30. The favorites editor

The **Favorites Editor** screen gives you a number of options:

Move Alter the listed position of an existing favorite:

Click **Move**, select a favorite from the list and click **OK**. Now select a new position favorite and click **OK**. To move the selected favorite to the end of the list, click **OK** without first selecting a new position.

Copy Copy an existing favorite and give it a new title:

Click **Copy**, select a favorite from the list, and click **OK**. This opens a **Copy Favorite** screen.

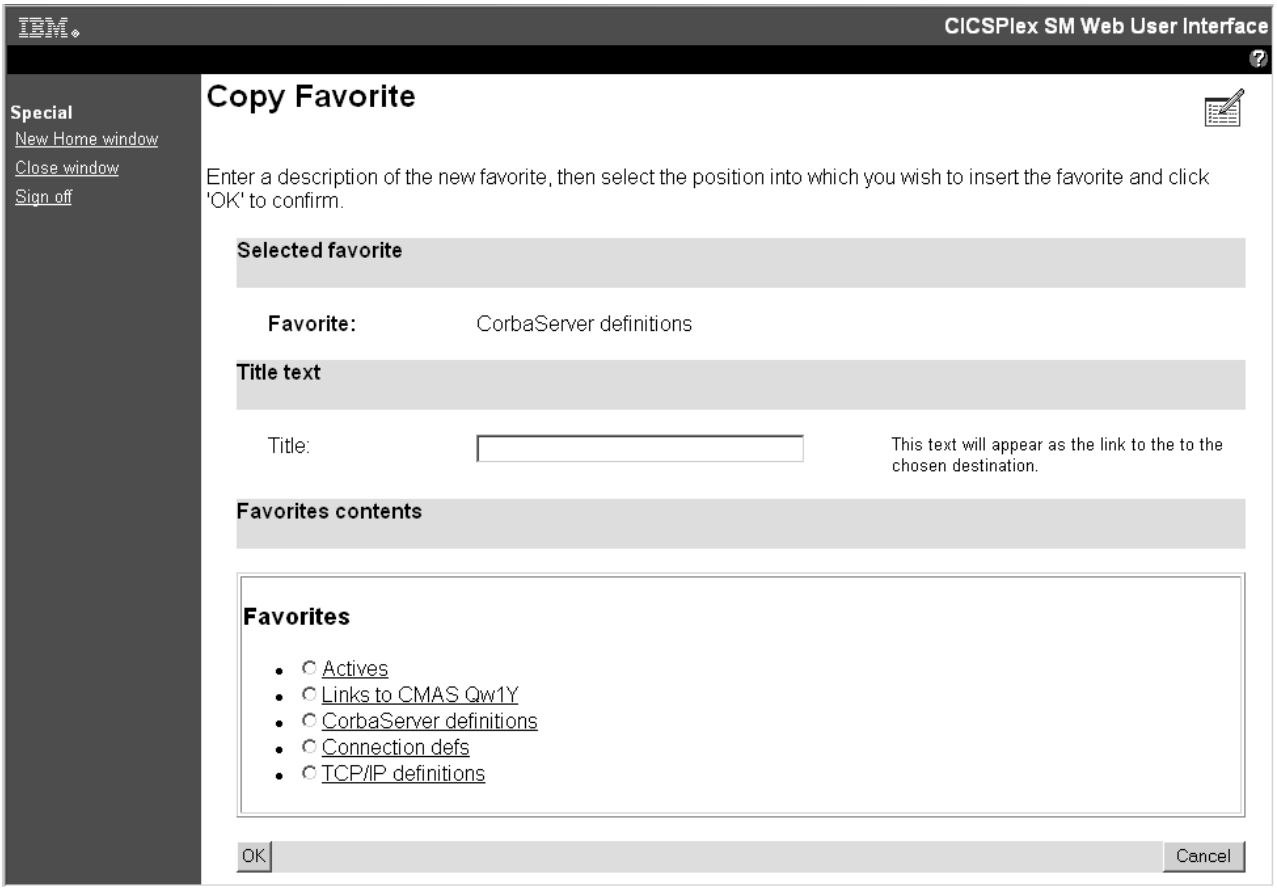


Figure 31. Copy Favorite screen

Now you can give the copy a new title and select its position on your favorites list by selecting the existing favorite from the list above which the new copy will be positioned. If you want to position the new copy at the bottom of the list, do not select an existing favorite. Click **OK** to confirm the operation.

Edit Change the components of a favorite including title, destination, context and scope, and filter settings.

From the **Favorites Editor** screen, click **Edit**. Select the favorite you want to edit from the list, then click **OK** to open the **Components of Favorite** screen. This gives you two options:

- Click **Title and annotation** to alter the text of the link to a selected favorite. Enter new text in the **Title** field, and click **OK**.
- Click **Destination** to alter context and scope settings or filter attributes and parameters.
  - Clicking on **Context and Scope settings** opens the **View Link Context and Scope Settings** screen. You can enter new values for context and scope or chose to inherit values from the current menu or view.
  - Clicking **Filter attributes and parameters** opens the **View Link Filters** screen. This allows you to work with attribute and parameter filter settings of the selected favorite. You can append, insert, edit or delete filter expressions. However, ensure you do not include more than one filter expression for any particular attribute. Specifying multiple filter

expressions for the same attribute will lead to unexpected results. See "Filtering data" on page 51 for more information about filters.

Delete Remove an item from your list of favorites.

Click **Delete**, select one of your favorites from the list and click **OK** to confirm.

The favorites editor allows you to edit your own list of favorites. It does not allow you to manage the favorites of other users. Only WUI administrators with access to the user editor have the authority to do this.

Creating and managing favorites for other WUI users

To create and manage the favorites of other WUI users you need to be an administrator with at least update access to the ESM facility profile EYUWUI.*wui_server_applid*.USER.

If you have the necessary access, the hyperlink that starts the user editor appears in the **Special** section of the navigation frame. Clicking this hyperlink starts the **CICSPlex SM Web User Interface User Editor** in a new web browser window. To work with favorites, select **Users**. This opens the **User Editor** screen.

Figure 32 on page 89 Illustrates screens in the user editor used to edit user favorites.

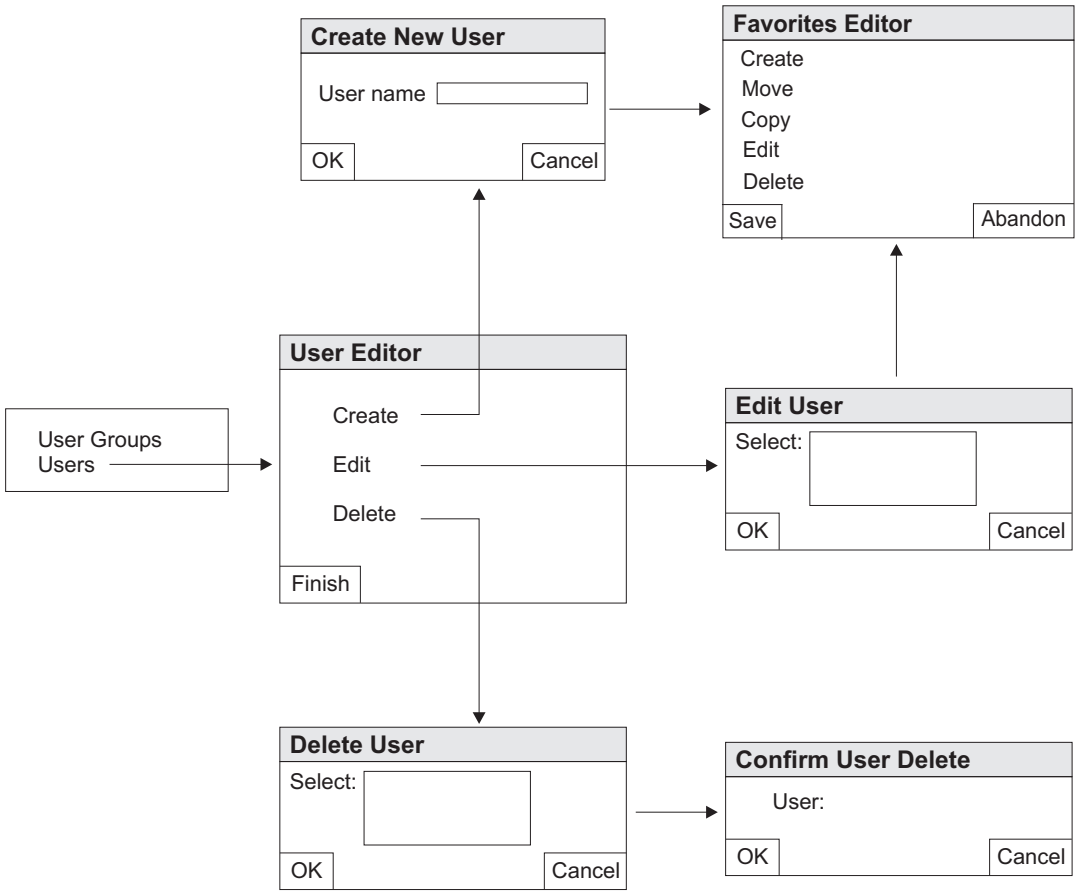


Figure 32. User screens in the user editor

This screen gives you the following options:

Create Use this option to create a user object in the repository. Each user needs a user object to hold a list of favorites. The WUI automatically creates a user object the first time a user creates a favorite (if one does not already exist), so most existing users will already have one. Once the user object is created, the Favorites editor screen is displayed to enable you to create and edit favorites for the new user.

Edit Use this option to work with the favorites of an existing user. It allows you to create, move, copy, edit, and delete a user's favorites.

Delete Use this option to delete a user object from the repository. This also deletes any existing favorites for that user.

You can use the user editor to create a user object and add some favorites as follows:

1. Create the new user object:
   a. Click **User editor** in the navigation frame to open a new **CICSPlex SM Web User Interface User editor** window.
   b. Click **User** to open the **User Editor** screen.

c. Click **Create**, and in the **Create user** screen, type in the new user name. User names are restricted to a maximum of eight characters. Valid characters are A-Z, 0-9, # (X'23'), $ (X'24') and @ (X'40'.
d. Click **OK**. This confirms the operation and opens the **Favorites Editor** screen used to create and manage a user's list of favorites.

2. Create a new favorite item:
   a. In the **Favorites Editor** screen, click **Create**. This opens the edit screen that is used by the user editor for editing detail items. From this screen you can perform all of the actions on a favorite that you can on a menu item in the view editor.
   b. Complete this screen by giving the new favorite a title and type in the target view or menu, the context and scope settings, and the filter settings.
   c. Click **Save**. This saves the updates in the repository and returns you to the **User** screen. If you click **Abandon**, all of your changes, including the new user object, are discarded.
3. Create more favorites and add them to the new user object:
   a. From the **User** screen, click **Edit** This opens the **Edit user** screen.
   b. Select the newly created user ID and click **OK**. This takes you back to the **Favorites Editor** screen.
   c. Create a new favorite item as before, and save your updates.

      Repeat this step for each favorite you want to add to the new user object.

User group profiles

What individual users see and do when they log on to the WUI can be controlled by the user group profile to which they belong.

This gives WUI administrators the ability to tailor the WUI to the needs of various groups of users. You can, for example, use the view editor to create a new WUI menu containing only operations views and make this the default menu for a group of users. This would provide a simplified operational WUI for users who only need to carry out this kind of task.

A user group profile can contain the following information:

- Result set warning count
- Name of the default main menu
- Name of the default navigation menu
- Default context
- Default scope
- Default CMAS context
- Force filter confirmation flag
- Default map objects

If a profile does not have some of these values specified; for example if the default menu value is blank, the corresponding WUI parameter value specified in the JCL is used. This is also the case for any invalid values set in the profile, for example if the specified default menu does not exist.

User group profiles are created and managed using the user editor, which can be accessed by administrators with the necessary authority from the WUI navigation menu. See "Controlling access to Web User Interface resources"

To facilitate this CICSPlex SM uses an object called a user group. User group objects, like view and menu objects, can be imported and exported using the COVC transaction.

User group profiles can be used only if security is active in the Web User Interface. A user group object relates to a group name in the external security manager (ESM). When a user signs on to the Web User Interface, the user group object is assigned in different ways depending on the SIGNONPANEL Web User Interface system parameter.

SIGNONPANEL(ENHANCED)

This is the default. The GROUP option is displayed on the sign-on screen:

- If the user does not enter a value, the user group profile is set according to the user's default group.
- If the user does enter a value, the signon proceeds.
- If the user ID is connected to the specified group, this group is used as the WUI user group profile.
- If the user ID is not connected to the specified group, or the group name is not valid, the signon continues but the WUI User group profile is set based on the default group of the user and when sign-on is complete message EYUVC1227W is issued to the WUI user and message EYUVS0024W is written to the WUI server's EYULOG.

Note: The GROUP option does not change the current connect group of the user being signed on. The security environment built by the WUI is always based on the user's default group. The only effect that the group option on the WUI signon screen has is to specify which WUI user group profile the user should be associated with. It does not change any security decisions that might be made by the External Security Manager.

SIGNONPANEL(BASIC):

- The GROUP option is not displayed on the sign-on screen.
- The user group profile is set according to the user's default group.

Whether the Web User Interface user group profile is set based on the default group, or specified on the GROUP option, if no matching Web User Interface group profile is found, the values normally set via a user group profile is set based on system defaults.

Note: The Web User Interface supports user group names that contain only the following characters:

- A through Z (you can enter lowercase characters but they are folded to uppercase)
- 0 through 9
- # (X'7B'), £ (X'5B'), @ (X'7C'), * (X'5C'), & (X'50') = (X'7E') and ? (X'6F')

Depending on the ESM in use, not all of these characters can be specified in a group name.

Use of * (X'5C') in a user group name causes some restrictions if the COVC EXPORT function is used. See the description of the Name field in “Exporting WUI definitions” on page 71 for details.

In order to manage user group profiles an administrator needs update access to a new ESM facility profile named EYUWUI.*wui_server_applid*.USER where *wui_server_applid* is the application ID of the WUI server to which this profile relates.

Creating and managing user group profiles

Setting up a new user group involves three steps.

About this task

1. Creating a new user group profile in the WUI using the user editor.
2. Creating a user group with the same name in the ESM.
3. Setting the user group as one or more users' default user group in the ESM.

This section describes how to create and manage user group profiles in the user editor. The user editor is also used to create user profiles.

The hyperlink that launches the user editor appears in the **Special** section of the navigation frame. A signed on user can see a user editor hyperlink only if he or she has at least update access to the ESM facility profile EYUWUI.*wui_server_applid*.USER where *wui_server_applid* is the application ID of the WUI server. Clicking on this hyperlink launches a new web browser window.

When you launch the user editor you can choose to edit user groups or users. Figure 33 on page 93 illustrates the relationships between the screens in the user group section of the user editor.

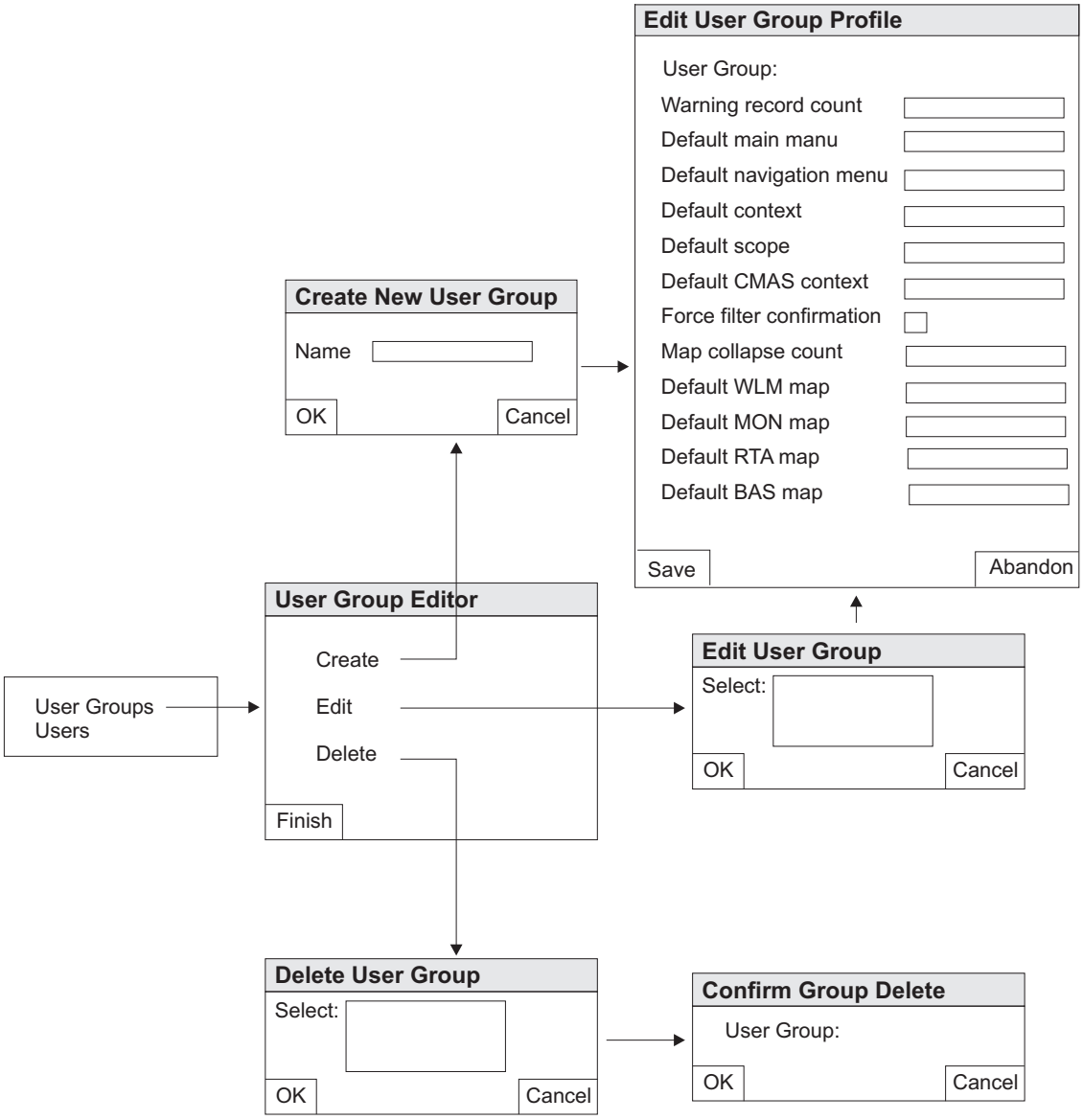


Figure 33. User group screens in the user editor

Using the user editor is straightforward. For example to create a new user group profile follow this procedure:

1. Navigate to the **Create Group** screen:
   a. Click **User editor** in the navigation frame to open a new **CICSPlex SM Web User Interface User editor** window.
   b. Click **User Groups** to open the **User Group Editor** screen. This screen gives you options to create, edit or delete a profile
   c. Click **Create** to open the **Create New User Group** screen.
2. Name the new group profile:
   a. Type in the name of the new group. Names are restricted to a maximum of eight characters. As in the ESM, the allowed characters are A-Z (upper case) 0-9, #, $ and @.
   b. Click **OK**. This confirms the operation and opens the **Edit User Group Profile** screen.

3. Type in the user group details. You need to provide some or all of the following information. Any fields that you leave blank or complete incorrectly revert to existing defaults.

   Warning record count
   Maximum number of records displayed without a warning message. Values can be in the range 0 to 99999999.

   Default main menu
   Name of the default main menu

   Default navigation menu
   Name of the default navigation menu

   Default context
   Default 8–character context setting

   Default scope
   Default 8–character scope setting

   Default CMAS context
   Default 8–character CMAS context setting

   Force filter confirmation
   Flag that forces users to specify filter criteria before a view is displayed

   Map collapse count
   Maximum number of records displayed on a map screen when it is opened. If there are more than this number of records, the map is displayed in a collapsed state. Values can be in the range 0 to 99999999.

   Default WLM map
   Name of the map object to be used to generate workload management type resource maps

   Map names can consist of up to 16 alphanumeric characters

   Default MON map
   Name of the map object to be used to generate monitoring type resource maps

   Default RTA map
   Name of the map object to be used to generate real-time analysis type resource maps

   Default BAS map
   Name of the map object to be used to generate business application services type resource maps.

4. Click **Save** to create the new profile or **Abandon** to cancel the operation.

Note: Before using a user group, there needs to be a matching user group name defined in the ESM.

To edit a group, click **Edit** in the **User Group Editor** screen to open the **Edit User Group** screen. Select an existing group and click **OK**. This opens an **Edit User Group Profile** screen containing details of the selected group. Make your changes and click **Save** to update the profile.

To delete a group, click **Delete** in the **User Group Editor** screen to open the **Delete User Group** screen. Select an existing group and click **OK** to open the **Confirm User Group Delete** screen. Click **OK** again to confirm the operation.

Customized WUI menus, views and maps

You can customize WUI menus, views and maps to create a unique working environment.

The CICSPlex SM WUI includes a set of supplied views and menus that you can use either as supplied or as the basis from which to create your own customized WUI. For example, you might want to create views that apply to a specific task or set of data.

You can create your own version using a supplied menu, view or map object as a model, or you can start from scratch.

Customized view sets and views

A view set is a number of related views that are used together to manage the same managed object, that is, a CICS or a CICSPlex SM resource represented by a resource table. You can create as many view sets for a particular managed object as you like.

A view is a display that is used to interact in a particular way with the managed object. Each view is contained within a view set, and is always displayed in the work frame of the Web User Interface display. There are several types of view:

- Tabular view, see "Tabular views"
- Detail view, see "Detail views" on page 96
- Confirmation panel, see "Confirmation panels" on page 97
- Maps, see "How to map CICSPlex SM definitions" on page 56.

