

ICBMDB Database:

- **dbo.Divisions**

In TARS application terms, Divisions represent the highest level of organization. They reference no other data objects, but are used as a reference themselves. All divisions must be manually entered into the database prior to launch; there is no functionality in TARS to add divisions.

Fields:

- **varchar(50) divName:** This field is used to differentiate between different division objects.

- **dbo.EarningsCodes**

In TARS application terms, EarningsCodes are three letter codes that are used to categorize an Hours object. An EarningsCodes object is used for display and categorization purposes, and is thus used only as a reference object. All EarningsCodes must be manually entered into the database prior to launch; there is no functionality in TARS to add EarningsCodes

Fields:

- **nchar(3) earningsCode:** A three letter code designating an earning code category
- **varchar(75) description:** A short explanation of what the associated 3 letter code means in real world terms

- **dbo.Histories**

The TARS application will keep a record of all actions that change the database in any way. This is an automatic function that runs in the background. The data in this table can be viewed by administrators, but otherwise cannot be interacted with in any way.

Fields:

- **datetime timestamp:** The date and time that the registered event occurred
- **varchar(50) username:** The username corresponding to the TARSUser object that initiated the event
- **varchar(50) type:** The type of event being logged; add, delete, and modify are the three possibilities
- **varchar(max) change:** List of object fields that were changed along with their new associated values
- **varchar(50) dbtable:** The database table that was modified by the event.

- **dbo.Holidays**

A Holiday object exists to allow the TARS application to account for three-day weekends during its timesheet-locking processes. Holiday objects must be entered by an administrator. They are only referenced by TARS timesheet locking functionality, and thus do not interact with other data objects.

Fields:

- **varchar(50) holidayName:** The name of the holiday in question
- **datetime2(7) date:** The date of the holiday. The datetime2(7) type is more precise than the normal datetime type.

- **dbo.Hours**

In TARS application terms, an Hours object is the primary object of interest. Hours objects are looked up in the database by means of the string value representing the username of their associated TARSUser object, the int value representing the ID of their associated WorkEffort object, and the datetime value representing the day the Hours were logged to. They are thus linked to the TARSUser object and the WorkEffort object.

Fields:

- int **workEffortID**: All hours must be attributed to a specific WorkEffort object. This field registers the ID of the associated WorkEffort.
- float **hours**: This field represents the number of hours to be charged to the WorkEffort identified.
- datetime **timestamp**: This field logs the date that the hours were worked for reference purposes.
- varchar(65) **description**: This field tracks the 3-letter EarningsCode to categorize the hours logged, as well as the EarningsCode description associated with that code.
- nchar(50) **creator**: This field will be set equal to the username of the TARSUser that created the object. In real world terms, this is the employee that the time must be attributed to.

- **dbo.PCA_WE**

The PCA_WE object does not represent an actual entity; instead, it was put in place to allow multiple associations between PcaCode and WorkEffort objects. When a new association between a PcaCode and WorkEffort object is needed, a new PCA_WE object is created and saved to the database with information about the two objects that are newly associated.

Fields:

- int **PCA**: This field will have the value of the PCA Code that is part of the PcaCode object. It will be used to find the associated PcaCode object when necessary for display or record purposes.
- int **WE**: This field will have the value of the
- datetime2(7) **associationStartDate**: This field is present for record keeping purposes. It logs the date where the WorkEffort was attached to the PcaCode
- datetime2(7) **associationEndDate**: This field is present for record keeping purposes. It logs the date where the WorkEffort and PcaCode were dis-associated (via deletion of WorkEffort by a manager or the association being removed by an admin).
- bit **active**: This field is present to indicate the active/inactive status of the association between the WorkEffort and PcaCode objects.

- **dbo.PcaCodes**

The PcaCode object contains a reference to the division it belongs to. One may thus always find a PcaCode object's associated Division object, and may also find all PcaCodes associated with a division by a database search. WorkEffort objects associated with a PcaCode object may only be found by searching the PCA_WE database table for all PCA_WE objects that reference the PcaCode.