For general use, view sets and views are identified by names of up to 16 alphanumeric characters. View set names must be unique within the server repository. View names are unique within a view set. It is recommended that you adopt a naming convention for the naming of view sets and views.

Note: For IBM use, and for use by independent software vendors (ISVs) an underscore (_) is permitted in view set names. View set and menu names beginning with IBM_ and with EYU are reserved for IBM use.

The Web User Interface includes a set of view sets that you can use either as supplied or as the basis from which to create your own customized views.

Tabular views

You use a tabular view to display:

- Selected attributes from multiple instances of a managed object.
- Summarized records based on one selected attribute of the managed object.

When you create a tabular display, you first select the managed object and then the attributes you want to display. The view editor offers you the choice of all the attributes available for that managed object. You can create one or more tabular views for each managed object, each tabular view containing attributes that are relevant to a specific task.

Fields in a tabular display can be defined as text or graphical representations. They are display only and cannot be modified. You can specify whether the data for that attribute can be sorted in ascending and descending order, and whether the attribute can be used as the basis for a summarized view. Depending on the type of data in the column, you can also indicate how this attribute should be summarized on a summarized view when another attribute in the same view is used as the basis of a summary view.

Note: Specifying a summary type for an attribute, will set the same summary type for all fields using the same attribute name on the view.

You can link from a tabular view to one or more tabular and detail views, depending on the task you want the user to perform. For example, from a tabular view of task resources, you could link to detail views showing clock settings, terminal details, and so on. See “Components of a view” on page 99 for details of how you might do this.

You can add buttons to a tabular view that perform an action immediately, or you can choose to display a confirmation panel. See “Confirmation panels” on page 97 for details.

You can control the display options available to each tabular view. These display options allow you to:

- Make this tabular view the default view for the view set. If you select this option, this view will be used for view links that do not target a specific view within the view set. See “Default views” on page 98 for information about default views.
- Choose whether the automatic refresh option will be available for this view.
- Choose whether all object instances on this view can be selected at once so that an action can be performed against them all, or if each object instance should be selected in turn.
- Select the maximum number of rows that should be displayed on a single page of this view.
- In the case of views related to definitional objects, choose whether or not to include a **Map** button in order to generate a map of associated definitions. See How to map CICSPlex SM definitions for information about the map function.

The summarized view is a special case of the tabular view. When you create a tabular view, you specify which of the attributes in the view may be used as the basis of the summary view. You can select as many attributes as you like, or none at all. When a tabular view is summarized, the same view is used to display the summarized data.

Detail views

You use a detail view to display a selection of attribute information for a particular instance of a resource and also to allow the user to change attribute values.

You can opt to display the information in one or two columns. Two-column detail views increase the amount of data that can be displayed on your screen and reduce the need for screen scrolling. Each column includes the attribute name, the attribute value, and an optional annotation. See “Creating a two-column detailed view” on page 126 for guidance on creating a two-column view.

You can define an attribute value field to be:

- A read-only, textual representation of the attribute value.
- A modifiable field, so that the user can enter another value.
- A graphical representation of the attribute value.

The optional annotation text appears next to the attribute value and can be used to provide additional information, such as names, valid values, and warnings.

It is advisable to keep the annotation text short, otherwise the contents of the detail view may become less clear.

You can include white space (blank lines) in a detail view to separate groups of attributes. You may also include static text that can be used to provide titles for groups of related attribute fields, or to form explicitly labeled links to other views.

A detail view can be used to provide information for the user, but you can also use a detail view to implement a SET action, allowing the user to change one or more attributes for the selected instance of the managed object.

You can link from a detail view to one or more detail or tabular views, depending on the task you want the user to perform. For example, from a detail view of a task resource, you could link to other detail views showing clock settings, terminal details, and so on. See “Components of a view” on page 99 for details of how you might do this.

You can add buttons to a detail view that perform an action immediately, or you can choose to display a confirmation panel. See “Confirmation panels” for details.

You can control the display options available to each detail view. These display options allow you to:

- Make this detail view the default view for the view set. If you select this option, this view will be used for view links that do not target a specific view within the view set. See “Default views” on page 98 for information about default views.
- Choose whether the automatic refresh option will be available for this view.
- In the case of views related to definitional objects, choose whether or not to include a **Map** button in order to generate a map of associated definitions. See How to map CICSPlex SM definitions for information about the map function.

Confirmation panels

Confirmation panels have a similar appearance to detail views.

Confirmation panels are used to:

- Confirm the action that has been selected on the previous view
- Provide any parameter values
- Create panels that allow one or more attributes to be SET on many instances of a resource.
- Provide an opportunity to confirm or override filter values before data retrieval is initiated.

Note: Some actions have parameters that are required or are optional. For example, the SNAP action on the CICSRGN managed object requires the parameter DUMPCODE. In order to determine if a particular parameter is required or optional, you can check the .

The **No to all**, **Yes**, and **No** action buttons are added automatically by the view editor, and you can add a **Yes to all** button if you want. You can also include a list of parameters for an action on a confirmation panel.

For example, since shutting down a CICS region may have a significant impact on users of the system, you may decide to have a tabular view from which the user can select a CICS region for shutdown. Also on the tabular view you could have

an action button labeled **Shutdown** that links to a confirmation panel. On the confirmation panel you could list the parameters, such as IMMEDIATE and NORMAL, for the shutdown action.

Confirmation panels that invoke the definitional actions create and update are somewhat different from those associated with other actions. When you use the view editor to design a confirmation panel for the create action, you can also use the same panel for the update action. The action button, which launches the panel, determines which action it is used for. This avoids any potential problems involved in keeping separate but identical create and update screens in step during the design process.

Filter confirmation screens

A filter confirmation screen allows you to specify filter criteria before the WUI retrieves the data for a view.

When designing views in the view editor, you have the option to specify that a filter confirmation screen should be displayed before the data retrieval is executed. There are no filter confirmation screens associated with supplied views. A typical filter confirmation screen is shown in Figure 34.

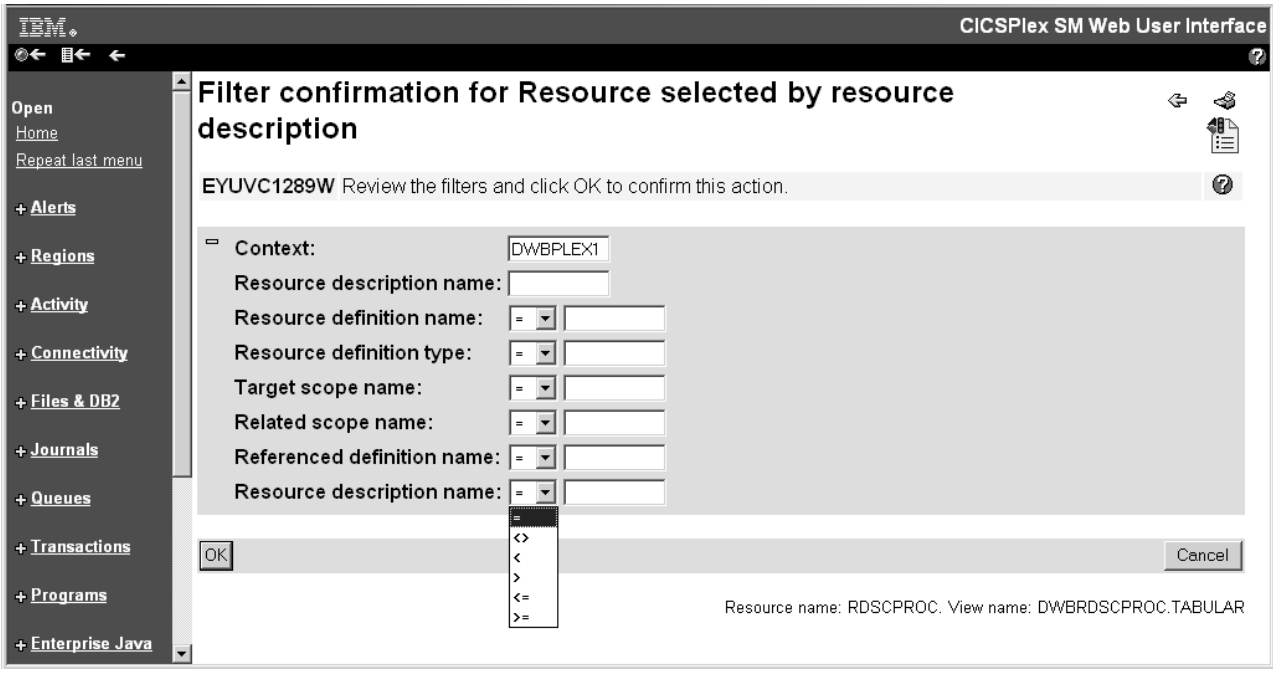


Figure 34. Filter confirmation screen

See “Creating a filter confirmation screen” on page 129 for guidance on setting up filter confirmation.

Default views

A default view is a view that is displayed when a view set is opened and no specific view has been named on the link. One view within a view is set as the default view.

The default view is normally a tabular view, but can be a detail view, if you want. When you build a link from menus to view sets, or from one view set to another, you can specify that the default view is displayed. If you do not name an explicit

view on the link, because you have chosen to display the default view set, you could change or replace the default view without having to amend all of the links to the view set.

The default view set is used for external requests that specify an object name but do not specify a view set name. The default view set is named on the Web User Interface server initialization operation options parameter, that represents the specified object.

Components of a view

You can define some or all of the components of a view.

Contents of the view
The columns or items of data that are to be displayed in the view.

Title The title of the view is displayed at the top of the page.

View annotation
You can add text as an annotation to any view. It will appear below the data display. An annotation can be any text and may be in your national language. You could, for instance, provide guidance for the user on what to do next, if the view forms part of a procedure.

Action buttons
You can add as many action buttons as you want to a view. You select the action you want to perform, and the text that you want to appear on the button. See "Action buttons" on page 105 for more information.

Link to customizable view and menu help
This link, if defined, is located alongside the view title. For more details about the customizable view and menu help, see "Customizable view and menu help" on page 105.

Selection criteria
Selection criteria are the context and scope settings and any filters available to the user. You can define whether the context and scope fields are to be hidden, read-only, or modifiable by the user.

You can also specify any attributes or parameters that will always be available to the user as filters.

Automatic refresh
Users with Javascript-enabled browsers can update views periodically. If automatic refresh is defined as available, an entry field and a check box appear in the Selection criteria and refresh area. The user is then able to turn the automatic refresh facility on or off, and change the refresh interval.

Links Links connect a field in one view with related information in another view, which may or may not be in the same view set.

Link to a view in the same view set
You can create a link from a specific attribute, such as a transaction name, to a detail view in the same view set. As the views are in the same view set the details displayed will reflect the status of the transaction at the time the original view was created. That is, the data is not refreshed.

Link to a view in another view set
You can create a link to related resources, for example, from a task to a transaction, in another view set. In this case, new data is

collected, and filters can be defined on the link. For example, you can set the scope for the target view.

Conditional links
You can specify whether a link is always to be available on a view or, is conditional based on an attribute value at the source of the link. The conditions that the attribute value can be tested against are:

- If the attribute is valid at this release of CICS, and the attribute value is equal to the specified value.
- If the attribute is valid at this release of CICS, and the attribute value is not equal to the specified value.
- If the attribute is valid at this release of CICS.

You can specify only one condition for each link but you can define many links.

For an example of setting up a conditional link, see "Using view links and attribute filters" on page 122.

Customized menus

A menu is a list of related topics from which the user can select one or more items.

Menus are identified by names of up to 16 alphanumeric characters (but see note below). Menu names must be unique within the server repository, but a menu may have the same name as a view set. It is recommended that you adopt a naming convention for the naming of menus.

Note: For IBM use, and for use by independent software vendors (ISVs) an underscore (_) is permitted in menu names. View set and menu names beginning with IBM_ are reserved for IBM use.

Components of a menu

You can define a number of components for a work frame menu, but some components are not used when the menu is a navigation frame:

Title The title to be displayed at the top of the menu. This component is not used for a navigation frame menu.

Link to customizable view and menu help
This link, if defined, is located alongside the menu title. For more details about the customizable view and menu help, see "Customizable view and menu help" on page 105. This component is not used for a navigation frame menu.

Context and scope
You can define whether the context and scope fields are to be hidden, read-only, or modifiable by the user. This component is not used for a navigation frame menu.

Menu group titles
You can group the menu choices by providing a group title for each group.

Menu choices
Each menu choice is a link and may be:

- A link to another menu, possibly setting context and scope.
- A link to a view, possibly setting selection criteria, including context and scope.

- An external link to a location served by an external web server. The contents of an external location are displayed in a separate web browser window.

In addition to the type and destination of a link, you can define context and scope settings for each menu choice, so that you can build, for example:

- A menu of CICSplex names. Each CICSplex name linking to the same menu but with a different context.
- A menu of application names. Each application goes to the same menu but with a different logical scope.

You can define other selection criteria for each menu choice, so that you can display, for example:

- An active workload view for a specific workload
- A view of terminals matching a generic name

Menu annotation
You can add general annotations to a menu. The menu annotation, that appears above the menu contents, may be used to provide, for example, instructions on how to use the menu or comments explaining the menu.

Menu choice annotation
You can add annotations to individual menu choices. Menu choice annotation appear below the menu choice and may be used for explaining the menu choice or the effect of selecting it.

Navigation frame

Usually menus are displayed in the work frame, but you can select one menu to be displayed in the navigation frame.

This menu is the same for all users so you can group the menu choices to reflect different user roles or tasks. You can group the menu choices by providing a group title for each group. The groups are automatically displayed as expandable and collapsible groups. The menu to be displayed in the navigation frame is named on the DEFAULTNAVIGATE Web User Interface server initialization environment options parameter.

Customized map objects

You can use the view editor to create, edit, copy, or delete your own customized map objects. Customized map objects can include hyperlinks to views you specify. You can also enable the map function for customized definitional views by adding a map button.

You can use the view editor for the following map-related tasks

- Enable the map function on a customized view.

  The map function is available on both tabular and detail views that are related to definitional objects.
- Create or edit a customized map object.

  By default the map generated from a particular view is the IBM-supplied map object for the selected resource type. However you can create your own map objects using the view editor and then link these to particular resources by setting WUI server initialization parameters, or for particular groups of users, in user group profiles.

When you create a map object you can specify the destination of the hyperlinks from the resource names displayed on the generated map. In this way you can specify links to customized views from generated maps.

Presenting data

In many cases, you can control the way that data is presented, changed, and selected on views.

Display-only fields
Data can be presented as a display-only field that cannot be changed.

Entry fields
Entry boxes allow the user to enter an attribute or parameter value.

Selection lists
Selection lists contain all the values available to the user for a given attribute or parameter, on this view. Where the user is asked to enter a value, you can create a selection list of appropriate values. Creating selection lists can make a view easier to use and provides an additional level of confirmation of the data by offering a choice of acceptable values to the user.

Graphical presentations
Depending on the type of attribute, you can choose to display your data graphically either as *warning lights* or as *bar gauges*.

Warning lights

You can use different colored warning lights to indicate the value of an attribute. You can set *presentation thresholds* (a single value or, for numeric attributes only, a range of values), and have a different color for each one. You can also have a flashing warning light as an extra alert for the user. Optionally, you can also display the value of the attribute next to the warning light.

For example, you could indicate the severity of system availability monitoring events in your CICS regions by using flashing red for Very High Severe (VHS) and High Severe (HS), orange for High Warning (HW) and Low Warning (LW) , and yellow for the lowest levels of severity, Low Severe (LS) and Very Low Severe (VLS). For an example of how to do this, see “Using warning lights” on page 124.

Bar gauges

Only attributes with numeric data types can use bar gauges. A bar gauge is a horizontal bar that represents the value of the attribute. You can also display the numerical value of the attribute, or the size of the bar gauge as a percentage of the full range, or both.

You specify values for the upper and lower limits of the range, which may be either a specified fixed value or the value of the numeric attribute in the same managed object (resource table). For example, you can display the load in a CICS region as a bar gauge, by comparing current task with maximum tasks.

Within the limits, you can specify threshold values and allocate display colors in the same way as for warning lights.

Numeric data types

You can determine an attribute's data type by consulting the *CICSPlex SM Resource Tables Reference*.

The resource tables reference data types shown in the following table are considered numeric and are displayed as a decimal value to one or three decimal places, using the decimal separator configured for the server:

Table 13. Numeric data types displayed as decimal values

1-decimal names	3-decimal names	Description
AVG	AVG3	Average
PCT	PCT3	Percentage
RATE	RATE3	Consumption rate
SUM	SUM3	Sum of values

The following resource tables reference data types are considered numeric and are displayed as a decimal integer value:

BIN Binary value

CODEBIN
CICS coded binary value

DEC Decimal value

SCLOCK and SCLOCK12 ("Count" format only)
CMF interval store clock, 8 byte and 12 byte. These data types are only considered numeric if the "Count" formatting option is selected for the attribute. When one of the time formatting options is used, as is usually the case, the data type is not considered numeric.

The following resource tables reference data types are considered numeric and are maintained internally as a packed decimal value:

DEC Decimal value

Attributes

Attributes provide field values in WUI views.

Attribute fields

You can use an attribute field to contain the attribute value of an object instance.

When you create a view, you can:

- Create an empty view and add individually selected attributes later.
- Initialize the view with the key attributes. Later, you can add extra attributes and delete the ones that you do not need.
- Initialize the view with all available attributes and delete the attributes that you do not need later.

For some types of attribute, such as clock data, different display formats are available. When you add an attribute to a view, attributes with multiple display formats available appear multiple times in the list of available attributes. You can select the attribute in the appropriate display format.

Display formats for time fields

Clock data can be displayed in up to four different formats, depending on the data type.

Attributes with the data type SCLOCK12, which use the 12-byte CMF interval store clock, can be displayed in any of the time formats. For attributes with the data type SCLOCK (the 8-byte store clock), you can use only certain time formats.

In the time formats that include fractions of a second, *t* is tenths of seconds, *h* is hundredths of seconds, *m* is milliseconds, *i* is ten-thousandths of seconds, *j* is hundred-thousandths of seconds, and *u* is microseconds.

- HHHH:MM:SS.*thmiju*, which shows a 4-digit count for hours, and displays the time to 6 decimal places (down to one microsecond). This format is the default for the data type SCLOCK12. It is not available for SCLOCK. This format is the same as the format used in the CICS statistics reports.
- DDD.HH:MM:SS.*thmiju*, which shows a count for days, and displays the time to 6 decimal places (down to one microsecond). This format is available for the data type SCLOCK12. It is not available for SCLOCK.
- HH:MM:SS.*thmi*, which shows a 2-digit count for hours, and displays the time to 4 decimal places (down to one ten-thousandth of a second). This format is the default for the data type SCLOCK, and it is also available for SCLOCK12.
- HH:MM:SS, which shows a 2-digit count for hours and no decimal places. This format is available for both the data types SCLOCK and SCLOCK12.

Choose one of the longer time formats for larger time values, such as those for long-running tasks, or for time values where you need maximum precision.

For attributes with the data types SCLOCK12 and SCLOCK, you can also display a count. The count is taken from the last 4 bytes of the clock data. It gives the number of measurement periods during which the time recorded by the timer component of the clock was accumulated.

Attribute filters

You use attribute filters to select the records displayed in a view. The filter for an attribute may be either an entry field or a selection list of possible attribute values. You can edit the selection list to suit the circumstances under which the view will be used. These attribute filters will always be available to users of this view.

Note: You cannot specify the EYU_CICSNAME or EYU_CICSREL attributes, or attributes with a maximum length over 256 bytes as attribute filters.

Parameters

Parameters are available for each managed object in CICSPlex SM.

Action parameter fields
: You can include action parameters on a confirmation panel and ask the user to select one before the action is implemented.

Parameter filters
: Parameter filters are available only for certain resource types. You use parameter filters to select the records that are displayed in a view. You can display the parameter filter as either an entry field, into which the user can

type a value, or a selection list, from which the user selects a value. These parameter filters will always be available to users of this view.

Action buttons

Action buttons allow you to operate on resources and are available on tabular views and detail views.

All action buttons except the create action button operate on those objects on a view selected by the user. For example, on a CICS region tabular view, selecting one or more CICS regions for shutdown and selecting the Shutdown action button would shut down all of the selected regions. On a detail view, the action affects only the managed object displayed in the view. For example, to allow a user to enable or disable a file resource, you could create a detail view with the file attribute FILESTATUS, and the attribute CVDA values of ENABLED and DISABLED displayed in a selection list. The user could select the value required, and select a SET action button. The action button is labeled Set, by default, but you can customize the label to display any text, possibly in your national language.

The create action is not related to objects selected on a view. When present on a view, the create action is always available, and functions even on views that present no data.

Action buttons can either:

- Issue an appropriate command. This is in the case of a direct action which requires no confirmation, or
- Display a panel to confirm the action, perhaps with fields for further input. These action buttons automatically have an ellipsis appended to the end of their label.

Customizable view and menu help

In addition to the Web User Interface help provided with the CICSPlex SM Web User Interface, you can create help that is tailored to your customized views and menus, and that provides information relevant to your business procedures.

The help text may be in your national language and might include, for example, site-specific contact names and telephone numbers, or special procedures. You can create your customizable view and menu help in a number of ways. For example:

- You can edit HTML using a text editor or an HTML editor.
- You can export it from a word processor.
- You can link to a server that provides access to a database via a Web browser, for example, Lotus® Domino®.

The help pages can be served either by the Web User Interface server or by an external server.

You can use the View Editor to include a link to the customizable view and menu help when you create a view. The options are:

- Default view-specific help.
- Member name of a help page to be served by the Web User Interface from DFHHTML.
- URL of an external help page to be served by another HTTP server. The external help page should not target the Web User Interface server.

Considerations when creating pages to be served by the Web User Interface server

When creating your help pages to be served by the Web User Interface server, you should consider the following:

- The names of the help pages must be no more than 8 characters and consist of uppercase letters and numerical digits.
- When developing the help pages on a workstation, name the files with one of the following extensions as appropriate for your platform:
  - .htm
  - .html
  - .HTM
  - .HTML
- When uploading the help pages to the DFHHTML data set, use the 8–character page name (with the extension removed) as the member name.

You may link between your help pages if you want, perhaps to create a contents page. To do this, you must specify the page name (including the extension) without any path. For example,

```
<A HREF="PAGE2.HTM">Another Page</A>
```

This allows you to test your help pages and the links between them before you upload the pages to the DFHHTML data set.

When uploading the help pages to the DFHHTML data set, you do not need to change any of the links as the Web User Interface server will recognize the page regardless of the extension you used.

Using the view editor

The CICSPlex SM Web User Interface view editor is the tool for customizing your menus, views and map objects.

The navigation frame of the Web User Interface display contains a link to the view editor. However, if your Web User Interface server is running with security active, the view editor is restricted to nominated users. You will not see the link to the view editor unless you have the required authority.

You should leave the view editor by returning to the CICSPlex SM Web User Interface Editor screen or by signing off.

Note:

1. If your web browser session times out, because the INACTIVETIMOUT period is reached, any changes not saved before the session being timed out are lost.
2. This information uses supplied views to provide examples that show how the view editor can be used to edit views. However, you cannot save changes to the supplied views and menus. You must copy the required view set and edit your copy. See “Example tasks” on page 122.
3. A view set, menu, or map object is locked whenever it is opened for edit. Changes are not committed until the view set or menu is finally saved or the edit is abandoned. While locked other users cannot edit the same view set or menu. Users may continue to use the view set or menu while it is being edited,

in which case the original version of the view set or menu will be used until it is opened after the changes have been committed.

Accessing the view editor

To access the view editor, select **View editor** in the navigation frame.

A view editor session is opened in a new window and you are presented with the **CICSPlex SM Web User Interface Editor** screen. You can have more than one view editor session running at any one time.

Web User Interface supplied views and menus

The CICSPlex SM Web User Interface includes a set of views and menus that you can use either as supplied or as the basis from which to create your own customized views and menus.

When you work with either menus or views, the supplied menus and view sets are listed in a selection box. You can select the one that you want to base your customized view on.

Note: You cannot save changes to the supplied view sets and menus. View set and menu names beginning with EYU are reserved for IBM use. You must copy the required supplied view set or menu then edit your copy.

All supplied views are named EYUSTART`object`, where `object` is a CICSPlex SM resource table name.

Working with customized menus

To work with menus, select the **Menus** option from the **CICSPlex SM Web User Interface Editor** screen.

You have the options of creating a new menu, editing an existing menu, copying an existing menu, or deleting a menu.

Working with customized view sets

To work with views, select the **View sets** option from the **CICSPlex SM Web User Interface Editor** screen.

This opens the **View Set Editor** screen, as shown in Figure 35 on page 108. You have the options of creating a new view set, editing an existing view set, copying an existing view set, or deleting a view set.

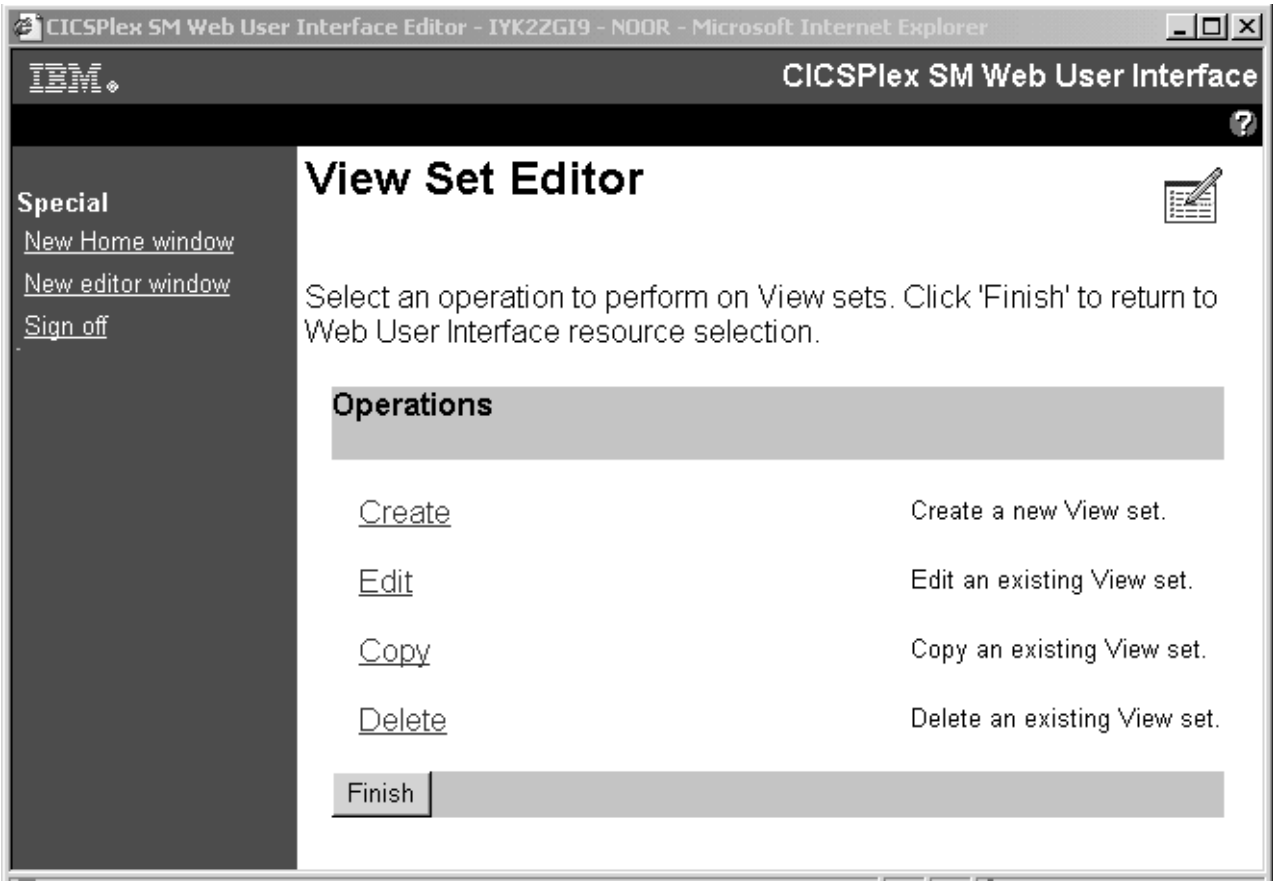


Figure 35. View Set Editor screen

Each view set that you create is based on a single managed object, such as an operations view, or a resource type. When you have created a view set, you can create one or more views based on the selected object.

To edit an existing view click the **Edit** link on the **View Set Editor** screen. You are presented with the **Open View Set** screen as shown in Figure 36 on page 109.

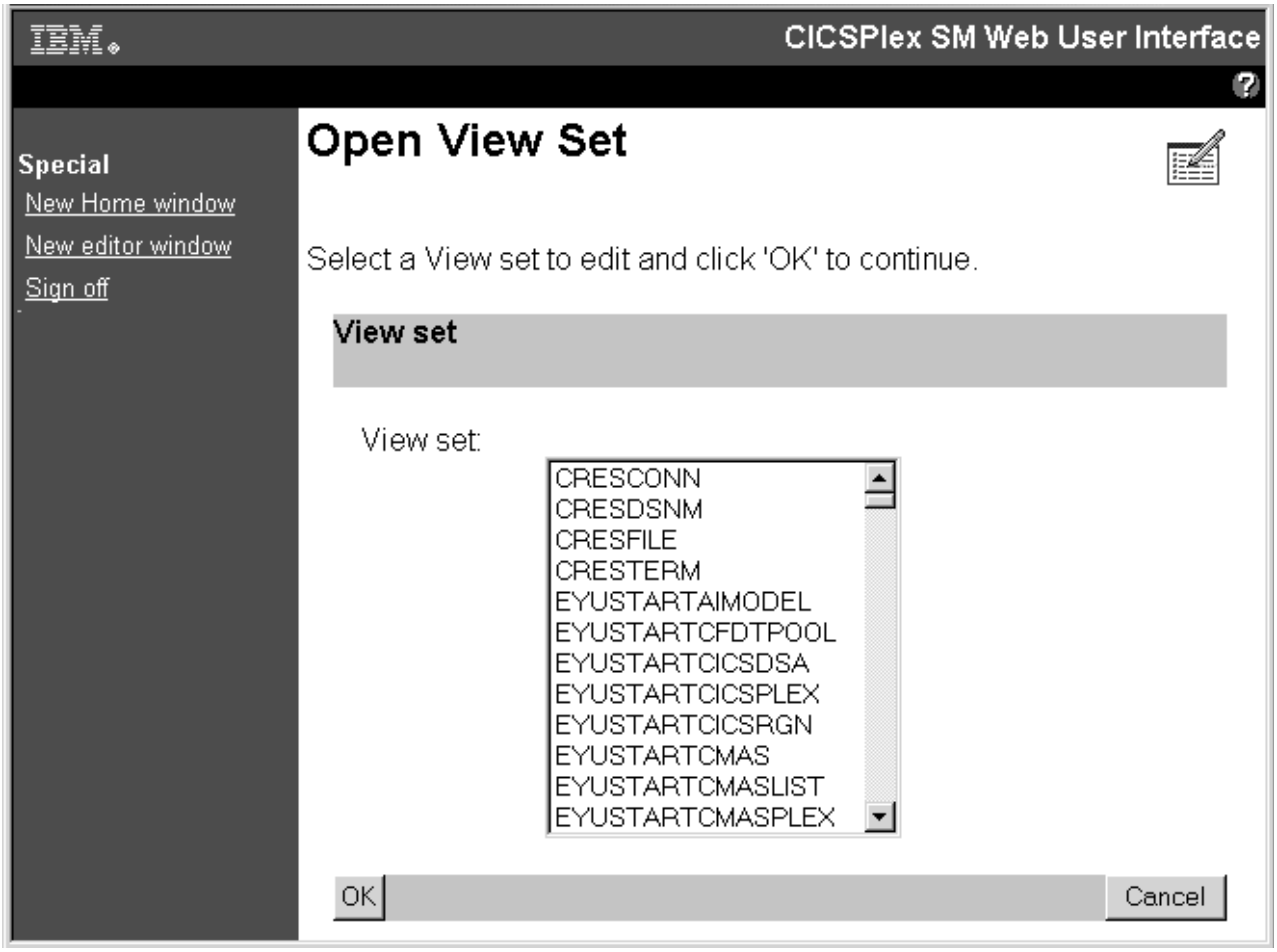


Figure 36. Open View Set screen

From the **Open View Set** screen you can select the view set that you want to edit to be presented with the **View Set Contents** screen similar to the screen shown in Figure 37 on page 110. This screen shows that the selected view set EJBS contains a tabular view and a detail view.

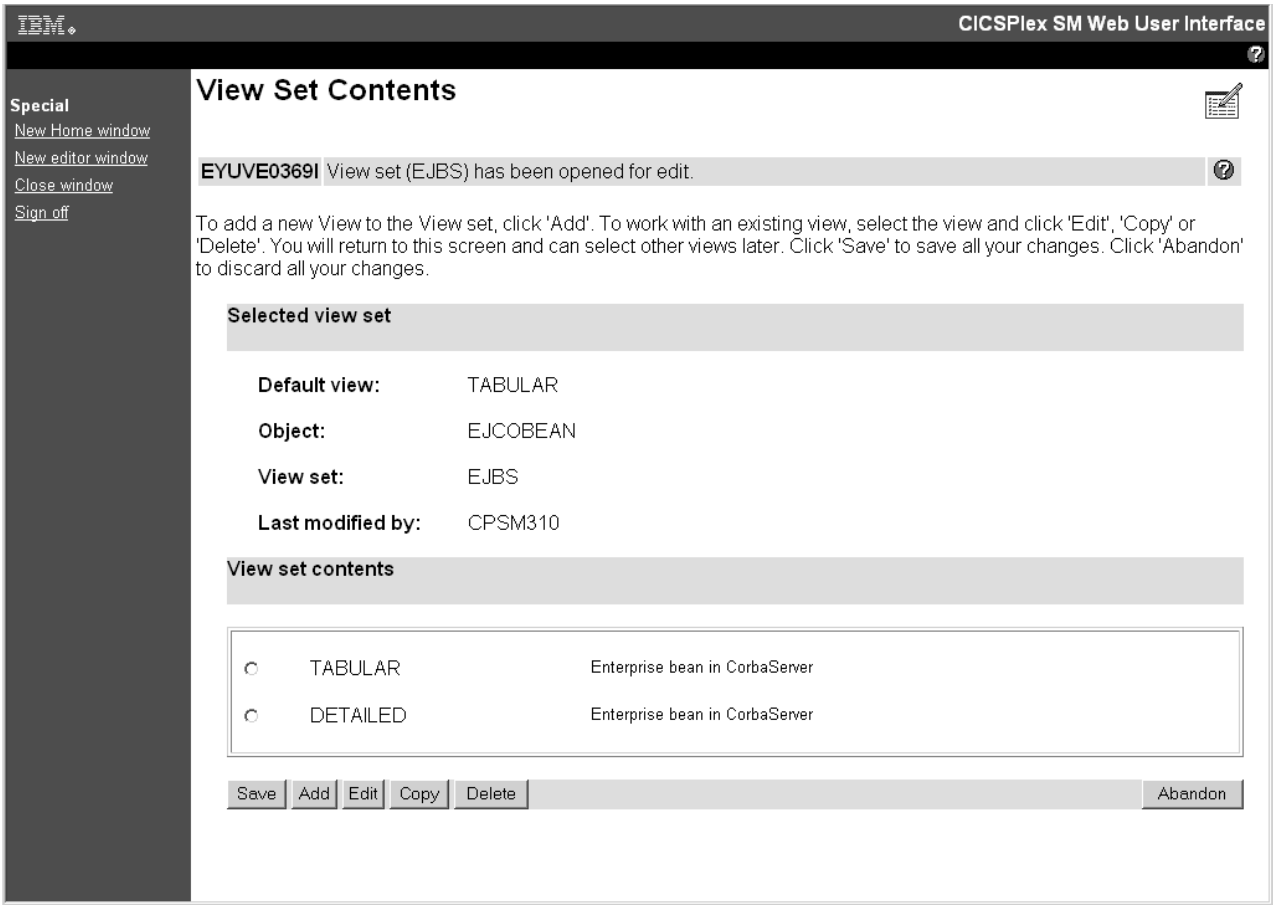


Figure 37. View Set Contents screen

From the **View Set Contents** screen, you can add a new view, edit, copy, or delete an existing view from the view set that you are working with.

Working with customized views

To edit an existing view you select the view from the **View Set Contents** screen by selecting the radio button against the view and clicking **Edit**.

You can select one view to edit at a time. The **View Set Contents** screen is redisplayed after editing a view allowing you to select another view to edit, if required.

For example, by selecting the Tabular view from the **View Set Contents** screen, you will be presented with the **Tabular View Components** screen shown in Figure 38 on page 111.

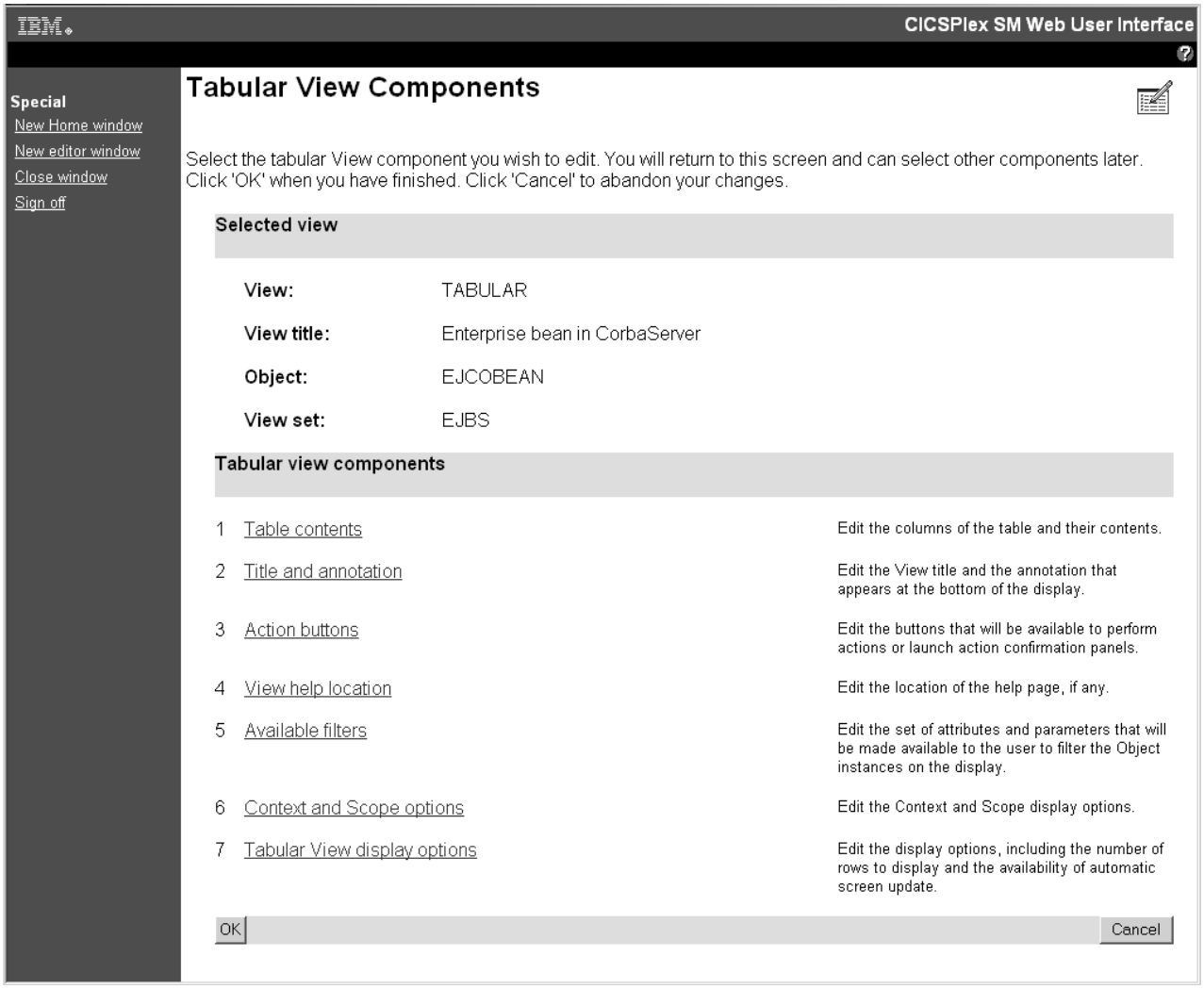


Figure 38. Tabular View Components screen

From the **Tabular View Components** screen you select the component that you want to edit and a new screen is displayed. When you have finished editing your selection you are returned to the **Tabular View Components** screen, from where you can select another component to edit, click **OK** to return to the **View Set Contents** screen, or **Cancel** to lose all the changes that you have made to this view and return to the **View Set Contents** screen.

For example, to edit the columns and contents of the **EJBS** tabular view, select the **Table contents** component. This displays the **Table Contents** screen shown in Figure 39 on page 112.

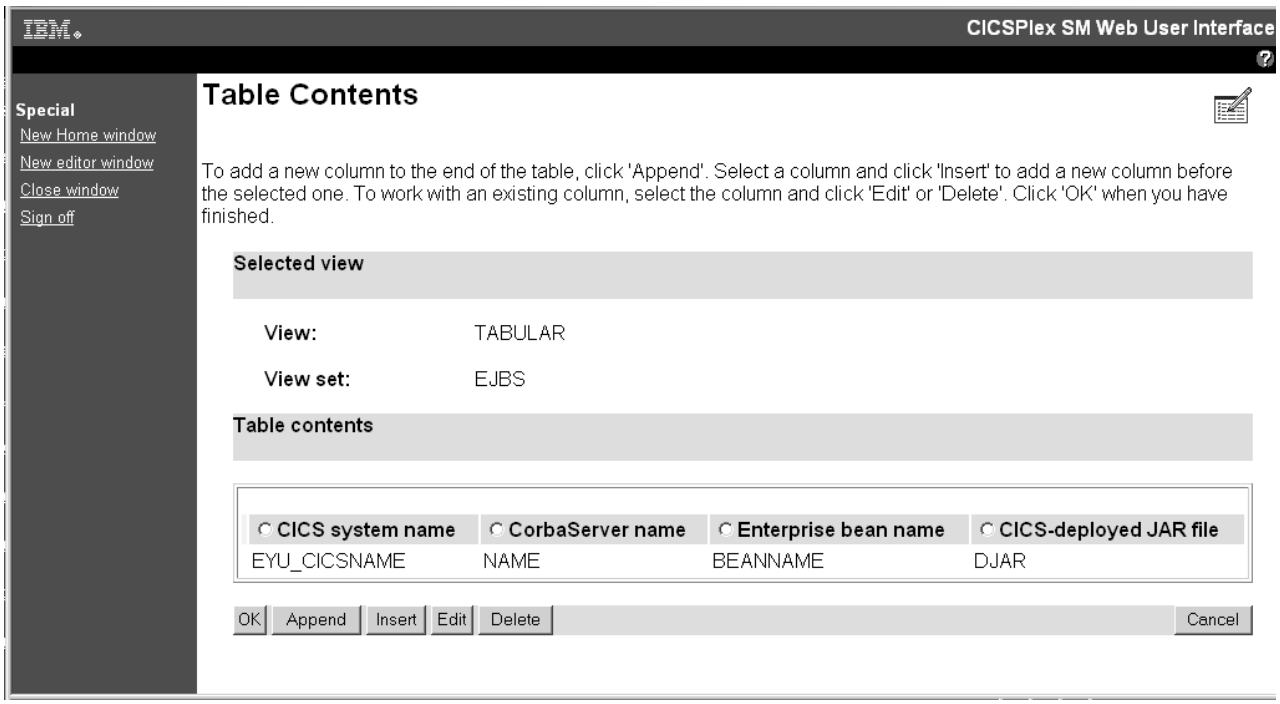


Figure 39. Table Contents screen

From the Table Contents screen you can:

- Click **Append** to add a new column to the end of the table, even if a column has been selected.
- Select a column and click **Insert** to add a new column before the one that you have selected.
- Select a column and click **Edit** to edit the contents of the column.
- Select a column and click **Delete** to delete the column.