Fields:

- **int code**: A five digit code representing a real-world PCA code. These values must be unique.
- **datetime2(7) startDate**: The date of the PCA code's creation. This may be set retroactively, and does not have to be done the day of the PCA code's creation in the real world.
- **datetime2(7) endDate**: The date of the PCA code's end. Hours may no longer be logged to associated WorkEffort objects (accessed via the PCA_WE association objects).
- **varchar(40) description**: A textual description of the real-world PCA, entered by the creator.
- **varchar(40) division**: This field will bear a value identical to the divName field of an associated Division object. This field creates and preserves the association, and can only be set to a value corresponding to an actual Division object.

- **dbo.TARSUser**

The TARSUser object represents employees who have user accounts on the TARS system. Necessary data will be stored to preserve associations with other objects and to define their interactions with the TARS system. TARSUser objects are associated with both Hours and Timesheet objects.

Fields:

- **varchar(184) SID**:
- **varchar(40) userName**: The username that the employee in question uses to log onto the TARS system. This field is also used to maintain associations with Hours and Timesheet objects. Hours and Timesheets associated with this user are found using this value.
- **varchar(26) userID**:
- **datetime2(7) startDate**: The starting date of a user's employment.
- **datetime2(7) endDate**: The ending date of a user's employment.
- **int permission**: An integer value corresponding to a user's permission level in the TARS system. 1- admin, 2- manager, 3- user.
- **varchar(40) company**: The company for which the user works. Maintained for record purposes.
- **varchar(40) department**: The department with which the user works. Maintained for record purposes.
- **char(2) employeeOrContractor**: A value to indicate whether the user is an employee of IDHW or a contractor.
- **char(1) costAllocatedOrNot**: A value to indicate whether the user has had their timesheets approved. It is referenced by functions associated with TARS automatic notification system.

- **dbo.Timesheets**

Timesheet objects serve as a method of organizing Hours objects. Timesheet objects are generated for each user in 1-week segments. As timesheet objects are used to display hours, hours are therefore displayed one week at a time. Timesheet objects are associated with TARSUser objects via username. The timesheet is populated with hours

by going through the associated user and finding all Hours objects that have the same username.

Fields:

- **varchar(50) worker**: This field contains the value of the associated TARSUser's username. It is used to lookup Hours objects and populate the timesheet views.
- **datetime periodStart**: This field contains the beginning of the week that the timesheet corresponds to; it is used to filter Hours objects so that only those part of the corresponding week are represented in the views.
- **datetime periodEnd**: This field contains the end of the week that the timesheet corresponds to; it is used to filter Hours objects so that only those part of the corresponding week are represented in the views.
- **bit approved**: A flag to indicate whether the timesheet has been approved by a manager.
- **bit locked**: A flag to indicate whether the timesheet has been locked. Timesheets are locked automatically two days after a pay period ends. They may be unlocked by administrators.
- **bit submitted**: A flag to indicate whether the timesheet has been submitted for approval. This is changed when users submit their timesheet. It can also be changed to unsubmitted status by a manager who rejects a timesheet.

- **dbo.WorkEfforts**

WorkEffort objects are linked to Hours objects as well as PcaCode objects. The former by means of a field in the Hours object and the latter by means of the PCA_WE model.

Fields:

- **datetime2(7) startDate**: The starting date of the Work Effort.
- **datetime2(7) endDate**: The ending date of the Work Effort
- **varchar(100) description**: A brief description of the real-world work effort.
- **varchar(250) comments**: A field for the creator of the work effort to log comments.
- **Int pcaCode**: The integer value of the initial PCA code that the work effort is attached to. Further PCA code associations will necessitate a PCA_WE object. However, every Work Effort must be associated with at least one PCA code.
- **bit hidden**: A flag to indicate whether the work effort should be hidden or not.