A column is selected by selecting the radio button in the title box of the column.

When you have finished editing the **Table Contents** screen, click **OK** to return to the **Tabular View Components** screen from where you may decide to work with the action buttons available on the Journal Name view.

To edit the action buttons that are available on the EJBS view select the Action buttons component.. This displays the **View Buttons** screen.

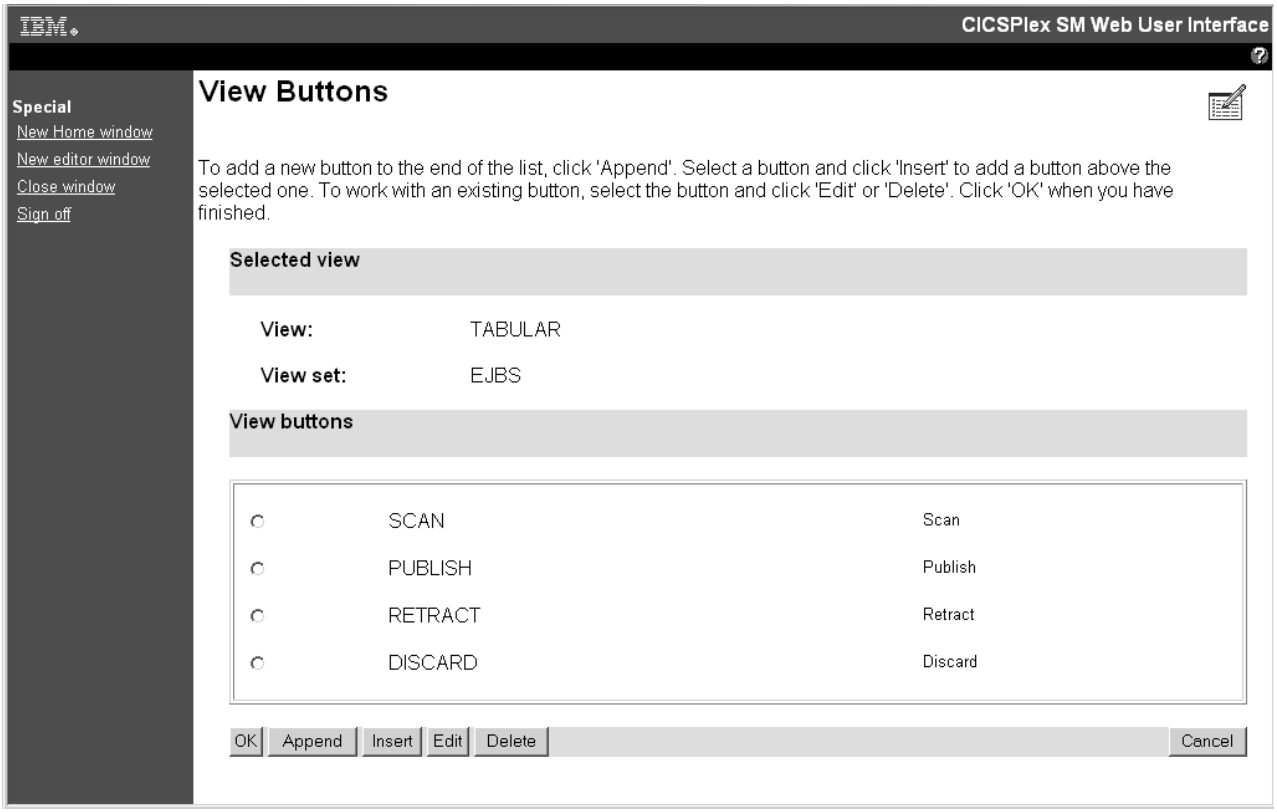


Figure 40. View Buttons screen

From the **View Buttons** screen you may want to add a new button. Click the **Append** button, as instructed on this screen, to display the **New View Button**.

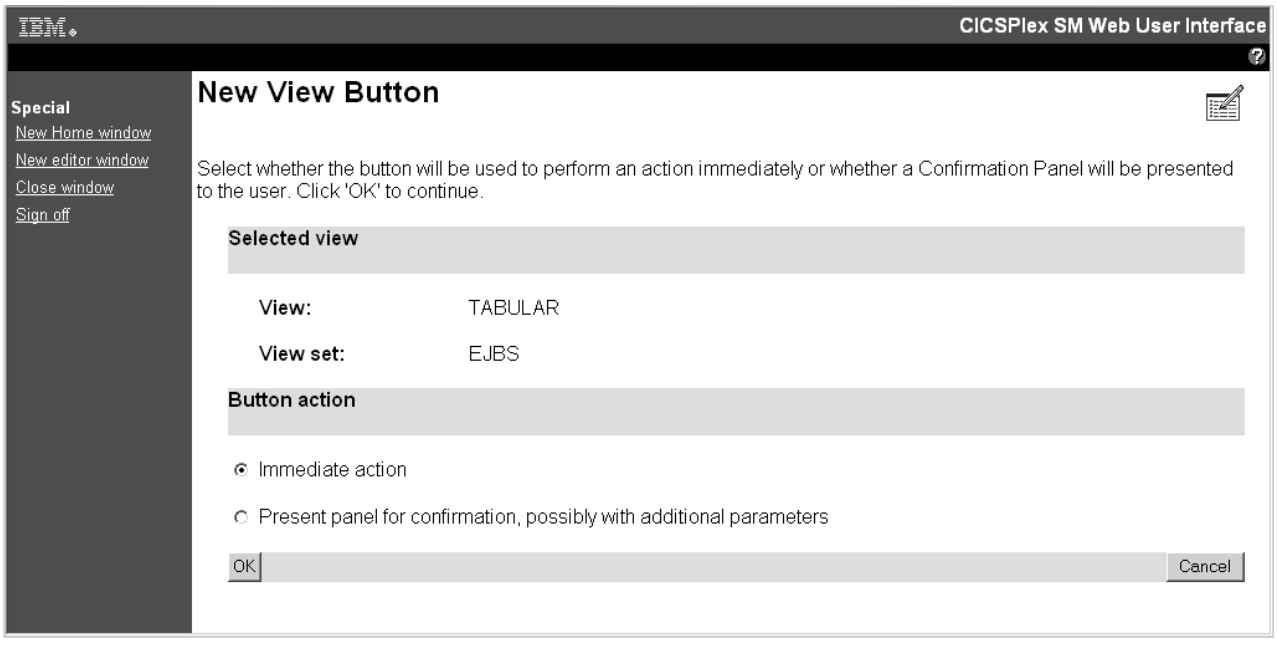


Figure 41. New View Button screen

From the **New View Button** screen you can select the button action:

- Select the **Immediate Action** radio button to perform an action without delay.
- Select the confirmation screen radio button to display a confirmation screen before the action is performed.

If you select the confirmation screen option you are presented with the **View Button With Confirmation screen**.

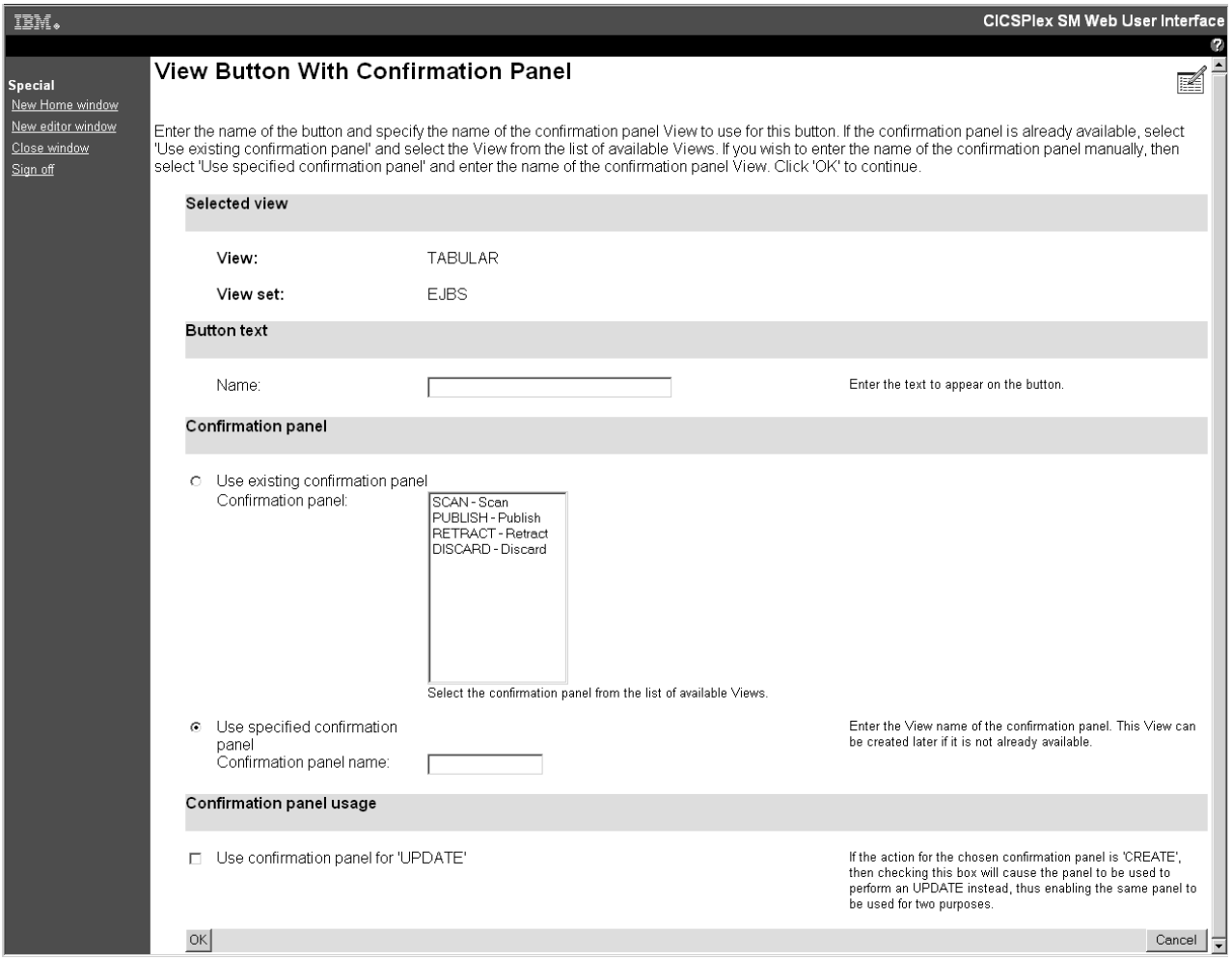


Figure 42. View Button With Confirmation screen

From the **View Button With Confirmation screen** specify the name of the button, and either select an existing confirmation screen from the list of available views or enter a new confirmation screen name, as instructed on the **View Button With Confirmation Panel**. If the new confirmation panel does not exist it can be created later.

If your new button is to be used for the create action, you can set it to be used for the update action also by selecting the check box in the confirmation panel usage section of the screen.

Once you have edited the tabular view click the **OK** button on the **Tabular View Components** screen shown in Figure 38 on page 111 and the **View Set Contents** screen shown in Figure 37 on page 110 is redisplayed where you can save your changes to the tabular view or work with another view in the view set.

Note: Some attribute fields are derived from CICS CMF performance class monitoring data. In order for these fields to function correctly, you need to ensure that the CICS monitoring facility is active by setting the CICS system initialization parameters MNPER and MNRES to YES.

Working with view components

From the **Tabular View Components** screen you select the component that you want to edit and a new screen is displayed.

When you have finished editing your selection you are returned to the **Tabular View Components** screen, from where you can select another component to edit, click **OK** to return to the **View Set Contents** screen, or **Cancel** to lose all the changes that you have made to this view and return to the **View Set Contents** screen.

For example, to edit the columns and contents of the **EJBS** tabular view, select the **Table contents** component. This displays the **Table Contents** screen shown in Figure 43.

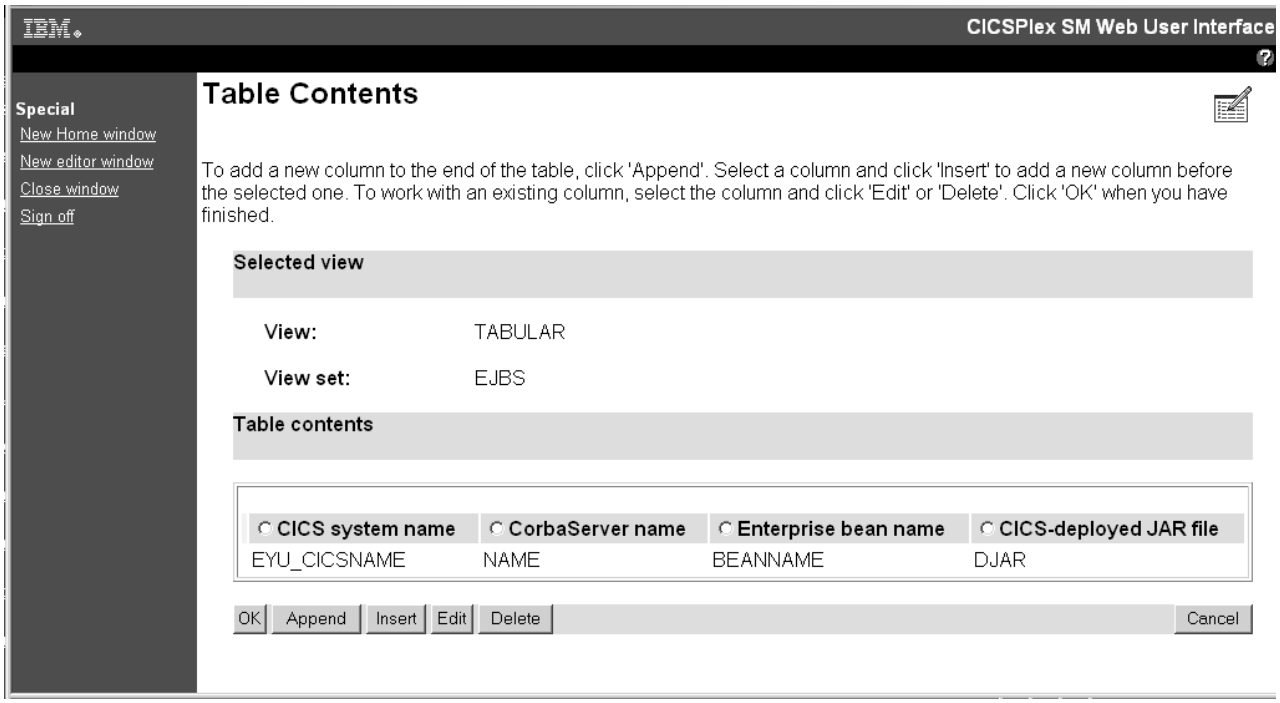


Figure 43. Table Contents screen

From the Table Contents screen you can:

- Click **Append** to add a new column to the end of the table, even if a column has been selected.
- Select a column and click **Insert** to add a new column before the one that you have selected.
- Select a column and click **Edit** to edit the contents of the column.
- Select a column and click **Delete** to delete the column.

A column is selected by selecting the radio button in the title box of the column.

When you have finished editing the **Table Contents** screen, click **OK** to return to the **Tabular View Components** screen from where you may decide to work with the action buttons available on the Journal Name view.

To edit the action buttons that are available on the EJBS view select the Action buttons component.. This displays the **View Buttons** screen shown in Figure 44.

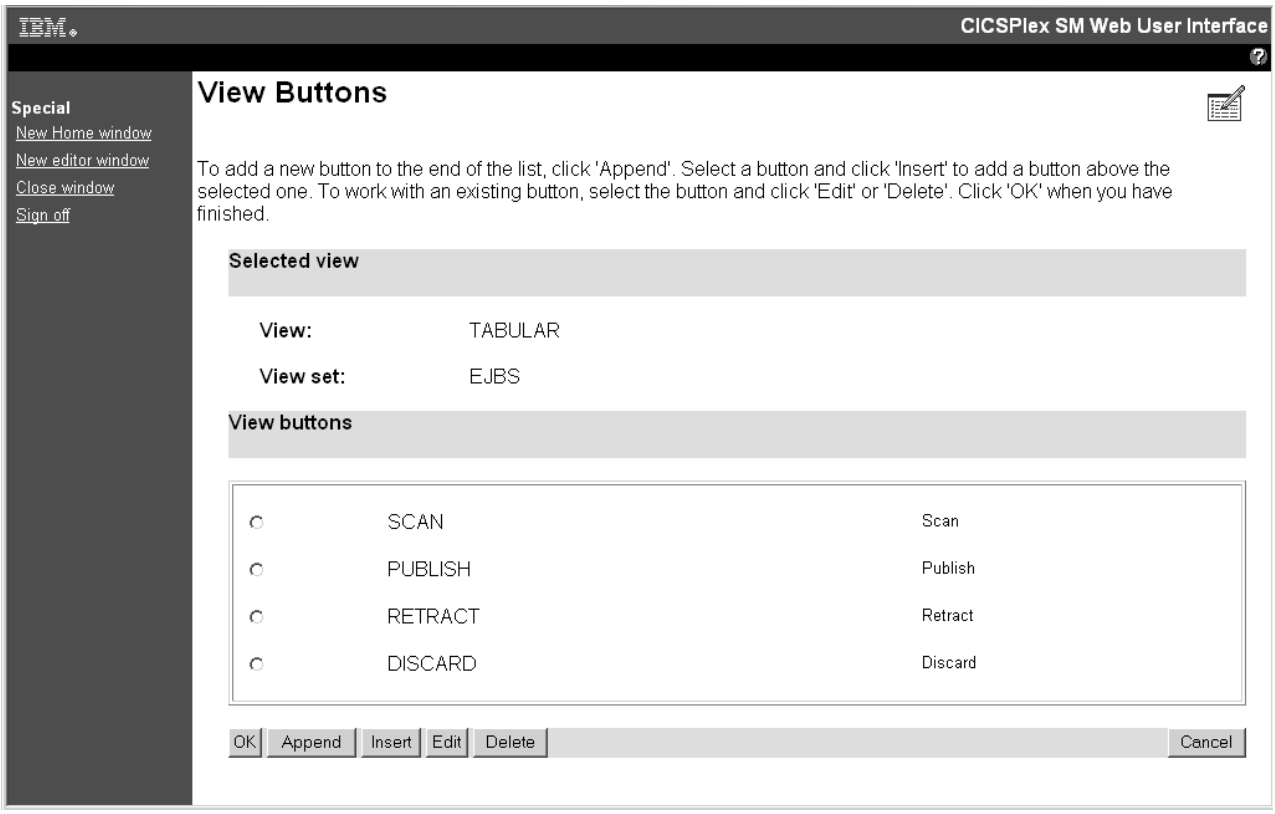


Figure 44. View Buttons screen

From the **View Buttons** screen you may want to add a new button. Click the **Append** button, as instructed on this screen, to display the **New View Button** screen shown in Figure 45 on page 117.

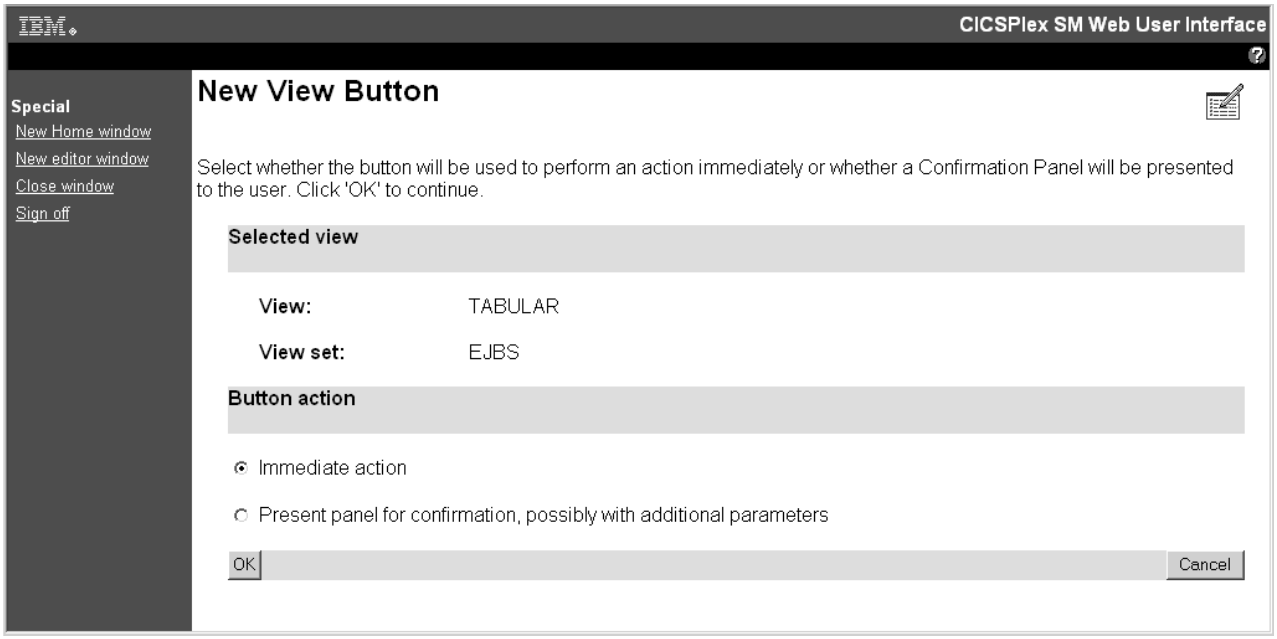


Figure 45. NewView Button screen

From the **New View Button** screen you can select the button action:

- Select the **Immediate Action** radio button to perform an action without delay.
- Select the confirmation screen radio button to display a confirmation screen before the action is performed.

If you select the confirmation screen option you are presented with the **View Button With Confirmation screen** shown in Figure 46 on page 118.

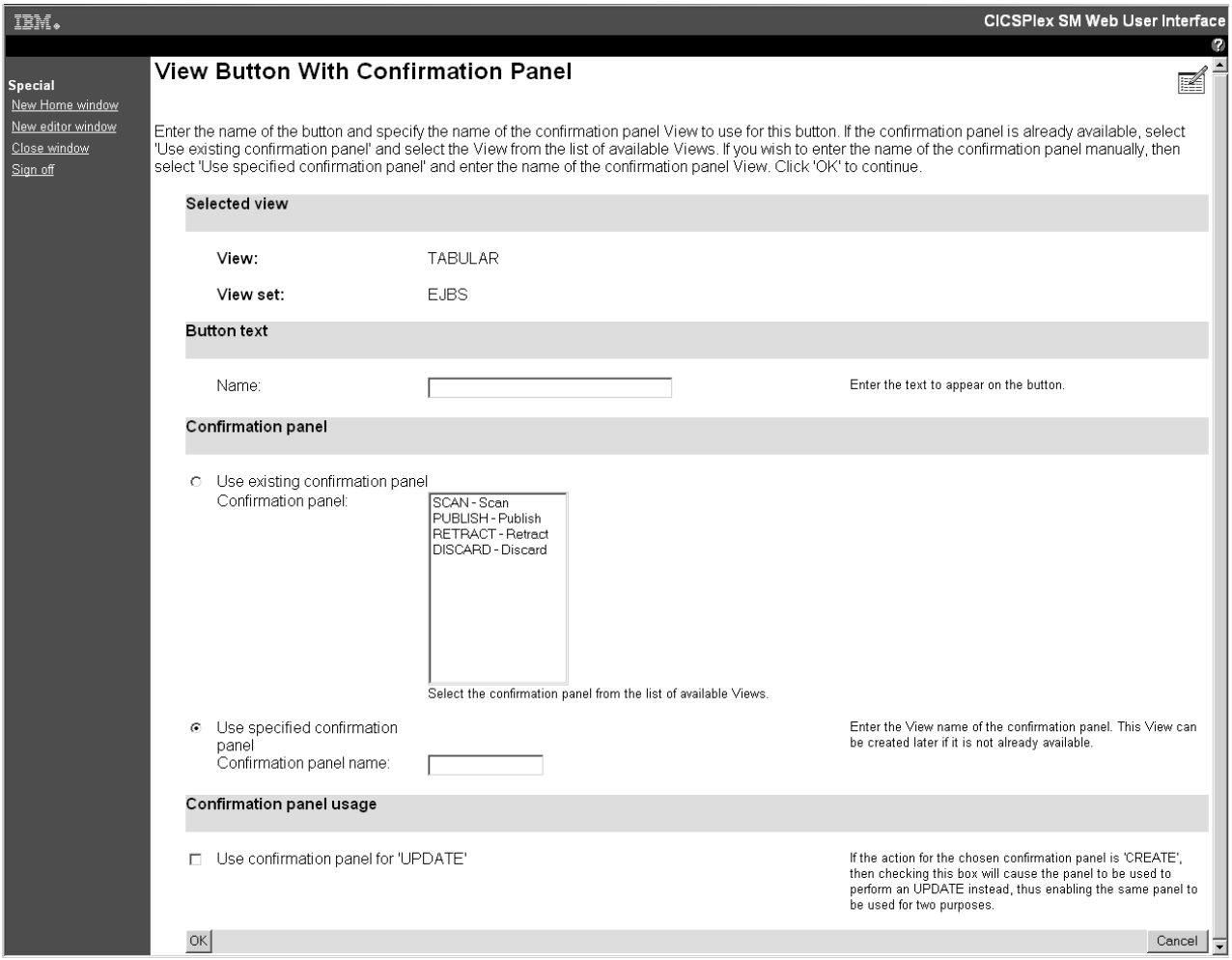


Figure 46. View Button With Confirmation screen

From the **View Button With Confirmation screen** specify the name of the button, and either select an existing confirmation screen from the list of available views or enter a new confirmation screen name, as instructed on the **View Button With Confirmation Panel**. If the new confirmation panel does not exist it can be created later.

If your new button is to be used for the create action, you can set it to be used for the update action also by selecting the check box in the confirmation panel usage section of the screen.

Once you have edited the tabular view click the **OK** button on the **Tabular View Components** screen shown in Figure 38 on page 111 and the **View Set Contents** screen shown in Figure 37 on page 110 is redisplayed where you can save your changes to the tabular view or work with another view in the view set.

Note: Some attribute fields are derived from CICS CMF performance class monitoring data. In order for these fields to function correctly, you need to ensure that the CICS monitoring facility is active by setting the CICS system initialization parameters MNPER and MNRES to YES.

Working with customized map objects

You can use the view editor to create and edit customized map objects.

Enabling the map function on a customized view

To enable the map function on a customized view, use the view editor to add a map button.

Before you begin

You can add a map button to any tabular or detail view that relates to a definitional object.

About this task

The following task describes how to add a map button to a tabular view. The task assumes that you have already created a tabular view as a target for this operation. If you want to add a map button to a detailed view the procedure is the same but the **Tabular View Components** screen is replaced by the **Detailed Form Components** screen.

Procedure

1. Open the view editor, click **View sets > Edit**, and select the view set containing your target view from the list.
2. Click **OK** to open the View Set Contents panel, which lists all of the views in your selected view set.
3. Select the target view from the list and click **Edit** to open the Tabular View Components panel.
4. Click **Tabular View display options** to open the View display options panel. The panel displays a number of headings.
5. Scroll to the **Map button** section and select **Map button available**. Click **OK** to return to the Tabular View Components panel.
6. Assuming you are not making any more changes to the view, click **OK** to return to the View Set Contents panel and then **Save** to confirm the operation.

Results

Your view now includes a map button. If the selected resource type can generate more than one type of map, for example Monitoring and RTA in the case of a time period definition, the view also contains a drop-down box next to the map button listing the available choices.

What to do next

When you click **Map** on your newly customized view, a map of associated definitions is generated. Unless you have specified otherwise, the map generated is based on the default supplied map object for that resource type. You can alter this behavior by specifying a customized map in the WUI server initialization parameters during system setup, or for a particular group of users in a user group profile.

Creating a customized map object

You can create your own map objects for resource types to customize the map's hyperlinks. This process is in two-stages. First you create the map using the view editor, and then associate it with resources to make it accessible.

Before you begin

The view editor includes a number of panels to enable you to create and edit your own maps as shown in Figure 47.

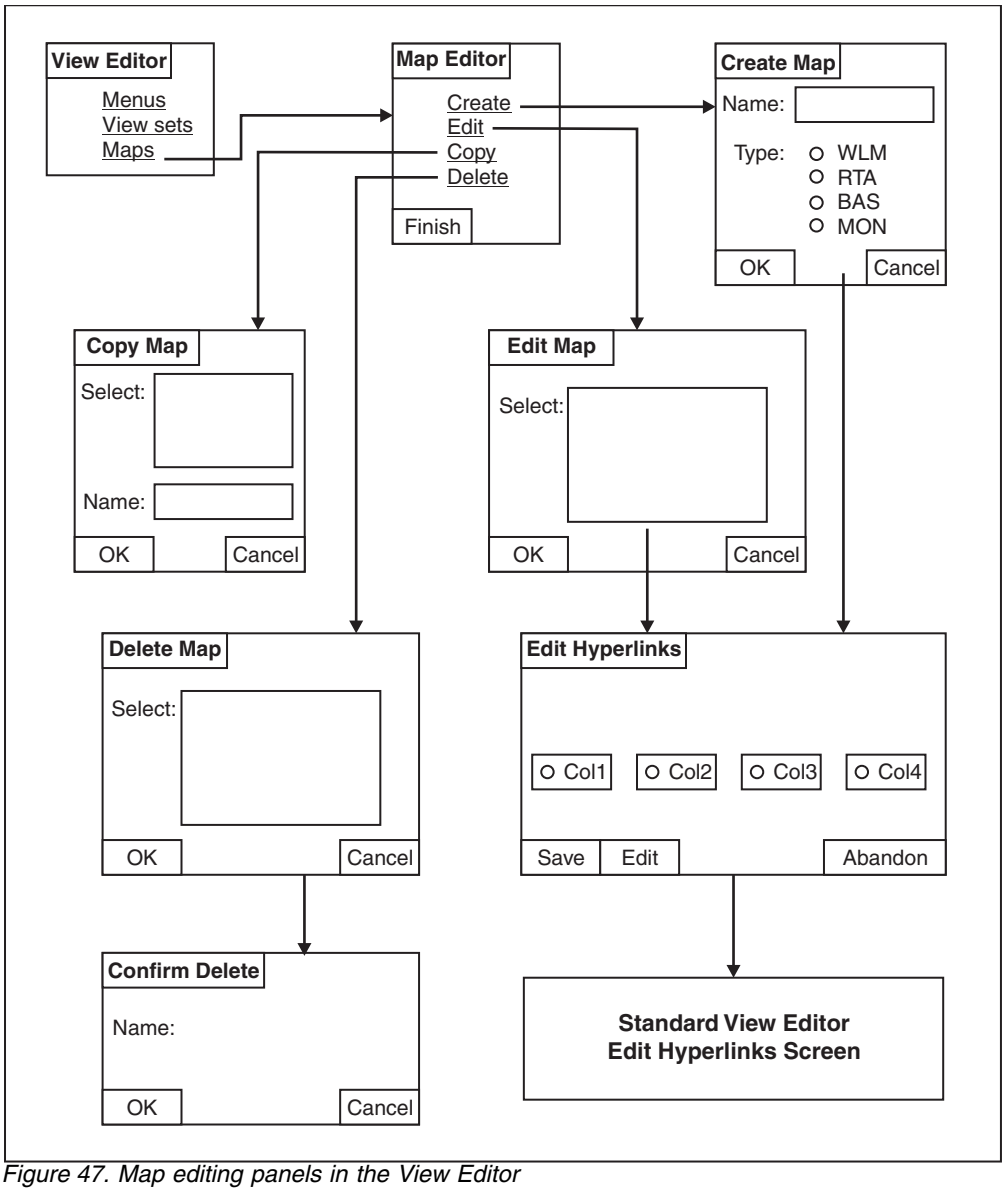


Figure 47. Map editing panels in the View Editor

Maps contain mostly standard elements that cannot be changed. The purpose of creating your own map objects is to customize the map's hyperlinks. On a supplied map, clicking one of the displayed resource names takes you to a detailed view of that resource definition. On a customized map object, you can change this behavior to link to any detailed view, including customized views, that relates to the same object type. For example, you can link from a CSYSDEF resource to any CSYSDEF-related view. However, you cannot link from a CSYSDEF resource to a PROGDEF-related view, for example.

Before you can create and edit maps, you must have update authority to the security profile that most closely matches the map object. A security profile of the form **EYUWUI.***wui_server_applid*.**MAP.***mapname* governs access to map objects in an external security manager.

You can import and export customized map definitions using the COVC transaction.

About this task

You can create a new map object in two ways; you can either copy and rename an existing one, or create a new one from scratch. The procedures are very similar. Follow this procedure to create one from scratch:

Procedure

1. Open the view editor and click **Maps** to open the main Map Editor panel from which you can choose to create, edit, copy, or delete a map.
2. Click **Create** to open the Create Map panel.
3. Type in a name for your new map object. Map object names consist of letters and digits and have a maximum length of 16 characters.
4. Select the type of map you want to create from workload management (WLM), real-time analysis (RTA), business application services (BAS) or monitoring (MON). Choose one and click **OK** to continue. The Edit Hyperlinks panel opens, which shows the resource columns in your new map. The number of columns varies according to the type of map you are creating; BAS, WLM, and monitoring maps have five resource columns, RTA maps have six.
5. Select a column and click **Edit** to set its hyperlink. The Target view set panel opens.
6. Select the view set that includes the target view for the hyperlink, or enter the name of the view set, and then click **OK**.
7. This opens the Target View panel. This panel gives you three choices:
   - Select **Default View name** to link to the supplied view that is the default for the resource type.
   - Select **Use an existing View** and select a view from the list to link to an existing supplied or customized view.
   - Select **Use a specified View** and type in a view name to link to a new view that has not been created yet.

   Make your selection and click **OK** to continue. This takes you back to the Edit Hyperlinks panel. The hyperlink for the column you selected in step 7 is now set. You can now continue to set the other columns by repeating steps 5 to 7.
8. When you have finished setting the hyperlinks, click **Save** on the Edit Hyperlinks panel to save your new map screen in the data repository. Message EYUVE1030I confirms that the operation has been successful.

Results

The alternative method of creating a new map object is to copy an existing one and edit it. To do this, select **Copy** from the Map Editor panel, select an existing map and give it a new name. Now you can select **Edit** from the Map Editor panel to update the new map's hyperlinks.

Having created a map object, you must associate it with the appropriate resource type before you can use it. You can do this in two ways:

- You can specify the association when you are configuring your WUI using the following WUI server initialization parameters:
  DEFAULTMAPBAS for a BAS map
  DEFAULTMAPMON for a monitoring map

DEFAULTMAPRTA for an RTA map
DEFAULTMAPWLM for a WLM map.

- You can specify the association in a user group profile so that you can specify different map associations for different groups of users. Using this method means that you do not have to stop and reconfigure your WUI server.

Applying or rejecting updates

The view editor provides buttons that allow you to commit or cancel updates.

Cancel
Cancel the operation represented by the screen and any changes made as part of the operation.

OK Submit the changes and continue.

Finish Return to the previous screen.

Save Save the changes associated with a view set or menu in the Web User Interface server repository.

Abandon
Do not save the changes associated with a view set or menu in the Web User Interface server repository.

The **Cancel** and **OK** buttons appear together, as do the **Save** and **Abandon** buttons, on view editor panels.

Note: If your web browser session times out, because the INACTIVETIMOUT period is reached, any changes not saved before the session being timed out are lost. For information about the **INACTIVETIMEOUT** Web User Interface server initialization parameter, see Web User Interface server initialization parameters.

Example tasks

Two typical tasks illustrate some of the customization facilities offered by the Web User Interface view editor. In both cases, the starting point is a supplied view set.

The view editor guides you with additional on-screen instructions.

Using view links and attribute filters

This sample task describes how to link from a tabular view of task resources to a detail view displaying terminal information, when the principal facility is a terminal.

The task involves editing a copy of the supplied view to add a new column for the FACILITY attribute, setting up a conditional link and supplying an attribute filter.

The FACILITY attribute column will be defined to link to a view for the TERMNL resource when the attribute contains a terminal ID. This is achieved by making the link conditional on the value of the FACILITYTYPE attribute and using an attribute filter to specify that the TERMID of the target resource is equal to the FACILITY of the source.

For information on the attributes, see *CICSPlex System Manager Resource Tables Reference*.

1. **Prepare the view set**
   a. Copy the supplied view set EYUSTARTTASK with the new name TASKVIEWSET (This name is an example only).

b. On the **View Set Editor** screen, click **Edit** and, from the **Open View Set** screen, select TASKVIEWSET from the list.

c. On the **View Set Contents** screen, select the view called TABULAR and click the **Edit** button.

2. **Add a column**

   a. On the **Tabular View Components** screen, select **Table contents**. The table layout is displayed.

   b. Select the **User ID** column by selecting the radio button in the column heading. Click the **Insert** button. This inserts the new column before the **User ID** column.

   c. On the **New Table Column Attribute** screen, select FACILITY from the attribute list and click **OK**.

3. **Create a conditional link**

   a. On the **Table Column Components** screen, click **View links**.

   b. On the **View Links** screen, click **Append**.

   c. On the **New View Link Type** screen, select the **View set** radio button to link to a view within another view set and click **OK**.

   d. On the **View Link Condition** screen, the **View link conditional on Attribute** check box is selected by default. Select FACILITYTYPE and click **OK**.

   e. On the **View Link Components** screen, select **Condition test**.

   f. On the **View Link Condition** screen, select the condition attribute test radio button **Is valid and equal to** and select TERM in the selection list. Click **OK**.

4. **Specify the target view set and view**

   a. On the **View Link Components** screen, select **Target**.

   b. On the **Local Target Link** screen, the **Target view set selected from list** radio button is selected by default. Select the name of the supplied view EYUSTARTTERMNL from the selection list and click **OK**.

   c. On the **Confirm Object for View Set** screen, confirm that the object type TERMNL is already highlighted and click **OK**.

   d. From the **Target View** screen, select the **Target view selected from list** radio button, select the view called DETAILED and click **OK**.

5. **Specify target selection criteria**

   a. On the **View Link Components** screen, select **Context and Scope**.

   b. On the **View Link Context and Scope Settings** screen, retain the context and CMAS context defaults. Change the scope setting by selecting the **Set to value of attribute** radio button. Select EYU_CICSNAME and click **OK**.

   c. On the **View Link Components** screen, select **Filter attributes and parameters**.

   d. On the **View Link Filters** screen, click the **Append** button. On the **View Link Filter Type** screen, the **Attribute filter** radio button is selected by default. Click **OK**.

   e. On the **View Link Filter** screen, select the TERMID filter attribute and click **OK**.

   f. On the **View Link Filter Settings** screen, the equals operator is selected by default. If the FACILITYTYPE field contains the value TERM, the FACILITY field contains a terminal ID. Select the **Value of attribute** radio button and select filter value FACILITY from the selection list. (The FACILITY field contains a terminal ID if the FACILITYTYPE field contains TERM.) Click **OK**.

6. **Save your changes**
   a. Return to the **View Set Contents** screen by selecting the appropriate buttons on the screens to save your changes. The buttons have different names depending on the function, and may be labeled OK or Finish.
   b. On the **View Set Contents** screen, you have the choice of saving or abandoning your changes.

You can test your view by creating a link from a menu, or see "Providing access to WUI views and menus" on page 77 for information on how to display your view directly.

Using warning lights

This sample task describes how you can replace the textual representation of event severity data in a tabular view with warning lights.

Figure 48 shows detail of the Real Time Analysis (RTA) outstanding events view (EYUSTARTEVENT.TABULAR) as supplied, which is used as the basis for this task. This sample task sets a flashing red warning light for the Very High Severity level. You can make your own choice for the other event severity levels.

Select record	Event name	Current event target	Event severity	Event priority	Event sequence number	Name of context to which event applies	Event description	Date and time when event was created
☐	!!SAMSDM	IYCSST20	VHS	255	4	HYPERION	ID=XS0001 CIRP KENSHOL	2001/10/10 15:18:40
☐	WLMJTCB	IYCQSQ22	LW	240	303	HYPERION	Actual JVMTCB level	2001/10/11 09:24:43
☐	WLMJTCB	IYCQST22	VLS	240	297	HYPERION	Actual JVMTCB level	2001/10/11 09:54:36
☐	WLMJTCB	IYCQST23	LW	240	298	HYPERION	Actual JVMTCB level	2001/10/11 09:23:43
☐	WLMJTCB	IYCQST24	VLS	240	294	HYPERION	Actual JVMTCB level	2001/10/11 09:54:36
☐	WLMJTCB	IYCQST25	LS	240	295	HYPERION	Actual JVMTCB level	2001/10/11 09:22:43

6 records, page 1 of 1.

Figure 48. Detail of view with text representation of event severity levels

Select record	Event name	Current event target	Event severity	Event priority	Event sequence number	Name of context to which event applies	Event description	Date and time when event was created
	▼▲	▼▲	▼▲	▼▲	▼▲	▼▲	▼▲	▼▲
☐	!!SAMSDM	IYCSST20	VHS	255	4	HYPERION	ID=XS0001 CIRP KENSHOL	2001/10/10 15:18:40
☐	WLMJTCB	IYCQSQ22	LW	240	303	HYPERION	Actual JVMTCB level	2001/10/11 09:24:43
☐	WLMJTCB	IYCQST22	VLS	240	297	HYPERION	Actual JVMTCB level	2001/10/11 09:54:36
☐	WLMJTCB	IYCQST23	LW	240	298	HYPERION	Actual JVMTCB level	2001/10/11 09:23:43
☐	WLMJTCB	IYCQST24	VLS	240	294	HYPERION	Actual JVMTCB level	2001/10/11 09:54:36
☐	WLMJTCB	IYCQST25	LS	240	295	HYPERION	Actual JVMTCB level	2001/10/11 09:22:43

6 records, page 1 of 1.

Resource name: EVENT. View name: EVENTVIEWSET.TABULAR

Figure 49. Detail of view with warning light representation of event severity levels

1. **Prepare the view set**
   a. Copy the supplied view set EYUSTARTEVENT with the new name EVENTVIEWSET.
   b. On the **View Set Editor** screen, click **Edit**, and on the **Open View Set** screen, select EVENTVIEWSET from the view set list.
   c. On the **View Set Contents** screen, select the view called TABULAR and click **Edit**. On the **Tabular View Components** screen, select **Table contents**. The table layout is displayed.
2. **Add warning lights to the Event Severity column**
   a. Select the **Event Severity** column by selecting the radio button in the column heading. Click **Edit**.
   b. On the **Table Column Components** screen, select **Presentation options**.
   c. On the **Presentation type** screen, select the **Warning lights** radio button and click **OK**.
   d. On the **Presentation Options** screen, select the **Show value** radio button. It is good practice to have the value displayed as well as the colored lights. Click **OK**.
3. **Set the color thresholds**
   a. On the **Presentation thresholds** screen, click the **Append** button, and on the **Presentation Threshold Components** screen, select **Threshold range**.
   b. On the **Presentation Threshold Range** screen, the **Equal to** field is selected by default. In the entry field, type the attribute value VHS. This is the value that will cause this color. Click **OK**.
   c. On the **Presentation Thresholds Components** screen, select **Threshold color**.

d. On the **Presentation Threshold Color** screen, select the color RED. Select the **Flashing** check box and click **OK**.

e. On the **Presentation Thresholds Components** screen, click **Finish** to return to the **Presentation Thresholds** screen.

f. Repeat these steps for each value that you want to define a color for, selecting the color required. When you have created all your presentation thresholds, click the OK button on the **Presentation Thresholds** screen.

   When no color is specified for a particular value, the color on the display will be grey.

4. **Save your changes**

   a. Return to the **View Set Contents** screen by selecting on the appropriate buttons on the screens to save your changes. The buttons have different names depending on the function, and are either labeled **OK** or **Finish**.

   b. On the **View Set Contents** screen, you have the choice of saving or abandoning your changes.

You can test your view by creating a link from a menu, or see "Providing access to WUI views and menus" on page 77 for information on how to display your view directly. Your view might look like the example in Figure 49 on page 125.

Creating a two-column detailed view

You can create a two-column detailed views using the WUI view editor.

Procedure

1. Open the view editor and navigate to the Add View screen.

   a. From the main menu navigation screen, click **View editor** > **View sets** > **Edit**. The **Open View Set** screen is shown.

   b. Select the view set to which your new detailed view will belong, and click **OK** to open the View Set Contents screen.

   c. Click **Add**. The Add View screen is shown, which you can use to create a new view for the selected view set.

2. Name the new view and define its display type.

   a. Type in a name for your new view in the **View name** field.

   b. Select **Two column detail form** from the list of view types.

   c. Select **Key attributes** from the list of pre-fill options, and click **OK**. The Detailed Form Components screen is shown.

3. Add an attribute to the left column. When you choose to add an item to a two-column detail view, the new element is placed in the left column. In order to maintain left right alignment, a white space element is automatically placed in the right column opposite the new item.

   a. Select **Form contents**. This opens a Form Contents screen like the one shown in Figure 50 on page 127.



Figure 50. Form contents screen for a two-column detail view

Notice it contains a Space element type, which is necessary in the creation of two column screens in order to balance the right and left columns.

b. Click **Append**. The Form Item Type screen is shown.

c. Select **Attribute field** and click **OK** to open the Form Attribute Field screen. This screen contains a list of attributes including the attribute name, data format, and a short description.

d. Select an attribute from the list and click **OK** to open the Form Item Components screen.

e. Check the radio button of the attribute, and complete the definition of the new attribute as follows:

1) Type in the attribute title and any annotation.

2) Select the display options, either normal or graphical.

3) Add any view links.

f. Click **Finish** to add the new attribute to your new view. You are back to the Form Contents screen.

4. Add an attribute to the right hand column of the view. In order to add an element to the right hand column, you need to select a white space element and then edit it to change it to the type of element required.

a. Select the white space element created in step 3 and click **Edit**. The Form Item Type screen is shown.

b. Select the type of element you want to add to the right hand column, and follow the procedure outlined in step 3 to define it.

c. Click **Finish** to add the right hand element to the view.

Note: You can repeat steps 3 and 4 as many times as necessary to add more elements to the left and right columns.

If you want to remove an item from the right hand column, select it and click **Delete item**. This converts the item back to a white space element.

Note: You cannot delete an individual white space element but you can remove adjacent elements in both columns by clicking **Delete row**.

5. Complete the view definition as follows:
   a. Click **OK** on the Form Contents screen to return to the Detailed Form Components screen.
   b. Add the rest of the components of the new view including a title, action buttons, filters, context and scope and so on.
   c. When you have added all the required components, click **OK** to save the new view and return to the View Set Contents screen.

Example

Figure 51 on page 129 shows an example of a two-column detail view.

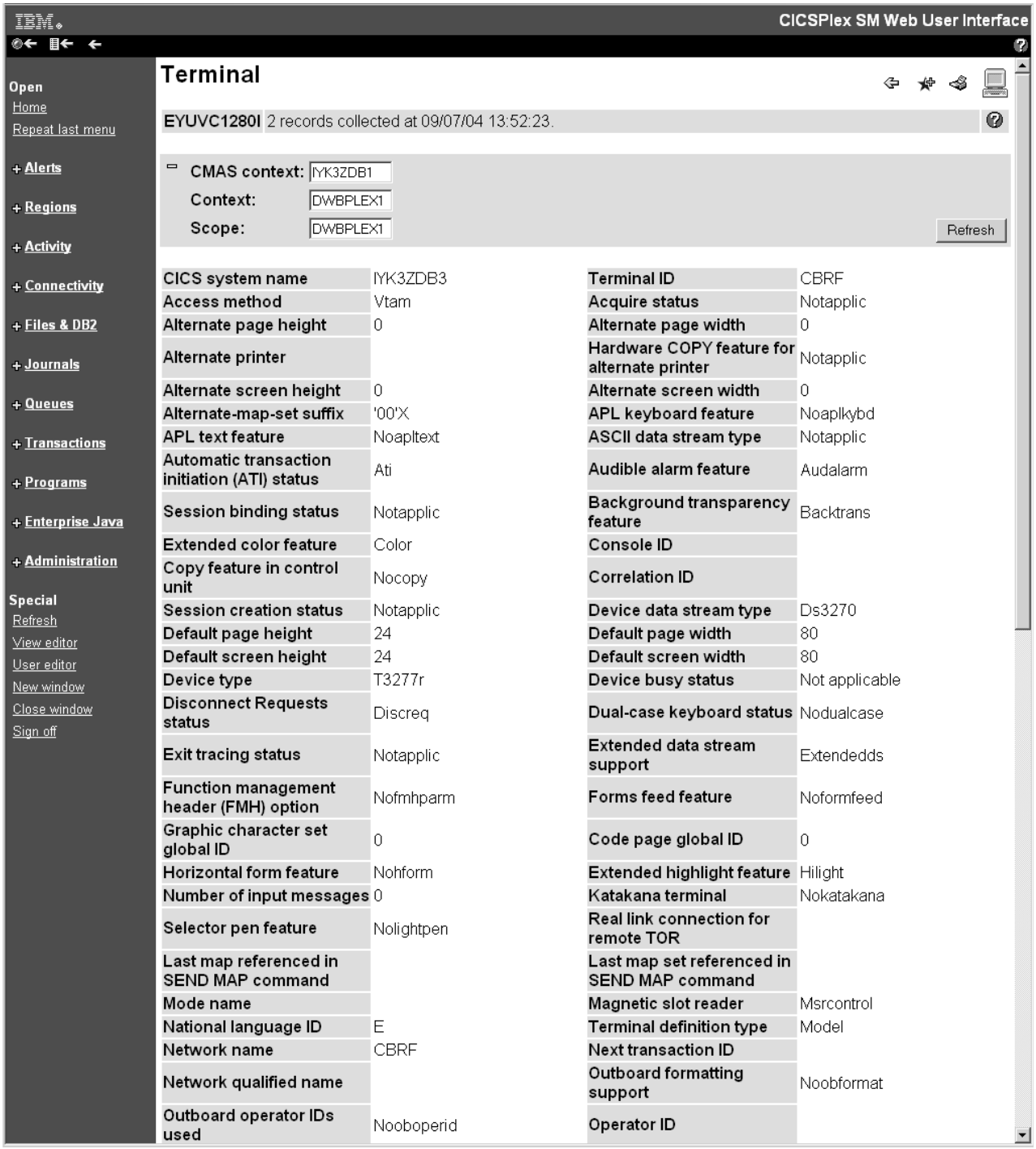


Figure 51. Example of a two-column detail view

Creating a filter confirmation screen

You can use the view editor to set up filter confirmation for an existing (user designed) view.

1. Start the view editor and click **Menus** to open the **Menu Editor**.
2. Click **Edit** and select the menu containing the hyperlink to the intended view from the list. This opens the **Menu Components** screen.

3. Click **Menu Contents**, then scroll to the bottom of the **Menu Contents** screen and click **Append**. This opens the **New Menu Item** screen.
4. Select the **Menu choice** radio button and click **OK**. This opens the **Menu Choice Components** screen.
5. Click **Destination** to open the **Menu Choice Type** screen then select the **View link** radio button. This opens the **Target View Set** screen similar to the one shown in Figure 52.

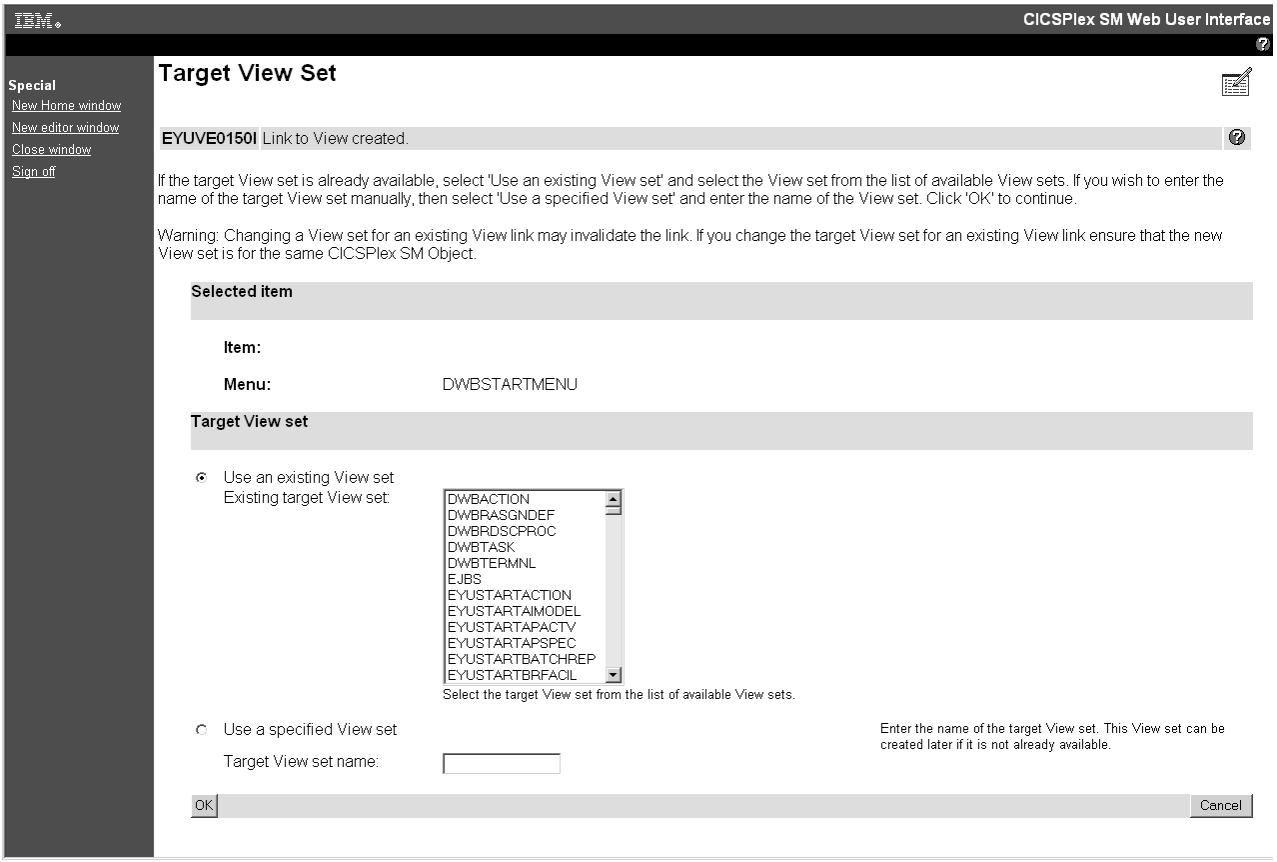


Figure 52. Target View Set screen

6. Select the view set that includes the target view and click **OK**. This opens the **Confirm Object for View Set** screen.
7. Just for confirmation, select the object associated with your selected view set and click **OK**. This opens a **Target View** screen similar to Figure 53 on page 131.

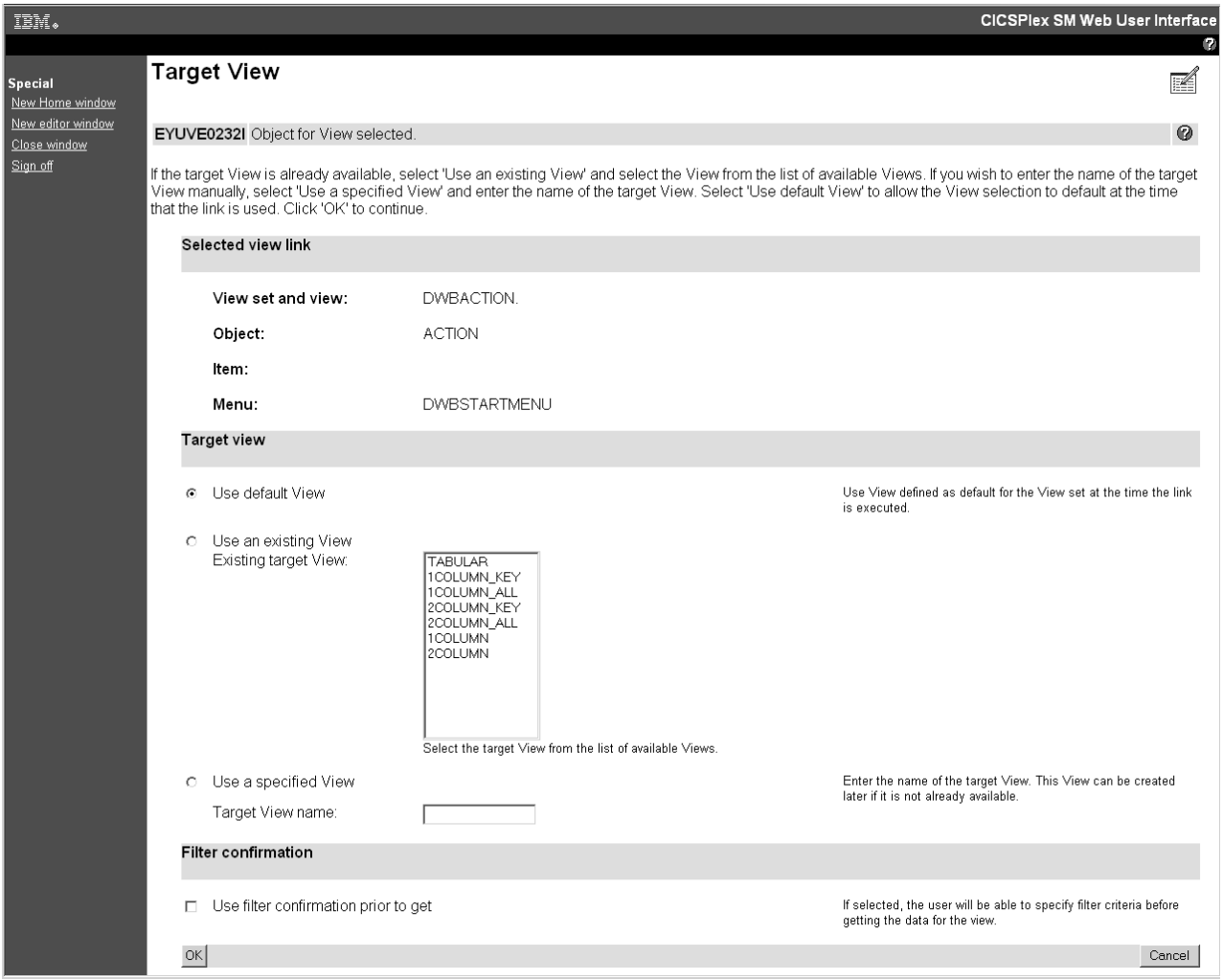


Figure 53. Target View screen showing filter confirmation box

8. To create a filter confirmation screen associated with the selected view, scroll to the bottom of the screen and select the box labelled **Use filter confirmation before get**. Click **OK** to confirm.

Now, before opening the target view, a filter confirmation screen is displayed allowing users to specify filter criteria before data retrieval takes place.

Chapter 4. Client application data interface

The WUI client application data interface provides access from a client application to a WUI server, and enables a client application to use a number of services.

Overview

The data interface enables a client application to connect to a Web User Interface server to obtain data about CICSPlex SM-managed CICS regions.

In effect, the data interface uses the Web User Interface server as gateway into CICSPlex SM. This is illustrated in Figure 54.

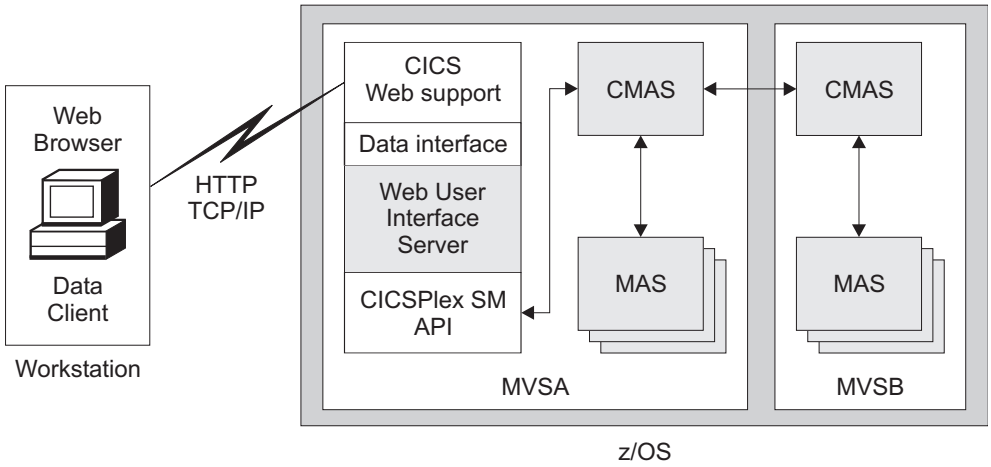


Figure 54. Conceptual view of the use of the data interface

The data interface provides the commands shown in Table 14:

Table 14. The data interface commands

Data interface command	Function
DATA/CONNECT	Sign on to the Web User Interface Server and establish a connection with CICSPlex SM.
DATA/GET	Collect data for a query and store in result set.
DATA/GETDEF	Collect CICSPlex SM metadata objects.
DATA/FETCH	Download a number of records from a previously collected result set.
DATA/DISCARD	Discard a result set, filter, or view.
DATA/PASSTICKET	Obtain a RACF PassTicket.
DATA/DISCONNECT	Disconnect from CICSPlex SM.

To use this data interface, a client application issues commands in the form of HTTP requests to the Web User Interface server. The result from each request is returned in the HTTP response.

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Level of HTTP

A client application can issue data interface commands using either HTTP 1.0 or HTTP 1.1, both of which are supported by the Web User Interface, but commands must be correctly formed according to the HTTP specification used.

For information about Hypertext Transfer Protocol—HTTP/1.0 and HTTP1.1, see the Network Working Group documents RFC1945 and RFC2068 respectively at `www.ietf.org/rfc/`. Note that if your client application issues data interface commands to a Web User Interface server running with SSL support enabled, your client application must also use SSL (that is HTTPS).

Using HTTP proxies

A client application can communicate with a Web User Interface server through an HTTP proxy, provided the client implements the HTTP syntax appropriate for use through a proxy.

GET and POST methods

To obtain access to a Web User Interface session, the client application needs to implement both the GET and POST HTTP methods.

The client application must also be able to work with cookies. For information about cookies, see the "HTTP State Management Mechanism" document in RFC2109, which describes how to create a stateful session with HTTP requests and responses using Cookie and Set-Cookie headers.

Responses

The responses that a Web User Interface server returns to a client application data interface command are standard HTTP responses that are built using the appropriate level of HTTP (that is, the level of HTTP used for the response is no higher than the level of HTTP used for the request).

For example, if a client application issues a data interface command using HTTP 1.1, the Web User Interface server could respond with HTTP 1.0 or 1.1.

The data interface and HTTP

The data interface makes extensive use of HTTP.

HTTP request URL format

The data interface commands are an extension of the existing Web User Interface commands, and use the HTTP URL to specify the command.

All data interface commands are of the form:

`/CICSPlexSM/ENU1/`*`userid`*`/DATA/`*`command`*

ENU1
Specifies the client code page identifier as ENU1 for US English. Although the CICSPlex SM Web User Interface supports the languages and code pages, the data interface always uses ISO-8859–1 code page.

userid
Specifies the user ID of the user signed on to the Web User Interface server.

DATA
This indicates that the request is a data interface command.

command
Specifies the name of the data interface command. This can be one of the commands listed in Table 14 on page 133

The elements in this portion of the command structure are not case sensitive.

You specify the additional options you need on the command as a standard URL-encoded query string. For all except the CONNECT command, you use the HTTP GET method, and therefore the options appear after the URL, as shown in the following DATA/FETCH example:

```
/CICSPlexSM/ENU1/user1/DATA/FETCH?option1&...&...
```

For the DATA/CONNECT command, you use the POST method. In this case, the Web User Interface server expects the Multipurpose Internet Mail Extensions (MIME) type of the body to be `application/x-www-form-urlencoded`, and the URL-encoded HTTP query string to be delivered as the body of the POST request (that is, the command looks like an HTML form submission from a web browser).

For more information about accessing a Web User Interface server using HTTP requests, see "Providing access to WUI views and menus" on page 77.

HTTP responses and codes

When a client application has established successfully a TCP/IP socket connection with a Web User Interface server, the server responds to a data interface command with an HTTP response, which could contain an error response code.

If the HTTP response code is 200 (OK), the body of the HTTP response contains the response to the command issued by the client application. The responses consist of one or more self-describing records encoded using standard URL-encoding, which the client application should inspect and take appropriate action.

The Web User Interface server sets the MIME type for the contents of an HTTP 200 response from the data interface to `application/x-ibm-eyu-data-urlencoded`. If the client application receives an HTTP response code of 200, but the MIME type for the contents is not `application/x-ibm-eyu-data-urlencoded`, it is for one of the following reasons:

- The Web User Interface server to which the client is connected does not support the client application data interface
- The HTTP server to which it is not connected is not a Web User Interface server.

If the HTTP response code is not 200, the body of the HTTP response can be ignored by the client application. In this case, the body is likely to be an HTML page generated by an HTTP proxy or a Web User Interface server for display by a Web browser. The client application is responsible for interpreting the HTTP response code and taking the appropriate action. For example, the following are two HTTP responses that can be generated by a Web User Interface server:

404 - Not found
The resource specified by the HTTP URL cannot be located.

503 - Service temporarily unavailable
The Web User Interface server address space is active (that is, CICS is running and the port is open) but the Web User Interface server application is not currently running.

Other HTTP error responses (for example, response code 500—Internal server error) generated by the Web User Interface server are exception conditions that might require additional diagnostic information. Useful sources of such information are the Web User Interface server messages, logged in the EYULOG data set, and the exception trace entries written by the server to the CICS auxiliary trace data sets. If the client application is connecting through a proxy, the HTTP error response could be from the proxy, not from the Web User Interface server.

Response records

Each data interface response contains a single header record followed by zero or more data records.

If the response contains multiple records, each record is separated from the next by a new-line sequence. For an illustration of the structure of an HTTP response from a data interface request, see Figure 55 on page 139.

Your client application encodes data interface command options using standard URL-encoding, and the Web User Interface server uses the same techniques for response records. For example, two record fields and their values are expressed as follows:

```
field1=value1&field2=value2
```

You encode special characters in field names and values (including space, &, and =) using escape characters that follow the escaping scheme described in the URL specification. The URL escaping scheme specifies that escaped characters are represented by a % (percent sign) followed by 2 hexadecimal digits (in ASCII code). (For information about encoded strings, where some characters can be escaped using "% HEX HEX" see the Uniform Resource Locators (URL) memorandum, RFC1738, at `www.ietf.org/rfc/`.)

The data interface encodes all data flows in the ISO-8859–1 code page, using the Web User Interface ENU1 conversion table and follows a standard character representation, regardless of the Web User Interface server's current language or locale settings. You do *not* need to ensure that the client is using same language and code page as the server. However, your client application might have to convert some character representations used by the data interface to those required by the client application; for example, if you want to use different separator characters for time and date fields.

Response header fields

A successful HTTP response does not mean that the command was successful: it indicates only that the Web User Interface server was able to interpret the command and the result status is indicated in the header record.

Each header record contains at least the fields shown in Table 15. There can also be other header fields, as described for individual commands under "Data interface command reference" on page 139. The order in which header fields appear in the header record is undefined.

Table 15. HTTP header record base fields

Header field	Description
CMASSYSID	SYSID of the CMAS to which the Web User Interface server is connected, if known.

Table 15. HTTP header record base fields (continued)

Header field	Description
CPSMREL	The version and release number character string of CICSPlex SM.
SERVERAPPLID	The CICS APPLID of the Web User Interface server.
STATUS	Main response status indicator. See Table 16 for details.
TASKID	The task identifier of the CICS task that generated the response.

Table 16. HTTP header record STATUS values

Status	Meaning
BADCOMMAND	The specified command is unknown.
BADTICKET	The ticket (cookie) was invalid or missing. This could be, for example, because the user session has expired.
FAILURE	The command failed with an undefined error.
OK	The command executed successfully, and additional header fields can contain the results, depending on the command.
TIMEOUT	The command timed out. See "Dealing with time out failures"

Dealing with time out failures

It is possible that a data interface command, especially a GET command, can take a significant amount of time. One effect of this is that, by the time the response is available, the HTTP socket connection between the client application and Web User Interface server could have expired. To avoid this situation, the Web User Interface server can respond early with a status of TIMEOUT, while continuing to process the original request.

To retrieve the results of the original request, the client application should reply to a TIMEOUT response by sending another request to the server. On this new request, the client application specifies the TIMEOUTTOKEN query string and value taken from the TIMEOUT response. If the server receives a request with a TIMEOUTTOKEN, it either sends the response built for the original request or, if it is still not ready after a further period of time, sends another TIMEOUT response.

If a client application fails to reply to a TIMEOUT response, the results of the original request become inaccessible, but continue to use the resources of the user session. It is important, therefore, for the client application to reply to all TIMEOUT responses.

Note: The TIMEOUTTOKEN value is a "black box" to the client application, which should return the TIMEOUTTOKEN to the server unaltered. The client application should also assume that the TIMEOUTTOKEN value is variable length to protect against possible change in a future release of the data interface.

Data interface stubs

To correlate a sequence of requests relating to a result set, the data interface uses a STUB header for DATA/GET, DATA/FETCH, and DATA/DISCARD commands.

The stub header is similar to a CICSPlex SM API result set token, except it is valid for one request only. Each DATA/GET and DATA/FETCH command generates a

new STUB header and the client application must use the new value on its next request against the result set. Failure to use the correct STUB value results in a BADSTUB response.

The Web User Interface server manages each active data interface result set as a single user session window. Each user session can have a maximum of 64 windows active at anyone time, and these are shared between the client application data interface and the HTML web browser interface.

The Web User Interface server creates a new result set in response to a DATA/GET command that omits the STUB option. The client application can request the server to replace the contents of a result set with the result of a new query by issuing a DATA/GET command that specifies the STUB value of an existing result set.

Data representation

The representation used for CICSPlex SM resource table attributes depends on the attribute types.

In general, the representation is as documented in the *CICSPlex SM Resource Tables Reference*. However, note following conventions used by the data interface:

Decimal points
These are always represented by a . (period).

Time and date fields
The separator for time fields is always a : (colon), and the separator for dates is always a / (slash). The representation used for dates is always of the form YYYY/DD/MM.

Non-printable characters
Character strings that contain non-printable characters are expressed in a quoted hexadecimal format. For example, `'DDFF0400DDFF0400'X` .

Special characters
Character strings that contain special characters (such as an apostrophe, for example) are expressed as quoted strings. In the following example, the phrase `It's raining again`, which contains a single apostrophe, is encoded as follows :

```
'It''s raining again.'
```

The data records

The body of an HTTP response from a data interface request always contains a header, and can also return one or more data records following the HTTP header.

The description of each individual command states which commands return data records (see “Data interface command reference” on page 139). The structure of the complete HTTP response to a data interface request is shown in Figure 55 on page 139, which illustrates the response to a DATA/FETCH request.



Figure 55. Structure of an HTTP response to a data interface request

Data interface command reference

There are seven data interface commands.

DATA/CONNECT
DATA/DISCONNECT
You use these commands to establish a connection with a Web User Interface server, and then terminate the connection when it is no longer needed.

DATA/GET
DATA/FETCH
DATA/DISCARD
DATA/GETDEF
You use these commands to obtain information about the resources managed by CICSPlex SM. These commands enable a client application: (1) to request the creation (GET) of a result set of records matching a particular query; (2) to download pages of records (FETCH) from the result set; and (3) to release (DISCARD) the result set when the application has finished with it. The DATA/GETDEF command is similar to the DATA/GET command except that it retrieves CICSPlex SM metadata.

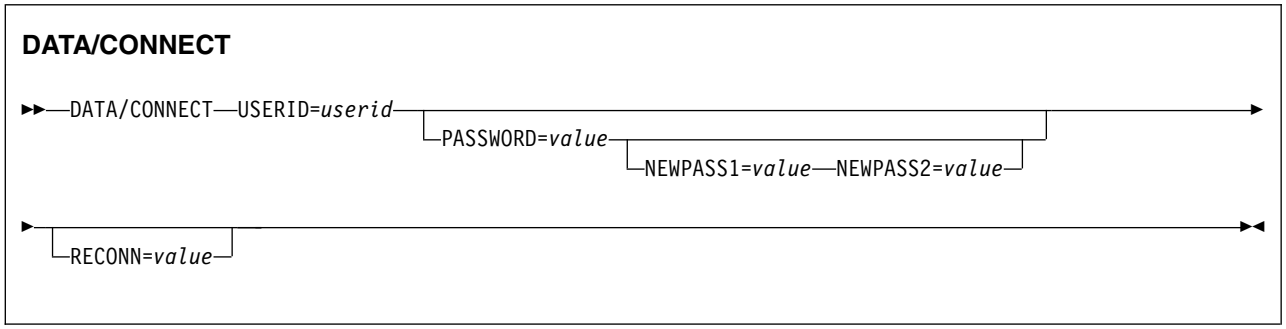
DATA/PASSTICKET
You use this command to obtain a PassTicket, which you need to enable the

client application to launch a Web browser window that connects to the same CICSPlex SM Web User Interface server as the client application.

Each of these data interface commands is described in detail in the following sections.

DATA/CONNECT

Establish a session between a client application and a CICSPlex SM Web User Interface server.



Description

The **DATA/CONNECT** command enables you obtain a Web User Interface user session from a client application. If the Web User Interface server is running with security enabled, a connection command must include the correct password or password phrase. You can sign on with either a valid password or a valid password phrase. If the password you enter is between 1 and 8 characters, it is treated as a standard password. If the length is between 9 and 100 characters, it is treated as a password phrase. You can also specify a new password or password phrase. However you cannot set a new password phrase by using a standard password for authentication, nor can you set a new password by using a password phrase for authentication.

Because the **DATA/CONNECT** command can contain password details, the server accepts connection request using only the HTTP POST method.

A user ID can have only one session with a specific Web User Interface server. A user ID signed on directly to the CICSPlex SM Web User Interface cannot also sign on from a client application using the data interface. However, an existing session can be taken over using the RECONN option.

When the user session has been established, the response to the **DATA/CONNECT** command includes an HTTP cookie, which acts as a ticket to the session. The client application must retrieve the cookie from the response and include it in all subsequent requests to the Web User Interface server for the user session.

Note: The cookie name and value are a “black box” to the client application, which should return the cookie to the server unaltered. The client application should also assume that the cookie name and value are variable length to protect against change in a future release of the data interface

Although it does not contain any password information, the cookie represents access to the Web User Interface user session and must be protected accordingly.

The client must honor the restrictions set out in the HTTP cookie response header. Do not send the cookie to any other host name or path and do not write the cookie to a file.

A data interface client is permitted to create multiple connections (either to different servers for the same user ID, or for different user IDs on the same server), provided that the correct cookie is sent for each request. However, the following normal Web User Interface server restrictions apply:

- Only one active session for a specific user ID on each server is permitted.
- The total number of sessions on a Web User Interface server is limited by the server initialization parameter, **MAXUSERS**.

When a user session is no longer required, you can end it using the **DATA/DISCONNECT** command. As this ends the user session, any web browser sessions that have been launched by the client application are also disconnected. Similarly, if the user issues a **SIGNOFF** command in a launched web browser window, the client application session is also disconnected.

If the **DATA/CONNECT** command completes with STATUS OK, the **DATA/CONNECT** command can also return the following additional header fields:

Table 17. Data returned on DATA/CONNECT command response header

Header field	Description
DATEFORMAT=	Identifies the format being used by this session to represent dates on Web User Interface displays. The data interface client must use this format for date filters when launching an HTML view. Possible values are: YYMMDD DDMMYY MMDDYY YYYYMMDD DDMMYYYY MMDDYYYY **Note:** The format used for data interface requests and responses is always YYYYMMDD.
DATESEPARATOR=	Identifies the character being used by this session to separate date elements on Web User Interface displays. The data interface client must use this character for date filters when launching an HTML view. **Note:** The character used for data interface requests and responses is always a forward slash (/).
DECIMALSEPARATOR=	Identifies the character being used by this session to denote the decimal point on Web User Interface displays. The data interface client must use this character for numerical filters when launching an HTML view. **Note:** The character used for data interface requests and responses is always a period (.).
DAYSLEFT=	Gives the number of days until the user's password expires. This header field is present only if security is enabled in the Web User Interface server.

Table 17. Data returned on DATA/CONNECT command response header (continued)

Header field	Description
INTERFACELEVEL=	Indicates the support level of the client application data interface implemented by the Web User Interface server, as a decimal integer. The requirement of a specific INTERFACELEVEL value is documented within the descriptions of the appropriate data interface commands and options. To use these options, the client should examine the INTERFACELEVEL value to ensure it is greater than or equal to the support level required. If the INTERFACELEVEL header is not present, the client must assume the value, 0.
LASTUSETIME=	Gives the date and time the user ID was last used, in the form `yyyy/mm/dd hh:mm:ss`. This header field is present only if security is enabled in the Web User Interface server.
TCPIPHOSTNAME=	Returns the fully-qualified host name of the Web User Interface server as specified on the Web User Interface **TCPIPHOSTNAME** initialization parameter.
TIMESEPARATOR=	Identifies the character being used by this session to separate hours, minutes and seconds on Web User Interface displays. The data interface client must use this character for time filters when launching an HTML view. **Note:** The character used for data interface requests and responses is always a colon (`:`).

The **DATA/CONNECT** command does not return any data records after the response header fields.

Note: If the client application does not issue a request on a user session for a period longer than the time specified by the Web User Interface **INACTIVETIMEOUT** parameter, all web browser windows and client applications are automatically disconnected. Whenever the server receives a request, either from a client application or a web browser window it has launched, the server resets the "clock" measuring the inactive time on a user session.

Options

NEWPASS1=*value*

Specifies a new password or password phrase if you want to change the current password or password phrase. Omit this option if you do not want to change the password. If you specify a value for `PASSWORD` that is 8 characters or less, it is a standard password and the value for `NEWPASS1` must also be 8 characters or less. If you specify a value for `PASSWORD` that is between 9 and 100 characters or less, it is a password phrase and the value for `NEWPASS1` must also be between 9 and 100 characters.

Note: The minimum length of a password phrase can be controlled by the RACF password phrase exit ICHPWX11. When ICHPWX11 is present and allows it, the password phrase can be between 9 and 100 characters. When ICHPWX11 is not present, the password phrase must be between 14 and 100 characters.

NEWPASS2=*value*

Specifies the new password or password phrase again to validate that it is the same as the value on `NEWPASS1`. This can be omitted.

PASSWORD=*value*
Specifies the user's password or password phrase, for signing on to a Web User Interface server. The PASSWORD option is not required if the Web User Interface server is running with security inactive (that is SEC=NO is specified as a CICS system initialization parameter). If the password you enter is between 1 and 8 characters, it is treated as a standard password. If the length is between 9 and 100 characters, it is treated as a password phrase.

RECONN={N |J|Y}
Specifies the reconnection action required if the user session is already active:

N Do not reconnect by destroying the existing user session and connecting the user of the client application on a new session.

J Join the existing user session

Y Destroy the existing user session and create a new session for the specified user ID.

USERID=*value*
Specifies the user ID for which a session is to be created. This must match the user ID specified in the base part of the **DATA/CONNECT** command in the URL.

STATUS values

BADCOMMAND
The command passed to the data interface is not recognized.

CICSESMNOTINITIALIZED
The CICS external security manager has not been initialized. Ensure that the CICS external security manager is initialized.

CONNECTIONFAILURE
The attempt to connect to the CICSPlex SM application programming interface (API) for the new user session has failed.

ESMNOTRESPONDING
The external security manager is not responding. Ensure that the external security manager is running correctly.

GROUPLENGERR
The length of the group is incorrect. Specify a group that is of a supported length.

GROUPUNKNOWN
The Web User Interface server is running with signon security enabled, and the group specified is not known to the ESM.

INCOMPATIBLEPASSWORDS
A password cannot be used to change a password phrase and a password phrase cannot be used to change a password. Specify a new password if changing a password and a new password phrase if changing a password phrase.

MAXUSERS
The maximum number of users permitted to be signed on to the Web User Interface server has been reached. The maximum number of users is defined by the server initialization parameter **MAXUSERS**.

NEWPASSWORDINVALID
The new password or password phrase does not satisfy the rules for passwords or password phrasexs, as defined by the host system external security manager (ESM).

NEWPASSWORDLENGERR
The length of the new password is incorrect. Specify a new password or new password phrase that is of a supported length.

NEWPASSWORDMISMATCH
The values specified on NEWPASS1 and NEWPASS2 are different, and these values must be the same to change successfully an existing password or password phrase.

PASSWORDEXPIRED
The specified password or password phrase is out-of-date. Specify a new password or password phrase using NEWPASS1 and NEWPASS2.

PASSWORDLENGERR
The length of the password is incorrect. Specify a password or password phrase that is of a supported length.

PASSWORDREQUIRED
The password or password phrase is missing from the DATA/CONNECT request. The Web User Interface server is running with sign-on security enabled, and therefore a password or password phrase is required.

RECONNECTREQUIRED
The user is already signed on but the RECONN option did not specify J or Y.

UNAUTHORIZED
Either the supplied USERID or PASSWORD is incorrect.

USERIDCONTAINSBLANKS
The user ID contains blank characters in an invalid position. Specify a valid user ID that conforms to the user ID rules defined by the external security manager.

USERIDLENGERR
The length of the user ID is incorrect. Specify a user ID that is of a supported length.

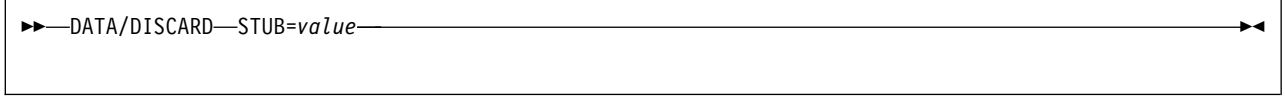
USERIDREQUIRED
The DATA/CONNECT command requires a user ID to establish a session with the Web User interface.

USERIDREVOKED
The Web User Interface server is running with sign-on security enabled, but the external security manager has revoked the user ID.

DATA/DISCARD

Release a result set created by a DATA/GET command.

DATA/DISCARD



Description

This command requests the Web User Interface server to release all the resources for the result set associated with the specified stub. Although the server sends a response to the client application (that is, it does not make the request wait), it

does not immediately discard the resources used by result set. The result set is marked as discarded and can no longer be accessed by the client. Instead of using a DATA/DISCARD and DATA/GET sequence for a new query, consider using a DATA/GET request that specifies an old stub that is no longer required.

The delay in discarding a result set means that the number of windows shown in the user sessions view (see User sessions panel) can be higher than the number of windows active.

Data: The DATA/DISCARD command does not return any data records after the response header fields.

Options

STUB=value
Specifies the identifier of the result set that you want to discard.

STATUS values

BADCOMMAND
The command passed to the data interface by the Web User Interface is not recognized.

CMASGONE
The Web User Interface has lost its connection with the CMAS. As a result, the client application's user session is terminated.

BADSTUB
The stub value is not valid for the request. This could be for one of the following reasons:

- You have have specified a stub value that does not belong to the user session on which you have issued the command.
- The stub value is out of sequence.

BUSYSTUB
The Web User Interface server is still processing a previous request for this stub.

DATA/DISCONNECT

Disconnect a client application from a CICSPlex SM Web User Interface server.

DATA/DISCONNECT



Description

This command enables the client application to initiate the termination of the user session established by a DATA/CONNECT data interface command.

All Web User Interface server sessions, including sessions started by the client application data interface, are subject to automatic signoff after a period of inactivity. This period is determined by the Web User Interface server initialization

parameter, INACTIVETIMEOUT. When the original user session is terminated or replaced, the EYUTICKET value becomes invalid and is ignored by the Web User Interface server.

Data: The DATA/DISCONNECT command does not return any data records after the response header fields.

Options

None.

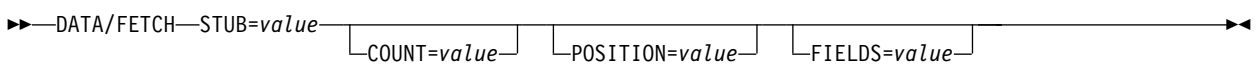
STATUS values

BADCOMMAND
The command passed to the data interface by the Web User Interface is not recognized.

DATA/FETCH

Retrieve the records created in a result set by a previous DATA/GET command.

DATA/FETCH



Description

This command retrieves records from the result set identified by the stub value returned to your client application in response to a DATA/GET or DATA/FETCH command.

Table 18. DATA/FETCH command header response fields

Header field	Description
COUNT=	The number of records returned in this response, which can be zero.
OBJECT=	The name of the CICSPlex SM resource.
REASON=	The CICSPlex SM reason code for the FETCH (the EYUDA value).
RESPONSE=	The CICSPlex SM API response code for the FETCH (the EYUDA value).
STUB=	The STUB header for use on subsequent requests against the result set.
USERID=	The user ID of the session.

The contents of the records selected from result set are contained in additional records in the data interface response, following the response header record (see Figure 55 on page 139 for an illustration of an HTTP response package). Each data record encodes a single result set record, in the order that they appeared in the result set, starting from the record specified by the POSITION= option in the DATA/FETCH request.

Each result set record is described as a series for attribute-value pairs. The attribute name corresponds to the attribute name in the *CICSPlex System Manager Resource Tables Reference* and the value is represented as described above. The order that theses attributes appear in a particular result set record is undefined and the client application has to search for specific attributes by attribute name. If the FIELDS= option is specified, the DATA/FETCH command returns only the attributes named by the FIELDS= option, in the order specified by the client. If the FIELDS= option is not specified, all attributes of the resource will be returned and the order that these attributes appear in a particular result set record is undefined. In this case, the client application must search for specific attributes in each record by attribute name.

If a requested attribute on a DATA/GET request is not valid for the release of CICS from which the result set is created, the attribute is not included in the data interface record.

When your client application is finished with a result set, it can use the DATA/DISCARD command with the correct STUB value to discard it.

Options

COUNT=*value*

Specifies the number of records you want the server to return to your client application from the results set. If you omit this option, the server returns all the records, which could have an adverse affect on performance if the results set is large. The number of records for the result set is in the COUNT header field returned from the DATA/GET command.

FIELDS=*attribute list*

Specifies one or more attributes of the resource type that are to be retrieved by this DATA/FETCH request. Each record in the response contains only the attributes required and those attributes appear in the order specified by the FIELDS= option.

The list of attributes must be separated by a comma and terminated with a period. There must be no white space characters between the attribute names and the separating commas or period. Any characters in the FIELDS= value that appear after the period will be ignored.

For example, to request that only the originating CICS name, the transaction ID, and enable status attributes be retrieved for each local transaction (LOCTRAN) record, specify:

```
FIELDS=EYU_CICSNAME,TRANID,STATUS.
```

If an attribute name is repeated in the list, the attribute will be repeated in the response records. However, the total number of attributes specified in the attribute list must not exceed the number of attributes defined for the resource type.

If the attribute list is not formatted correctly, contains too many attributes, or contains an unknown attribute name, the DATA/FETCH command RESPONSE header will contain INVALIDPARM and the REASON header will contain FIELDS. No data records will be returned.

If the FIELDS= option is not specified, the response will contain all the attributes of each record in an undefined order.

Note: The FIELDS= option is only supported when the INTERFACELEVEL header returned on the DATA/CONNECT command is greater than or equal

to 1. If a client attempts to use the FIELDS= option on an earlier support level of the data interface, the option is ignored.

POSITION={1|v*value*}
Specifies the record number in the result set of the first record to be retrieved by this fetch command. The default number is 1, which indexes the first record in the result set.

STUB=*value*
Specifies the result set from which you want the server to return records. The value you specify must be obtained from the result of one of the the following commands:

- The stub value returned from the GET command that created the result set
- The stub value returned from a previous FETCH command.

Note: Your client application can use a stub value received from Web User Interface server once only. Once you specify a stub value on a request to a Web User Interface server, you cannot use the same value again, but must use the next stub returned for the result set. For example, when you specify a stub value on a DATA/FETCH command, the response from the server includes a new stub to enable you to retrieve more records from the set.

STATUS values

BADCOMMAND
The command passed to the data interface by the Web User Interface is not recognized.

BADSTUB
The stub value is not valid for the request. This could be for one of the following reasons:

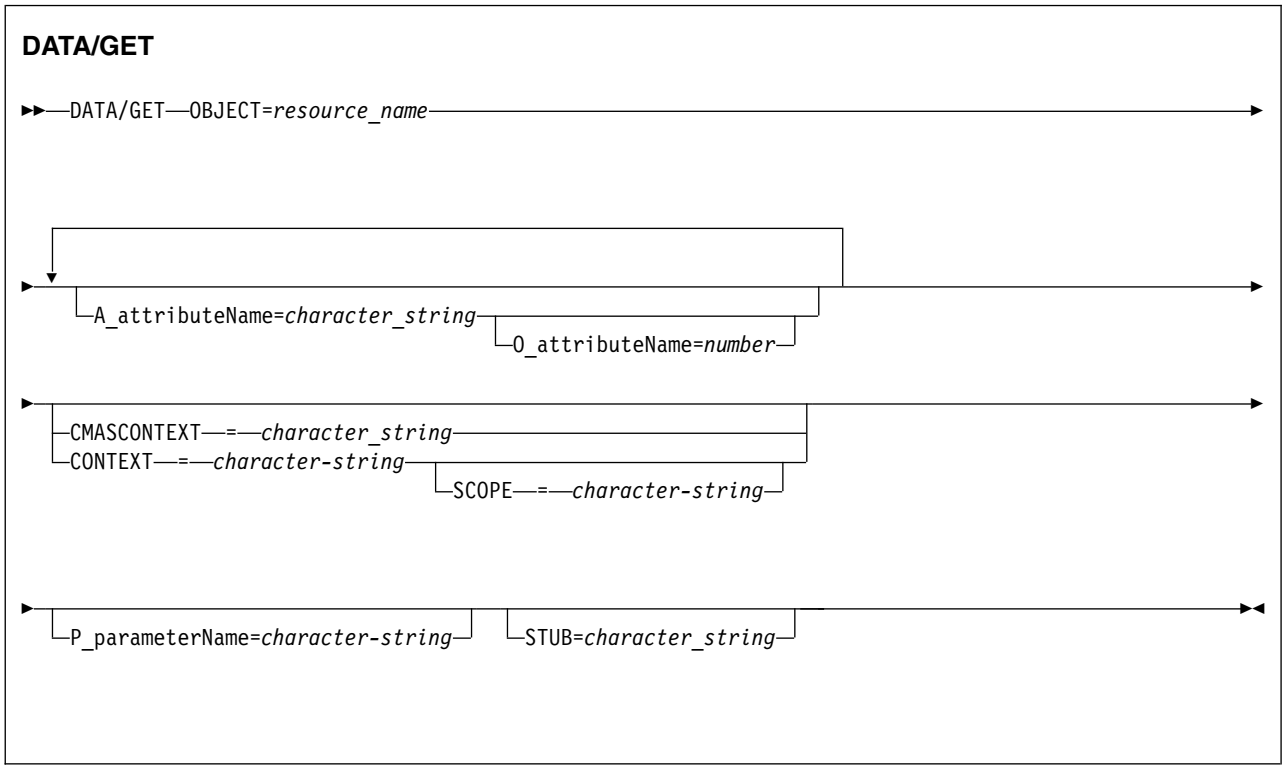
- You have have specified a stub value that does not belong to the user session on which you have issued the command.
- The stub value is out of sequence.

BUSYSTUB
The Web User Interface server is still processing a previous request for this stub.

CMASGONE
The Web User Interface has lost its connection with the CMAS. As a result, the client application's user session is terminated.

DATA/GET

Request the CICSPlex SM Web User Interface server to create a result set of records that satisfy a query.



Description

Initially, you issue a DATA/GET request for a new result set of records without specifying a STUB option on the command. The response from the server includes a STUB header identifying the result set.

You can reuse a results set by issuing a another DATA/GET command that specifies a previous stub value. This has the effect of discarding the old results and reusing the resources to hold the results of the new DATA/GET request.

The result of a DATA/GET command for STATUS OK is shown in Table 19.

Table 19. Data returned on DATA/GET command response header

Header field	Description
COUNT=	The number of records in the results set that match the query. This can be a zero value.
OBJECT=	The CICSPlex SM resource name, as specified on the DATA/GET command.
REASON=	The CICSPlex SM API reason code, where applicable.
RESPONSE=	The CICSPlex SM API response code.
STUB=	The stub value to be used for the next request relating to this query. This can be another GET, or a FETCH or DISCARD command.
USERID=	The user ID signed on to the Web User Interface Server session used for this request.

The CICSPlex SM Web User Interface server manages each active data interface result set as a single-user session window. Each user session can have at anyone time a maximum of 64 active windows, which are shared between the client application data interface and the HTML interface.

Data: The DATA/GET command does not return any data records after the response header fields. The command creates a result set from which a subsequent DATA/FETCH command can retrieve records.

Note: Attribute and parameter filters specified on the DATA/GET command are always grouped by a logical AND operator. It is not possible to use any filter with an OR operator.

Options

A_*attributeName*=*value*

Specifies the value of a known attribute name from one of the CICSPlex SM resource tables. For example, if your query is to find all the disabled files using the LOCFILE resource table, the keyword A_*attributeName* becomes A_ENABLESTATUS and the operand is DISABLED.

The following attribute datatypes can be used as filters:

- AVG
- AVG3
- BIN
- CHAR
- CODEBIN
- CVDAS
- CVDAT
- DEC
- EYUDA
- HEX
- INTVSTCK
- PCT
- PCT3
- RATE
- RATE3
- SCLOCK
- SCLOCK12
- SUM
- SUM3

See Providing access to WUI views and menus for a discussion about selection criteria and "Data representation" on page 138 for information about data representation.

CONTEXT=*value*

Specifies the context for resources that use the CICSplex name. The context must be the 1- to 8-character name of a CICSplex.

If you omit this option, the server uses the last CONTEXT for the specified STUB, or the server default if you do not specify a STUB on the command.

CMASCONTEXT=*value*
Specifies the context for resources that use the CMAS name.

If you omit this option, the server uses the last CMASCONTEXT for the specified STUB, or the server default if you do not specify a STUB on the command.

O_*attributeName***=***value*
Specifies the filter operator to be used with a known attribute name from one of the CICSPlex SM resource tables. For a list of the operator values and their meanings, see Operator values for the O_attrname query variable. For example, if your GET query is about the enable status of files in the LOCFILE resource table, the result of A_ENABLESTATUS=DISABLED with O_ENABLESTATUS=NE is all the files that are in ENABLED, UNENABLED, and DISABLING state (that is, all those that that are *not* DISABLED).

OBJECT=*value*
Specifies the name of the CICSPlex SM resource table in which A_*attributeName* is a valid attribute. This option is required, and must specify the 1- to 8-character name of either a valid resource table or a valid view.

P_*parameterName***=***value*
Specifies a parameter filter for the resources. For example, P_WORKLOAD=*name* in the WLMAWAOR resource table, where ***name*** is the name of an active workload..

Not all resources have parameters associated with them. See "Data representation" on page 138 for information about data representation.

SCOPE=*value*
Specifies the scope for those resources that require a scope.

STUB=*value*
Specifies the result set stub value returned by the server in response to an earlier request. This is optional, and has the following effect:

- If you omit the STUB option, the server creates a new result set. If the server has created one or more result sets from previous requests, these are preserved and unaffected by this request.
- If you specify the STUB option, the server reuses the old result set storage for the new query. In effect, issuing a DATA/GET request with a stub value is the equivalent of issuing a DATA/DISCARD followed by a DATA/GET, and avoids tying up system resources that are no longer needed.

Note: Your client application can use a stub value received from Web User Interface server once only. Once you specify a stub value on a request to a Web User Interface server, you cannot use the same value again.

STATUS values

BADATTR
An A_*attribueName* keyword is invalid. If the DATA/GET command specified a stub value, the implied DISCARD is honored and the associated result set is discarded.

BADCOMMAND
The command passed to the data interface by the Web User Interface is not recognized.

BADOBJECT
The value specified on the OBJECT option is invalid. If the DATA/GET command specified a stub value, the implied DISCARD is honored and the associated result set is discarded.

BADPARM
A P_*parameterName* keyword is invalid. If the DATA/GET command specified a stub value, the implied DISCARD is honored and the associated result set is discarded.

BADSTUB
The stub value is not valid for the request. This could be for one of the following reasons:

- You have have specified a stub value that does not belong to the user session on which you have issued the command.
- The stub value is out of sequence.

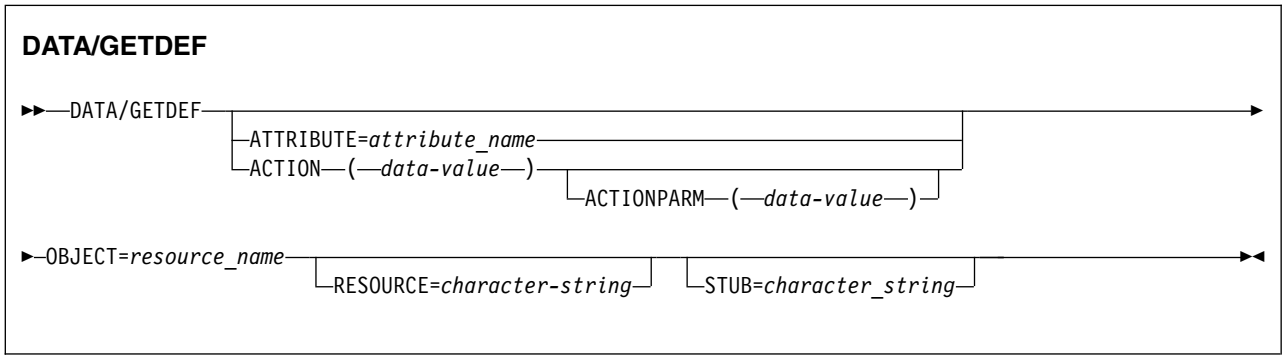
BUSYSTUB
The Web User Interface server is still processing a previous request for this stub.

CMASGONE
The Web User Interface has lost its connection with the CMAS. As a result, the client application's user session is terminated.

MAXWIN
The maximum number of windows (64) for the user session has been reached.

DATA/GETDEF

Request the CICSPlex SM Web User Interface server to create a result set containing selected descriptive records (metadata) for a resource table



Description

Initially, you issue a DATA/GETDEF request for a new result set of metadata records without specifying a STUB option on the command. The response from the server includes a STUB header identifying the metadata result set.

You can reuse a result set by issuing another DATA/GETDEF or DATA/GET command that specifies a previous stub value. This has the effect of discarding the old results and reusing the resources to hold the results of the new DATA/GETDEF or DATA/GET request.

The result of a DATA/GETDEF command for STATUS OK is shown in Table 19 on page 149.

Table 20. Data returned on DATA/GETDEF command response header

Header field	Description
COUNT=	The number of records in the results set that match the query. This can be a zero value.
OBJECT=	The type of metadata to be retrieved for the resource table specified on the RESOURCE option.
REASON=	The CICSPlex SM API reason code, where applicable.
RESPONSE=	The CICSPlex SM API response code.
STUB=	The stub value to be used for the next request relating to this query. This can be another GETDEF, a GET, a FETCH, or a DISCARD command.
USERID=	The user ID signed on to the Web User Interface Server session used for this request.

The CICSPlex SM Web User Interface server manages each active data interface result set as a single-user session window. Each user session can have at anyone time a maximum of 64 active windows, which are shared between the client application data interface and the HTML interface.

Data: The DATA/GETDEF command does not return any data records after the response header fields. The command creates a result set from which a subsequent DATA/FETCH command can retrieve records.

Options

ACTION*(data-value)*
The 12-character name of an action against the resource table for which CPSM MetaData records are to be retrieved.

ACTIONPARM*(data-value)*
The 12-character name of a parameter to an action against the resource table for which CPSM MetaData records are to be retrieved, as it appears in the API parameter string.

ATTRIBUTE=*value*
Specifies, optionally, the value of one or more known attribute names from one of the CICSPlex SM resource tables.

Depending on which CPSM metadata table is named on the OBJECT parameter, this value can be the 1- to 12-character name of a specific attribute or an asterisk (*), for all attributes in the resource table. If you do not specify the ATTRIBUTE option for an OBJECT that does not require it, data is retrieved for all attributes in the resource table.

OBJECT=*value*
Identifies the type of metadata to be retrieved for the resource table specified on the RESOURCE option. This option is required, and must specify one of the following CPSM metadata resource table names:

OBJECT
OBJACT
METADESC
ATTR

ATTRAVA
METANAME
METAPARM
PARMAVA

RESOURCE=*value*
Specifies the resource table for which CPSM metadata records are to be retrieved.

If you specify the ATTRIBUTE parameter, the resource value must be the 1- to 8-character name of a specific CICSPlex SM resource table. Otherwise, you can specify a value of asterisk (*) to retrieve data for all resource tables.

STUB=*value*
Specifies the result set stub value returned by the server in response to an earlier request. This is optional, and has the following effect:

- If you omit the STUB option, the server creates a new result set. If the server has created one or more result sets from previous requests, these are preserved and unaffected by this request.
- If you specify the STUB option, the server reuses the old result set storage for the new query. In effect, issuing a DATA/GETDEF request with a stub value is the equivalent of issuing a DATA/DISCARD followed by a DATA/GETDEF, and avoids tying up system resources that are no longer needed.

Note: Your client application can use a stub value received from Web User Interface server once only. Once you specify a stub value on a request to a Web User Interface server, you cannot use the same value again.

STATUS values

BADCOMMAND
The command passed to the data interface by the Web User Interface is not recognized.

BADOBJECT
The value specified on the OBJECT option is invalid. If the DATA/GETDEF command specified a stub value, the implied DISCARD is honored and the associated result set is discarded.

BADSTUB
The stub value is not valid for the request. This could be for one of the following reasons:

- You have have specified a stub value that does not belong to the user session on which you have issued the command.
- The stub value is out of sequence.

CMASGONE
The Web User Interface has lost its connection with the CMAS. As a result, the client application's user session is terminated.

MAXWIN
The maximum number of windows (64) for the user session has been reached.

DATA/PASSTICKET

Requests a RACF, or other external security manager (ESM), PassTicket from the CICSPlex SM Web User Interface server.

DATA/PASSTICKET

Description

Providing access to WUI views and menus explains how you can access the Web User Interface through a web browser. For example, a client application using the data interface might want to launch a web browser window to allow the user to carry out some activities not supported directly by the client application. However, because the web browser is a separate application it does have the client's cookie, which means the user of the client application would have to sign on separately to the Web User Interface server through the web browser.

The DATA/PASSTICKET command provides a mechanism by which a client application can achieve an authenticated browser launch without requiring the user to perform another signon. This mechanism is in two parts:

- It provides the means of obtaining a PassTicket, which avoids the need to store and communicate the RACF password from the client application signon
- It provides the ability to join an existing Web User Interface user session, and share the session resources between the client application and web browser.

When the client application receives a PassTicket, it can start a web browser using the HTTP POST method to send the signon details for the user. The POST request includes the variables matching the options of the DATA/CONNECT command, including USERID=*value*, RECONN=J, and PASSWORD=. However, on the PASSWORD= option, you specify the PassTicket value in place of the password. You can specify the required menu, view, or object on the URL path of the web browser start request. Include in the POST request body any additional query variables for the launch request; for example, CONTEXT.

The table shows the additional header field that is returned, if the DATA/PASSTICKET command completes with STATUS OK:

Table 21. Data returned on DATA/PASSTICKET command response header

Header field	Description
PASSTICKET=	The PassTicket generated by the ESM. This PassTicket is for the current application and user ID, and must be protected..

Options

None.

STATUS values

BADCOMMAND
The command passed to the data interface by the Web User Interface is not recognized.

Web User Interface HTML

This section describes the HTML generated by the WUI.

The HTML generated by the Web User Interface is not an intended programming interface. The contents or positions of HTML elements may change via service or in future releases. However the following items are identified to enable some parts of the Web User Interface HTML to be recognized.

- After sign on, the Web User Interface normally uses three frames. These are named as follows:
  ASSIST
  Assistance frame
  NAVIGATE
  Navigation frame
  WORKAREA
  Work frame
- The following are the identified (via the HTML ID attribute) anchor (A) HTML elements:
  EYUADDTOFAVS
  Add to favorites
  EYUBACK
  Previous view or menu
  EYUFAVEDITOR
  Favorites editor
  EYUNAVCLOSE
  Close window
  EYUNAVEDITOR
  View editor
  EYUNAVHOME
  New home window
  EYUNAVNEWWIN
  Clone current window
  EYUPRINTPREV
  Print preview
  EYUUSEREDITOR
  User editor
  EYUSIGNOFF
  Sign off
- The following is an identified (via the HTML ID attribute) FORM HTML element:

  EYUSETREFESH
  Used to set the context, scope or view filters.
- The following is an identified (via the HTML ID attribute) HTML element:

  EYUPRESIGNON
  Identifies the Begin Signon screen
- The following is an identified (via the HTML ID attribute) SPAN HTML element:

  EYUAUTOUPDATE
  Identifies automatic screen update control elements.

Any exploitation of these named elements must be within a context that correctly implements and processes HTTP and HTML (for example, the HTTP and HTML should be processed by the program as if it were a Web browser). The program should not infer specific meaning to any other Web User Interface HTML elements,

other than that described above.

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Programming interface information

CICS supplies some documentation that can be considered to be Programming Interfaces, and some documentation that cannot be considered to be a Programming Interface.

Programming Interfaces that allow the customer to write programs to obtain the services of CICS Transaction Server for z/OS, Version 5 Release 4 are included in the following sections of the online product documentation:

- Developing applications
- Developing system programs
- RACF security overview
- Developing for external interfaces
- Reference: application developmenth
- Reference: system programming
- Reference: connectivity

Information that is NOT intended to be used as a Programming Interface of CICS Transaction Server for z/OS, Version 5 Release 4 , but that might be misconstrued as Programming Interfaces, is included in the following sections of the online product documentation:

- Troubleshooting and support
- Reference: diagnostics

If you access the CICS documentation in manuals in PDF format, Programming Interfaces that allow the customer to write programs to obtain the services of CICS Transaction Server for z/OS, Version 5 Release 4 are included in the following manuals:

- Application Programming Guide and Application Programming Reference
- Business Transaction Services
- Customization Guide
- C++ OO Class Libraries
- Debugging Tools Interfaces Reference
- Distributed Transaction Programming Guide
- External Interfaces Guide
- Front End Programming Interface Guide
- IMS Database Control Guide
- Installation Guide
- Security Guide
- Supplied Transactions
- CICSPlex SM Managing Workloads
- CICSPlex SM Managing Resource Usage
- CICSPlex SM Application Programming Guide and Application Programming Reference
- Java Applications in CICS

If you access the CICS documentation in manuals in PDF format, information that is NOT intended to be used as a Programming Interface of CICS Transaction Server for z/OS, Version 5 Release 4 , but that might be misconstrued as Programming Interfaces, is included in the following manuals:

- Data Areas
- Diagnosis Reference
- Problem Determination Guide
- CICSPlex SM Problem Determination Guide

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